



Version 4.7
User Manual

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1 WHAT'S NEW IN PB VERSION 4.7?

Pandoras Box Version 4.5 (Revision 3694) was released in September 2009. Since then we have done a lot of work on feature wishes that have reached us via email and the coolux user forum. Many of those changes concern the Graphic User Interface and the interaction with the software. It is worth the time to read through the list and see how the new features can speed up your workflow!

[Rev 5771]:

++ NEW WARTER FEATURES ++

The [Warper](#) allows now to work with [several meshes](#) inside one project simultaneously.



The Warper can be used to [merge several .x-files](#) as well.

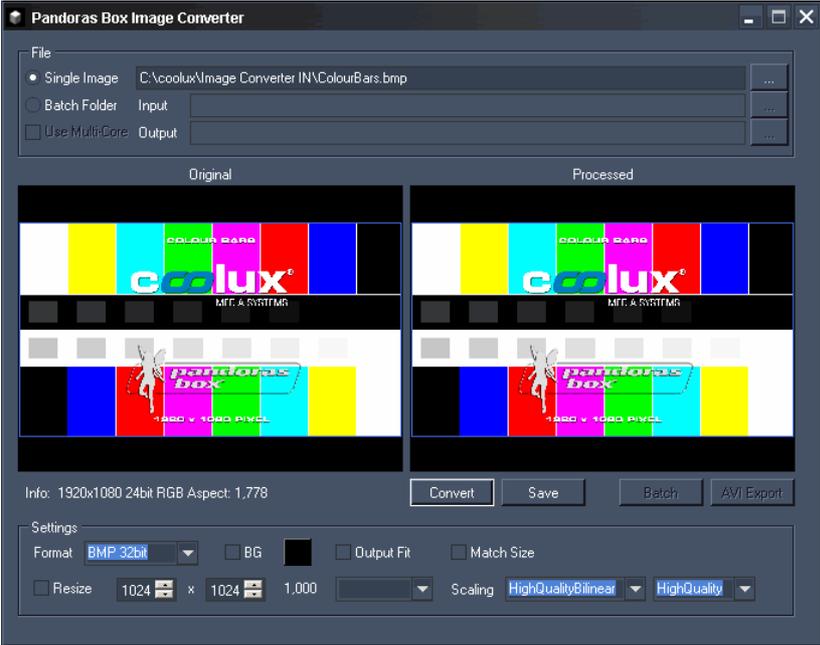
++ NEW MATRIX PATCHER FEATURES ++

With the new [Matrix Patcher](#) users can work with patches up to Full HD resolution (1920x1080 px) and can set up individual fixtures in a variety of sizes. It allows the patching of matrixes that can mix e.g. moving lights and LED fixtures, which can also be individually rotated and scaled. The new Matrix Patcher comes with a fixtures library.

++ THREE NEW WORKFLOW TOOLS IMPLEMENTED ++

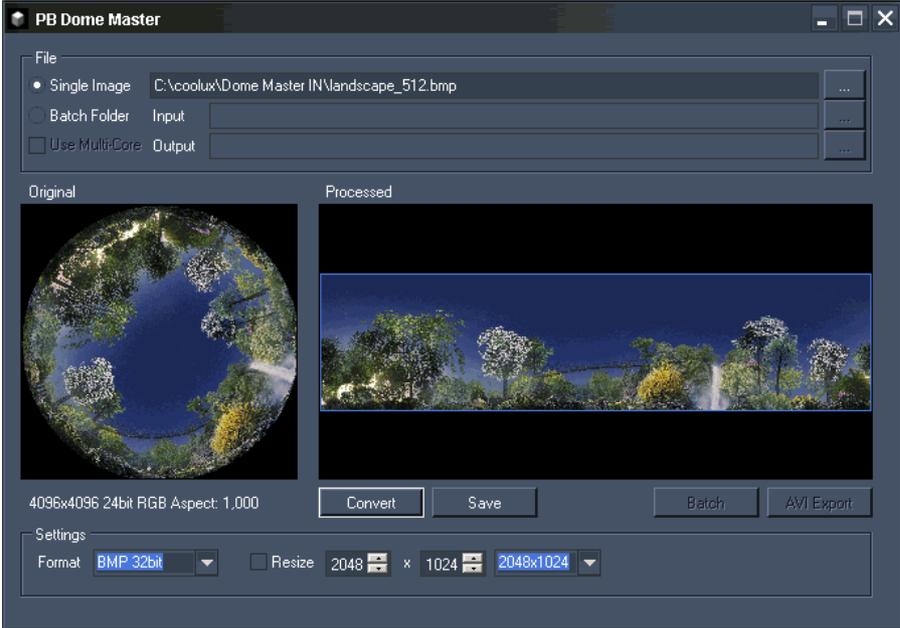
[IMAGE CONVERTER](#)

Many operators find themselves being handed an ever greater variety of picture data with different sizes. The Image Converter can recalculate images prior to them being used, in order to maximize the overall system's performance efficiency. It also offers high performance batch conversions and can turn image sequences into video files.



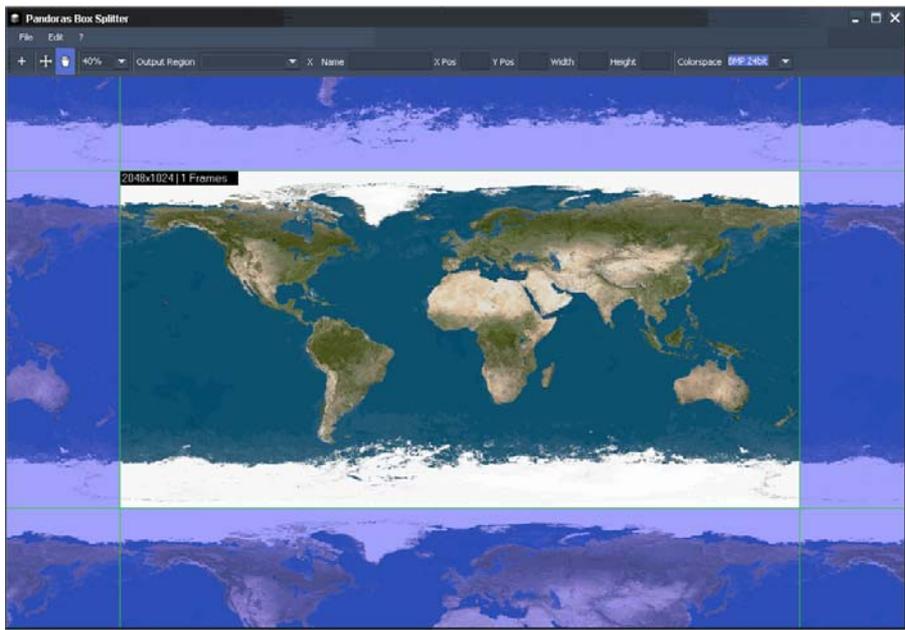
DOME MASTER

This tool is a spherical map converter that allows the conversion of dome master files to spherical map files, making it an essential tool for the dome content production workflow. Its sub-pixel accuracy allows optimum image sharpness for large scale projections. It processes up to 8K files.



SPLITTER

With the Splitter, one can create files for panoramic projections and/or dome projections. The Splitter allows users to render out the individual split files needed for individual projectors. The Splitter can also batch image sequences and export video files.



[Rev 5237]:

++ USER FEEDBACK IN CASE OF LOW MEMORY SITUATIONS ++

This maintenance update includes an optimized memory management and user feedback in master software in case of low memory or failed events due to low memory. If you are running into low memory situations you will see that the status bar turn red. These warnings will show up if the output display is inconsistent with timeline or device parameters. Example:



Click on the status bar to see the cause of the warning.

++ HIGH PERFORMANCE MODE ++

With Pandoras Box version 4.7 50/60p videoplayback has introduced a "High Performance Mode" that requires more system and gpu ram. From this release on the "High Performance Mode" should only be used if you intend to playback or process highframerate content or live inputs. This feature can be found in the client/device inspector or if you are running in standalone mode in the [Configuration Tab](#).

++ TEXT ASSET ENHANCEMENTS ++

The [Text Asset](#) in Pandoras Box now allows to use multiline, non-latin characters, styles, colours and alignment. It is possible as well to center the text input on the layer.

++ MPEG4 USAGE ++

The MPEG4 fiyle types .mp4, .m4v and .m4a are legal asset types now, see [Video Formats](#).

++ ENHANCED AUDIO USAGE ++

- PB now allows to use built-in Audio capture devices. They can be found in the asset tab for each device in the Live Inputs folder.
- The audio track of a video file may now be muted, see [File Inspector](#).

[Rev 4804]:

++ FLUIDFRAME ++

[FluidFrame™](#) Technology addresses a challenging and highly complex topic in framerate conversion common to all media servers, live video processing units as well as signal processing in general. With FluidFrame™, a smooth cross-conversion that can take any input and output framerate, supporting both interlaced and progressive sources and clips is possible now. This way for example 59.94 video input signals are displayed without any frame drop on 60hz output displays. FluidFrame™ can therefore also handle 50hz to 60hz realtime conversions. In addition to this, it allows smooth playback of highspeed framerates such as 50 or 60p content and higher. FluidFrame™ Technology can be applied to any live video input or content playback scenario ranging from straight forward Live Video processing to the synchronisation of multiple HD SDI streams for Live Stereo 3D applications.

++ NEW WARTER ++

The Pandoras Box Warper Rev. 19 allows the user to create cut outs and a [ScreenMask™](#) while painting onto the projected surface from within PB Warp.



The new zoom and pan features allow precise texture based warping.

[Rev 4621]:

++ BUGFIXES ++

++ NEW PB AUTOMATION COMMANDS++

If you want to write your own software to control Pandoras Box from outside, please have a look at the description of our [PB Automation SDK](#). Newly added commands:

- AutoAddContentFromLocalNode,
- AutoSaveProject,
- AutoChangeFullscreenStateByID,
- AutoChangeFullscreenStateByIp.

++ MENU ITEMS TO START WARTER & MATRIX PATCHER FROM WITHIN PANDORAS BOX++

Have it simple! The Tools menu now allows you to start [PB Warp](#) and [PB Matrix Patcher](#) directly from within the software.

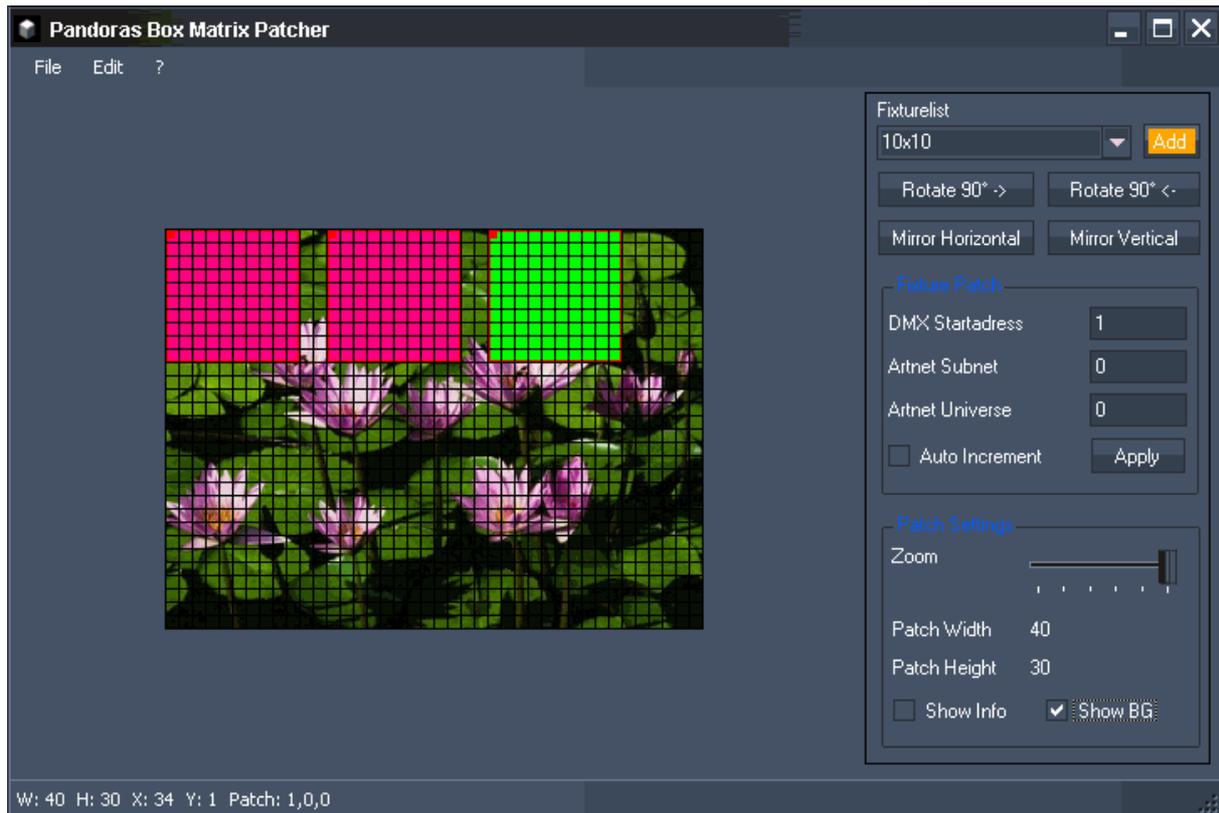


[Rev 4569]:

++ BUGFIXES ++

++ MATRIX PATCHER BACKGROUND IMAGE ++

The Matrix Patcher now allows you to load a [Background Image](#) in your patch to simplify patching.



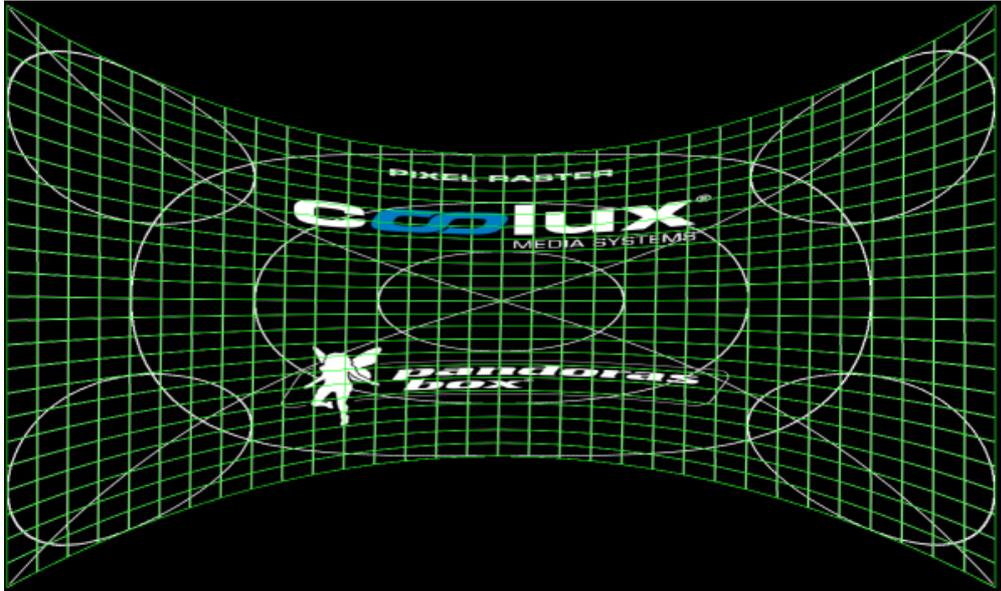
[Rev 4417]:

++ ENCODER EXTENSION NOW ALLOWS TO INCLUDE AUDIO++

From now on the a video file including audio can be encoded not only to a Mpeg Video Elementary Stream with separate audio part, but also to a Mpeg Audio and Video Program Stream, please see [Encoder Extension](#).

++NEW PB WARTER++

The [PB Warper](#) Rev. 12 has new features implemented. You now have the possibility to also rotate and scale selected mesh segments, cut out selected faces in the mesh to easily create a mask, load a texture (picture or video) directly on the mesh inside the Warper to control if the mapping is done perfect.



[Rev. 4254]:

++ BUNDLE PROJECT ++

The [File Menu](#) now allows you to bundle your project under a new name and location. All content used in the timeline will be copied to the new location as well as the show file. This option allows you to only have one folder to archive your show on a external hard drive. To play your show again, just copy this folder at its original location on your hard disc and all paths will be recovered.

++ AUTO ASPECT RATIO ++

Choose for each layer how it should handle the aspect ratio of the loaded media files.

Four modes are available, see detailed information in the [Layer Inspector](#):

- 1. none (by default) - same behaviour like before, see Figure B.
- 2. Horizontal Fit, see Figure C.
- 3. Vertical Fit, see Figure D.
- 4. Horizontal and Vertical Fit, see Figure E.

Example:



Figure A: this is the original media file.

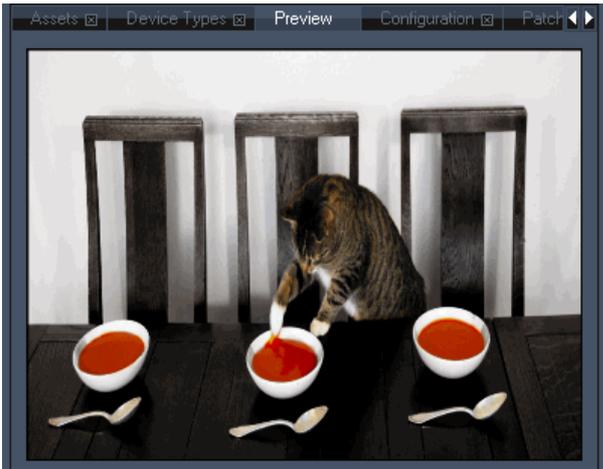


Figure B: Layer Aspect Ratio is set to "None" and the image is scaled to a 4:3 layer.

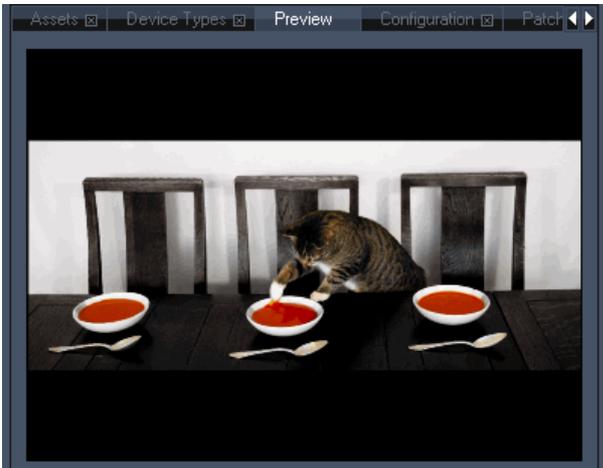


Figure C: Layer Aspect Ratio is set to "Horizontal Fit", the files aspect ratio is kept and it fits horizontally into the layer.

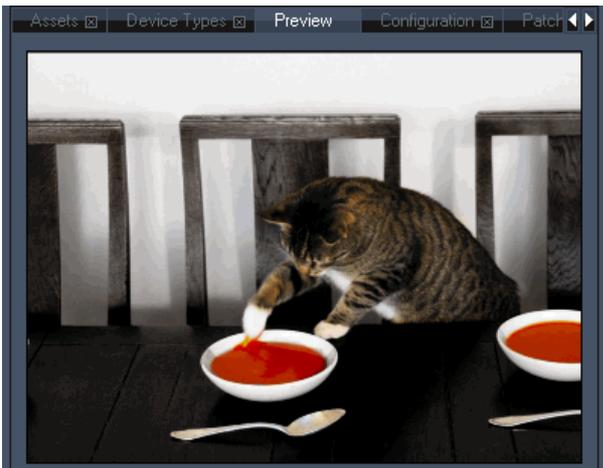


Figure D: Layer Aspect Ratio is set to "Vertical Fit", the files aspect ratio is kept and it fits vertically into the layer.

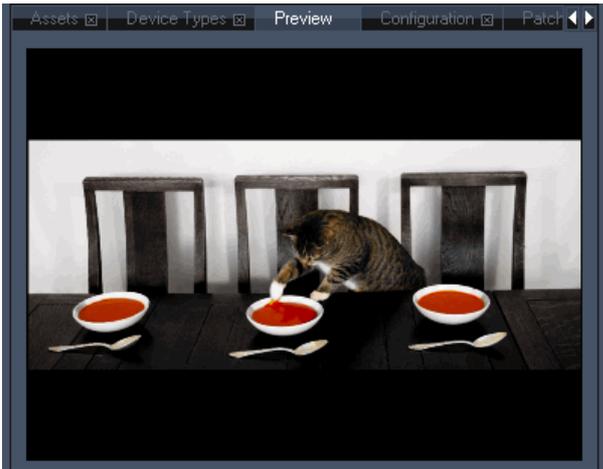


Figure E: Layer Aspect Ratio is set to "Horizontal and Vertical Fit". Regardless whether the file is upright or crosswide, all parts of the file will always be shown in its original aspect ratio.

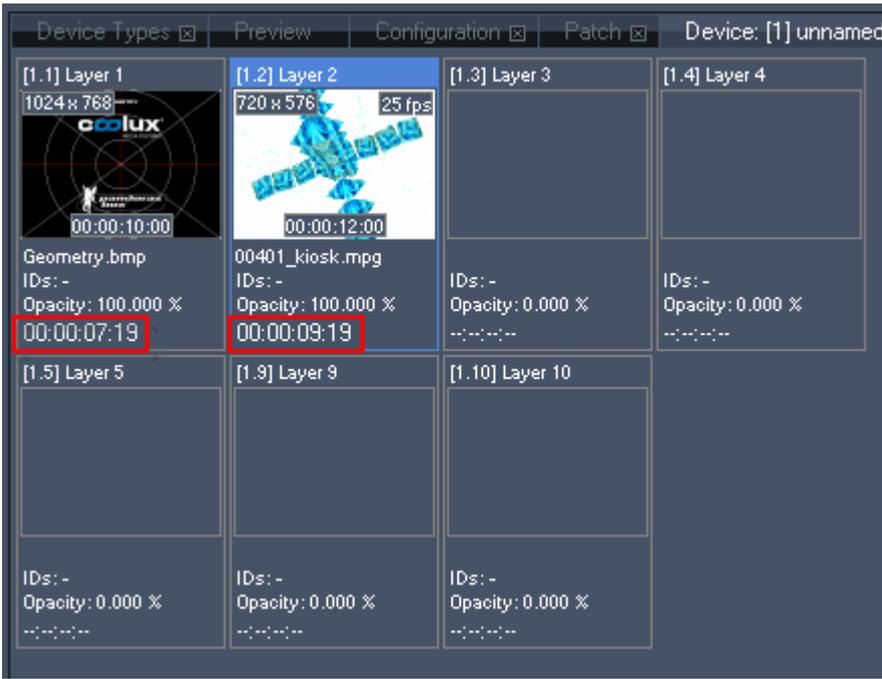
++ NEW SEQUENCE FEATURES ++

- Countdown for next Cue in Timeline (1)
- Large Display of Sequence Timecode (2)
- Cue Names displayed on top of Cues (3)
- New Cue mode available: Wait Cue, see [Cue Inspector](#) (3).



++ COUNTDOWN FOR ASSETS IN DEVICE VIEWER ++

The Device Viewer shows now the asset's countdown (when the file is stored to the timeline).



++ ENCODER EXTENSION GETS ITS OWN TAB ++

You will find the Encoder Extension now in its own tab instead of being integrated in the Configuration Tab. Open the Encoder Extension via the Tabs Menu - Extensions - Encoder Extension.

[Rev. 4135]:

++ CENTERED VALUES ++

Most of the fader values now appear in centered position by default, whether the readout is decimal or percentage. To set this option back to non-centered position, please refer to [configuration tab](#).



Figure 1: Fader values appear in centered position (left side) or in non-centered position (right side)

++ LINK PARAMETERS ++

To [link several parameters](#) click on the link icons above the faders in the device control tab or left to the listed parameters in the device tree. If you move one of the linked faders all linked parameters will

accept the values in relation to the moved fader. Please note that only parameters from the same type (like rotation or scaling) can be linked.

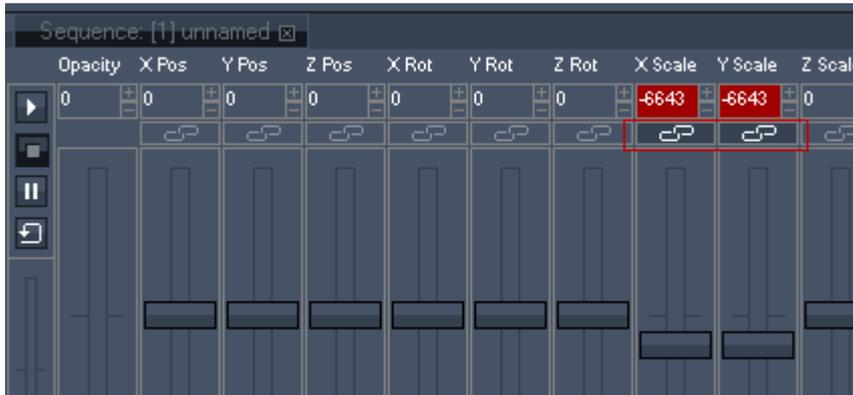


Figure 2: X and Y Scale are linked as you can see on the dark grey linking icons

++ SEQUENCE TRACKING ++

The enforce defaults handling for timeline tracking is now optimized. There is also a new drop down menu.

Please see the pages [Sequence](#) and [Tracking](#) for a better understanding which mode results in no / half / full path dependency!

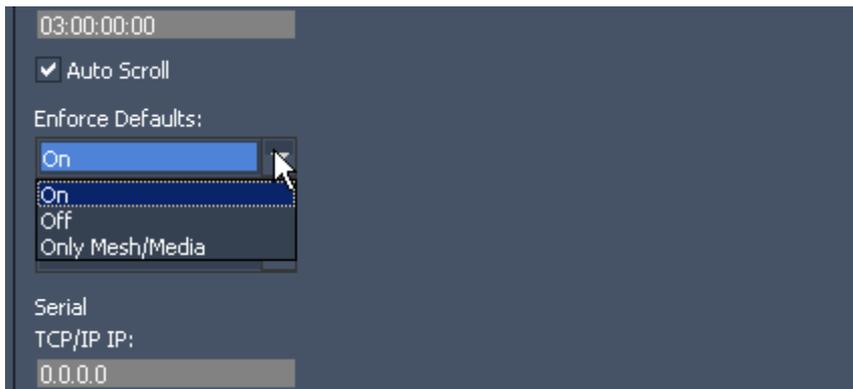


Figure 3: Choose between different Sequence Tracking options

++ AUTO SPREAD RESOURCES ++

When adding new content to your project, it will now automatically be spread to all available clients. To change this default setting back to manual spreading, please see the start-up options in the [configuration tab](#).

The improved [taskmanager](#) lets you monitor if a site is still loading files and if all file send and receive actions that were initiated by a file or folder spread process.

If the site icon in the device tree gets a green stripe it indicates that the site is still active receiving or loading assets.

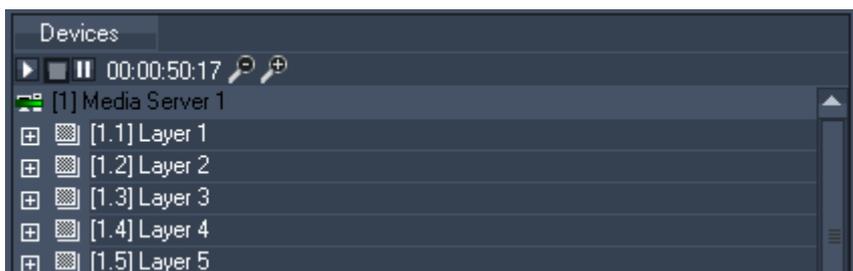


Figure 4: The green stripe in the site icon lets you know, that the site is still busy receiving or loading assets.

++ RENAME LAYERS AND CAMERAS ++

You now have the ability to rename the labels of sites, layers and cameras for better orientation, especially in complex projects. Do this via rightclick on the device or pressing [F2]. Please see the [Device Tree Context Menu](#).

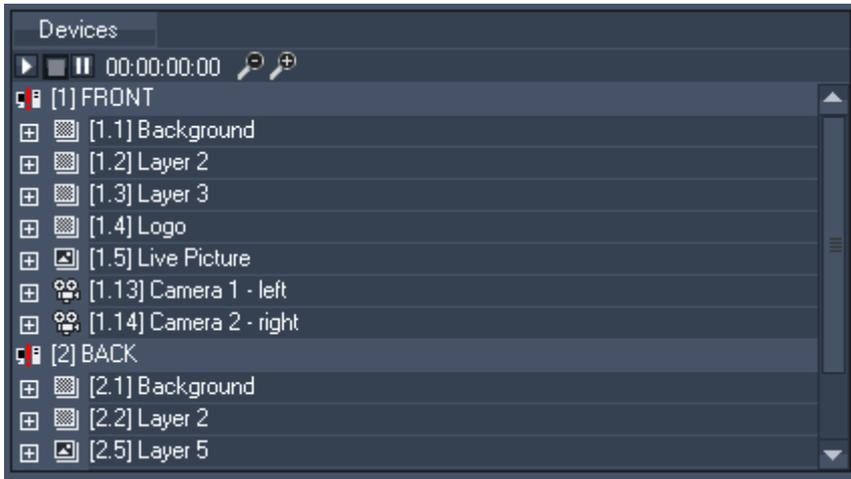


Figure 5: Example for renamed devices

++ HIDE / UNHIDE DEVICES ++

Hide/unhide several devices in the device tree now very fast and easily. Select the devices using CTRL or SHIFT key, do a right-click on one of these devices and click on Hide. Please see the pages [Device Selection](#) and [Structured View](#) for details and enhanced workflows.

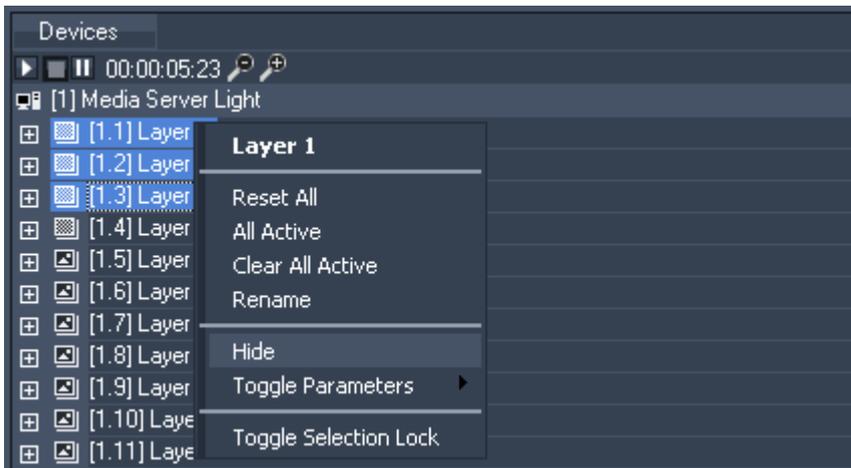


Figure 6: Hide several layers via the context menu

++ ENHANCED DEVICE MULTISELECTION ++

You also have the possibility to keep a multi-selection in the device tree while modifying other devices via [Selection Lock](#). Right-click on one of the devices and choose Toggle Selection Lock or press CTRL+L. A lock icon will display the locked device selection.

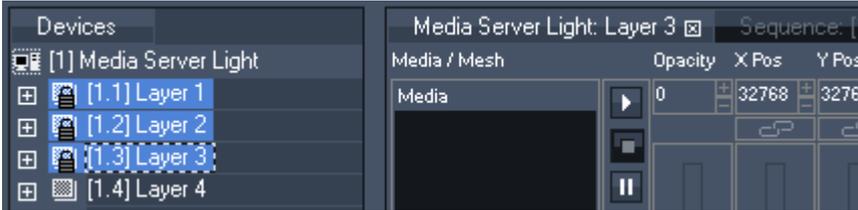


Figure 7a: The lock icon in front of the layer labels shows signifies a locked selection.

If you now eg. click on Layer 4, it will be loaded into the device control tab. You are able to modify this layer and keep your locked selection for later purposes.

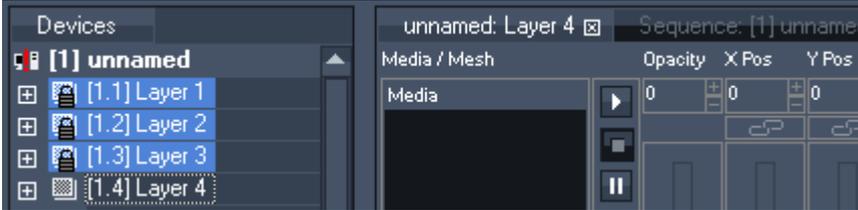


Figure 7b: Layer 4 is loaded into the device control tab and can be modified although you keep your selection.

++ NUMBER OF SHOWN LAYERS IN NEW SITES ++

You are now able to define how many layers should be shown if you add a new site to your project, depending on how you have the best overview. Use the Start-up Options in [Configuration Tab](#) to modify the default number of two video layers and two graphic layers. You can easily show all layers later on by using the site context menu.



Figure 8: 2 video and 2 graphic layers are shown by default when adding a new site.

++ ENHANCED DEVICE VIEWER ++

The device viewer now only displays all devices that are shown in the device tree. Hidden devices are not displayed in the device viewer anymore.

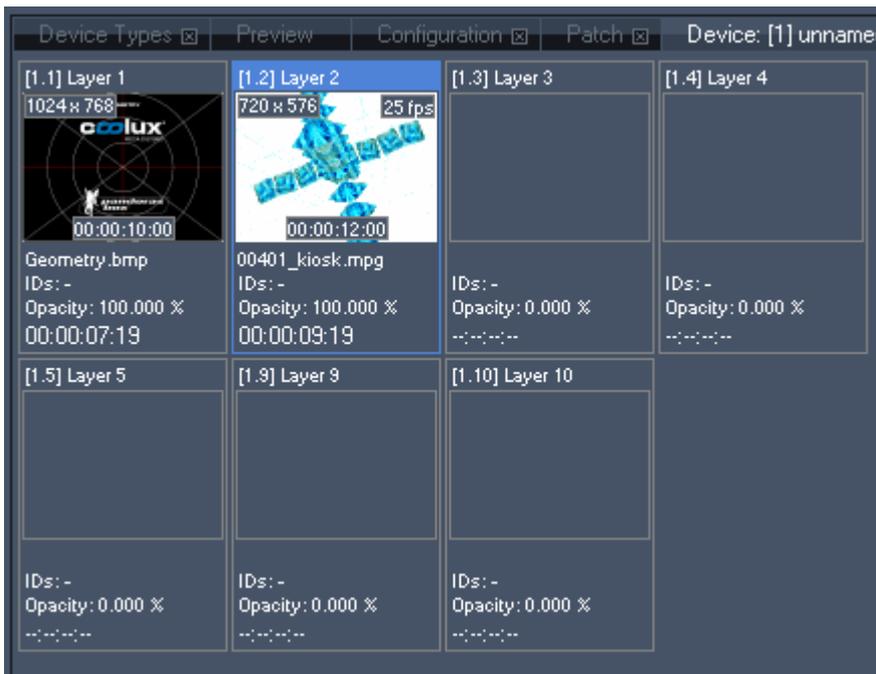


Figure 9: The device viewer

You also get more information about the loaded files such as size and frame-rate. Please see the [device viewer](#) page for detailed information.

++ THUMBNAILS FOR TRANSITION FX ++

Thumbnails in the [Transition FX list](#) now make it easier to go over the different transition effects.



Figure 10: The Transition FX list with thumbnails

++ NEW SHORTCUTS ++

- [Toggle Ignore Next Cue](#) [CTRL+SHIFT+I]

The behaviour of next cue in the current sequence will be ignored once, no matter if it is a pause, stop or jump cue. The nowpointer will keep on going as if it was a normal play cue.

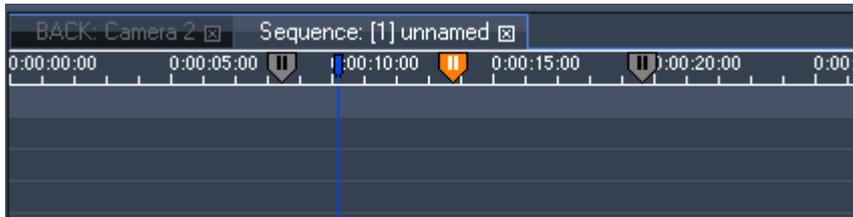


Figure 11: When Toggle Ignore Next Cue is set, the ignored Cue will be highlighted in orange.

- [Lock Selection](#) [CTRL+L]

To keep a multi-selection in the device tree while modifying other devices, right-click on one of the devices and choose Toggle Selection Lock or press CTRL+L. A lock icon will display the locked device selection.

- Move Keys [SHIFT+ Arrow right/left]

The selected keys in the sequence can exactly be moved frame per frame forward or backward.

- Jump to Next / Previous Cue [CTRL+ALT+ Arrow right/left]

- Change of fader value by arrow keys [Arrow right/left]

- Change of fader value by arrow keys (factor 10) [CTRL+Arrow right/left]

See here the list of all [keyboard shortcuts](#).

++ ICONS DISPLAY CLIP MODE ++

A clip stored on the timeline can be in two different [clip mode states](#). The default setting is Lock to Time, this means that the video clip synchronizes to the timeline. All video playback keys inside the clip do not take effect in this mode. Lock to Time is displayed by the clock icon inside the clip, see figure 7.

If Lock to Time is disabled, the clip is in a free-run mode and the video playmode keys (play once, play loop, pause, stop) take effect. So although the timeline is pausing, the clip where the nowpointer stays on could play if it has a play key stored. The running-stick-figure icon indicates that Lock to Time is disabled.

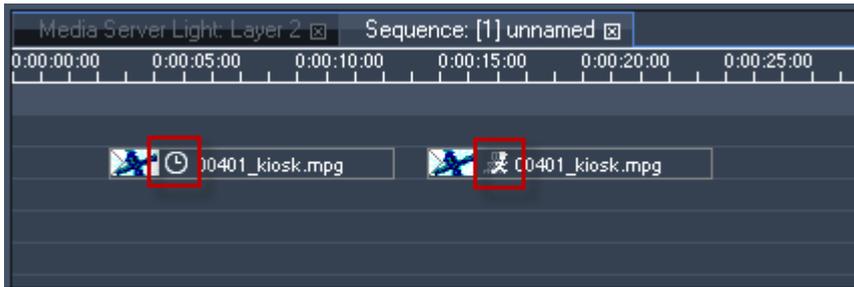


Figure 12: The first clip is locked to time, the second clip is in free-run mode.

++ BLOCK EXTERNAL INPUT FOR LAYERS ++

When controlling Pandoras Box through any input data like ArtNet, MA-Net, TCP etc, you now can [mute layers](#) not to be influenced by the incoming commands.

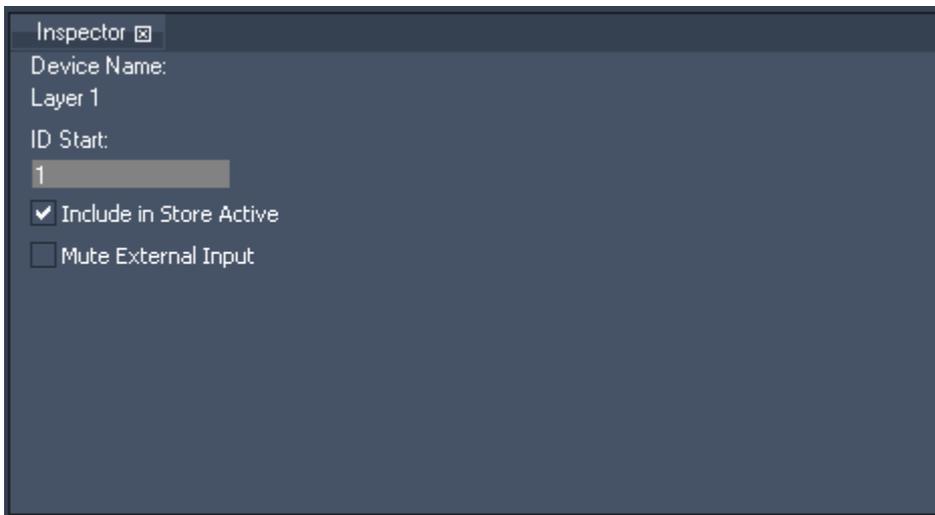


Figure 13: Check Mute External Input to block any data from outside

2 PRODUCT OVERVIEW

CONTROL

coolux offers the Pandoras Box Manager for interactive media control. It is a timeline based showcontrol solution, allowing fast and easy on the fly programming and show setup.

PROCESSING

Pandoras Box Servers and Players make the scalable Pandoras Box Server system. Access all common control protocols from within the Pandoras Box network platform.

ACCESSORIES

All Pandoras Box Systems are designed to interact with multiple protocols and output devices. coolux offers specialized interfaces for SMPTE I/O, DMX, serial and sensor control.

2.1 CONTROL

[PB MANAGER](#)
[WIDGET DESIGNER](#)

2.2 PLAYBACK

[PANDORAS BOX ENGINE](#)
[PANDORAS BOX SERVER](#)
[PANDORAS BOX PLAYER](#)

2.3 ACCESSORIES

[DMX Link USB](#)
[DMX Link 8](#)
[SMPTE Link](#)
[SENSOR Link](#)
[SERIAL Link](#)

3 PANDORAS BOX

3.1 CONTENT

All Pandoras Box systems are Windows XP / 2000 based and will allow you to play back multiple audio, video and image formats.

Since real-time rendering requires specific encoding settings, you will find detailed information about the supported file types in this chapter:

[Audio Formats](#),
[Defining Content Resolution](#),
[Display and Content Formats](#),
[Image Formats](#),

[Output Resolution Table](#),
[Video Formats](#) ,
[Encoding](#).

3.1.1 AUDIO FORMATS

Audio files may be played back in several different ways within Pandoras Box. You may playback a video file with an embedded audio stream or play an .wav, .mp3 or .mp4 file directly. In order to play .mp4 files please make sure the Quicktime Player is installed on your computer.

Please Note:

It is recommended to separate audio and video files onto individual layers for proper playback.

To convert other audio formats for use in Pandoras Box Servers, you might want to use Adobe Premiere or CleanerXL from Discreet.

Please be aware that embedded audio will only synchronize to the local audio clock.

To support up to 16 channel audio, please use the Sonic Emotion Hardware Player. For more details please contact www.sonicemotion.com.

With the Sonic Emotion 16CH device, mono wave files with 48 kHz 16 bit can be uploaded and synchronized to the Pandoras Box Timeline Playback.

3.1.2 DEFINING CONTENT RESOLUTION

Resolution optimization for onscreen design

Depending on the screen design, you may not always need a full PAL/NTSC resolution for playback. If your setup consists of a large background image with a smaller video insert window, the video resolution of the insert window does not necessarily need to be full PAL/NTSC resolution. Resizing a PAL/NTSC window to a smaller output resolution may also lead to a bad image quality; therefore it can be more effective if the content has been created for the desired image size. But in most cases you might stick with the full resolution file to be as flexible as possible.

HD or not HD

Even if your screen has a large dimension, this does not necessarily create the need for a high definition video projection.

Creating content in HD is more expensive than SD and the decision should be taken upon the following considerations:

How far or close will the audience get to the screen?

Is the nature of the projected image more graphical background animation or real film footage?

What kind of projection medium is used?

What kind of aspect ratio is intended?

What is the native resolution of the projector / display?

Based on these criteria you should take the decision, in which resolution your content needs to be created.

Multi-Resolution File Setup

For a maximum of performance and image quality, the optimum case would be to have all video files in several resolutions. A standard case would be HD, SD and Video-CD format.

3.1.3 DISPLAY & CONTENT FORMATS

Since the invention of film and the area of black & white as well as colour TV, a lot of image formats have been around and are still in use.

Three different fields have their specific image formats:

Film: 8mm, 16mm, 35mm, Imax

TV: SD: PAL, PAL+, NTSC

HD : 720i/p, 1080i/p

Digital Displays: VGA, SVGA, XGA, SXGA, SXGA+, QXGA

All these different image formats have different aspect ratios. The aspect ratio describes the relationship of the images width and height.

The most common aspect ratio that everybody knows is a 4:3 ratio, that is used by standard TVs and computer monitors.

Another - very common - aspect ratio is 1:1,85 which is used for widescreen cinema projection. In HD digital projection the common aspect ratio is 16:9.

On the other hand it is also useful to know the resolution differences. The big difference is between film and TV as well as digital displays. Film is an analog way of recording and projecting images, while TV and digital displays have specific resolutions.

When film is transferred to a digital medium, it has to be scanned at a specific resolution; 2K and 4K are common. At this point, it is important to say that the resolutions are superior to High Definition TV.

TV is available through different standards today. The most common are PAL and NTSC. These formats are also called SD: Standard Definition.

High Definition is an independent format from PAL or NTSC, but it is subdivided into progressive scan and interlaced image.

Since most digital devices are optimized for progressive scan, this is important for digital projection and digital lighting.

High definition is known in two common standards 720i/p (1280x720pixel) and 1080i/p (1920x1080pixel)

Digital displays support multiple resolutions that reach from VGA (640x480pixel) to QXGA (2048x1536pixel).

The most common resolution for digital projectors is XGA (1024x768pixel), but new formats such as SXGA+ (1440x1050pixel) are widely used by high profile video projectors on the market as well.

No matter what resolution your display is running at, the aspect ratio is last but not least an important figure to consider since otherwise you may have undesired distortions in your images.

It is recommended to create the content for the desired aspect ratio or use the Pandoras Box MediaServer's x&y scaling to match the content with the distortion of the output.

3.1.4 IMAGE FORMATS

Pandoras Box Servers support the most common file types such as .bmp, .jpg, .tga, .png.

IMAGE RESOLUTION

There is no resolution limit for the images, but bigger files will be scaled to the maximum texture size of your graphics card (Nvidia actually does 8192x8192 pixels). So you don't get any effort using images larger as your texture size!

Bitmaps and Targa images provide uncompressed images; this means that there will be no loss of colour depth or resolution. Image formats like .jpg or .png do an image compression that leads to a lower image quality.

The conversion of a .jpg to a .bmp does not enhance its quality, it only maintains the quality. If you open a .jpg in a graphics software such as Photoshop and save it again as .jpg, the quality will decrease due to the re-compression.

Even if Bitmaps are using more memory on the hard drive, don't be afraid to use them. Pandoras Box Server needs to convert any image to an uncompressed format anyway to play it back in real-time.

The big difference between bitmaps and TGAs is, that TGA files do support RGB and ALPHA while bitmaps only stores RGB information for each pixel.

Alpha is the transparent part of an image where you can always see thru and choose a different background.

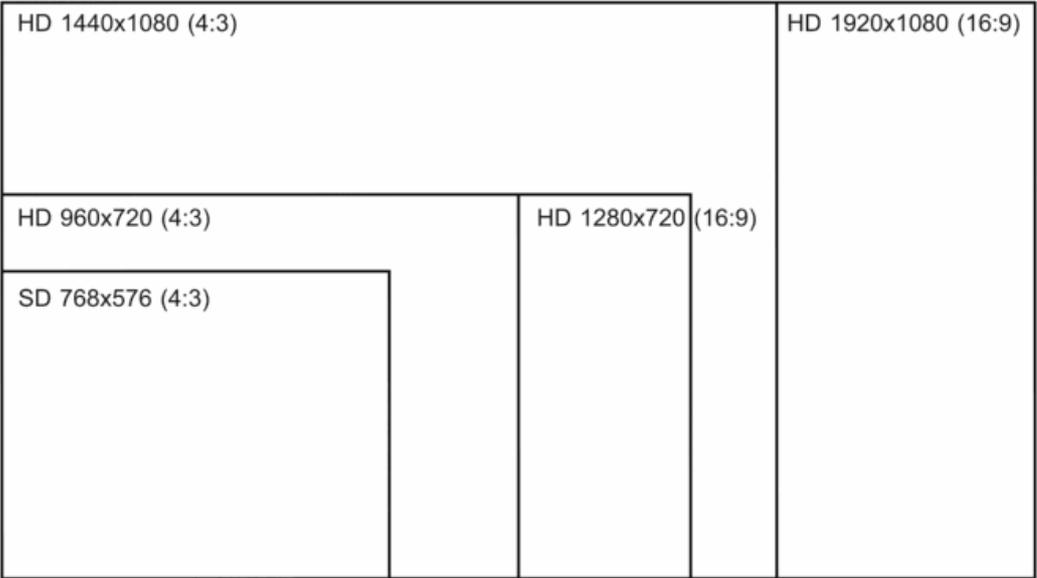
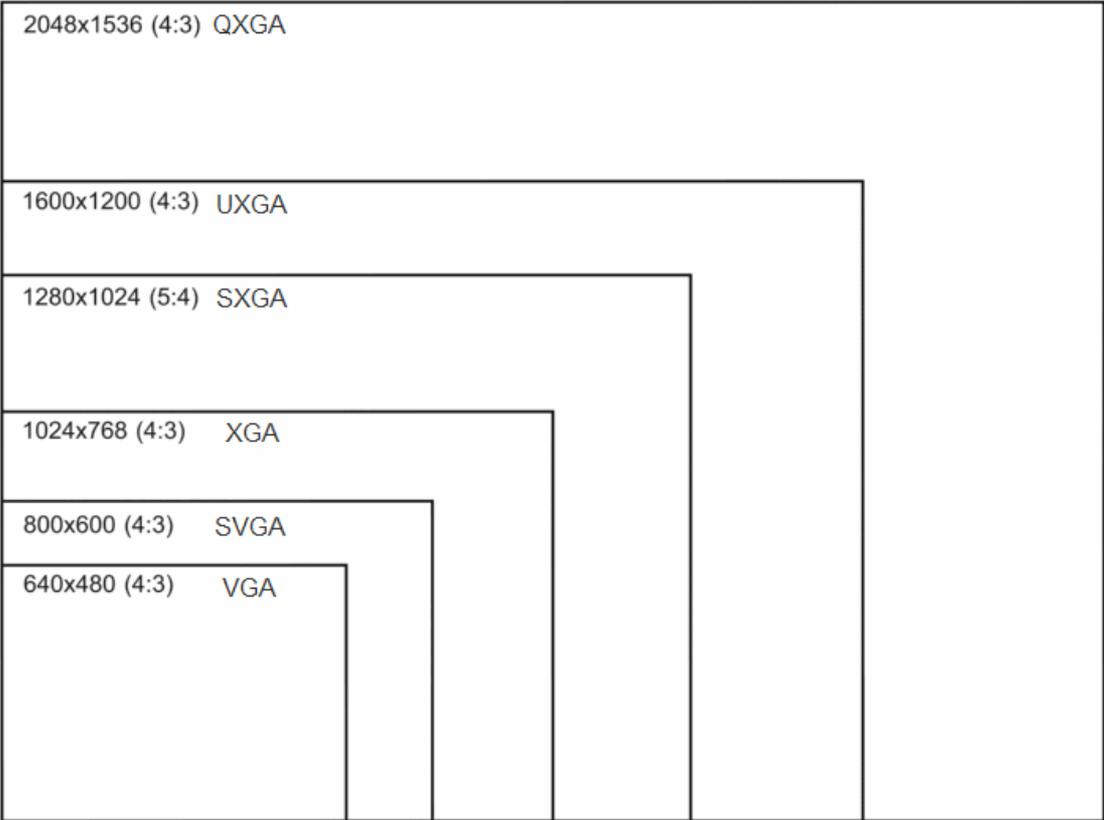
So if you like to create see-through logos or transparent images, please use the .tga file format.

.png files do also support alpha, but just as .jpg files, they do an image compression that might not be desired.

If you need to convert any image file type that is not supported by Pandoras Box, we recommend using Photoshop to do either batch conversion or image adjustments.

3.1.5 OUTPUT RESOLUTION TABLE

Standard digital and television resolutions and display sizes:



3.1.6 VIDEO FORMATS

There are several video formats on the market. Pandoras Box Server aims to support most of them.

PB supports the following video file types:

.avi, .wmv, .mpg1, .mpg2, mpg4, .mov.

Also supported video file types:

.mxf (e.g. used by Avid and Sony XDCam). A dedicated decoder is required.

.mxi (proprietary coolux file type). The implemented [Encoder Extension](#) enable you to encode and decode 4k resolution files in this format (depends on available graphic card RAM).

Please note:

When using video content with more than 1920x1200 pixels you have to switch on 'Enable SUXGA Content' in the configuration tab if deinterlacing and frameblending is needed for this video size. This will consume plenty of graphic card memory.

CODECS

An important thing about the AVI, Quicktime and .mxf file format is its kind of container format. This format may contain different video codecs. A video codec is a decompression method based on a specific algorithm, optimized either for web, CD or DVD use.

Pandoras Box uses all available codecs that are currently installed on your Windows system.

If a video file may not play in Pandoras Box, please check if the codec is installed by trying to playback the file in Windows Mediaplayer.

Windows Mediaplayer is able to display the properties and codecs of the loaded files. It will also check for updates to download the codec from the internet.

You might need to re-encode the file in a codec that is supported by Pandoras Box.

OPTIMUM VIDEO PLAYBACK

For a proper video playback we recommend video files to be encoded to Mpeg2 (.mpg) or to .mxi.

To provide an optimum playback for Mpg2 files, please use a constant bit rate (CBR) of up to 8000 kbits/s with a progressive scan in PAL or NTSC resolution.

For re-encoding please use the [Encoder Extension](#).

Please note:

FOR SYNCHRONIZED NETWORK PLAYBACK ALL FILES MUST BE ENCODED AS ELEMENTARY VIDEO ONLY!

Other codecs might be used, but it is recommended to test new codecs before using them on a show.

3.1.7 ENCODING

To transcode most AVI-and Quicktime as well as WMV files to Mpeg1 or 2 in both SD, HD or custom resolution, please use one of the following tools:

- [Pandoras Box Encoder Extension](#)

This Encoder is implemented in every Pandoras Box Software (up from Vers. 4.5). It allows Auto-Encoding when adding files into the project.

Please note:

The Encoder Extension needs to be activated on your dongle, depending on your licence this will be fee required.

- [Mainconcept MPEG Encoder](#)

This Encoder is installed on the Pandoras Box Servers.

3.1.7.1 ENCODER EXTENSION

The built-in Pandoras Box Encoder Extension allows to transcode most AVI -and Quicktime- as well as WMV files to Mpeg1 or 2 in both SD, HD or custom resolution. You will find it in the configuration tab of your master user interface.

The Encoder Extension allows you to transcode files larger than 1080p to our proprietary .mxl format. The maximum resolution is 4080 x 4080 px and depends on available graphic card RAM. Please note that the PB Player is limited to play back a file resolution of 2560 x 1536 px.

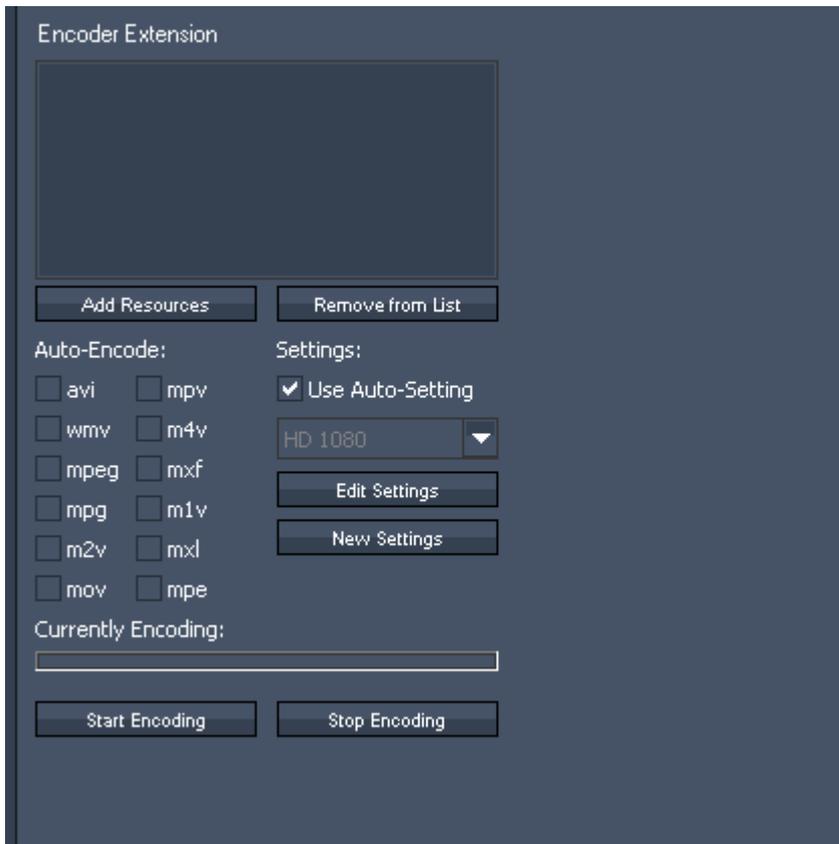
To open the Encoder Extension Tab, please click on the Tabs Menu and choose Extensions - Encoder Extension. The Encoder Extension Tab will appear next to the Preview Tab.

Please note:

The Encoder Extension needs to be activated on your dongle, depending on your licence this will be fee required.

The files will be encoded to MPEG Elementary Video Streams.

If the original file contains audio, a separate wav-file will be created in the same location under Windows where the video file is located. If required you can add the audio file manually to the project.



AUTO-ENCODE

To use the Auto-Encode function please set a check in front of all file-formats that should be automatically encoded when added into your project.
 The Encoder Extension supports the following file formats:

- avi
- wmv (Windows Media Video)
- mpeg (Mpeg)
- mpg (Mpeg)
- m2v (Mpeg 2 Video only)
- mov (Quicktime Video)
- mpv (Mpeg)
- m4v (Mpeg 4 Video)
- mxv (File Exchange Format e.g. used by Avid and Sony XDCam)
- m1v (Mpeg 1 Video only)
- mxl (proprietary coolux file type)
- mpe (Mpeg)



The added files will appear in the Encoder Extension Window, the encoding starts automatically. The status bar shows the progress of the currently encoded file. To stop encoding, please press "Stop Encoding". Pressing "Start Encoding" will continue the encoding process.

MANUAL ENCODING

To encode files manually please select the files in the project tab. In the Encoder Extension press "Add Resources", the selected files will be added into the Encoder Extension window. The drag and drop function does not work here. To start the encoding process press "Start Encoding". The status bar shows the progress of the currently encoded file.

Once a file is completely encoded, the file name in the Encoder Extension window turns green, the file extension in the project tab changes to .mpeg. In the windows folder from where you added the file into the project a file with the new file extension is created - you do not lose your original file.

REMOVE FROM LIST

To clear files from the encoder extension window - no matter if new encoded or not, select the files and press "Remove from List".

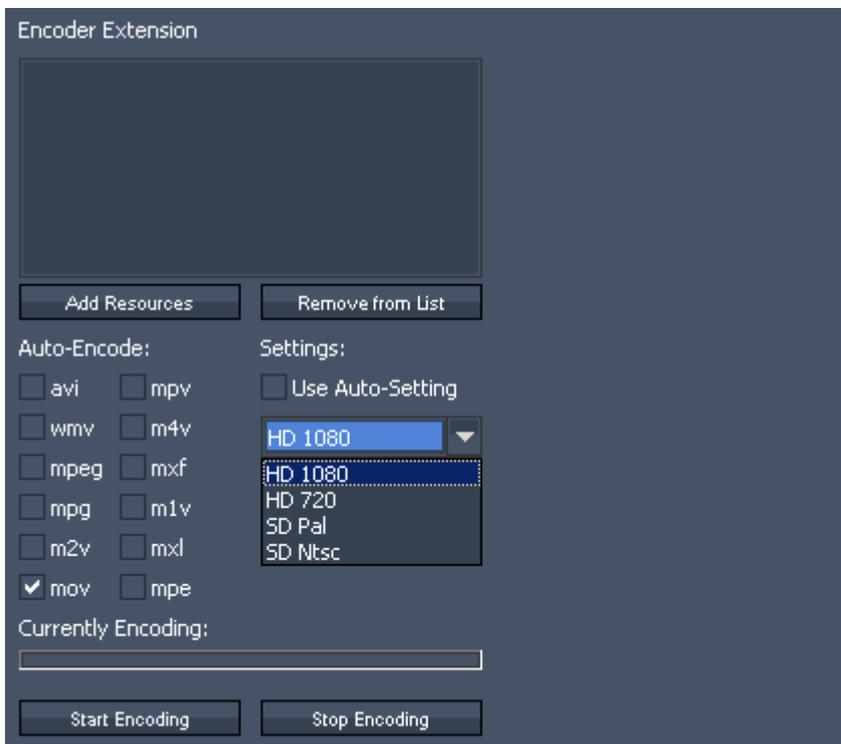
SETTINGS

Auto-Settings

Using Auto-Settings will encode all your files to MPEG2 Elementary Video Stream. The bitrate will be set to a constant bitrate: CBR 8.000 kbit/s (SD) or CBR 20.000 kbit/s (HD). The field encoding will be set to "Progressive Frame". The other parameters like video mode (PAL or NTSC), resolution and framerate will be adopted from the original file and are not affected through encoding.

Choose Profiles manually

By unchecking "Auto-Settings" you will be able to choose one of the default profiles manually.



Using one of the default profiles will not only affect the bitrate and field encoding but might change the files resolution: e.g. encoding an HD-file (resolution 1920x1080 px) using the SD PAL Profile will resize the video to 720x576 px.

Please note: the default profiles can not be edited.

CREATE NEW PROFILES

Please uncheck "Auto-Settings" and press "New Settings" to create a new encoding profile.



The new dialog allows you to:

- name the profile
- choose the MPEG Type (MPEG-1 or MPEG-2)
- Set MPEG Profile and Level. Please note that you will need High Profile (Profile 4:2:2:) and High Level for HD 1920x1080 px resolution. The Level automatically changes to MXL if you encode files to a format bigger then 1920 x 1080 px.
- Resize Video: check the box and insert the resolution your video file should be resized to.
- Bitrate - choose an amount of kbit/s (recommended are about 8.000 kbit/s for SD and 20.000 or higher for HD)
- GOP-Length: the length of the Group Of Pictures is editable from 1 to 100. The higher the GOP-Length the better the compression rate gets at the expense of quality.
- Number of B-Frames: choose a value between 0 and 7.
- Deinterlacing: to enable Deinterlacing, please check the box and also choose a Field Order.

-
- Motion Estimation Level: set a value between 0 (no motion search) and 15 (high quality). The higher the value, the better the quality, the longer the encoding process.
 - Motion Estimation Range: set a value between 0 (no motion search) and 15 (high quality).
 - Scene Change Detection: Choose between None, Fast and Refined.
 - Audio Processing: Discard the Audio Part, split it to a separate wave-file (will be created in the same folder under Windows where the video source was taken from) or choose to include it. The Audio Part is discarded by default.

Click OK when the new setting is finished. The created profile will appear in the drop down menu.

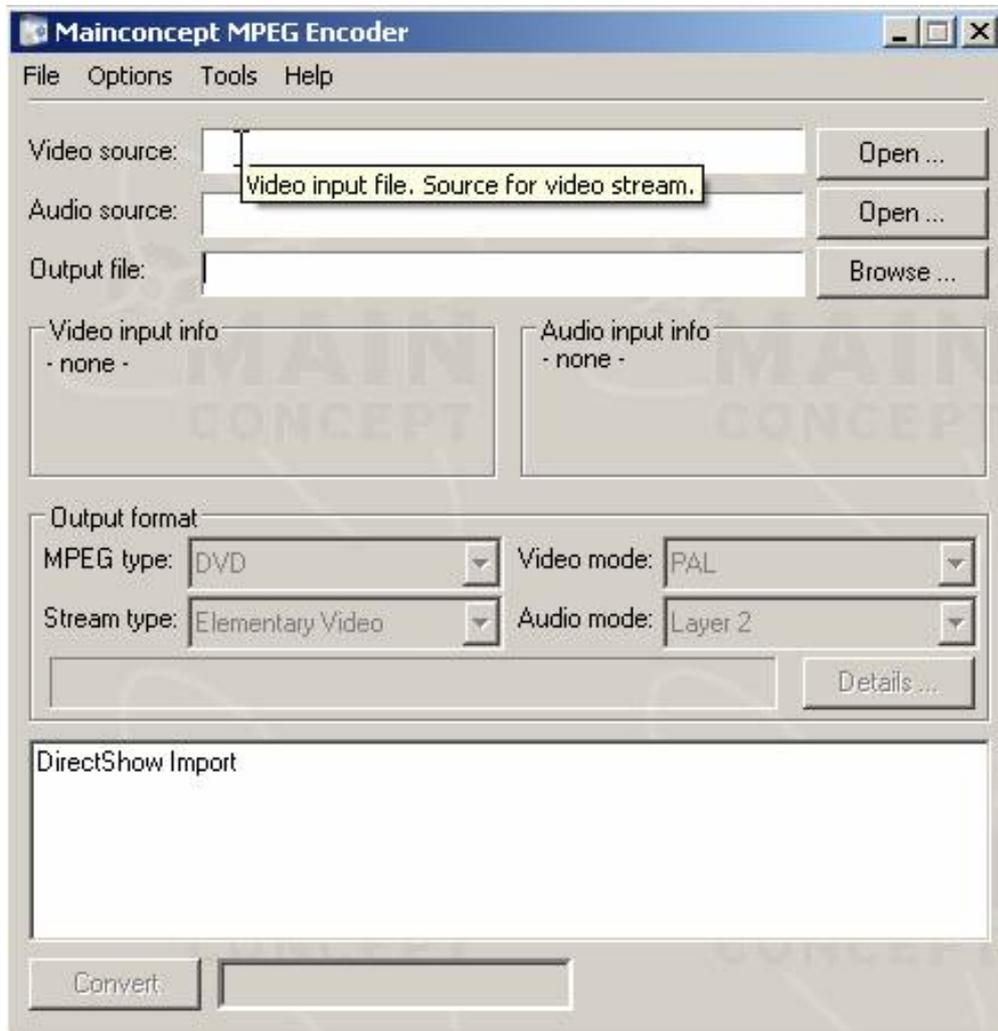
EDIT SETTINGS

Select your profile from the drop down list and click "Edit Settings". All settings are described above in "Create New Settings".

Please note that the default profiles are not editable.

3.1.7.2 ENCODING (up to Version 4.5)

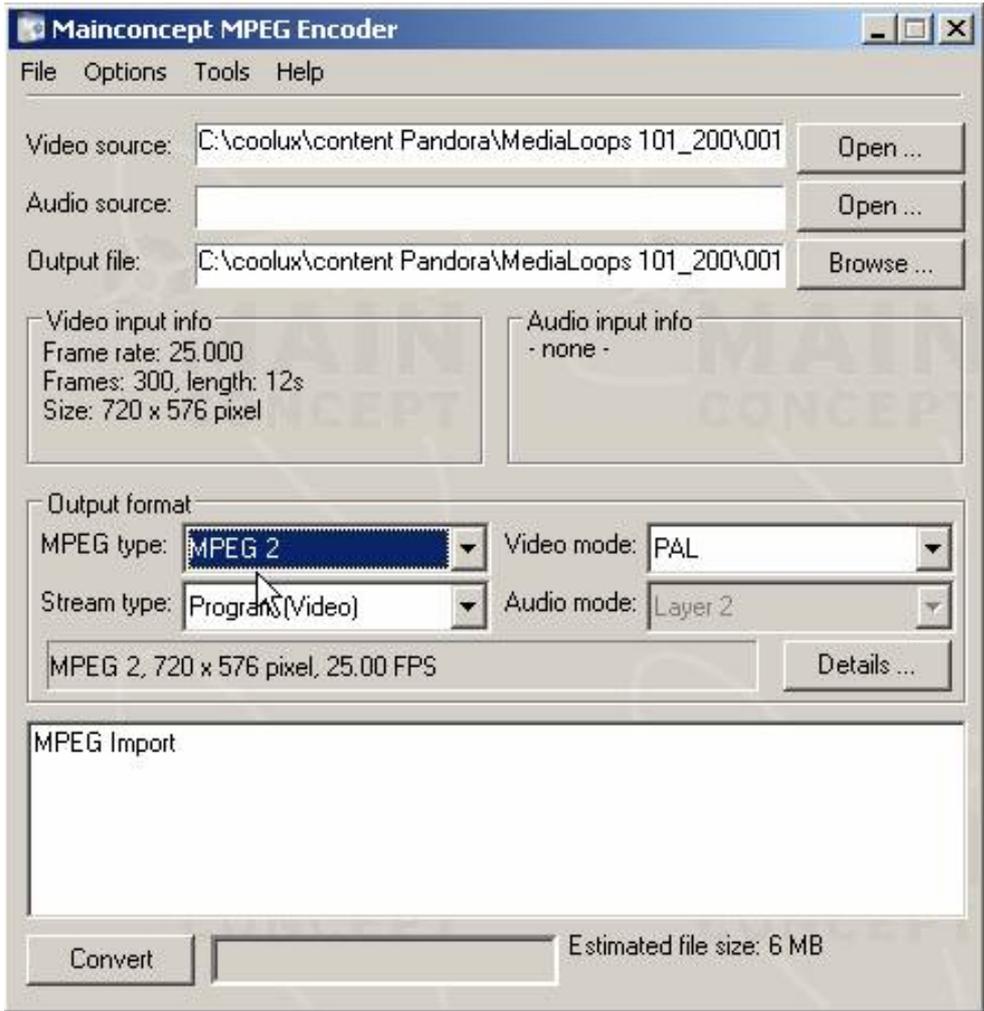
Pandoras Box Servers up to Version 4.5 ship with the Mainconcept MPEG Encoder that allows to transcode most AVI and Quicktime as well as WMV files to Mpeg1 or 2 in both SD, HD or custom resolution.



An extensive help file is provided with the encoder. The easy steps to encode SD or HD files are explained below.

SD - PAL/NTSC Encoding

To start encoding, please open the Mainconcept Encoder from the Start menu.



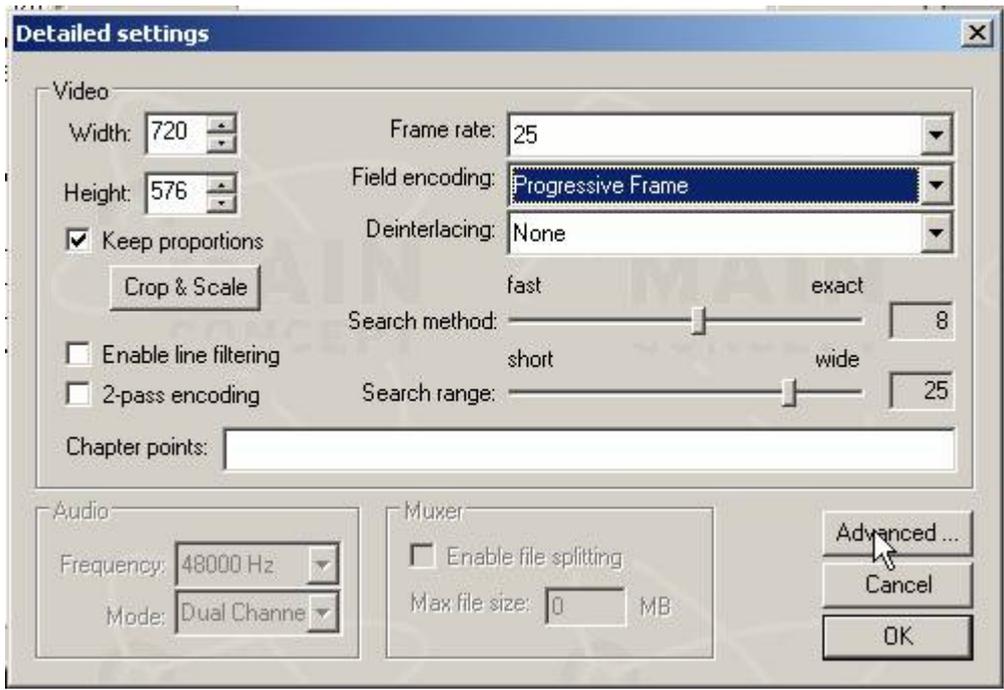
Click on the “Open...” button in the video source section to load your source file that you want to encode. You may also drag and drop a file from a directory directly into this section.

Choose “MPEG2” as MPEG type and - depending on the format - choose NTSC or PAL. If your source file contains any audio that should be encoded, use Program (Audio and Video) or Elementary Video to encode Video only.

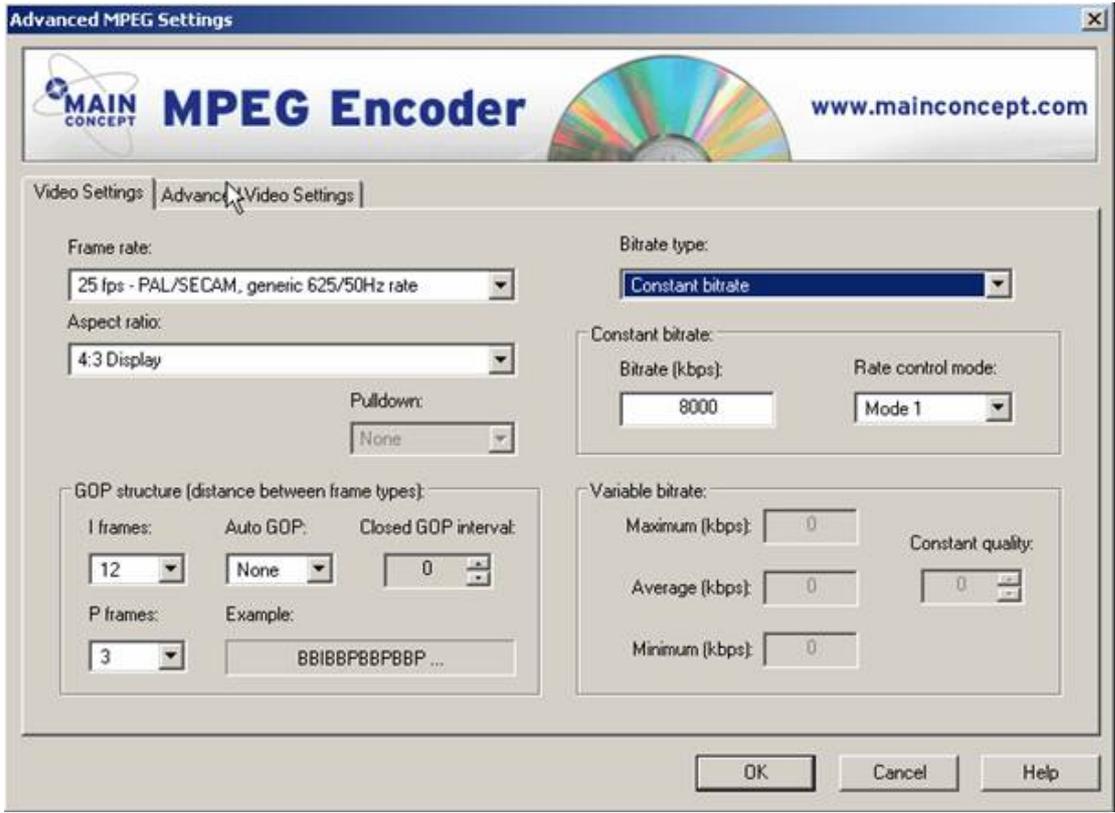
Then click on details to set up the advanced features of the encoder.

**PLEASE NOTE:
FOR SYNCHRONIZED NETWORK PLAYBACK, ALL FILES MUST BE ENCODED AS
ELEMENTARY VIDEO ONLY!**

Then click on details to set up the advanced features of the encoder.

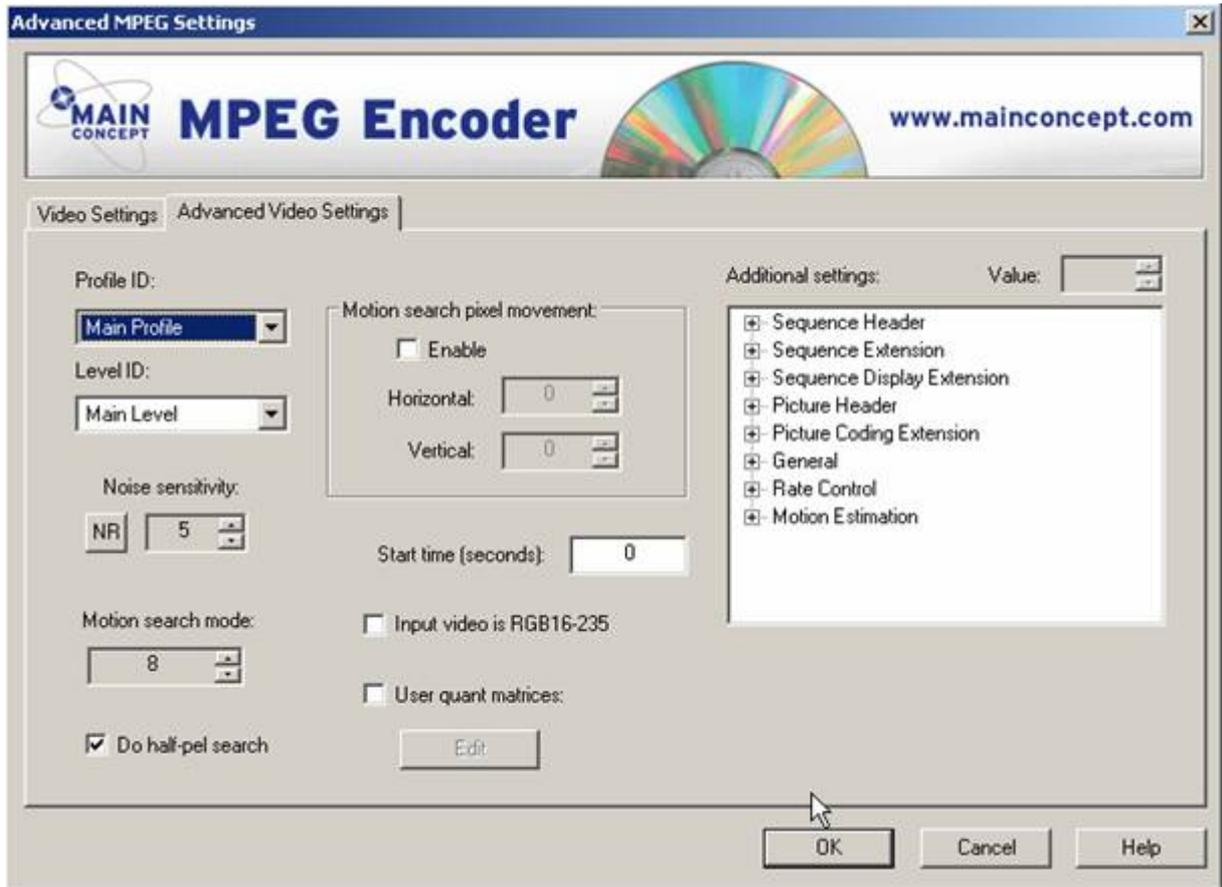


In the detailed settings you will need to set the field encoding to “Progressive Frame”. The video resolution can be set in width and height.



In the Video Settings tab of the advanced menu make sure to set the frame rate aspect-ratio according to the source file.

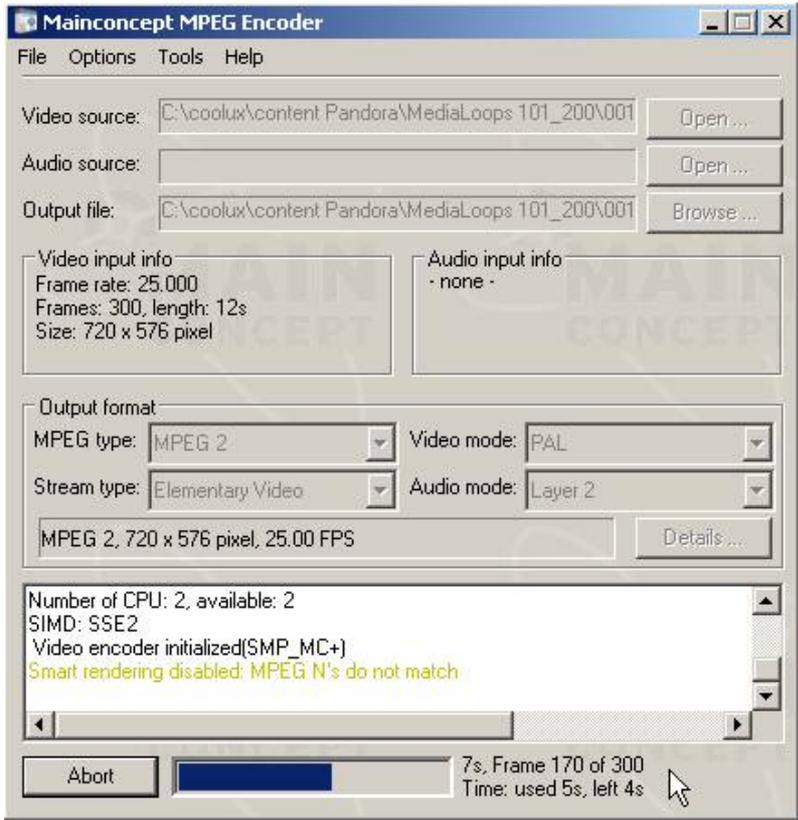
It is important to set the bit rate type to constant bit rate and choose a bit rate between 6000-8000 kbp/s.



Click on the “Advanced Video Settings” tab and make sure that both profile and level ID are set to main, all other parameters should be set to default.

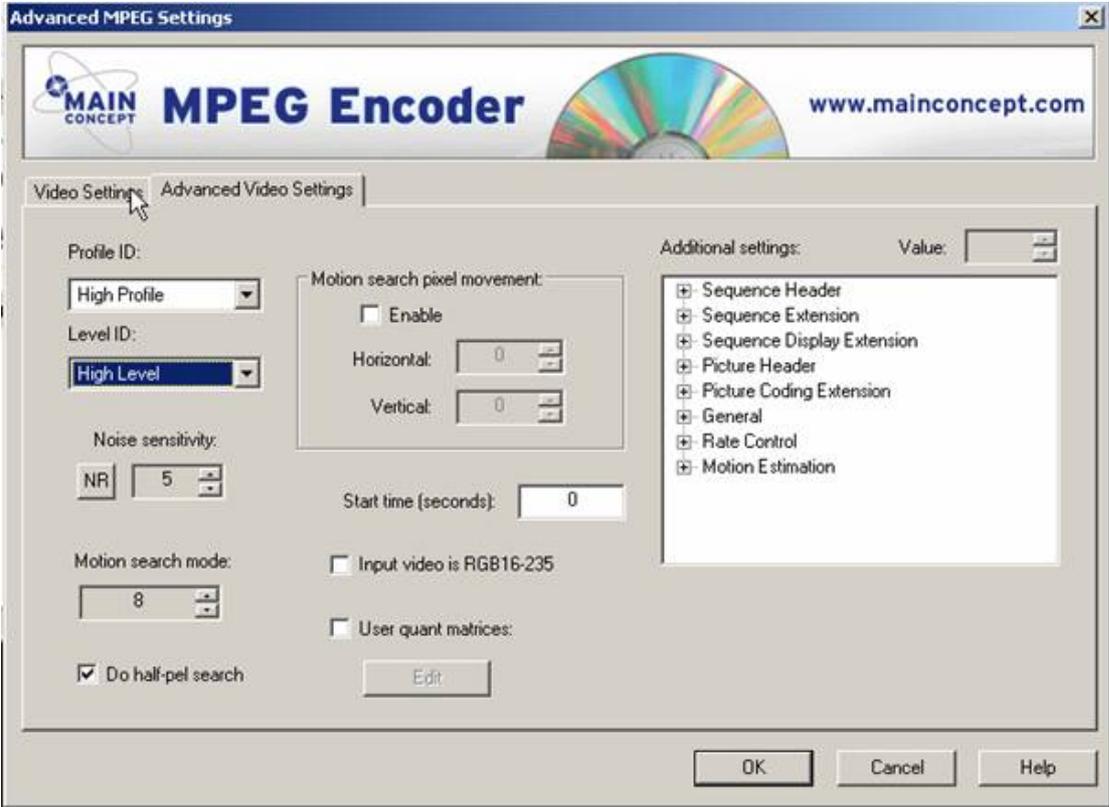
Now return to the main menu by clicking “OK”.

To launch the encoder, click in the main user interface on “Convert”



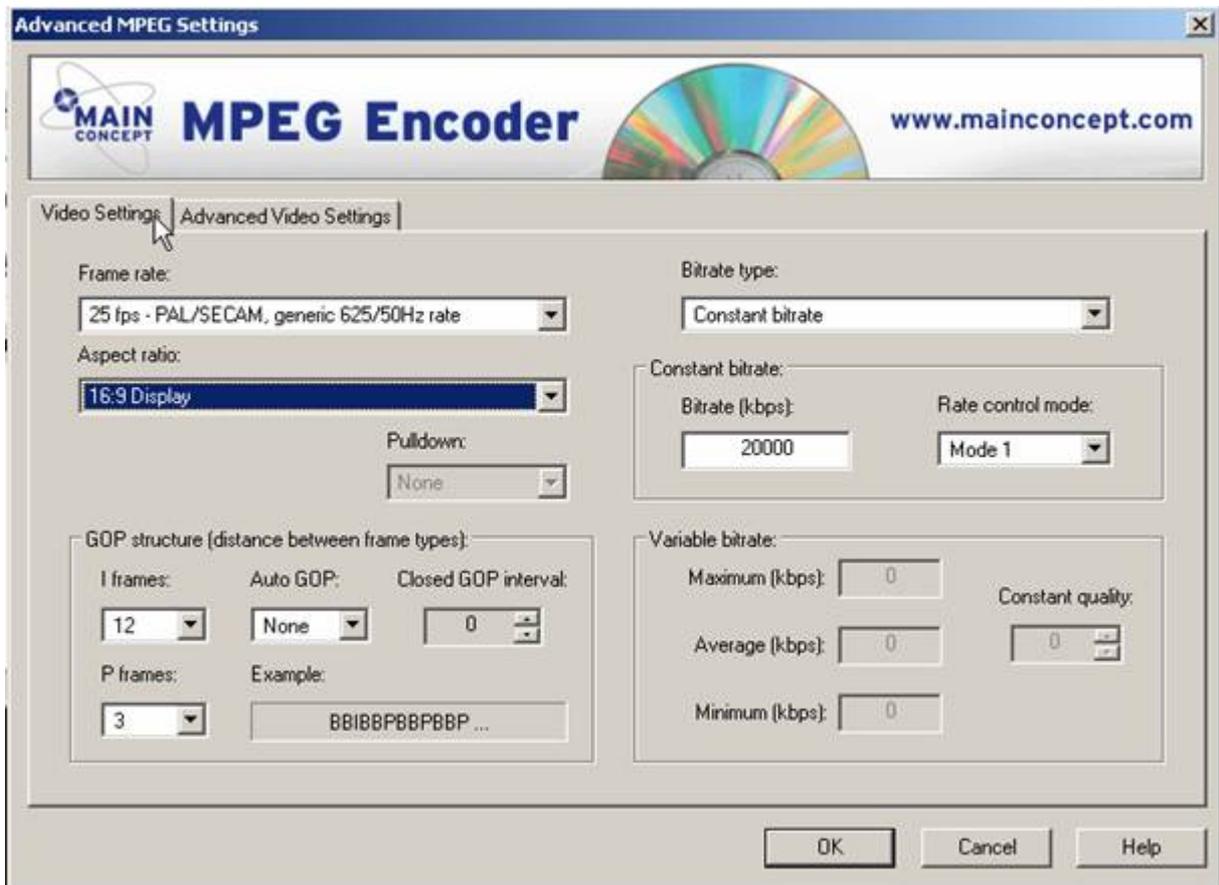
HD - PAL/NTSC Encoding

Compared to SD, the HD encoding requires both the profile and level ID to be set to high.

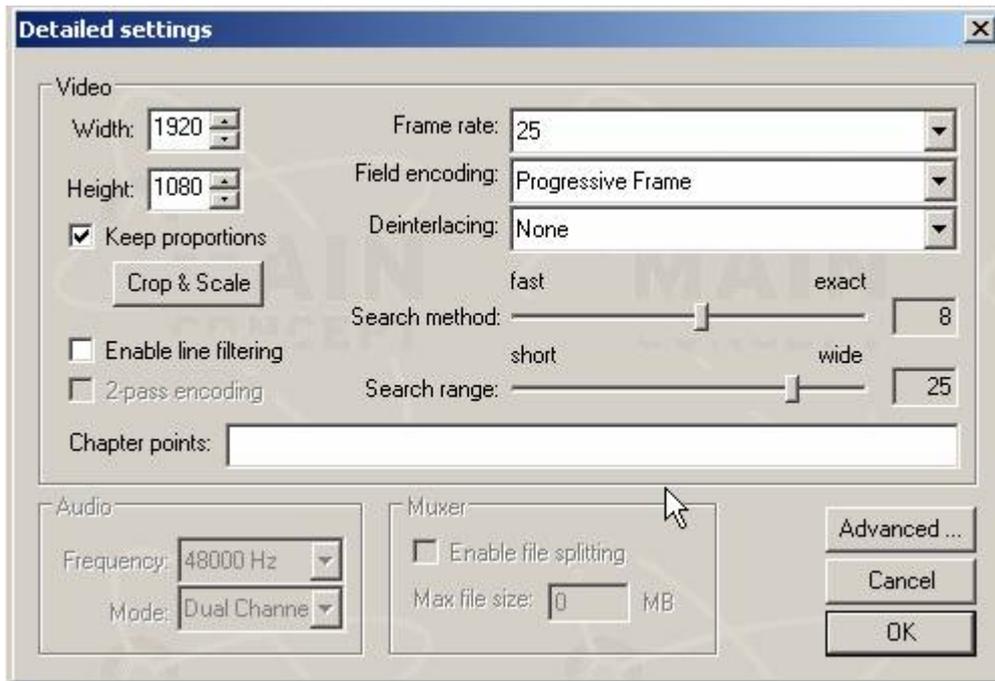


With these settings, resolutions above 768x576 can be accessed and configured. It is recommended to start further reading in the Mainconcept Encoder manual for more in-depth details.

PLEASE NOTE:
FOR SYNCHRONIZED NETWORK PLAYBACK, ALL FILES MUST BE ENCODED AS ELEMENTARY VIDEO ONLY!



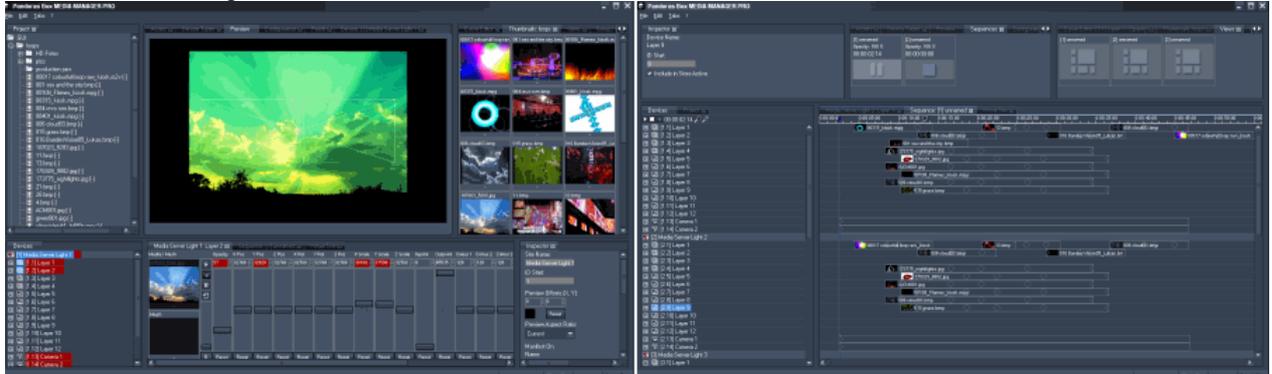
For HD playback, you may choose a constant bit rate of 10000-20000 kbp/s.



Before you leave the advanced mode, check the target resolution as well as field encoding and frame rate.

3.2 USER INTERFACE

To ensure an easy learning curve through out all Pandoras Box products, we have created a unique user interface design.



The user interface is designed for realtime playback and operation, therefore all important functions are accessible directly through a tab and view oriented workflow.

The entire user interface layout can be customized and stored in several views to be recalled at any time during operation.

Another important concept is that all important features and commands for any view will be available through the dynamic context-menu structure, being context sensitive and showing you only the commands needed for any specific location or item.

Customizable tabs are available to add any right-click command into a custom view for quick access as well.

3.2.1 MASTER

Since the Pandoras Box System is designed as a network system, any controll product is considered as a Master system that may connect to several client playback systems.

The Master system takes care of the remote file-management, the protocol patch and routing as well as the video synchronisation of all attached clients.

All playback products like the Pandoras Box Engine, Servers and Players may be started in both Master or Client mode.

A single Pandoras Box Server can then act for example as a Master in the network and have control over other playback systems such as Pandoras Box Players as well as Serial DMX or SMPTE devices.

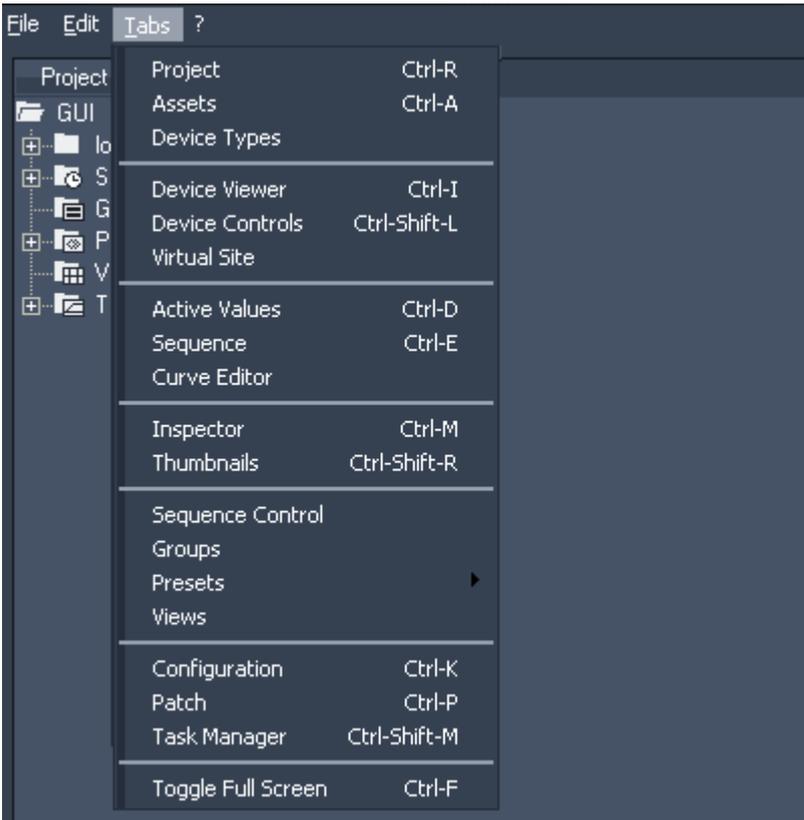
3.2.1.1 VIEWS

A view is determined by the user-interface layout of tabs and their content items.

The user-interface can be freely arranged by adding or removing tab panes by right clicking between the visible tabs.



If you want to add additional tab items to your view layout you may find all available tab items in the main menu bar under windows.



By choosing one of the items, the selected view will be created in the user-interface and can then be moved to the desired tab pane.

A view can be moved from one tab pane to another by drag and drop left-click on its tab title.

The size of each tab pane can be adjusted by left-clicking and dragging in between tab panes.

3.2.1.1.1 ACTIVE VALUES

Device parameter values are designed to have different states:

Active and Inactive.

As you edit and change device parameter values from within the device tree or device control tab, all manually changed values will be activated and highlighted in red.

The active value state of a parameter value indicates the changes you have made but not stored yet. Therefore any store operation within Pandoras Box will be based on the active values only.

Active values are always displayed in red everywhere in the user interface until the values are either stored to a preset or sequence, reset to default or simply deactivated. As long as there are active values for a parameter, all values that have previously been stored in the timeline will be ignored until you store or reset these active values.

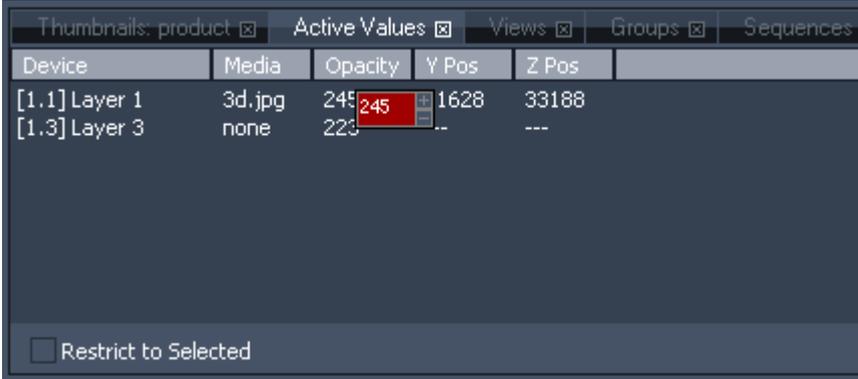
Thumbnails: product		Active Values		Views	Groups	Sequences
Device	Media	Opacity	Y Pos	Z Pos		
[1.1] Layer 1	3d.jpg	255	31628	33188		
[1.3] Layer 3	none	223	---	---		

Restrict to Selected

The Active Values tab lists all currently active values. This gives you an overview of all changes you made since the last store operation.

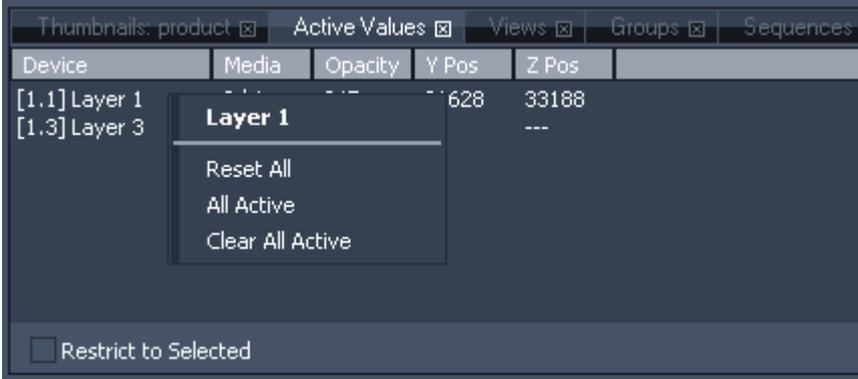
To see all active values of the selected devices only, check [Restrict to Selected] at the bottom of the Active Values Tab.

By left-clicking on the values in the Active Values tab you may apply direct changes to any parameter value.



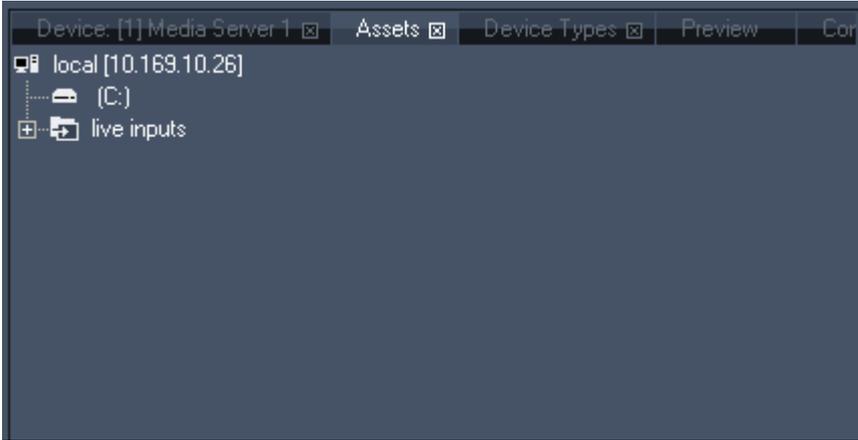
This concept is particularly useful if you do not want to mess around with programmed timeline values and change values only temporarily for creation and setup.

To reset a value right-click on the desired parameter and choose "Reset". In the rightclick menu it is also possible to activate parameters or to clear active parameters.



Every reset command will deactivate the active values based on the reset target.

3.2.1.1.2 ASSETS



The Asset Browser tab has two main functions:

1. Import files from any available file-system
2. Load available Client devices into the device tree of the current project.

File Import

Files are imported from the asset tree by drag and drop into the project tab.

The best way to import files is to get these exclusively from the local hard disc system of the Master system. This is especially useful, if you want to transfer showfiles to other systems later on for backup scenarios or other purposes.

Even though you may import files from client systems as well, it is important to know that each time you import a file, the source location will be used as a reference for remote file-management.

When a file is imported to the project tab, it will be shown as a link to the file system.

To view the properties of the imported file, click on the inspector and after that on the desired file. Then you can see the file location on the systems.

All files will automatically be spread (copied) to all connected clients by default. To change this spreading mode into a manual mode, please see [Startup Options](#)

Since live input cards are treated as live video textures, please import your live input sources from the asset browser as well. Each listed client will list its live inputs that are available for import.

Client Import

Once the Master and Clients are started and set up, they can communicate via the same domain channel.

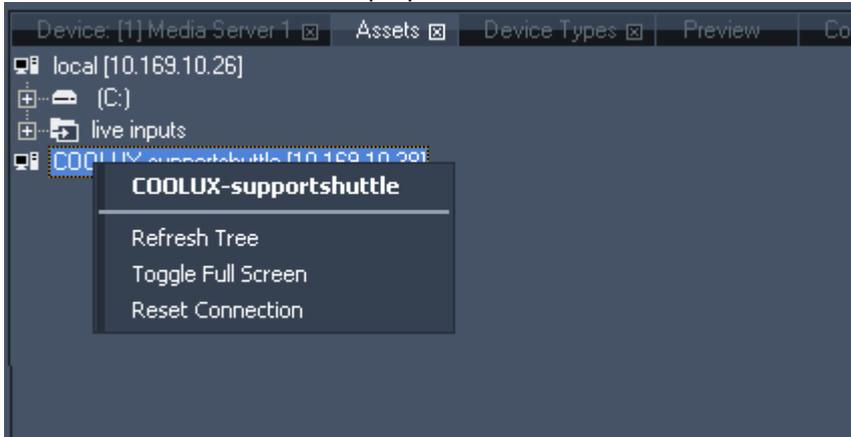
To check if a Client can be connected with a Master system, the Client should be in the same IP address range and on the same domain channel. Once this is set up, the Client will display the Masters IP address in its main user interface window.

The Master system will then show all available Clients in the asset browser.



To import a Client from the asset browser, simply drag and drop the unit from the asset list into the device tree of the Master GUI.

The device IP information and properties will be stored from now on with the current project.



A rightclick on a Client lets you refresh the whole Client Tree. You can toggle the Client into or out of the fullscreen. If the connection between Master and Client was disconnected, choose [Reset Connection] to recover this Client device.

Please note:

If any changes have been made on the local hard disc system, you have to refresh the folder containing these changes. Do this either by

- selecting the changed folder and pressing [F5],
- by doing a right click on your local folder and choose 'Refresh Tree' or
- by doing a right-click on the drive containing the changes and choosing 'Refresh Drive' or
- by doing a right-click on a folder and choose 'Refresh Folder'.

Please note that refreshing the whole tree, a drive or a folder will close all subfolders and you have to open them again.



3.2.1.1.3 CONFIGURATION

Assets | Device Types | Preview | Configuration | Patch | De

Open Project on Startup:
none
 Last Opened

Open in Full Screen Mode
 Full Screen is Single Full Screen opens on secondary Screen

Number of Shown Layers in New Sites
 Video: Graphic:

Use Dark Skin (In Next Session)

Parameter Value Readout
 Percentage
 Centered (where applicable)
 Auto-Increase Cue Number
 Auto Spread Resources After Adding to Project
 Use Thumbnails for Preview

Global Camera Aspect Ratio:
 Current Screen Ratio

Domain:

Art-Net

CIP based Thumbnail Exchange
 For ChamSys MagicQ and Widget Designer
 TCP Port:

Encoder Extension

Auto-Encode: avi mpv Use Auto-Setting
 wmv m4v
 mpeg mxf
 mpg m1v
 m2v mxd
 mov mpe

Settings:
 Use Auto-Setting

Currently Encoding:

GrandMA
 MA-Net 1 MA-Net 2
 Session ID:

Midi Show Control
 Midi Device:
 ID:
 Sequence: Use Cue Subsection
 Cue ID 0 Handling:

SMPTE Link
 Available: no
 Frame Rate:
 Level:
 Transport Changes if Input Repeats

Jog Shuttle / Playback Extension

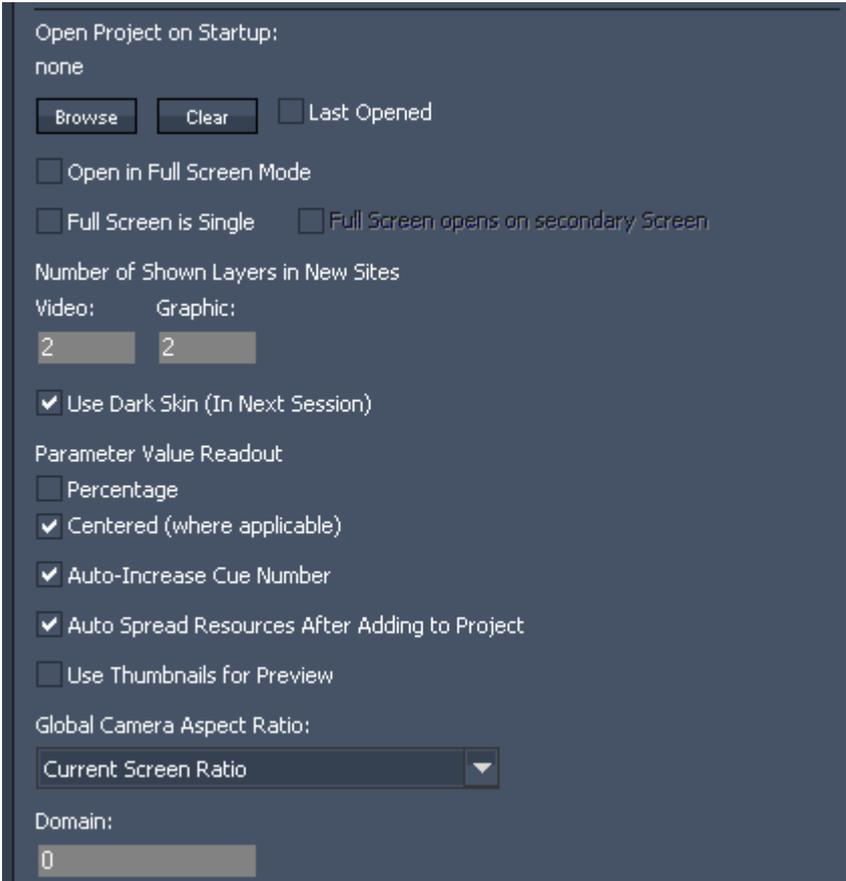
 Enable Sequence On/Off Key

Local Engine Settings
 Full Screen Antialias:
 Full Screen Alternate Rendering
 SLUGA Video Content
 High Performance Mode

The Configuration tab is divided in several topics:

- [Project Startup Options](#)
- [DMX / Art-Net Input Mode](#)
- [CITP Thumbnail Exchange Option](#)
- [MA-Net Input](#)
- [MIDI Show Control Input](#)
- [SMPTE Timecode](#)
- [Jog Shuttle / Playback Extension](#)
- [Local Engine Settings](#)
- [Clear Thumbnail Cache](#)

3.2.1.1.3.1 PROJECT STARTUP OPTIONS



Here you can set up the system to load the lastly opened project or a specific project file.

- Press “Browse” to choose a specific project file
- Press “Clear” to reset the load option
- Tick the checkbox to always open the lastly opened project file
- Full Screen Options

Decide by ticking the checkboxes if

- a) the software should start in Full Screen Mode (default is Off),
- b) the full screen is single (shown on only one monitor) and
- c) the single full screen opens on secondary screen (must yet be the same resolution as primary screen).

- Number of Shown Layers in New Sites

Every new added Site will appear with the amount of Video and Graphic Layers entered in these textfields. Enter new values to change the amount of Layers. After the site is added, you can show the remaining layers using the [site context menu](#).

- Light / Dark Skin

Use the checkbox to activate the Dark Skin. This option takes effect in the next session.

- Parameters value readout

Percentage: Use the checkbox to enable percentage readout for all values of all parameters in the project, see figure 1a. This setting can be changed at any time during runtime. Please note that all values are without exception calculated in decimal 8bit / 16bit depending on the properties of each parameter.



Figure 1a: decimal value readout by default (left side), percentage value readout (right side)

Centered (where applicable): Most of the fader values appear in centered position by default (default value is here set to 0), irrespective if the readout is decimal or percentage. If you disable this function, 0 will be the minimum and the 8 bit /16 bit decimal value (depending on the properties of each parameter) will be the maximum value. With percentage value readout the value range goes from 0 to 100%. See Figure 1b as example.



Figure 1b: decimal value readout non-centered (left side), percentage value readout non-centered (right side)

- Auto-Increase Cue Number

When checked, the Cue Number will automatically increase when the next cue is created. When unchecked, all cues will be created with ID 0 and can be edited later on.

- Auto Spread Resources After Adding to Project

All media files added to the project will automatically be spread to all available clients (by default). To determine the time of spreading manually, uncheck this option.

- Use Thumbnails for Preview

Using this option will show thumbnails instead a full preview of the file. This saves graphic card power

on the master system.

- Global Camera Aspect Ratio

The Aspect Ratio of the Global Camera can be set to one of the options in the pull down list: Current Screen Ratio, 5:4, 4:3, 3:2, 16:10, 5:3, 16:9 or 17:9.

This setting refers only to the global cameras wireframe in the preview. It does not affect the output settings.

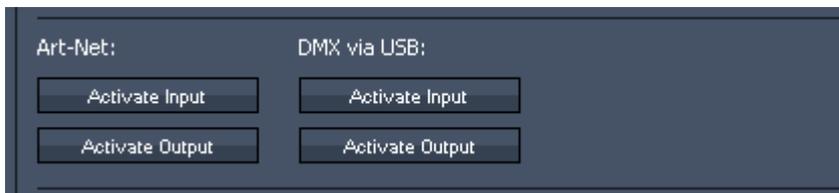
- Domain

Please enter here a domain channel number to setup a Master/Client connection.

Please make sure that both, Master and Client, use the same domain channel number in order to be connected to each other.

Valid channel numbers are from 0-65535.

3.2.1.1.3.2 DMX / ARTNET INPUT MODE



Choose which type of DMX input you want to use for remote control of devices or sequences. Choose which type of DMX output you want to use if needed.

Art-Net:

- Press "Activate Input" to toggle Art-Net receive mode.
- Press "Activate Output" to toggle Art-Net output mode.

Please note that your IP address has to be in the 2.x.x.x range to be able to send or receive Art-Net!!!

DMX via USB:

- Press "Activate Input" if you want to toggle DMX receive mode via a local DMX LinkIn USB interface.
- Press "Activate Output" if you want to toggle DMX send mode via a local DMX LinkOut USB interface.

Please note: While Art-Net supports multiple DMX universes simultaneously, a DMX Link USB interface offers only 512 DMX channels.

3.2.1.1.3.3 CITP BASED THUMBNAIL EXCHANGE



If you want to exchange Thumbnails with a ChamSys MagicQ console or with the Widget Designer:

- Enter a TCP Port
- Press "Exchange Thumbnails"

Please note: The ChamSys console / Widget Designer have to use the same TCP Port to get a connection.

Pressing "Exchange Thumbnails" again will stop the CITP connection.

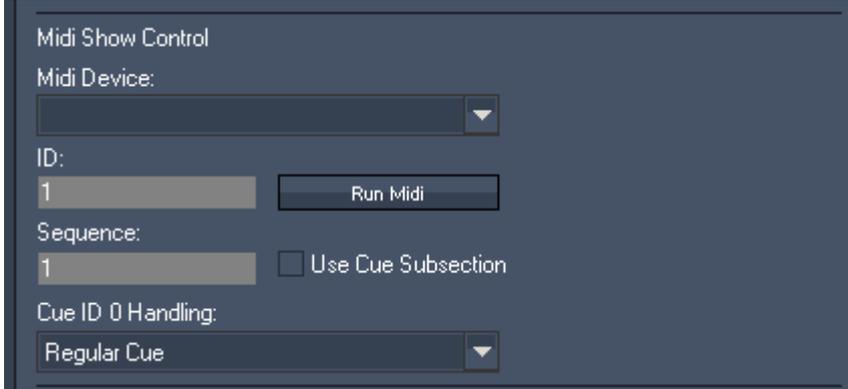
3.2.1.1.3.4 MA-NET



To interface with GrandMA lighting consoles, please enable the MA-Net.
 - Choose the GrandMA Series from the comboboxes.
 - Enter the MA-Net Session ID.
 - Press "Run MA-Net".

Please note:
 MA-Net Series 1 supports up to 64 DMX Universes, MA-Net Series 2 supports up to 256 DMX Universes. They can be patched in the [patch tab](#).

3.2.1.1.3.5 MIDI SHOW CONTROL

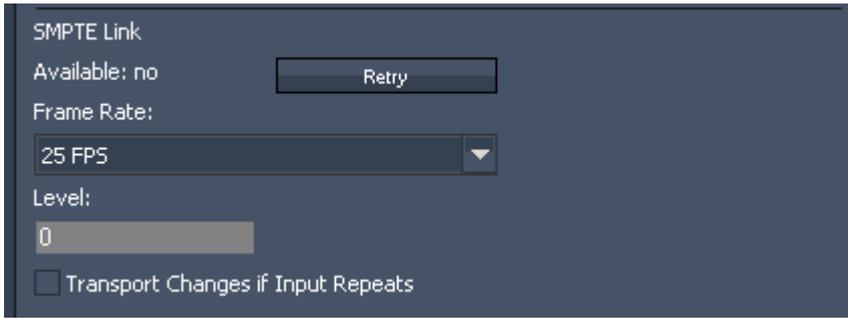


To control a Sequence via Midi Show Control Protocol:
 - Midi Device:
 Choose an installed Midi Device from the drop down list
 - ID:
 Enter the ID of MSC Message Mapping (= Device ID - you find it in front of the Servers/Players name in the device tree)
 - Sequence:
 Enter the ID of the Sequence to be controlled via MSC
 - Run Midi:
 Press Run Midi to launch MSC and MIDI Input
 - "Use Cue Subsection":
 As decimal places for cue numbers are not supported in Pandoras Box, you can use the checkbox option "Use Cue Subsection". Doing this will multiply the incoming cue command x1000 (for example: GO to Cue 1.020 will be interpreted as GO to Cue 1020). With this option three decimal places are supported.
 - Cue ID 0 Handling:
 Choose between Regular Cue, Ignore, Stop and Stop & Reset all for Cue ID 0 Handling.

The following message types are supported:

Midi: Channel Voice Messages (all Note-On messages are processed)
 MSC: System Exclusive messages (SysEx) according to the MSC specification
 Please see the following links for detailed information: [Midi](#) / [Midi Show Control](#).

3.2.1.1.3.6 SMPTE TIMECODE



If you want to use a SMPTE Link interface for either SMPTE send or receive mode, please connect the SMPTE Link USB device before launching any Master software.

If the SMPTE Link is being found by Pandoras Box, the availability will switch to "YES"

- Retry:

Use the "Retry" button if you have lost communication or the SMPTE Link was removed from the USB port.

- Frame Rate:

Setup the frame rate that you want to use for either send or receive mode of the SMPTE Link interface.

- Level:

The level setting is important for send mode only. You may enter values between 0 and 1 to amplify the SMPTE output signal level.

- Transport Changes if Input Repeats

Some SMPTE sending devices continue sending the last frame instead of stopping the SMPTE transmission.

If this option is not enabled, and the SMPTE devices sends 3x an identical frame, the timeline will continue running until it receives a different frame.

If this option is enabled, the timeline will execute the Stop-Action set up for this sequence.

3.2.1.1.3.7 JOG SHUTTLE / PLAYBACK EXTENSION



In case you lost the connection to your USB Keyboard Extension, press 'Reconnect'.

When unchecking 'Enable Sequence On/Off Key'-option, the timeline ON/OFF button on your USB keyboard extension will be disabled in order not to fade out the timeline by mistake.

Please see [Jog Shuttle](#) or [Playback Extension](#) for description of all their available functions.

3.2.1.1.3.8 LOCAL ENGINE SETTINGS



Configure here the settings for the local render engine:

- Full Screen Antialias

Antialias for full screen mode can be set to the value 0, 2 or 4, maximum Antialias = 4, minimum Antialias = 0. For memory and performance enhancement the default value is set to 2. To set up Antialias for the Clients, please select the Client in the device tree and see the Inspector tab.

- Full Screen Alternate Rendering

Check Alternate Rendering to get a better performance for laptops or older PCs. This setting can influence the fluent playback of videos. To set up Alternate Rendering for the Clients, please select the Client in the device tree and see the Inspector tab.

Please note:

The settings for Antialias and Alternate Rendering only take effect in full screen mode. In preview mode Antialias will be set to 0 and Alternate Rendering is off.

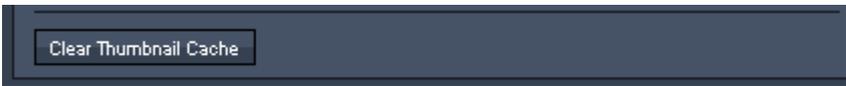
- SUXGA Content

When this option is enabled, SUXGA video content with deinterlacing and frameblending is supported (consumes plenty of graphic card memory!)

- High Performance Mode:

The "High Performance Mode" should only be used if you intend to playback or process highframerate content (50p/60p) or live inputs as it requires more system and GPU RAM.

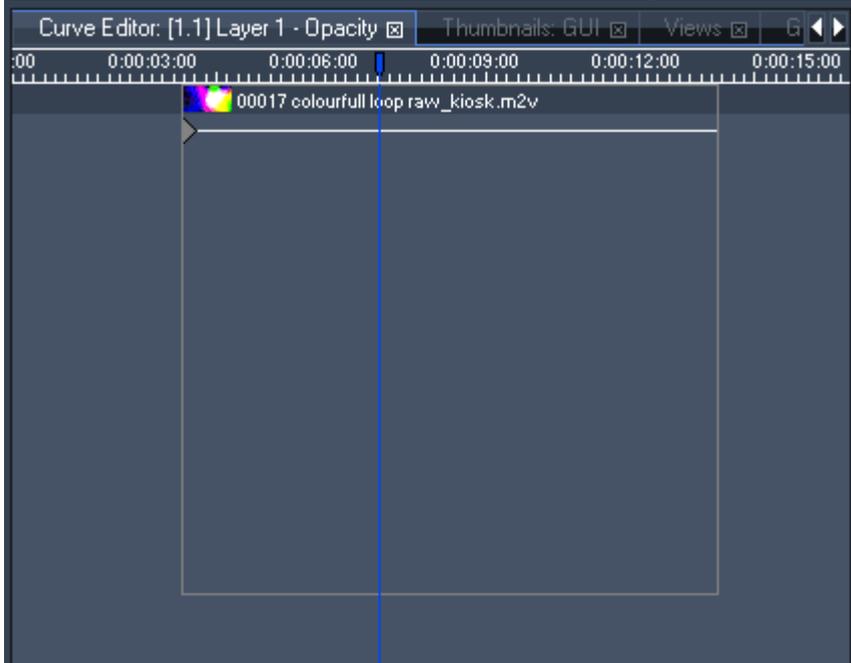
3.2.1.1.3.9 CLEAR THUMBNAIL CACHE



In case that you encounter any issues with loading images or thumbnails, you may press "Clear Thumbnail Cache", and the next time you start the project, the thumbnail and image files will be rebuilt.

3.2.1.1.4 CURVE EDITOR

To open the Curve Editor Tab, please click on 'Tabs' in the Toolbar - Curve Editor.
 For changing the curve of a parameter, make a rightclick on this parameter in the device tree and choose "Load into Curve Editor". You can also doubleclick on the Curve Editor icon in front of the parameter's name in the device tree. Please note that you need a sequence in order to edit curves.

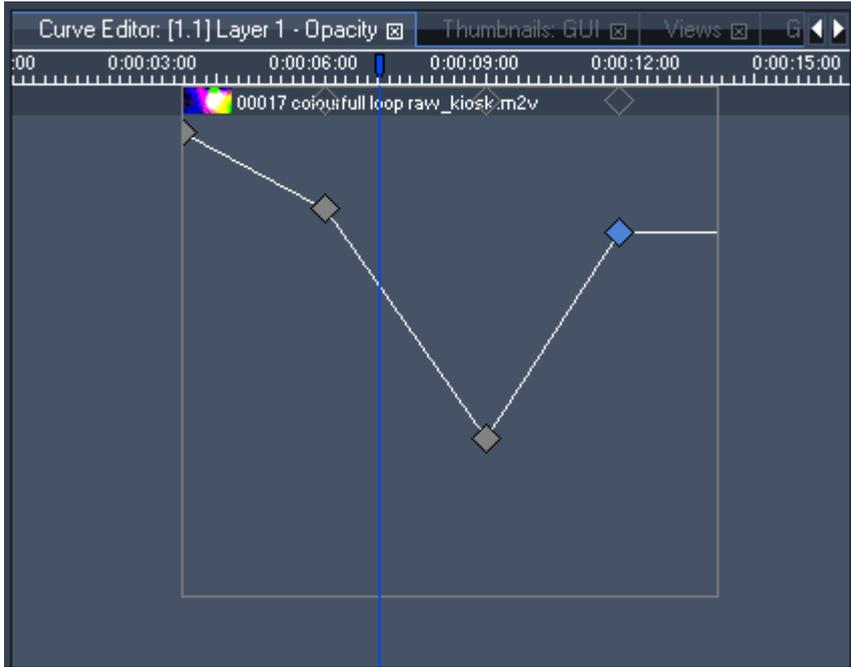


In the example above, the opacity of Device [1.1] is loaded into the curve editor:
 Underneath the tabs you see the timeline and the current position of the nowpointer.
 Below the timeline there is the clip container including a thumbnail and the name of the clip.
 The blue borders on the left and right mark the start and end time of the clip container.
 The blue borders on the top and bottom mark the value range of the parameter (depending on 8 or 16 bit values).
 The opacity key at the left border shows a constant value going until the end of the clip
 Zooming In/Out
 You can zoom into the x-axis of the curve editor (time) just as you do it in the sequence, using + / - on your keyboard.
 To zoom in the y-axis (value range of the parameter) hold SHIFT while using + / - on your keyboard.

When moving the clip container it will be simultaneously moved in the sequence.

INSERTING / REMOVING KEYS

To insert more keys for the used parameter, right-click in the Curve Editor and a new key will be created.
 To remove a key, select it and press DEL on the keyboard.

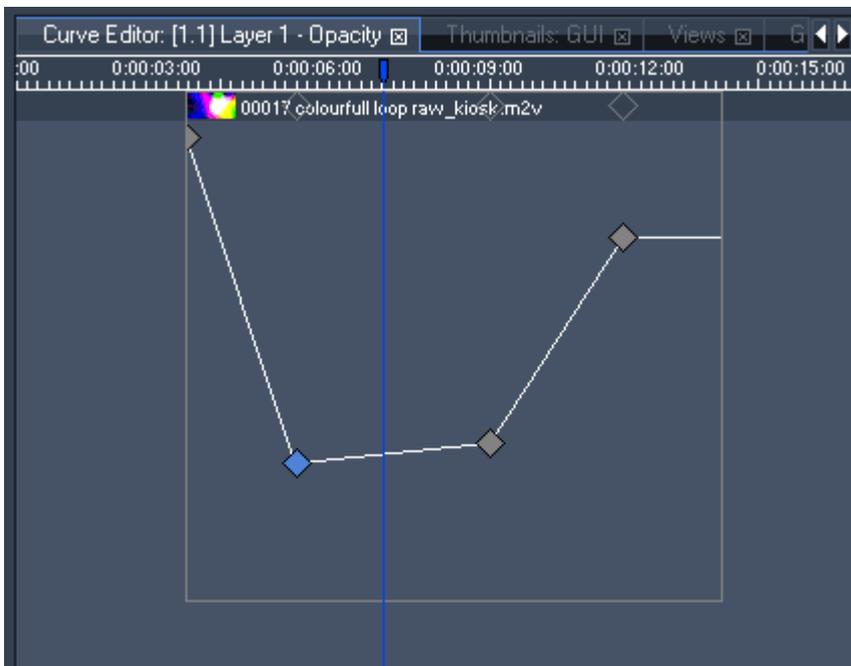


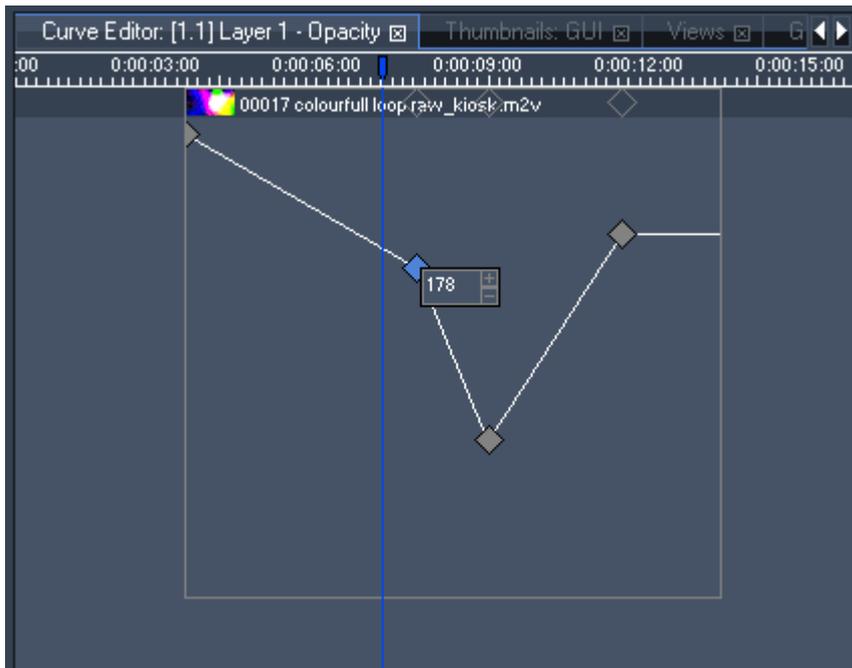
EDITING KEYS

To move a key, please drag and drop it to the new position.

Moving it left and right will move it within time. By moving it up and down, the value of the key increases or decreases.

If you want to move it to a certain value, do a right-click on the key and insert the value or click inside the value field and move the mouse-cursor up and down.

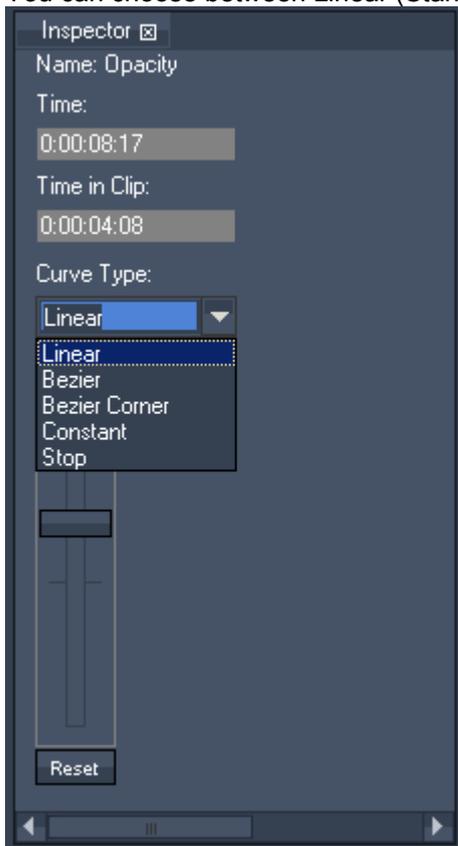




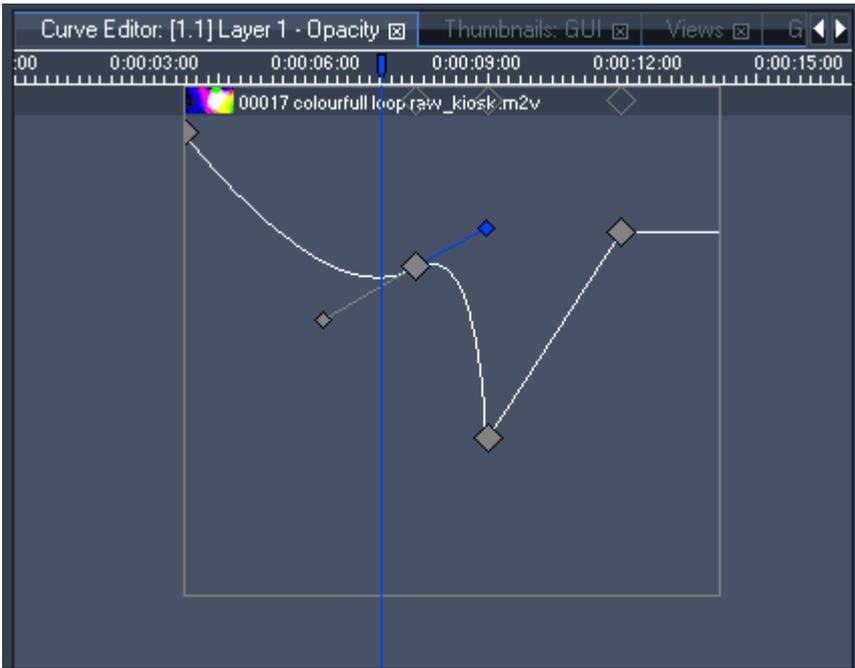
CURVE TYPES

To change the curve type of a key, select the key and choose a Curve Type from the dropdown menu in the Inspector Tab.

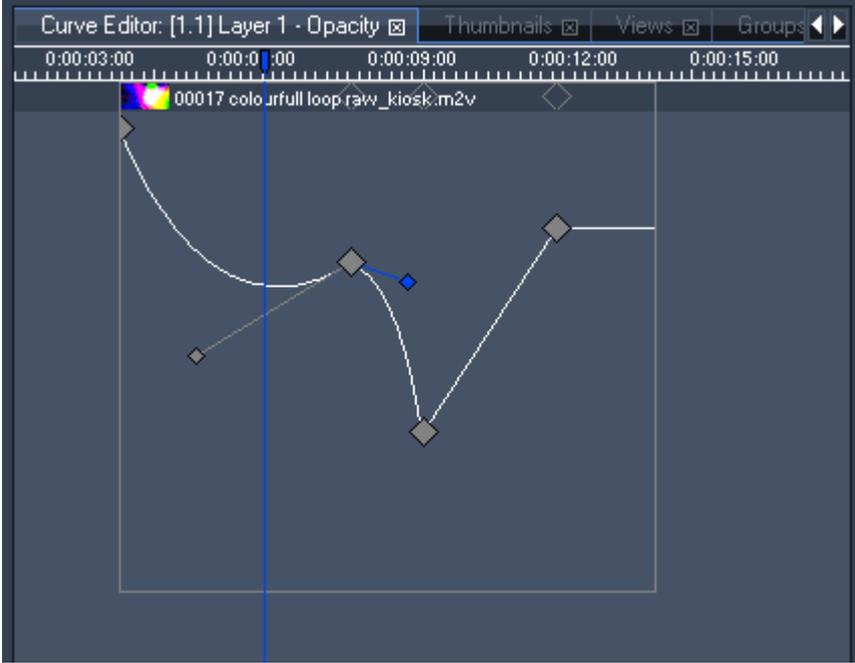
You can choose between Linear (Standard), Bezier, Bezier Corner, Constant and Stop.



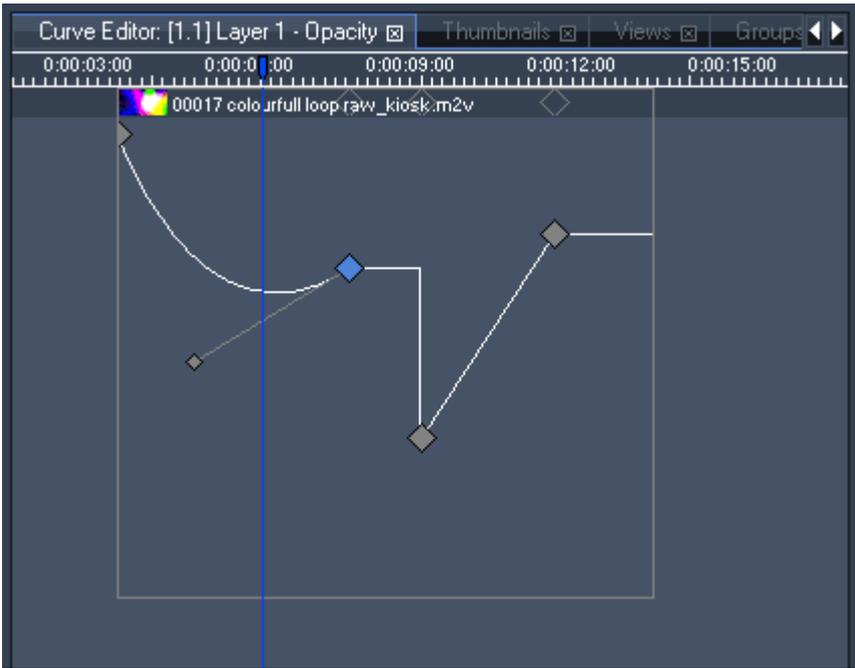
- Linear
A linear line is drawn between the previous and next key.
- Bezier
The key gets two handles and you can intuitively smoothen the curve by moving the handles and changing their length. The handles always will stay in a line.



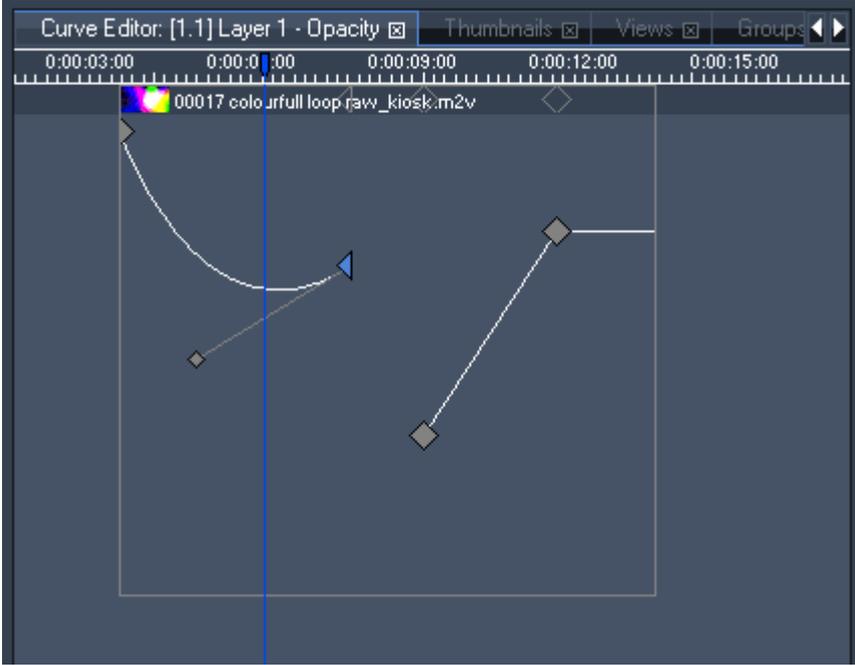
- Bezier Corner
Compared to Bezier the handles can be modified independently from each other.



- Constant
The value of the key will be continued until a new value is given.



- Stop
The connection to the next key will be removed, the key's value will be held until a new value is given.



3.2.1.1.5 DEVICE CONTROL



Figure 1: The Device Control Tab

Depending on the device selection from the device tree in the device tab, the control parameters will be loaded into the device control tab.

A selected device in the device tree will have its node icon highlighted in blue.

View of Parameter Values

The 8bit and 16bit parameters are shown in decimal readout and centered by default.

To display them in percentage readout and/or non-centered, please modify the [Start-up Options](#).

Changing parameter values

All changes made to the parameter values will turn active and red.

For 8bit and 16bit parameters, use the fader for coarse control or drag and drop the mouse over the numeric value for sharp tuning.

You may also double-click on any value and enter the value manually.

Another way is to click the fader once and use the arrow keys (up/down). The fader value is changed by factor 10 when pressing CTRL.

Get a Clue for Rotation and Scaling Values

If you change the 16 bit fader values for rotation or scaling, the value does not show eg. how many degrees a layer is rotated or how much it is scaled up or down. Until the value readouts are changed in the near future, here are just a couple of examples to give you an idea of how the values correlate:

Rotation

A full rotation of 360° is done by adding / subtracting 8196 values.

To get 180° add / subtract 4096 values.

To get 90° add / subtract 2048 values.

Scaling

400% = +9876 values

200% = + 4938 values

150% = +2469 values

100% = +/- 0 values

75% = -2469 values

50% = -4938 values

25% = -9876 values

Effects

To apply effects or modes to a device, choose the desired entry from the dropdown lists on the right. To reset a value to default, press the reset button of the desired parameter.

You may access all commands to reset or deactivate a parameter value also by right-clicking on the parameter or value in the device tree tab.

The [Colour FX](#) and [Video FX](#) are listed by number and name only, the [Transition FX](#) are additionally shown with thumbnails.



Figure 2: The Transition FX list.

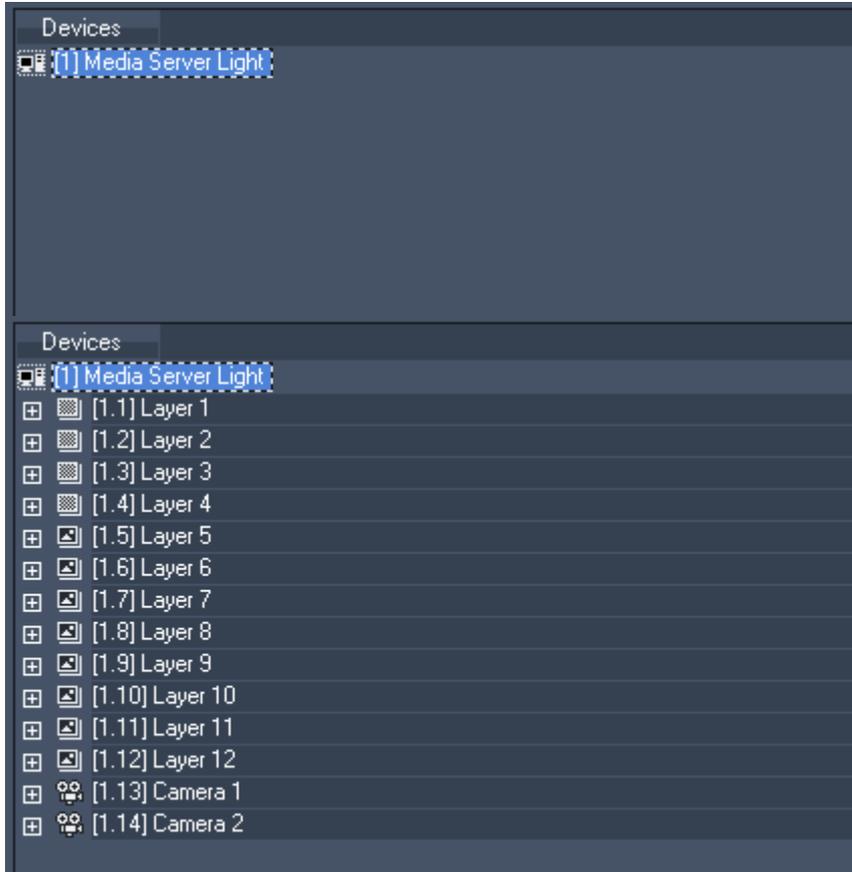
Linking parameters

To link several parameters click on the link icons above the faders in the device control tab or left to the listed parameters in the device tree. If you move one of the linked faders all linked parameters will accept the values in relation to the moved fader. Please note that only parameters from the same type (like rotation or scaling) can be linked.



3.2.1.1.6 DEVICE TREE

The device tree is the main place to browse and edit all available devices in the project. To unfold/fold a site or device tree double-click on it.



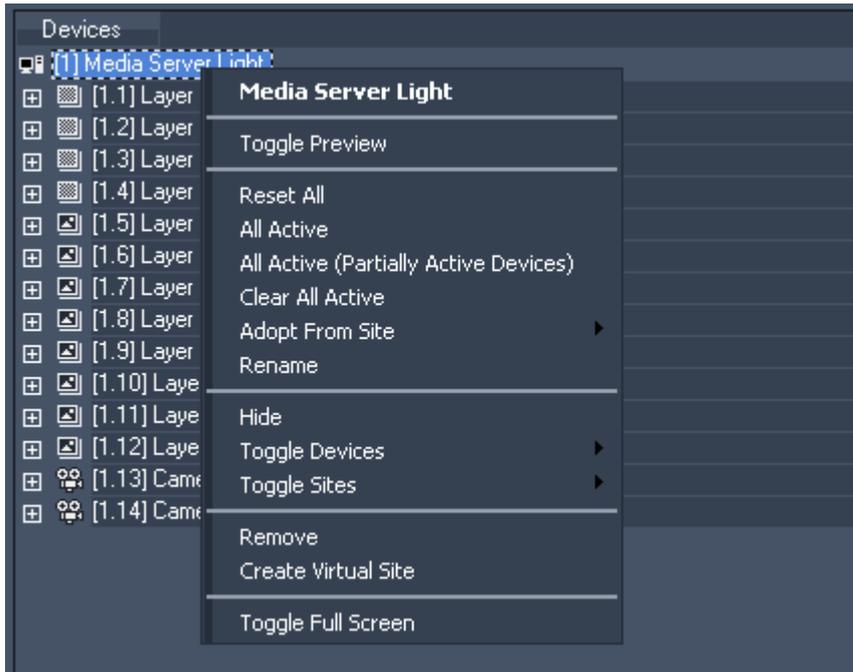
The Device Tree section is separated into the following themes:

- [Context Menus](#)
- [Device Selection](#)
- [Structured View](#)

3.2.1.1.6.1 CONTEXT MENUS

Several context-menus are available to filter the display of the device tree.

SITE CONTEXT MENU



- Toggle Preview

This command sets the site to be included in the preview tab.

- Reset All

This command will reset all parameters for all layers of this site.

- All Active

This command will activate all parameters of all layers of this site (every parameter will turn red).

- All Active (Partially Active Devices)

This command will activate all parameters of all layers of this site that already have active parameters.

- Clear All Active

This command will de-activate all parameters of all layers of this site.

- Adopt from Site

This command loads all current values and contents of the chosen site into the layers of this site (timeline programming will not be affected).

- Rename

This command will enable you to rename the site. You can also do this by pressing F2.

- Hide

This command will hide the site in the device list.

- Toggle Devices

Choose if you want to show all devices (by default), hide all devices or show / hide single layers of this site in the device tree. To hide more than one layer, it could be time-saving to select them and hide them using the right-click menu of a layer.

- Toggle Sites

Choose which sites you want to show or hide in the device tree.

- Remove

This command removes the site irrevocably from the device tree. You will have to confirm this action in a pop up window.

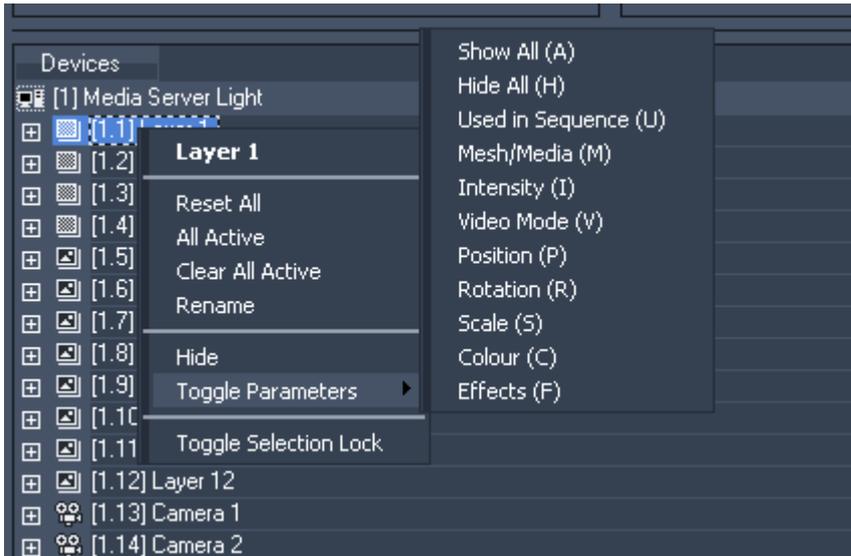
- Create Virtual Site

This command will create a Virtual Site out of all selected sites. Please see [Virtual Site](#) for detailed information.

- Toggle Fullscreen

This command lets you bring the site into fullscreen and out of fullscreen.

DEVICE CONTEXT MENU



- Reset All

This command will reset all parameters of this device.

- All Active

This command will activate all parameters of this device (every parameter will turn red).

- Clear All Active

This command will de-activate all parameters of this device.

- Rename

This command will enable you to rename the device. You can also do this by pressing F2.

- Hide

This command will hide the device in the device tree.

- Toggle Parameters

Choose Toggle Parameters to hide or show individual items or all items at once. In addition, the list shows you the keyboard shortcuts to apply the filtering to any device selection.

- Toggle Selection Lock

Choose Toggle Selection Lock to lock the current selection. A lock icon will display the locked selection. Clicking on a device beside this selection will load the device into the device control tab. You can modify its parameters without losing the locked selection.

PARAMETER CONTEXT MENU



- Reset

This command will reset the parameter.

- Active

This command will activate the parameter (parameter will turn red).

- Clear Active

This command will de-activate the parameters.

- Hide

This command will hide the parameter in the device tree.

- Toggle Key Mode

The command "Toggle Key Mode" allows you to detach the parameters events from the existing clip containers. This applies to all sequences.

Please note: This command cannot be undone.

- Load into Curve Editor

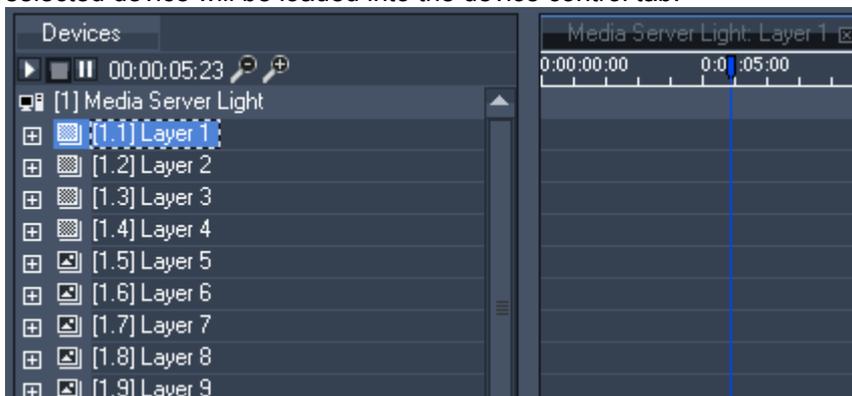
To edit the parameter curve do a rightclick and choose "Load into Curve Editor" or doubleclick on the Curve Editor icon in front of the parameters (you will find the Curve Editor Tab under Tabs - Curve Editor). Please see the [Curve Editor](#) description for detailed information.



The device tree also allows direct changes to any parameter value by left-clicking or dragging over the value.

3.2.1.1.6.2 DEVICE SELECTION

Select a site (server) or a device (layer) by left-clicking on it. The layer icon will turn blue and the selected device will be loaded into the device control tab.



MULTI-SELECTION

To select several devices, select the first one and hold down the STRG or the SHIFT key while clicking on other devices to select them, too.

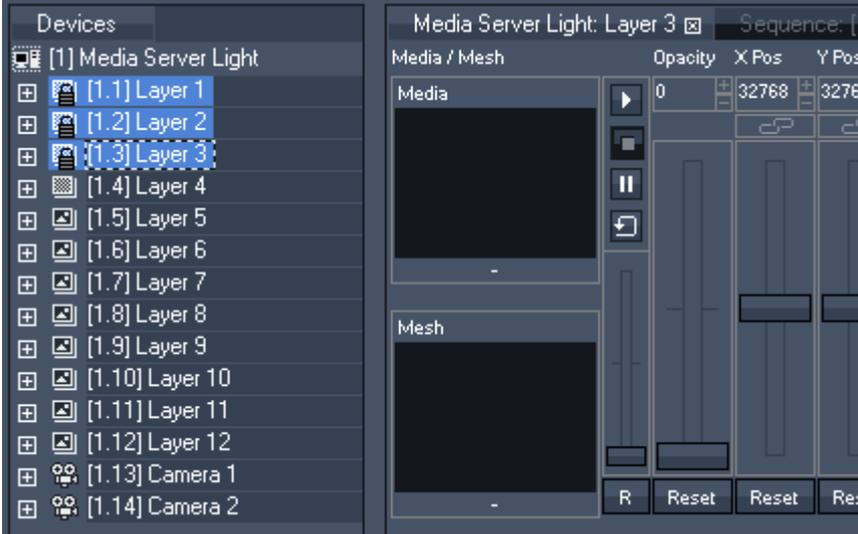
When several devices are selected, the last one selected will be loaded into the device control tab.



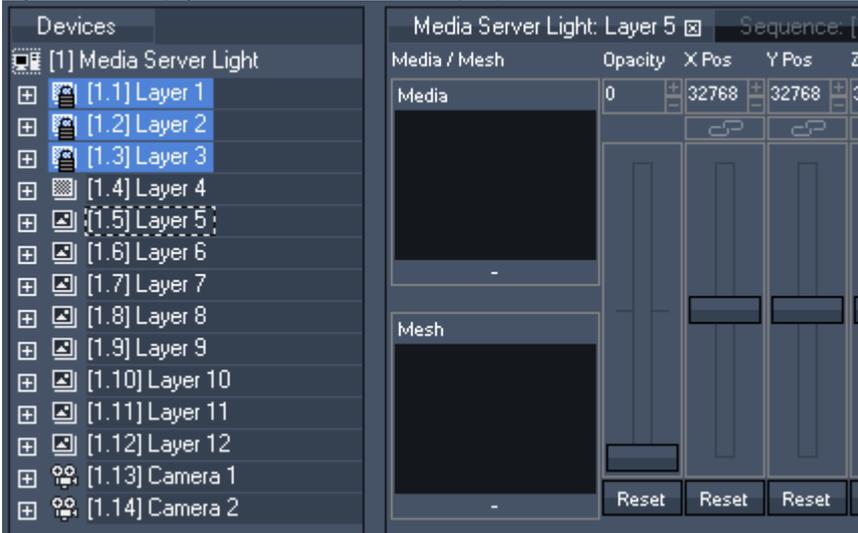
Once you have done your selection, all parameter changes (adding new media/mesh, moving a fader) on one of these selected layers will be assigned to all selected layers. Eg: Changing the opacity of layer 1 will result in opacity changes in all selected layers.

SELECTION LOCK

To keep your multi-selection while modifying other devices, right-click on one of the devices and choose Toggle Selection Lock or press CTRL+L. A lock icon will display the locked device selection.

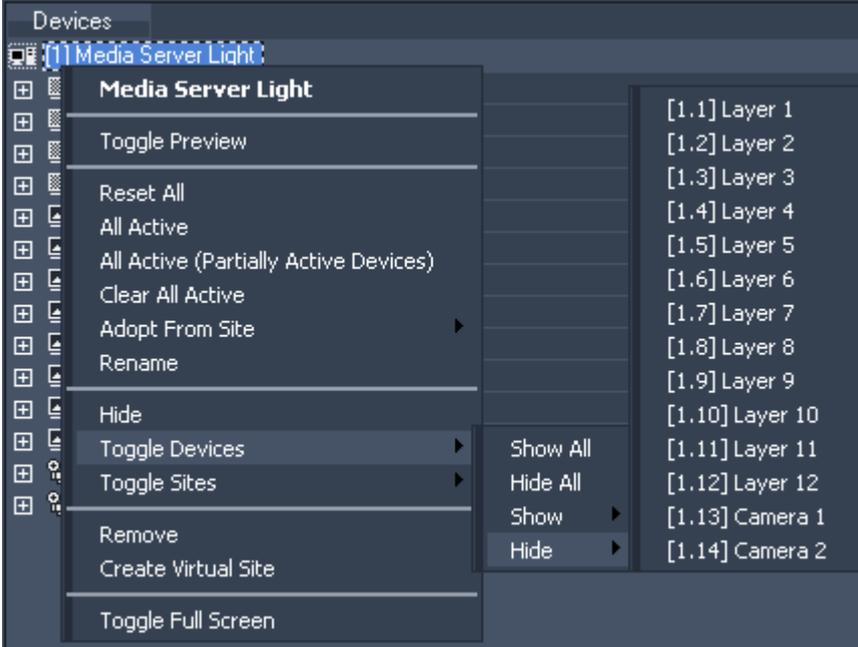


If you now click eg. on Layer 5, it will be loaded into the device control tab. You are able to modify this layer and keep your selection for later purposes.

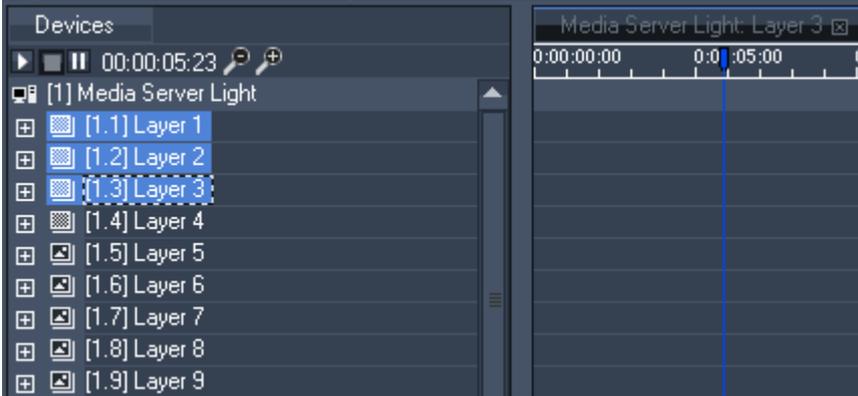


3.2.1.1.6.3 STRUCTURED VIEW

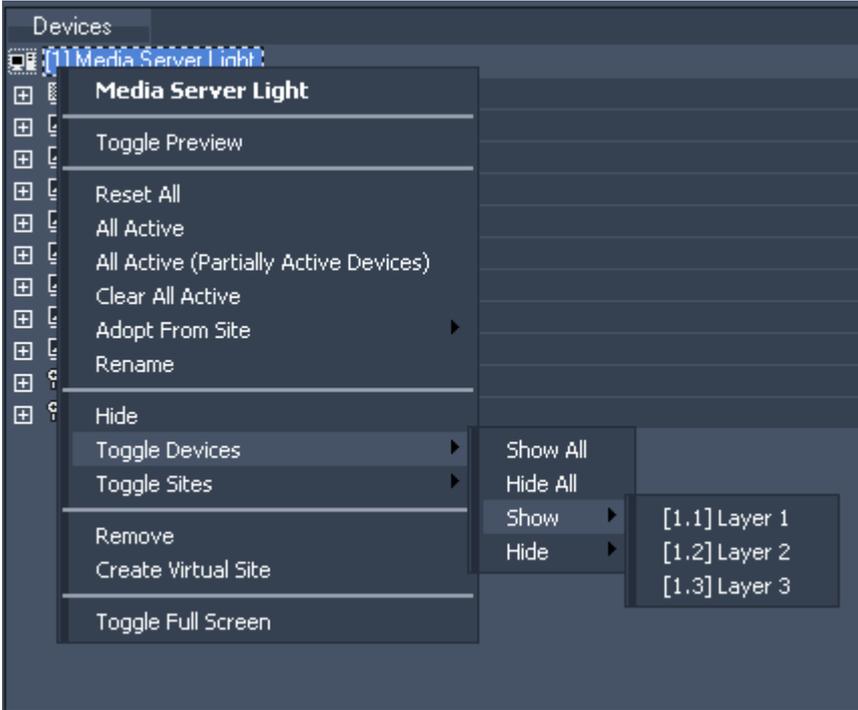
As best practice we recommend to display only those devices or layers that are used in the show. This allows faster navigating through the device tree when a lot of devices are loaded in the project. Choose the "Toggle Device" entry from the site context menu to hide or show individual items or all items at once.



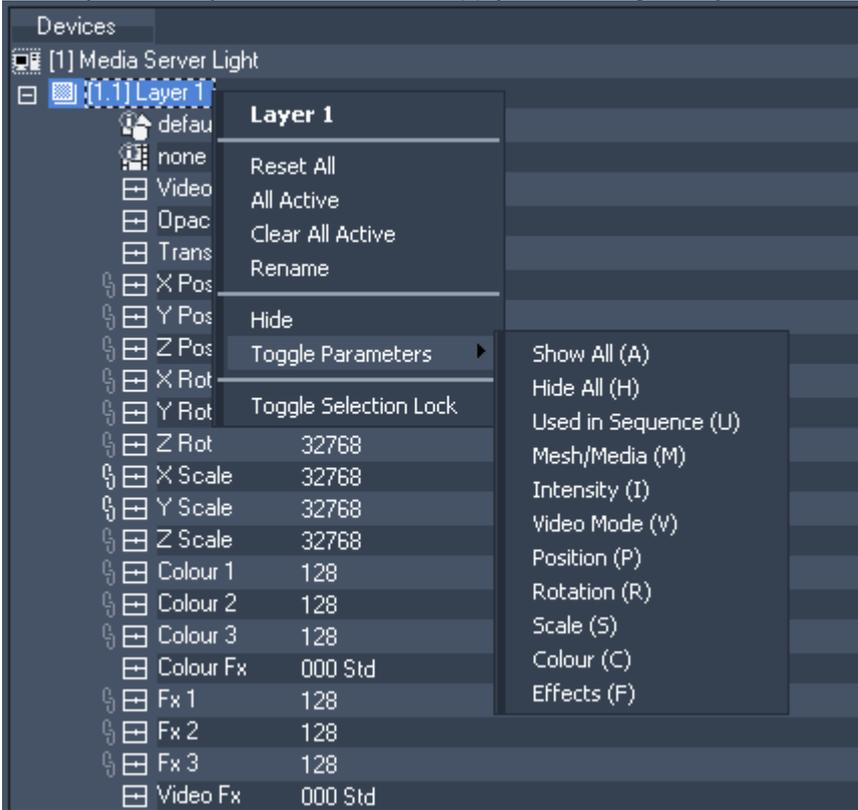
Using multiselection to show/hide several devices could be time-saving. To select several devices, select the first one and use holding down the STRG or the SHIFT key while clicking on other devices to select them too. Right-click on one of these layers and choose Hide from the context menu.



Once the devices are hidden, right-click on the site and choose Toggle Devices -Show All or -Show to display all or parts of them again.



The device tree can also be filtered on the parameter level. To do so, right-click on any device and choose Toggle Parameter to hide or show individual items or all items at once. In addition, the list shows you the keyboard shortcuts to apply the filtering to any device selection.



3.2.1.1.7 DEVICE TYPES

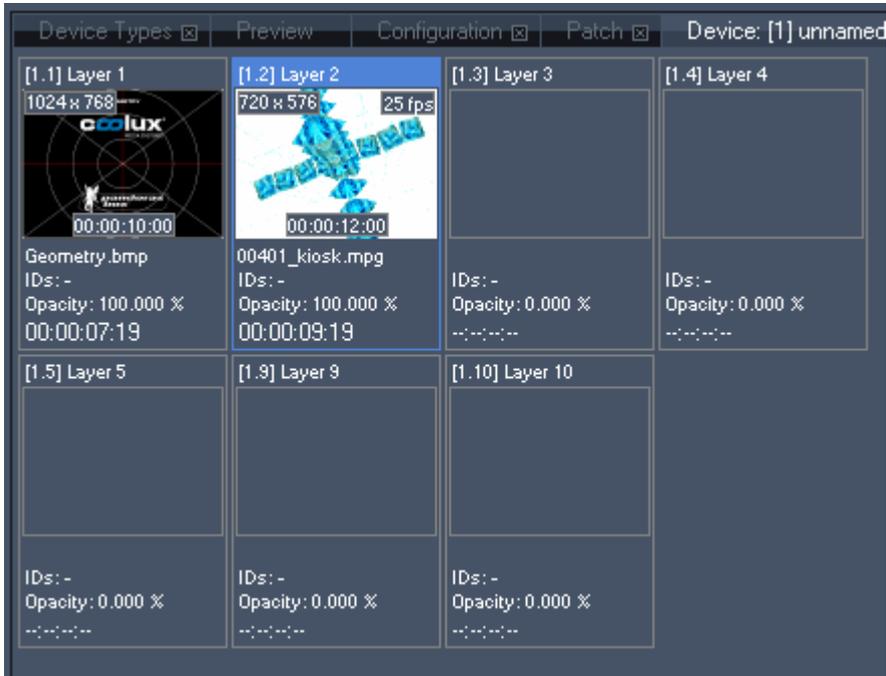


The device types tab shows you the contents of the built-in device library. From this device list you may choose any device and drag & drop it into the device tree list to control it within your current project.

Please note:

When adding a Pandoras Box device to the device tree, the node icon will show a red "!". This means that you will need to set up the IP address of the device via the inspector tab and make sure that the device is available in the network in order to connect to it.

3.2.1.1.8 DEVICE VIEWER



The device viewer shows you - based on the selected node item in the device tree - an overview of the loaded content and additional media information.

Please note:

Only devices displayed in the device tree are shown in the device tab (no hidden devices).

In the top left corner you will see the media size, in the top right corner the framerate for videos is shown.

On the bottom of the thumbnail the clip container length is shown.

Below the thumbnail the media's name, its DMX file and folder ID and the current opacity are shown.

The last entry at the bottom shows the asset's countdown (when it is stored to the timeline).

Click on the layers to select them.

3.2.1.1.9 ENCODER EXTENSION

The built-in Pandoras Box Encoder Extension allows to transcode most AVI -and Quicktime- as well as WMV files to Mpeg1 or 2 in both SD, HD or custom resolution. You will find it in the configuration tab of your master user interface.

The Encoder Extension allows you to transcode files larger than 1080p to our proprietary .mxl format. The maximum resolution is 4080 x 4080 px and depends on available graphic card RAM. Please note that the PB Player is limited to play back a file resolution of 2560 x 1536 px.

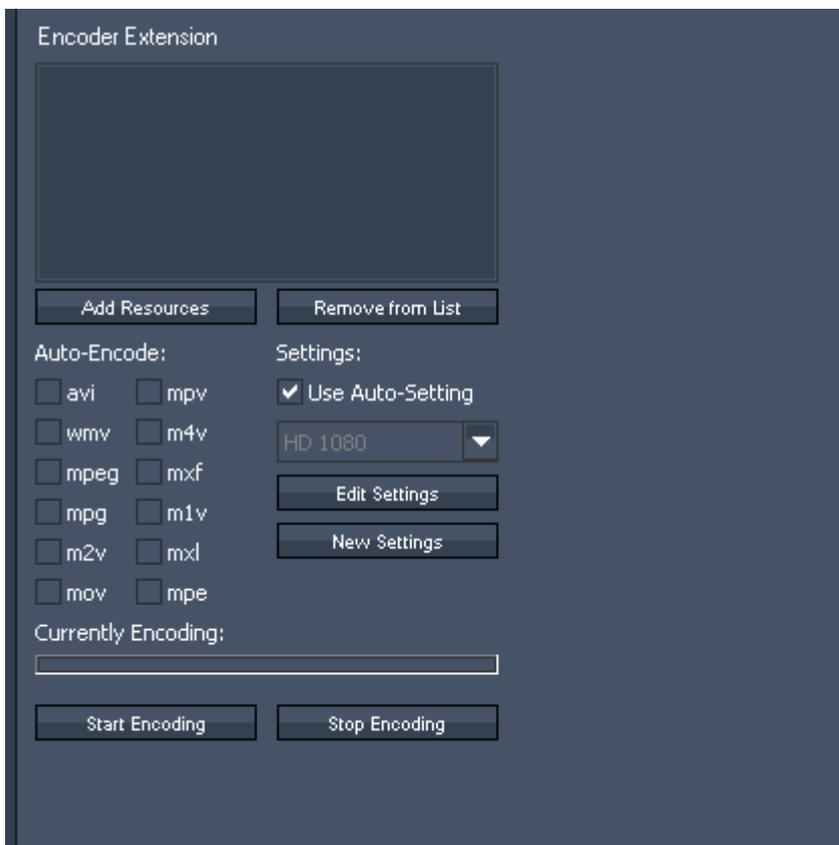
To open the Encoder Extension Tab, please click on the Tabs Menu and choose Extensions - Encoder Extension. The Encoder Extension Tab will appear next to the Preview Tab.

Please note:

The Encoder Extension needs to be activated on your dongle, depending on your licence this will be fee required.

The files will be encoded to MPEG Elementary Video Stream.

If the original file contains audio, a separate wav-file will be created in the same location under Windows where the video file is located. If required the you can add the audio file manually to the project.

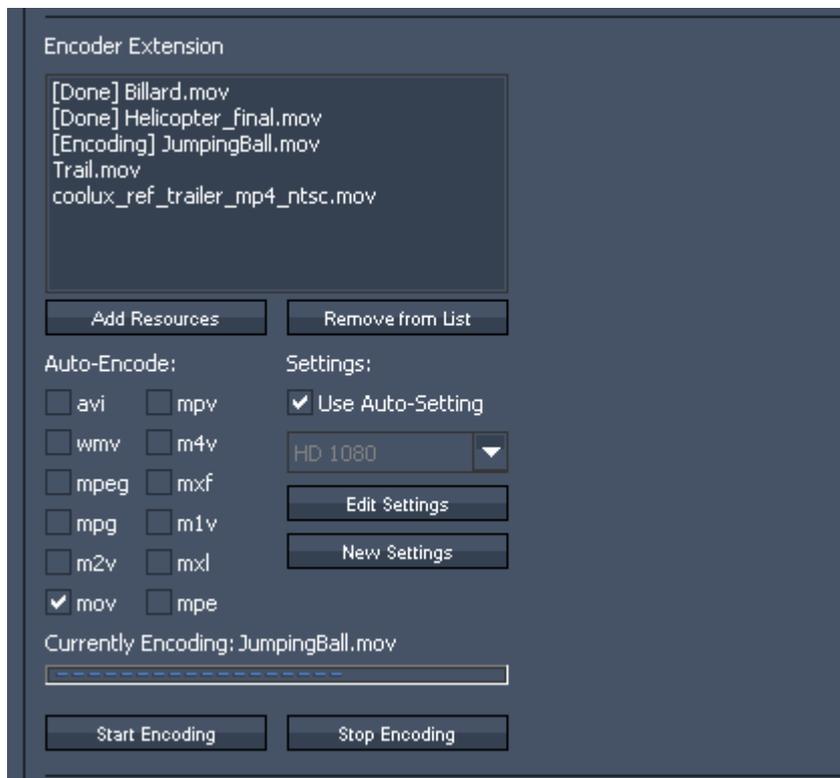


AUTO-ENCODE

To use the Auto-Encode function please set a check in front of all file-formats that should be automatically encoded when added into your project.

The Encoder Extension supports the following file formats:

- avi
- wmv (Windows Media Video)
- mpeg (Mpeg)
- mpg (Mpeg)
- m2v (Mpeg 2 Video only)
- mov (Quicktime Video)
- mpv (Mpeg)
- m4v (Mpeg 4 Video)
- mxv (File Exchange Format e.g. used by Avid and Sony XDCam)
- m1v (Mpeg 1 Video only)
- mxl (proprietary coolux file type)
- mpe (Mpeg)



The added files will appear in the Encoder Extension Window, the encoding starts automatically. The status bar shows the progress of the currently encoded file. To stop encoding, please press "Stop Encoding". Pressing "Start Encoding" will continue the encoding process.

MANUAL ENCODING

To encode files manually please select the files in the project tab.

In the Encoder Extension press "Add Resources", the selected files will be added into the Encoder Extension window. The drag and drop function does not work here. To start the encoding process press "Start Encoding".

The status bar shows the progress of the currently encoded file.

Once a file is completely encoded, the file name in the Encoder Extension window turns green, the file extension in the project tab changes to .mpeg.

In the windows folder from where you added the file into the project a file with the new file extension is created - you do not lose your original file.

REMOVE FROM LIST

To clear files from the encoder extension window - no matter if new encoded or not, select the files and press "Remove from List".

SETTINGS

Auto-Settings

Using Auto-Settings will encode all your files to MPEG2 Elementary Video Stream.

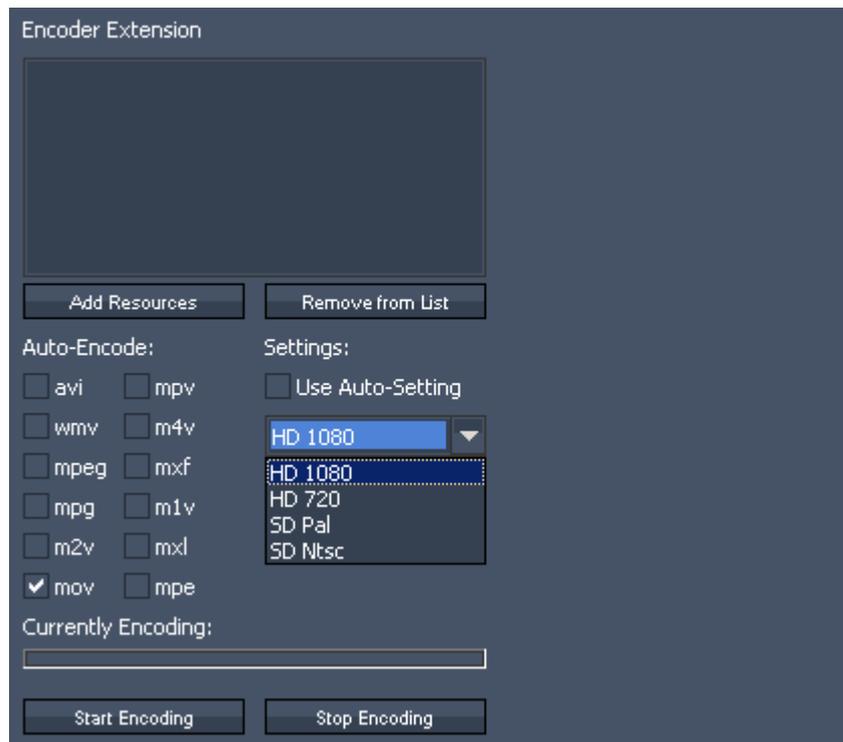
The bitrate will be set to a constant bitrate: CBR 8.000 kbit/s (SD) or CBR 20.000 kbit/s (HD).

The field encoding will be set to "Progressive Frame".

The other parameters like video mode (PAL or NTSC), resolution and framerate will be adopted from the original file and are not affected through encoding.

Choose Profiles manually

By unchecking "Auto-Settings" you will be able to choose one of the default profiles manually.



Using one of the default profiles will not only affect the bitrate and field encoding but might change the files resolution: e.g. encoding an HD-file (resolution 1920x1080 px) using the SD PAL Profile will resize the video to 720x576 px.

Please note: the default profiles can not be edited.

Create New Profiles

Please uncheck "Auto-Settings" and press "New Settings" to create a new encoding profile.



The new dialog allows you to:

- name the profile
- choose the MPEG Type (MPEG-1 or MPEG-2)
- Set MPEG Profile and Level. Please note that you will need High Profile (Profile 4:2:2) and High Level for HD 1920x1080 px resolution. The Level automatically changes to MXL if you encode files to a format bigger then 1920 x 1080 px.
- Resize Video: check the box and insert the resolution your video file should be resized to.
- Bitrate - choose an amount of kbit/s (recommended are about 8.000 kbit/s for SD and 20.000 or higher for HD)
- GOP-Length: the length of the Group Of Pictures is editable from 1 to 100. The higher the GOP-Length the better the compression rate gets at the expense of quality.
- Number of B-Frames: choose a value between 0 and 7.
- Deinterlacing: to enable Deinterlacing, please check the box and also choose a Field Order.

- Motion Estimation Level: set a value between 0 (no motion search) and 15 (high quality). The higher the value, the better the quality, the longer the encoding process.
- Motion Estimation Range: set a value between 0 (no motion search) and 15 (high quality).
- Scene Change Detection: Choose between None, Fast and Refined.
- Audio Processing: Discard the Audio Part or split it to a separate wave-file (will be created in the same folder under Windows where the video source was taken from). The Audio Part is discarded by default.

Click OK when the new setting is finished. The created profile will appear in the drop down menu.

Edit Settings

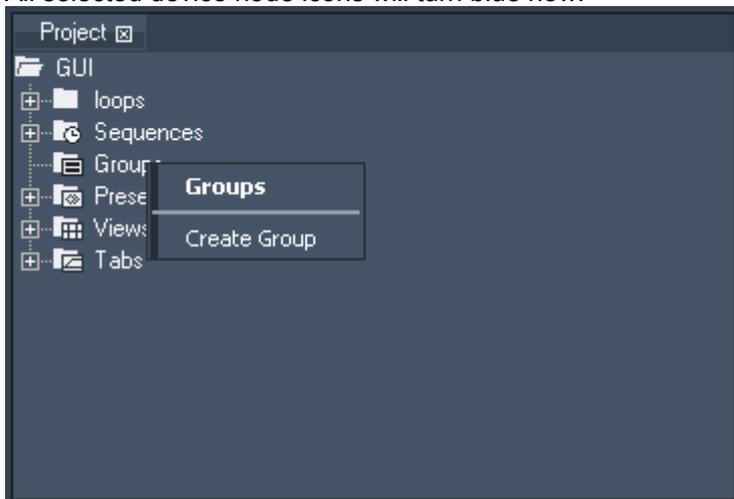
Select your profile from the drop down list and click "Edit Settings". All settings are described above in "Create New Settings".

Please note that the default profiles are not editable.

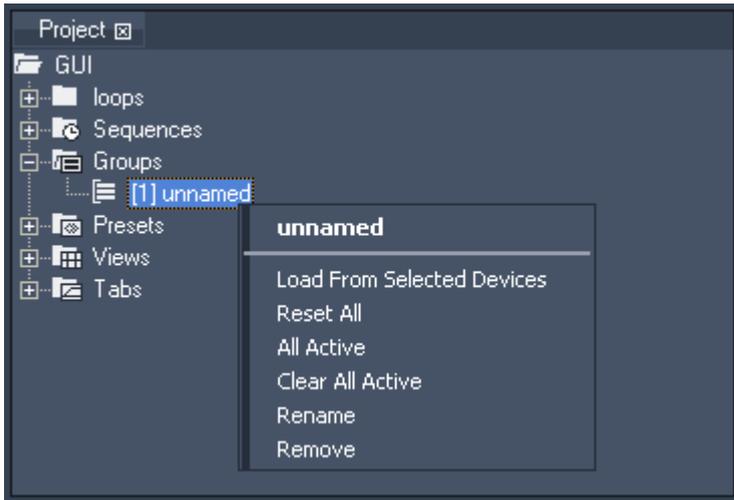
3.2.1.1.10 GROUPS

Within Pandoras Box groups define a multi-selection of devices according to their selection order. To select multiple devices hold down the CTRL key on the keyboard and left-click on the devices to select.

All selected device node icons will turn blue now.



In order to store this selection as a group for later editing, right-click on the group folder in the project tab and choose Create Group.



Once the group is created, you will have the following commands available from the context-menu of the group:

- Load From Selected Devices

This command will overwrite the actual group selection with the current selection in the device tree.x

- Reset All

This command will reset all parameters for all devices stored within this group.

- All Active

This command will activate all parameters of all devices stored within this group.

- Clear All Active

This command will de-activate all parameters of all devices stored within this group.

- Rename

This command will allow you to rename the group.

- Remove

This command will delete the group from the project.

To select all devices that are stored within this group, just click on the group name in the project tab.

3.2.1.1.11 GROUP VIEW

The group view lets you create, edit and select groups in a browser view.



To create a new group, select multiple devices in the device tree. Then right-click in the group view tab to create a new group based on the current selection. To select a group, only press ESC to clear the current selection and click on the group item in the group browser to select all group members in the device tree.



If you want to edit an existing group, right-click on the desired group and choose one of the following actions:

- Load From Selected Devices
This command will overwrite the actual group selection with the current selection in the device tree.
- Reset All
This command will reset all parameters for all devices stored within this group.
- All Active
This command will activate all parameters of all devices stored within this group.
- Clear All Active
This command will de-activate all parameters of all devices stored within this group.
- Remove
This command will delete the group from the project.

3.2.1.1.12 INSPECTOR

The inspector is a dynamic, context sensitive property window that will constantly display the properties of the selected items in the user interface. Based on the selected item, the inspector offers different control and property settings.

The different Inspectors are described in the following order:

Inspectors to be called from Project Tab:

- [File Inspector](#)
- [Folder Inspector](#)
- [Text Inspector](#)
- [Tab Button Inspector](#)

Inspectors to be called from Timeline Tab:

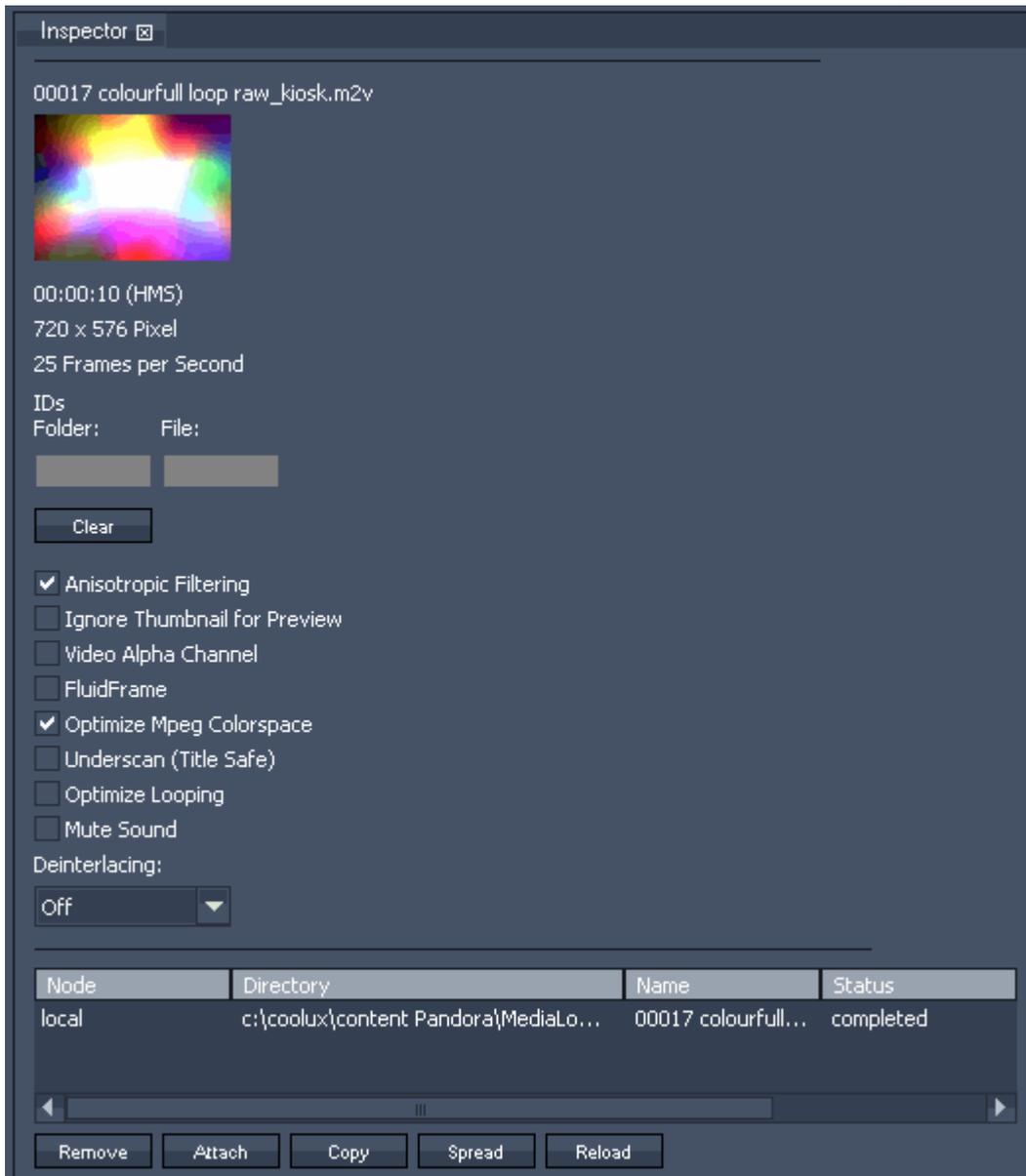
- [Sequence Inspector](#)
- [Clip Summary Inspector](#)
- [Clip Inspector](#)
- [Object Inspector](#)
- [Parameter Keyframe Inspector](#)
- [Cue Inspector](#)

Inspectors to be called from Device Tree:

- [Device Inspector](#)
- [Layer Inspector](#)
- [Camera Inspector](#)

3.2.1.1.12.1 FILE INSPECTOR

The File Inspector allows you to set up the following:



IDs Folder / File

Set numeric virtual file and folder IDs for DMX and PB Automation remote control. To easily address several files in ascending order, move over to the [Folder Inspector](#) and enter the Folder ID and the start File ID.

Anisotropic Filtering

Anisotropic Filtering does pixel smoothing for real-time video and image scaling, default is on.

Ignore Thumbnail for Preview

Even if using the “Thumbnail for Preview”-Option (see [Configuration Tab](#)) this file can nevertheless be rendered and played back in full quality instead of showing its thumbnail, (eg. if you need to know where exactly the video playback currently is). Check the Ignore Thumbnail for Preview option to make this exception for this file.

Video Alpha channel

If movie type supports embedded alpha, this option lets you activate the alpha channel. The alpha channel inside images is always activated.

FluidFrame

Choose this option for slow motion or smooth motion frame-adaptive frameblending and framerate conversion.

With FluidFrame™, a smooth cross-conversion that can take any input and output framerate, supporting both interlaced and progressive sources and clips is possible now. This way for example 59.94 video input signals are displayed without any frame drop on 60hz output displays. FluidFrame™ can therefore also handle 50hz to 60hz realtime conversions.

In addition to this, it allows smooth playback of highspeed framerates such as 50 or 60p content and higher. FluidFrame™ Technology can be applied to any live video input or content playback scenario ranging from straight forward Live Video processing to the synchronisation of multiple HD SDI streams for Live Stereo 3D applications.

Please note:

When using fluid frame with 50p, 60p files or live inputs, please check the option “[High Performance Mode](#)” to ensure smooth playback. In all other cases the High Performance Mode should NOT be used because it requires more system and GPU RAM.

Optimize MPEG Colourspace

MPEG has a reduced colourspace, this option stretches the colourspace (black will become a real black).

Underscan (Title Safe)

This option is mostly designated for Live Input Signals to crop the image to the Title Safe Area.

Optimize Looping

Check this option if a looped file does not play back smoothly when jumping from the last to the first frame.

Deinterlacing:

This is a realtime (zero-delay) de-interlacer for live-input sources based on top or bottom field first. The option fieldblending adds a half-frame delay.

Mute Sound:

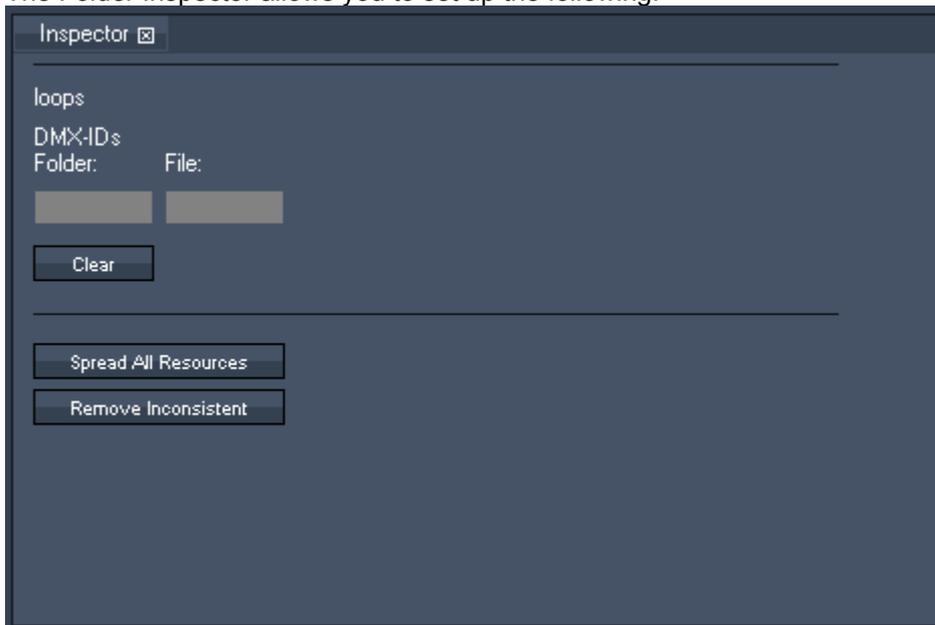
If a video files contains audio as well, the Opacity Fader controls both the video’s opacity and the sound’s volume. Please check this option if you want to completely mute the sound part of the video file.

File location table

- Remove: to remove a specific entry
- Attach: used to attach a different file on individual machines when files are not spread
- Copy: manual copy of files from one location to another.
- Spread: multi-file-transfer to all available clients that are spared from spread.
- Reload: reloads media

3.2.1.1.12.2 FOLDER INSPECTOR

The Folder Inspector allows you to set up the following:

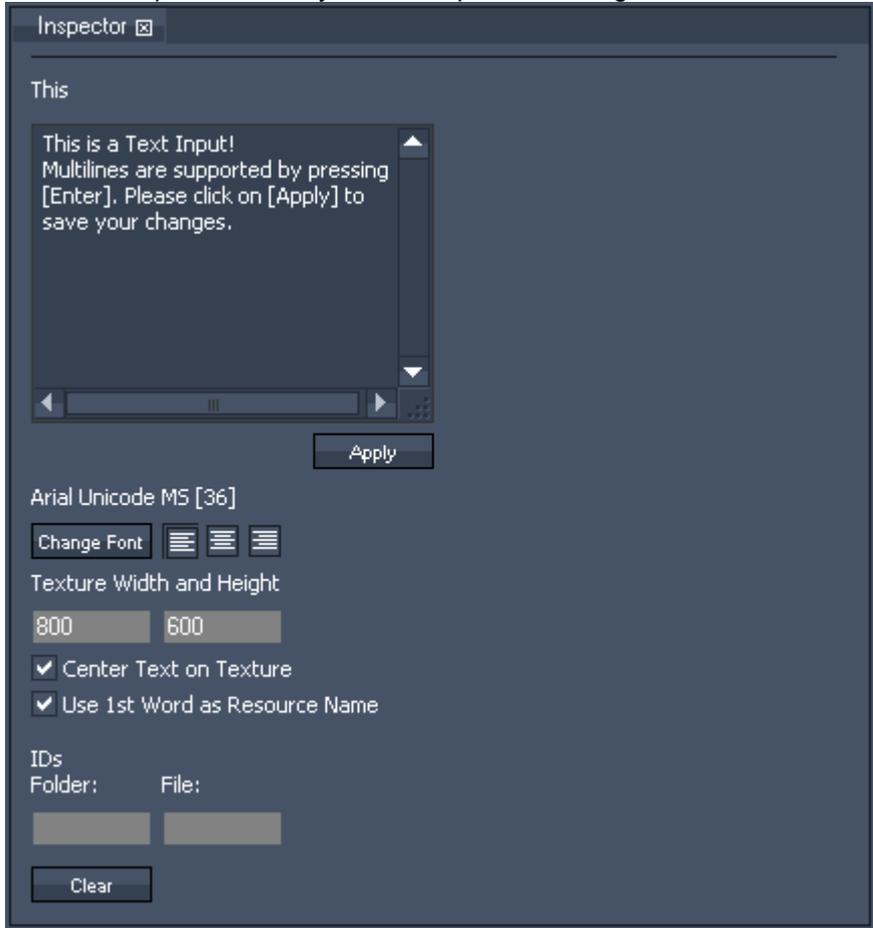


- Set numeric virtual file and folder IDs for Media Vision, DMX and PB Automation remote control. All files in this folder will get the same folder ID, the file ID will be counted up based on the given file ID.
- Press Clear to remove the virtual file and folder ID.

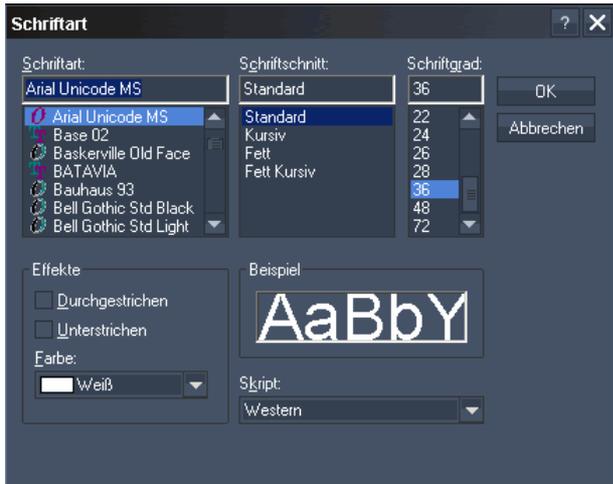
- Use Spread All Resources to spread the whole folder to the sites.
- Remove Inconsistent: removes all inconsistent files from the master system.

3.2.1.1.12.3 TEXT INSPECTOR

Create your Text Input by doing a right-click on a folder in the [project tab](#) → Add Text Input. The Text Inspector allows you to set up the following:



- Textfield: Type in the text to show. Using [Enter] multilines are supported. Please click on [Apply] to save your changes.
- Change Font: Click [Change Font] and choose Font, Font Style, Size and Effects and the Text Colour in the popup dialog.



- Alignment:

By default the text is aligned to the left side of the texture. You may change the alignment to “center” or “right”.

- Texture Width and Height:

Choose the texture's width and height. Setting the texture's size higher will make the text smaller, but in a higher resolution. If you then increase the font size the text will get larger and you will see that the font edges are smoother.

- Center Text on Texture:

When this option is checked the Textasset will be centered on the layer.

- Use 1st Word as Resource Name

When this option is checked the first word of your Text will be displayed as resource name for the asset in the project tab.

IDs Folder / File:

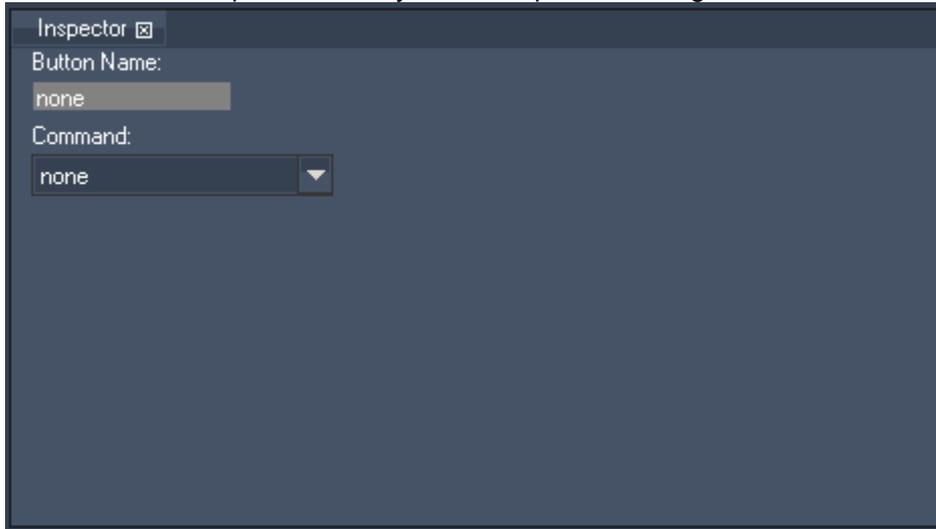
Set here numeric virtual file and folder IDs for DMX and PB Automation remote control.

- Clear:

Press [Clear] to remove the virtual file and folder IDs.

3.2.1.1.12.4 TAB BUTTON INSPECTOR

The Tab Button inspector allows you to set up the following:

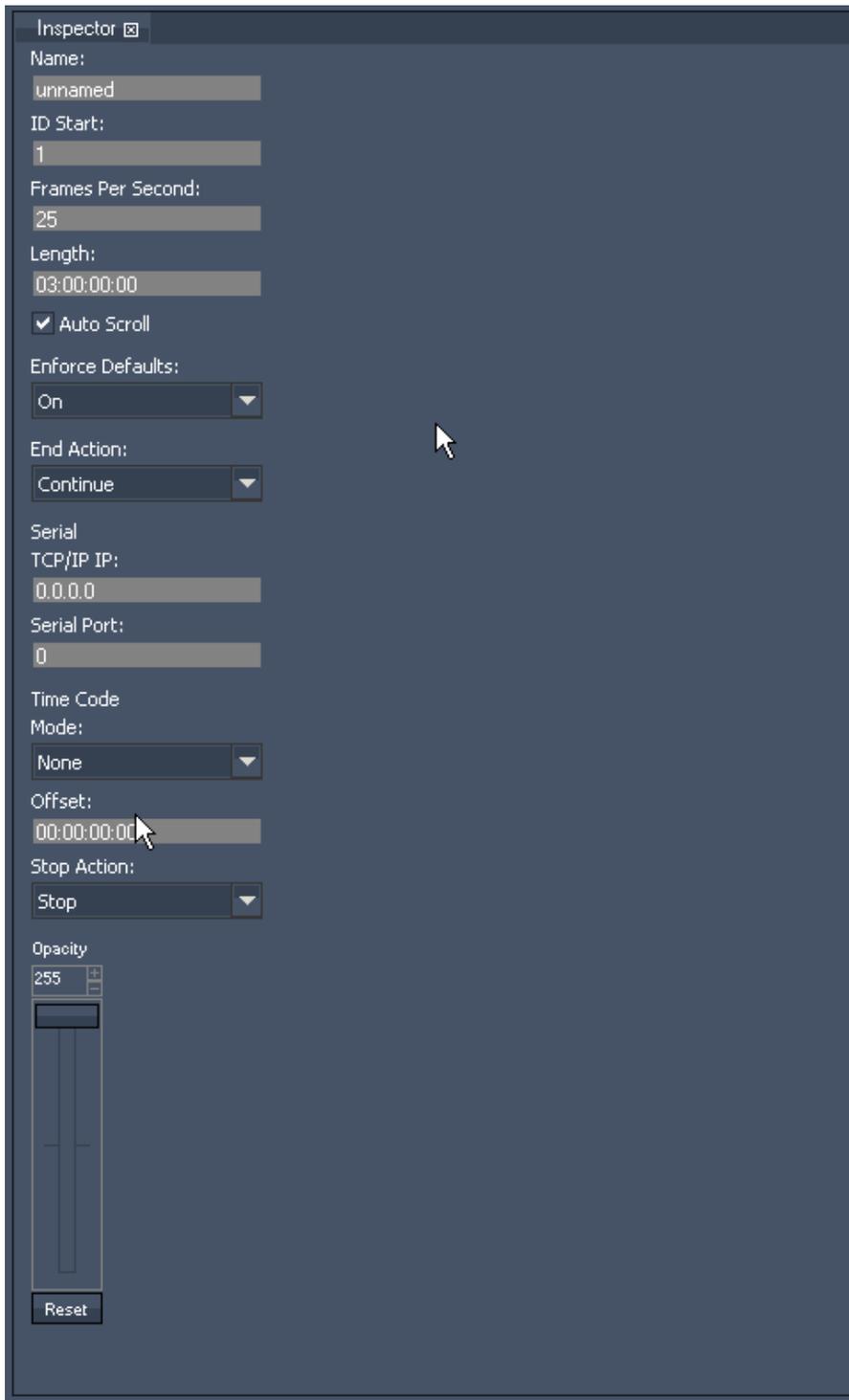


- Change button name and text
- Choose command from drop down list:

- none
- File
 - New
 - Open
 - Save
 - Save As
- Edit
 - Undo
 - Redo
 - Copy
 - Paste
 - Paste to Selected Devices
- Device Control
 - Clear Selection
 - Reset All
 - All Active
 - Clear All Active
 - Reset All (Selected Devices)
 - All Active (Selected Devices)
 - All Active (Partially Active Devices)
 - Clear All Active (Selected Devices)
- Create
 - Create Sequence
 - Create Group
 - Create View
 - Rename
- Shown Sequence
 - Store Active
 - Add Active
 - Add Cue
 - Delete

3.2.1.1.12.5 SEQUENCE INSPECTOR

The Sequence Inspector allows you to set up the following:



- Sequence Name
- Numeric ID
- Frames per second
- Length of sequence

Default is three hours. You can manually set a new length eg. 30 minutes by entering 00:30:00:00 or just 300000. Apply the new length with pushing Enter!

- Autoscroll:
If Autoscroll is on (by default), the timeline will always show the area around the nowpointer when it is set to play.
With the Autoscroll option unchecked, you will be able to scroll to any point of the timeline while the nowpointer is running.

Tracking

- Enforce Defaults:



Choose between three states: ON, OFF and ONLY MESH / MEDIA. Please see [Tracking](#) for detailed description!

- End action

Once the sequence reaches the end of its length, you may choose a specific action: The sequence stops and jumps to first frame, it will pause or it will continue playing.

Serial input settings (important when a Serial Link or TCP/IP device is used to remote control a sequence):

- Sender's IP address setting
 - Serial Link port number to listen to (this is a specific serial port on the Serial Link Box, not a TCP/IP port)
- The TCP/IP port here is always 23.

Time Code - Mode

If you have plugged in the SMPTE link device, set up here the sequences time code mode:
 NONE - this sequence will not be effected by SMPTE timecode
 SEND - this sequence will send its timecode via the SMPTE link device. Please note that if a sequence in your project is set to Send-Mode, all other sequences will be set into None-Mode.
 RECEIVE - the sequence will be controlled via the incoming SMPTE timecode.

- Offset

If needed enter here a timecode offset.

- Stop Action

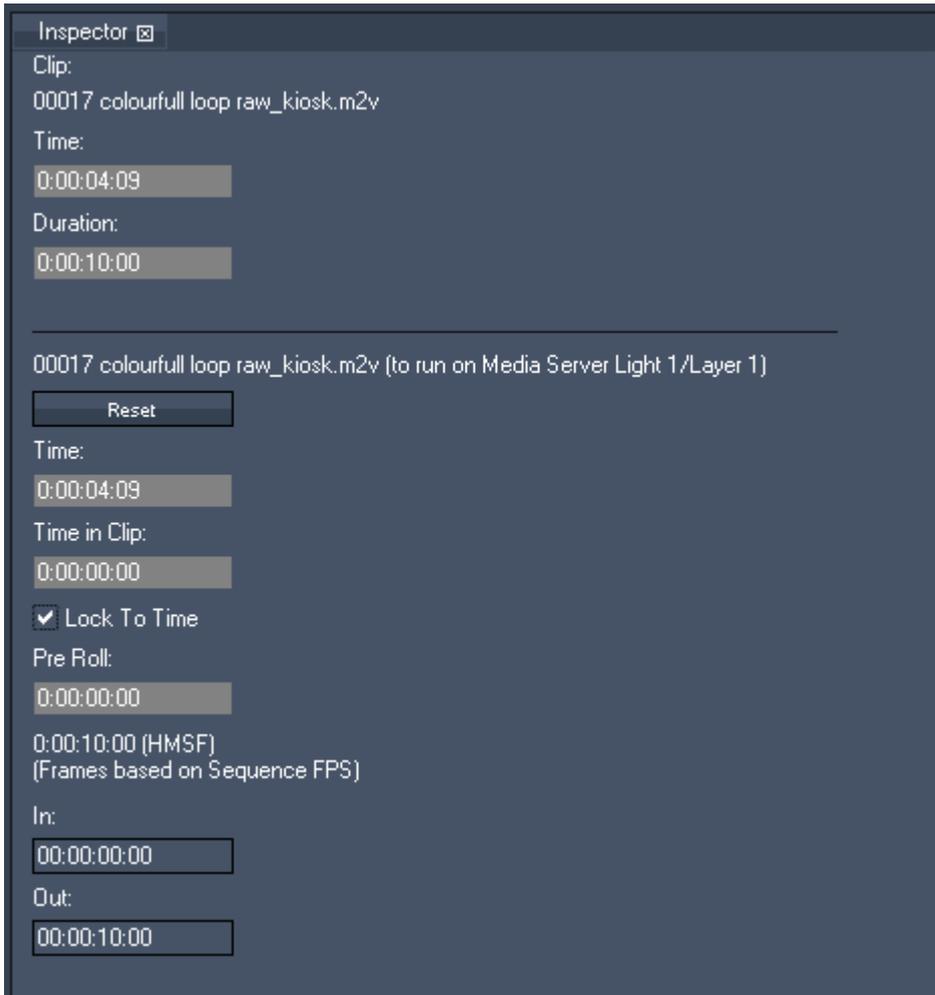
Choose which action should be executed if incoming time code stops. The timeline play mode can be set to Stop, Pause or Continue.

Sequence Opacity Fader

This opacity fader enables you to fade the sequence in and out.

3.2.1.1.12.6 CLIP SUMMARY INSPECTOR

The Clip Summary Inspector allows you to set up the following:



- Time

To change the start timecode of the clip, enter the new timecode using the following syntax: enter eg. 0:00:06:09 or just 609 to get the new time 0:00:06:09.

To just add eg. two seconds to the current time, enter "++200", to subtract eg. two seconds, enter "--200".

- Duration

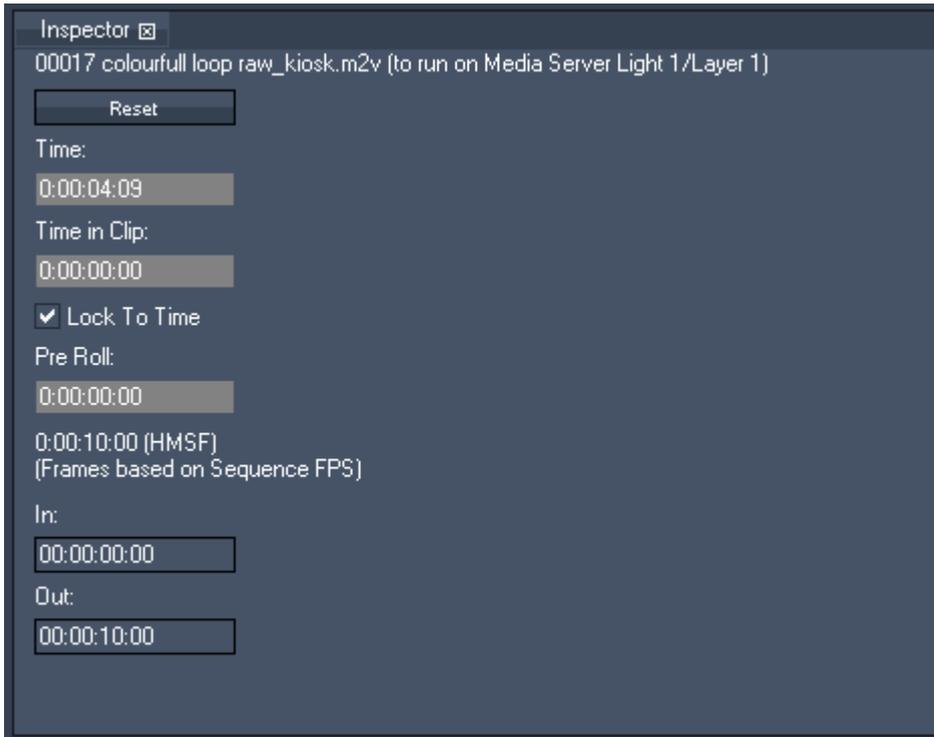
To enlarge or to reduce the duration of the clip, enter the new duration using eg. 0:00:12:00 or just 1200 to get the new duration of 12 seconds.

To just add eg. two seconds to the current duration, enter "++200", to subtract eg. two seconds, enter "--200".

- All settings below the line are taken from the Clip Inspector. Please see the [Clip Inspector](#) for more information.

3.2.1.1.12.7 CLIP INSPECTOR

The Clip Inspector allows you to set up the following:



- Push the Reset Button to remove the content from the Clip Container. This will not change the current state of the layer.

- Time:

To change the timecode of the start timecode clip, enter the new timecode using the following syntax: enter eg. 0:00:06:09 or just 609 to get the new time 0:00:06:09.

To just add eg. two seconds to the current time, enter "++200", to subtract eg. two seconds, enter "--200".

- Time in Clip

This value is 00:00:00:00 by default. If you crop the clip container in the timeline on its left side, this value will get negative and shows you the starting time of your clip. You can change this value back to 00:00:00:00 to let the video inside the clip start from its beginning.

- Lock to Time

Enabled: The clip synchronizes to the timeline. All video playback keys inside the clip do not take effect in this mode! If Lock to Time is enabled, inside the clip container a clock icon will be shown.

Disabled: If the Lock to Time option is disabled, the clip is in a free-run mode and the video playmode keys (play once, play loop, pause, stop) take effect. The running-stick-figure icon indicates that Lock to Time is disabled.

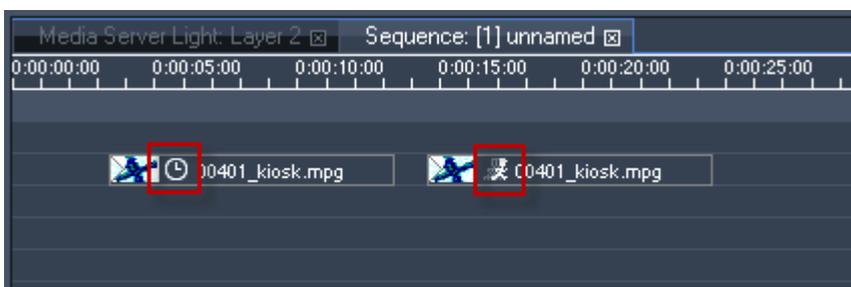


Figure: The first clip is locked to time, the second clip is in free-run mode.

- Pre Roll time: Set up the amount of time before the start-time to pre-load the clip into RAM.

- In & Out point: when the nowpointer enters the clip, it will start/stop at the given in/out point. To change In & Outpoint value, enter the new time. Clear this input to get the original value.

3.2.1.1.12.8 OBJECT INSPECTOR

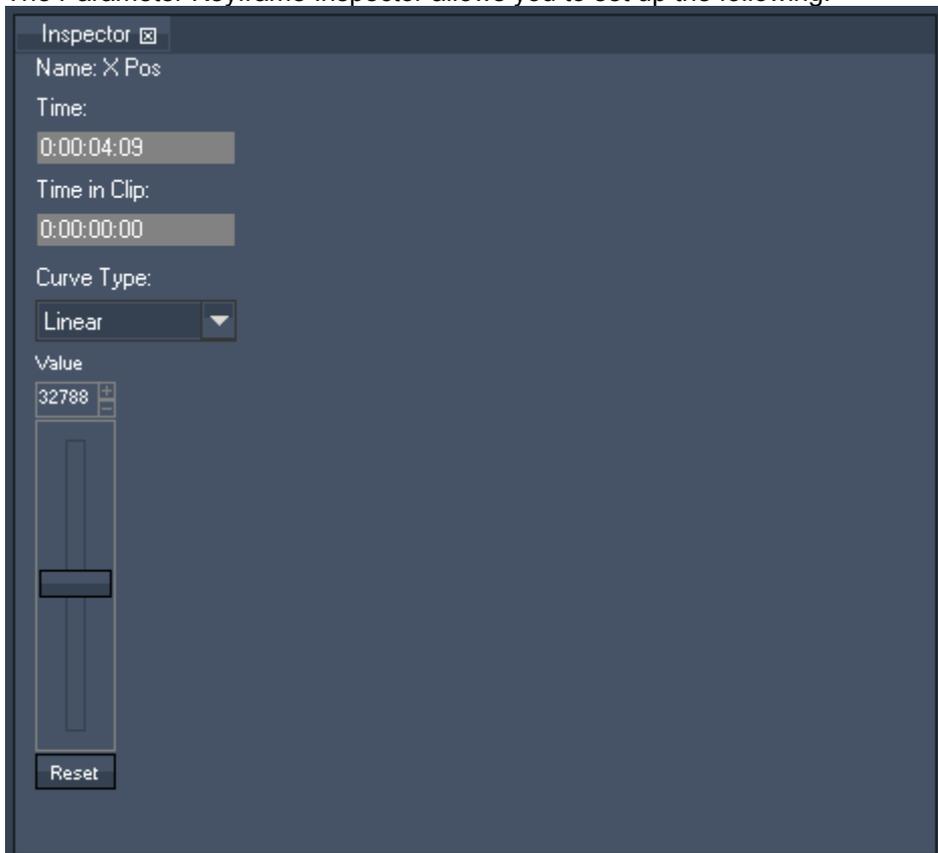
The Object Inspector allows you to set up the following:



- Time:
Timecode of the object.
- Time in Clip:
Reserved for further enhancements.

3.2.1.1.12.9 PARAMETER KEYFRAME INSPECTOR

The Parameter Keyframe Inspector allows you to set up the following:



- Time:

To change the timecode of the key, enter the new timecode using the following syntax: enter eg. 0:00:06:09 or just 609 to get the new time 0:00:06:09.

To just add eg. two seconds to the current time, enter "+200", to subtract eg. two seconds, enter "--200".

- Time in Clip

To change the Time of the key inside the clip, enter the new time using the following syntax: enter eg. 0:00:06:09 or just 609 to get the new time 0:00:06:09.

To just add eg. two seconds to the current time, enter "+200", to subtract eg. two seconds, enter "--200".

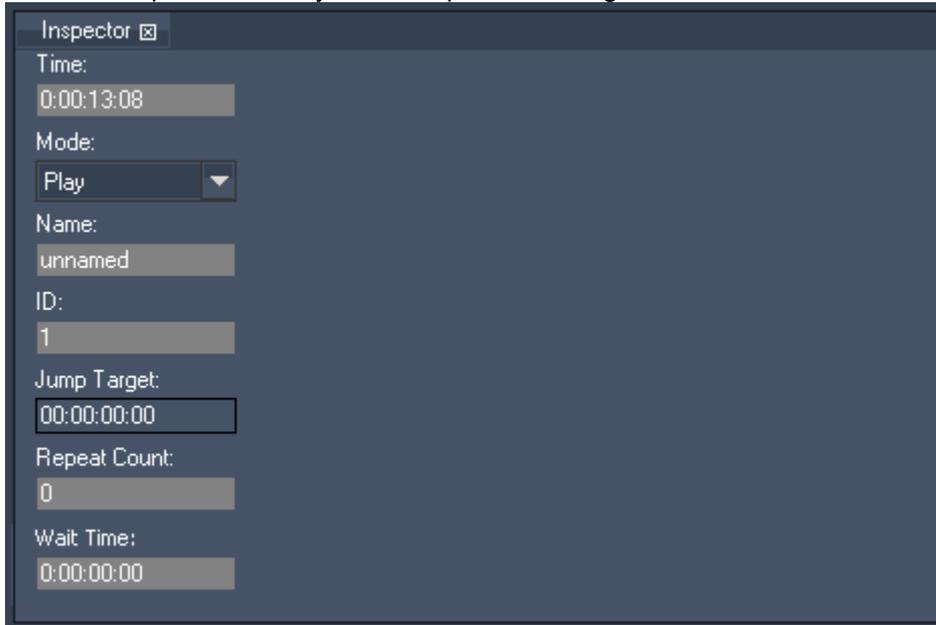
- Curve Type: choose between Linear (Standard), Bezier, Bezier Corner, Constant and Stop. To edit the curves please open the [Curve Editor](#).

- Value:

To change the key's value, enter the new value or move the fader.

3.2.1.1.12.10 CUE INSPECTOR

The Cue Inspector allows you to setup the following:



- Timecode:

To change the timecode of the cue, enter the new timecode using the following syntax: enter eg. 0:00:15:09 or just 1509 to get the new time 0:00:15:09.

To just add eg. two seconds to the current time, enter "+200", to subtract eg. two seconds, enter "--200".

- Cue mode settings: Play, Pause, Stop, Jump or Wait Cues.

- Cue name, as shown in tool tip on top of cues

- Numeric ID

- Jump Target:

Enter here the target timecode if Cue mode is set to Jump mode.

- Repeat Count: amount of iterations if mode is set to Jump mode, 0=endless loop.

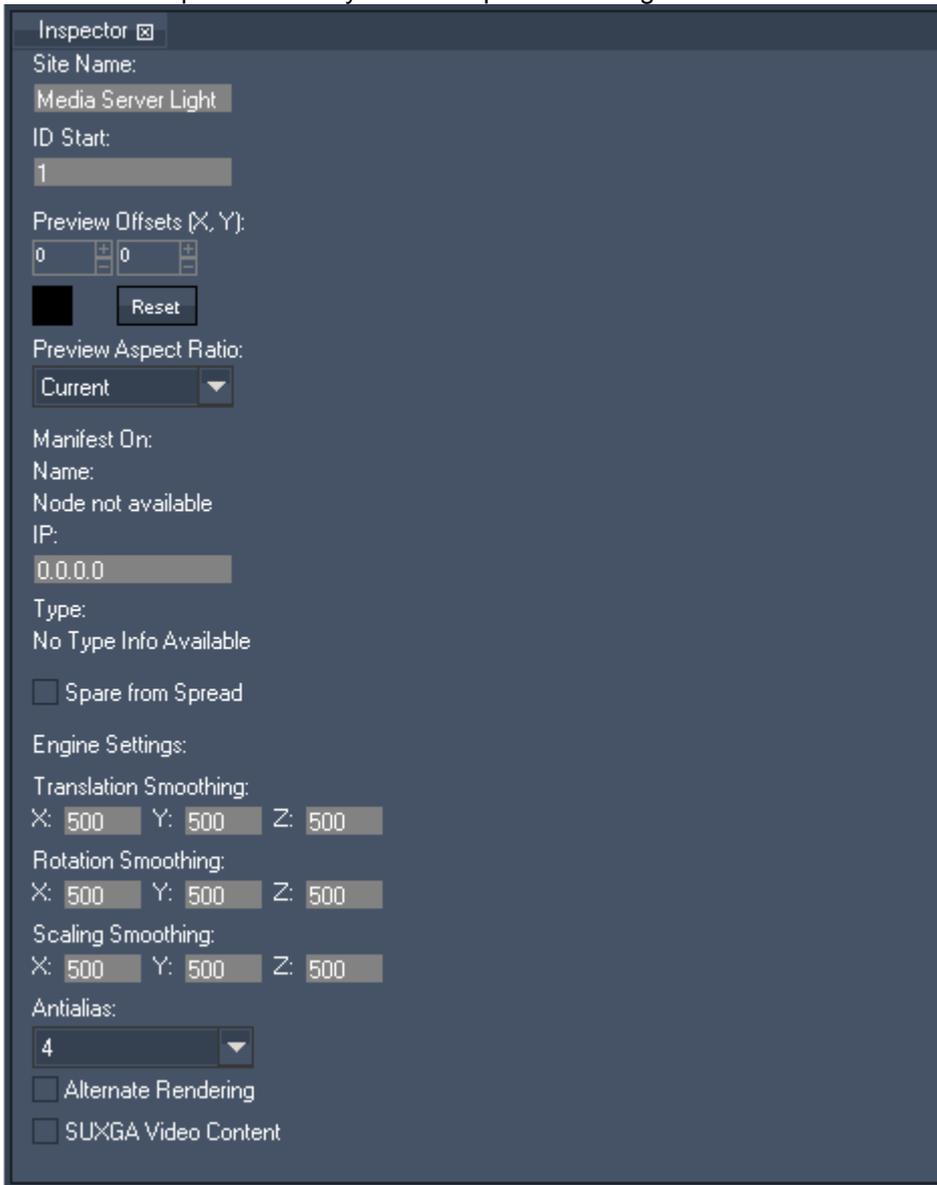
- Wait Time: Enter here the amount of time the nowpointer will wait on this cue before continuing to play.

Please note:

It is recommended to leave 10 frames between two cues!

3.2.1.1.12.11 DEVICE INSPECTOR

The Device Inspector allows you to set up the following:



- Change site/node name
- Set up the numeric start ID
- Setting up the Preview Offsets: apply an X and Y offset for the global cam by typing in the value or by clicking in the black box and moving the mouse cursor up and down. Press the Reset button to set the Preview Offsets back to default.
- Preview Aspect Ratio can be set to one of the options in the pull down list: Current Screen Ratio, 5:4, 4:3, 3:2, 16:10, 5:3, 16:9 or 17:9. This setting refers only to the wireframe in the preview. It does not affect the output settings.
- Edit the device IP address this site should refer to
- Spare from Spread: disable content to be spread to this device

Engine Settings

- Smoothing
- Edit the settings for Translation, Rotation and Scaling Smoothing - this can be done for each axis. Default is 500, the value range goes from 0 - 65535 (min to max). It defines the time in milliseconds the object will need to reach the given parameter value. These settings only have an effect for all incoming data, like from the fader of the device control, DMX,

data from the Widget Designer, ArtNet etc. The timeline behaviour will not be influenced by these settings.

- Antialias

Antialias can be set to the value 0, 2 or 4, default is 4 (maximum antialias). To save performance on your master system, set it down to a lower value.

- Alternate Rendering

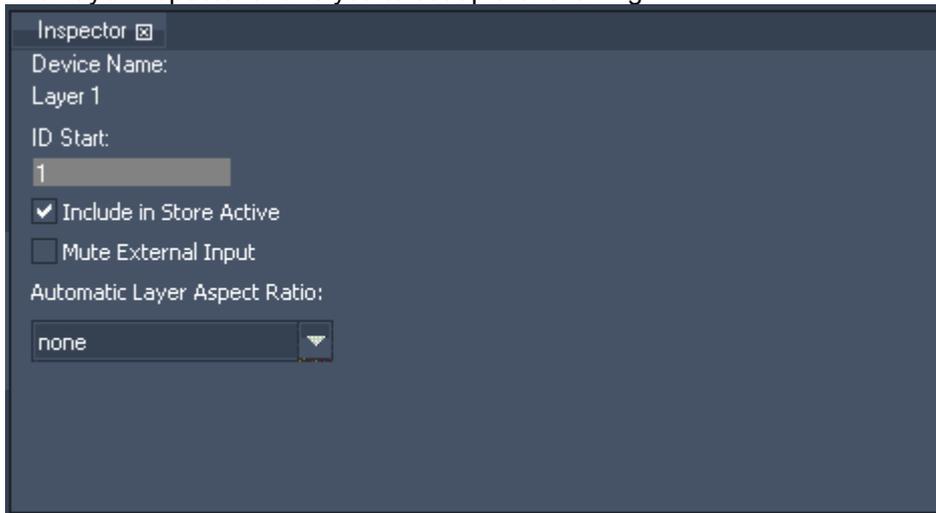
Check Alternate Rendering to get a better performance for laptops or older PCs. As this setting can influence the fluent playback of videos, it is recommended for PB Managers only.

- Enable SUXGA Content

When this option is checked, SUXGA video content with de-interlacing and frameblending is supported (consumes plenty of graphics-card memory!).

3.2.1.1.12.12 LAYER INSPECTOR

The Layer Inspector allows you to set up the following:



- Numeric start ID

- Include in Store Active:

Uncheck this option to exclude the layer in the Store Active command

- Mute External Input:

Tick this checkbox to block this layer from any external input, like ArtNet, Input Data from Widget Designer etc.

- Automatic Layer Aspect Ratio:

Choose from the dropdown list how each layer should handle the aspect ratio of the media files loaded into it.

none: the media file will be fitted to a 4:3 layer when loaded, see figure B.

horizontal fit: the media file will be shown in its original aspect ratio. It will fit horizontally into the layer, see figure C.

vertical fit: the media file will be shown in its original aspect ratio. It will fit vertically into the layer, see figure D.

horizontal and vertical fit: the media file will be shown in its original aspect ratio. Regardless whether the file is upright or crosswise, all parts of the media file will be shown, see figure E.

Example:



Figure A: this is the original media file.



Figure B: Layer Aspect Ratio is set to "None" and the image is scaled to a 4:3 layer.

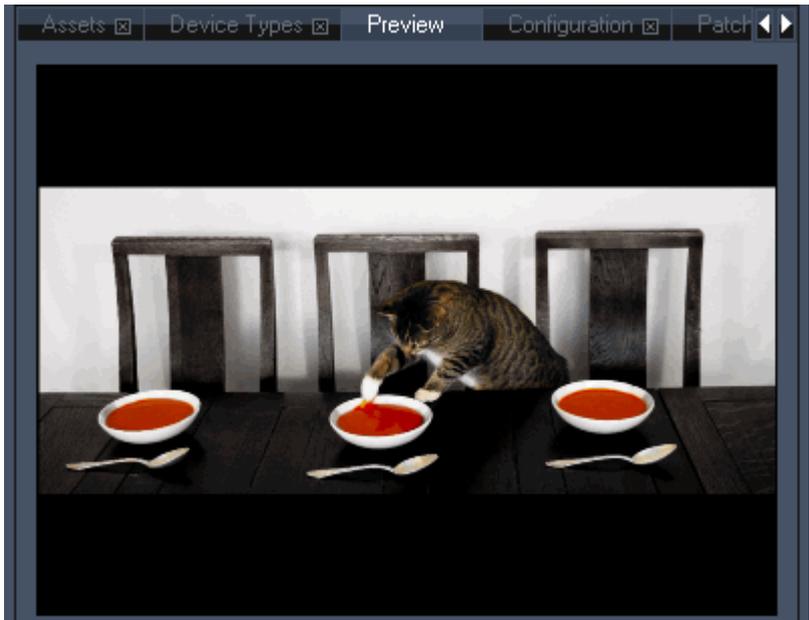


Figure C: Layer Aspect Ratio is set to "Horizontal Fit", the files aspect ratio is kept and it fits horizontally into the layer.



Figure D: Layer Aspect Ratio is set to "Vertical Fit", the files aspect ratio is kept and it fits vertically into the layer.

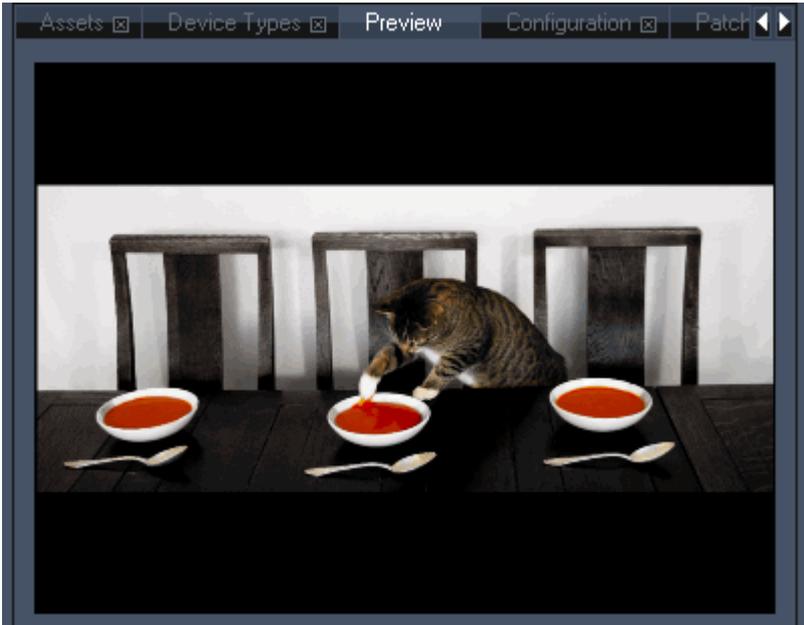
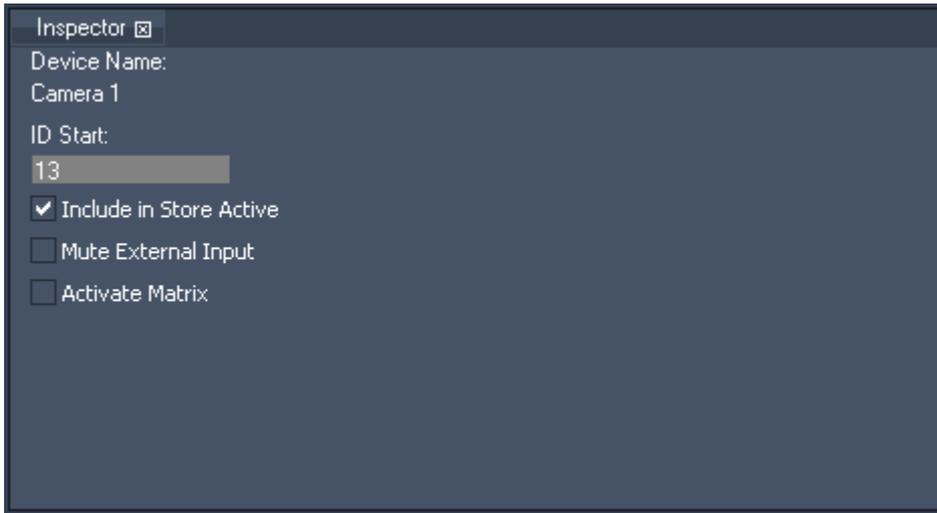


Figure E: Layer Aspect Ratio is set to "Horizontal and Vertical Fit". Regardless whether the file is upright or crosswise, all parts of the file will always be shown in its original aspect ratio.

3.2.1.1.12.13 CAMERA INSPECTOR

The Camera Inspector allows you to set up the following:



- Setup the numeric start ID
- Include in Store Active: uncheck this option to exclude the layer in the Store Active command
- Enable Activate Matrix:

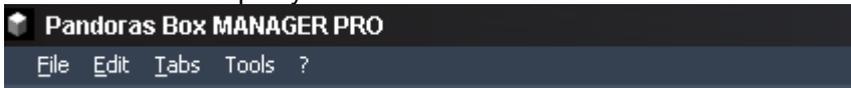
This output will additionally be played out as matrix via Artnet (only for camera 1).

- Mute External Input:

Tick this checkbox to block the camera from any external input like ArtNet, Input Data from Widget Designer etc.

3.2.1.1.13 MENU BAR

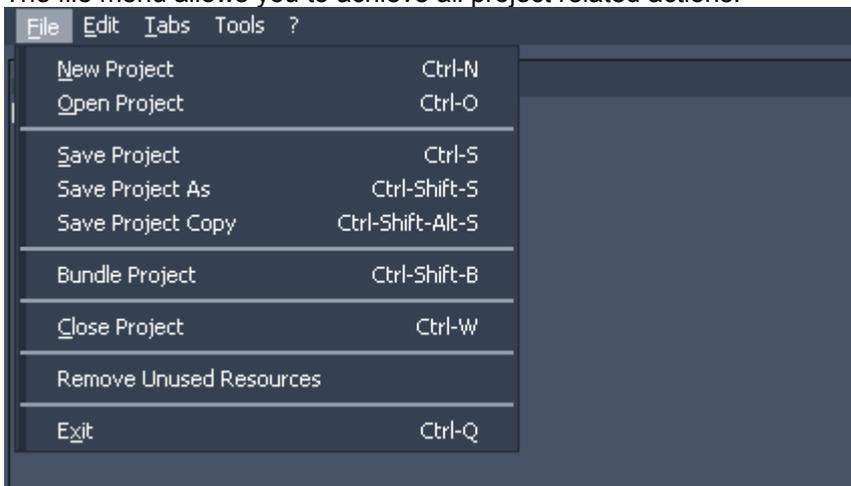
The menu bar on top of your Pandoras Box Software contains the following application menus:



- [File Menu](#)
- [Edit Menu](#)
- [Tabs Menu](#)
- [Tools Menu](#)
- Help

3.2.1.1.13.1 FILE MENU

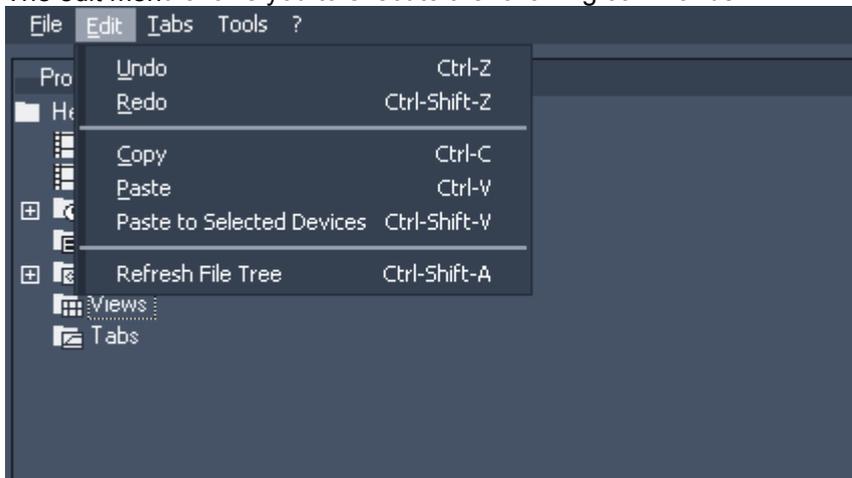
The file menu allows you to achieve all project related actions.



- New Project:
Click here (or use CTRL-N) to create a new project. Before leaving the current project you will be asked if you want to store the current project.
- Open Project
Click here (or use CTRL-O) to open an existing project.
- Save Project
Click here (or use CTRL-S) to save the current project.
Please note: There is no auto-save function!
- Save Project As
Click here (or use CTRL-Shift-S) to save the current project under a different name and go on working in the renamed project.
- Save Project Copy
Click here (or use CTRL-Shift-Alt-S) to save a copy of the current project and go on working in the current project.
- Bundle Project
Click here (or use CTRL-Shift-B) to bundle your project under a new name and location. All content used in the timeline will be copied to the new location as well as the show file. This option allows you to only have one folder to archive your show on a external hard drive. To play your show again, just copy this folder at its original location on your hard disc and all paths will be recovered.
- Close Project
Click here (or use CTRL-W) to close the current project.
- Remove Unused Resources
Click here to remove all content files from your project that are not used in the timeline.
- Exit
Click here (or use CTRL-Q) to Exit Pandoras Box. You will be asked if you want to store your project if there are not stored changes.

3.2.1.1.13.2 EDIT MENU

The edit menu allows you to execute the following commands:



- Undo
This command allows you to undo a step of sequence editing as well as changes in project tab. Actions that are not stored to the timeline like changing a value on fader cannot be undone.
- Redo
This command allows you to redo a step of sequence editing as well as changes in project tab.
- Copy
This command is available for all sequence selections as well as for text fields.
- Paste
This command allows you to paste the copied selection to the device where it was copied from in the Sequence Tab.
- Paste to Selected Devices
This command allows you to paste the copied selection (keys, clip containers) to other devices in the

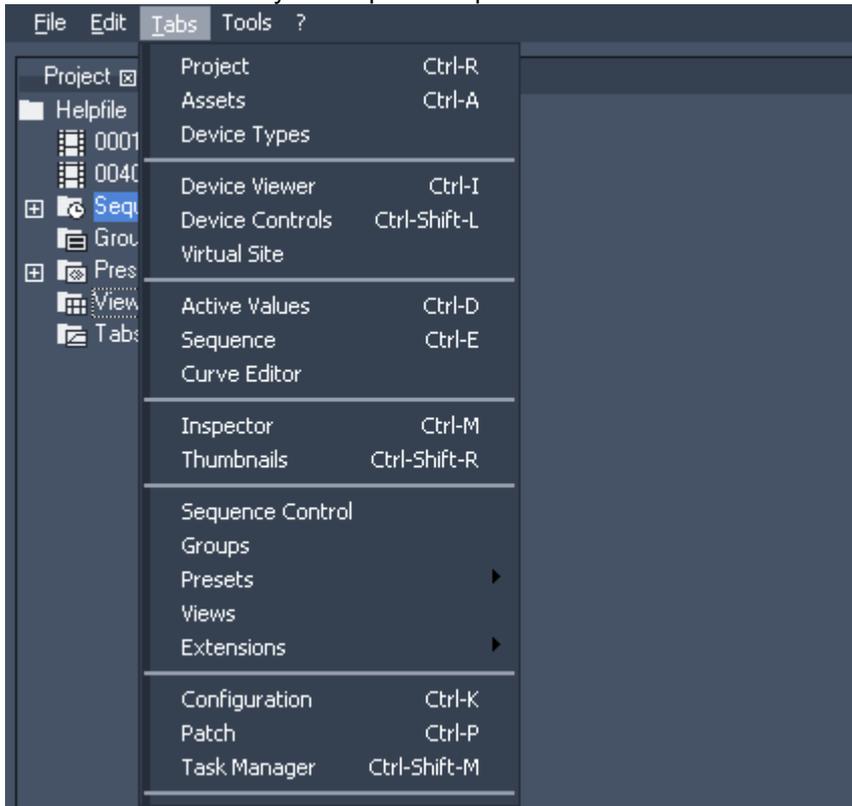
Sequence Tab. To do this, select one or more devices holding down SHIFT or CTRL. Please see [Sequence](#) for detailed selection information.

- Refresh File Tree

If any changes have been made on the local hard disc system, you have to refresh the File Tree in the Asset Tab to see these changes inside Pandoras Box. Please note that refreshing the whole tree will close all subfolders and you have to open them again. See the [asset tab](#) to get information about how to refresh single subfolders.

3.2.1.1.13.3 TABS MENU

The tabs menu allows you to open / reopen all tabs in the user interface.



Please note:

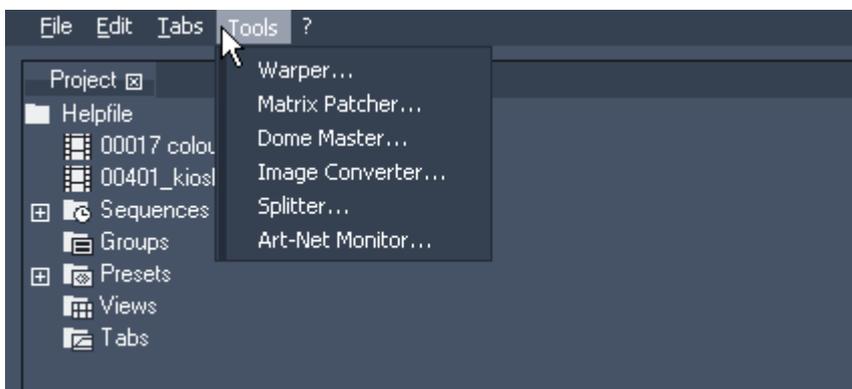
There is no option to open a preview tab, because you can not close this tab (running a PB preview version).

If you are running a non-preview version, you do not have a preview tab at all.

3.2.1.1.13.4 TOOLS MENU

The Tools menu allows to start the additional tools from within the Pandoras Box master software:

- [Warper](#),
- [Matrix Patcher](#),
- [Dome Master](#),
- [Image Converter](#),
- [Splitter](#),
- [Art-Net Monitor](#).



3.2.1.1.14 PATCH

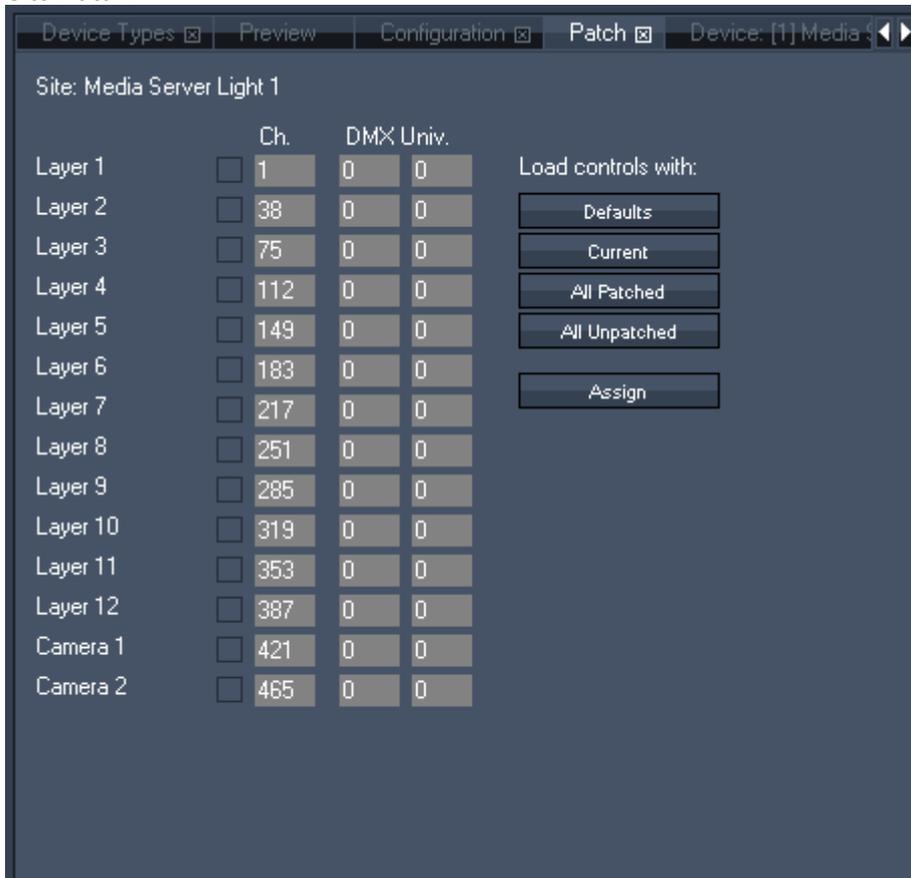
The patch tab lets you assign Art-Net and DMX input & output patch for individual devices.

Please note:

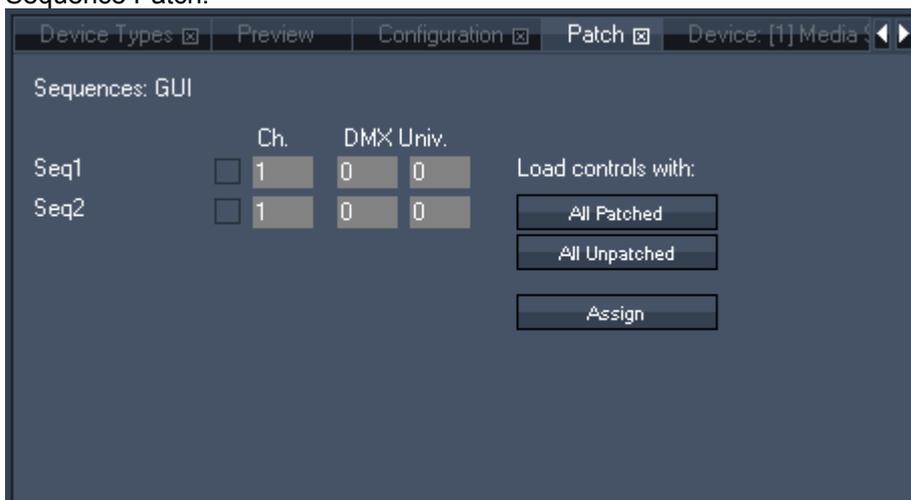
All Pandoras Box devices and sequences are patched to DMX input and all DMX devices are patched to DMX output.

The patch tab is context sensitive, please first open the patch tab and then choose a device to be patched from the device tree.

Site Patch:



Sequence Patch:



Patch

- Channel:

Enter here the DMX start address for the device.

- DMX Universe

Enter here the DMX Universe address. As the Pandoras Box patch is related to ArtNet, you have to enter two numbers in the text fields.

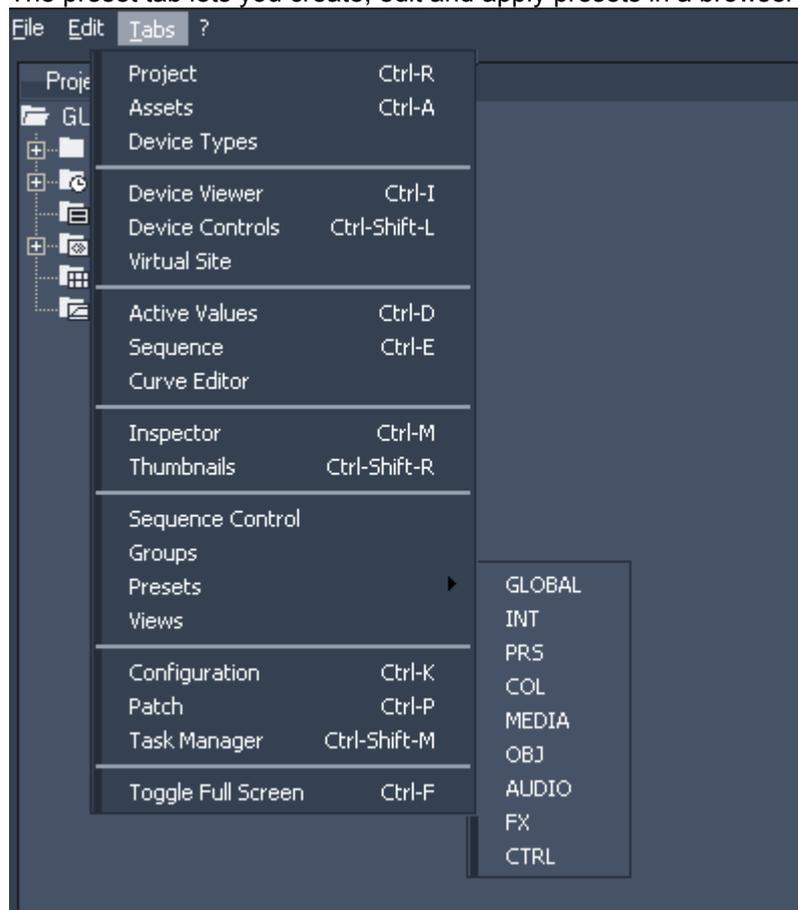
ArtNet Patch: the first field is the ArtNet Subnet, the second one the ArtNet ID / Universe.
 MA-Net Patch has to be translated to ArtNet addressing. Please see the following translation chart:

Grand MA Patch	Pandoras Box Patch	
Universe.Channel	Ch.	DMX Universe
1.1	1	0 : 0
2.1	1	0 : 1
3.1	1	0 : 2
15.1	1	0 : 14
16.1	1	0 : 15
17.1	1	1 : 0

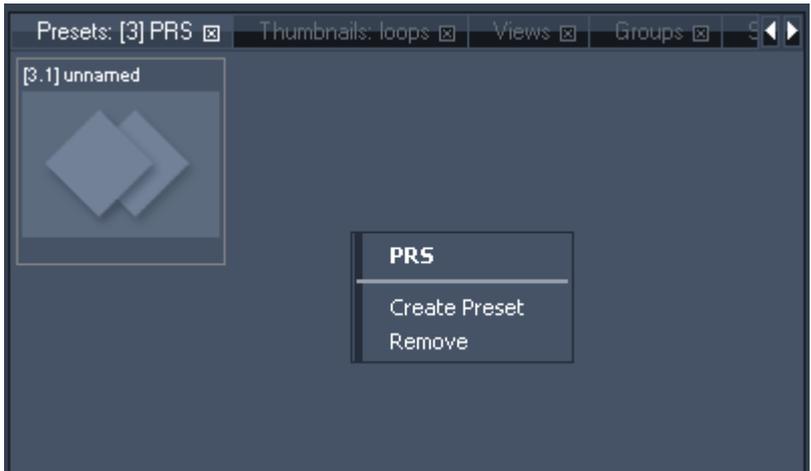
Use the checkboxes to unpatch specific devices.
 When the first item is set to a DMX channel and Universe address, use the Defaults button to automatically assign all other devices based on the start address.
 To apply the changed values to the patch, press Assign.

3.2.1.1.15 PRESET VIEW

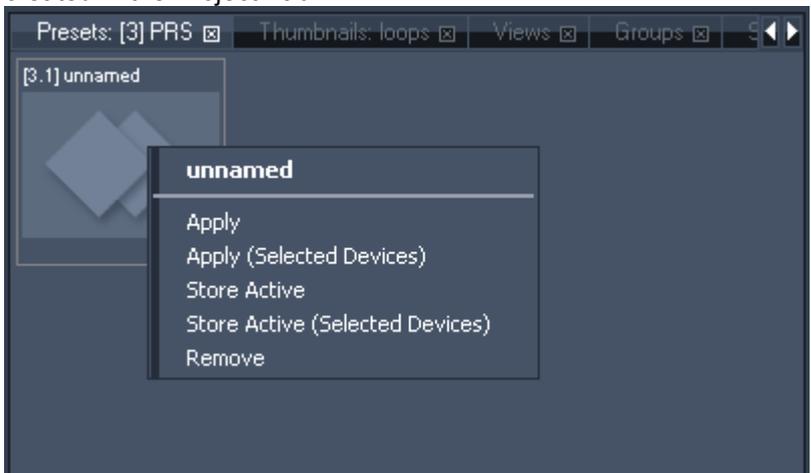
The preset tab lets you create, edit and apply presets in a browser view.



To open a preset tab, navigate to Tabs - Presets and choose one of the preset banks to be shown in the tab.



Right-click in the preset view tab to create a new preset based on the current preset bank. To remove the whole preset bank, make a right-click and choose Remove. A new preset bank can be created in the Project Tab.



To apply an existing preset on the selected devices, double-click on it.

The context menu (right-click on the desired preset) provides the following options to use, edit and assign the preset:

- Apply
Applies the preset to the layer it was created on.
- Apply (Selected Devices)
Applies the preset to all selected layers.
- Store Active
Stores all active values to the preset.
- Store Active (Selected Devices)
Stores all active values of the selected devices to the preset.
- Rename
Rename the preset.
- Remove
Removes the preset.

3.2.1.1.16 PRESETS

In Pandoras Box, presets store active values based on a parameter filter that is defined for each preset type.

Individual preset banks may be created by right-clicking on the preset folder in the project tab.



For each folder you may open a designated browser as a tab to be stored in views.

The presets are designed to hold a snap shot of active values, to be reused for later programming.

Presets apply to all selected devices. As source, the first stored values for each individual type of parameter are taken. If you create a preset with two layers that have different opacity values and then apply this preset on a selected device, only the opacity value for the first selected layer will be applied.

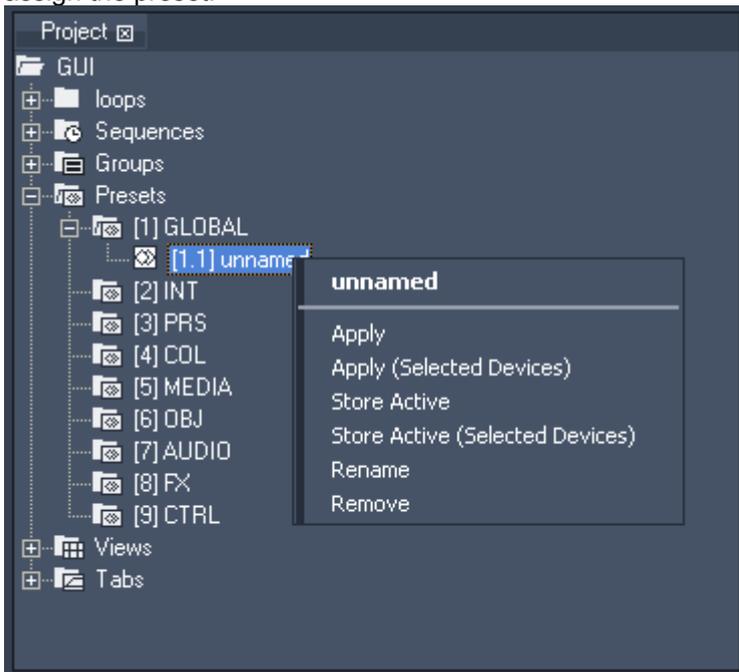
Applying a preset always causes setting relevant parameters to active.

The preset folder contains default preset banks for active value filtering during store operation. This means that by right-clicking on any of these categories only the parameters that match the category group will be stored there as a new preset.



Global	All Parameters
INT	Opacity, Transition FX
PRS	Position, Rotation, Scale
MEDIA	File Selection, Playback Controls
OBJ	Object Selection
COL	Colour, Colour FX
AUDIO	TBA
FX	Video FX
CTRL	Camera Control Settings

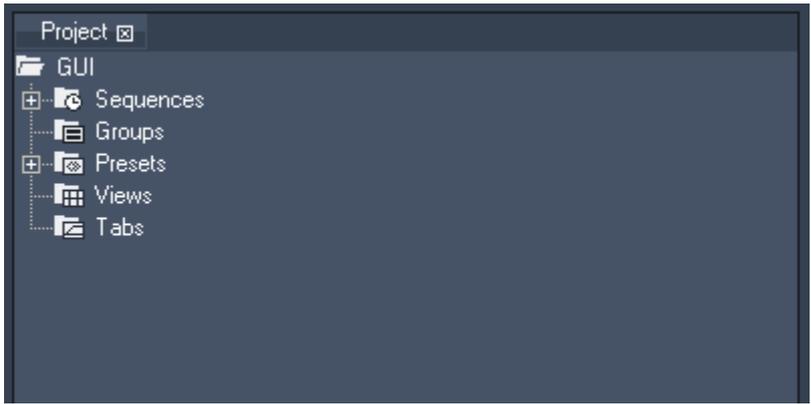
To apply an existing preset on the selected devices, double-click on it. The context menu (right-click on the desired preset) provides the following options to use, edit and assign the preset:



- Apply
Applies the preset to the layer it was created on
- Apply (Selected Devices)
Applies the preset to all selected layers
- Store Active
Stores all active values to the preset.
- Store Active (Selected Devices)
Stores all active values of the selected devices to the preset.
- Rename
Rename the preset.
- Remove
Removes the preset.

3.2.1.1.17 PROJECT

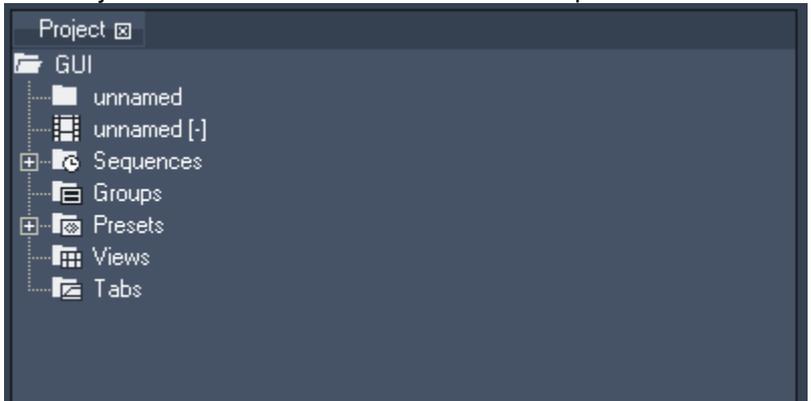
The project tab holds all relevant asset information of a project. Designated folders are available for sequences, groups, presets, views and tabs.



All devices that are managed by the project are located and displayed in the device tree tab. Right-click on the project name to add a folder or text-input.



The Project Tab with an added folder and text input.



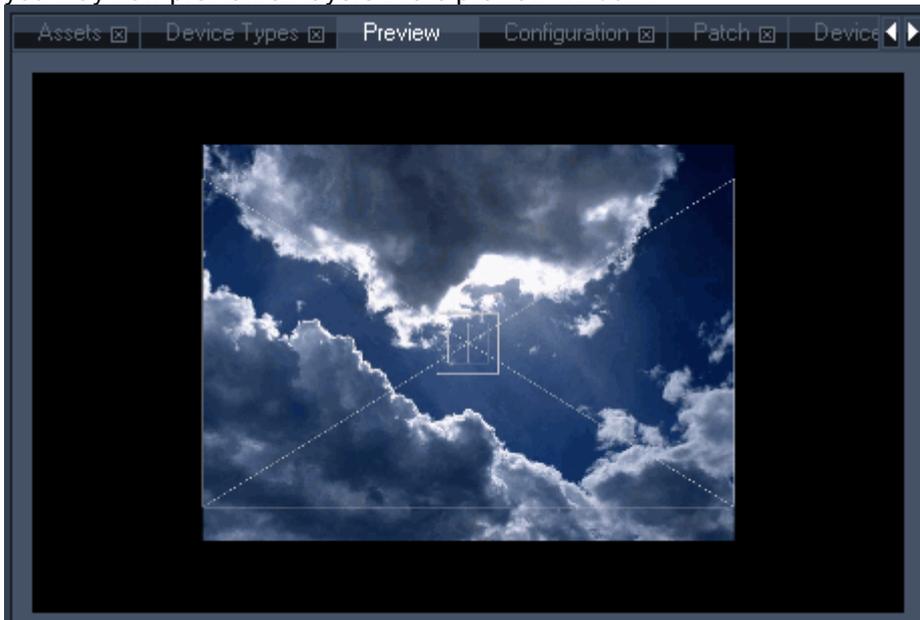
Right-click on a folder to add a subfolder, to add a text-input in this folder, to rename or to remove this folder, to spread its content or to remove unused resources (not used in the timeline). Right-click on a Text Input to assign it to selected devices, to rename or remove it. Please see the [Text Inspector](#) for editing your text-input.

3.2.1.1.18 PREVIEW

The preview tab allows you to switch between different preview modes. In the Global Camera Mode you are able to see all devices at the same time in one preview window. Also a specific camera can be set to be previewed.

- When starting a new project the default preview is
- the Global Camera Mode (Pandoras Box Manager)
 - Camera 1 (Pandoras Box Server / Player as Master)

For previewing a specific device, right-click on the device node and choose Toggle Preview. Doing this action again will hide the device from the preview window. If the files were loaded from the local node, you may now preview all layers in the preview window.



In the global camera you can zoom in and out using the mouse scroll wheel (click in the preview window before).

To switch between the preview modes, right-click in the preview window, choose "Change" and the device you want to see.

The bold text shows the current mode.



In the context menu you can choose between

- Reset

Allows you to reset the camera zoom.

- Toggle Wireframes

Hides/shows the cameras wireframes

- Change

Allows you to choose the camera mode: see the global camera or one of the devices cameras.

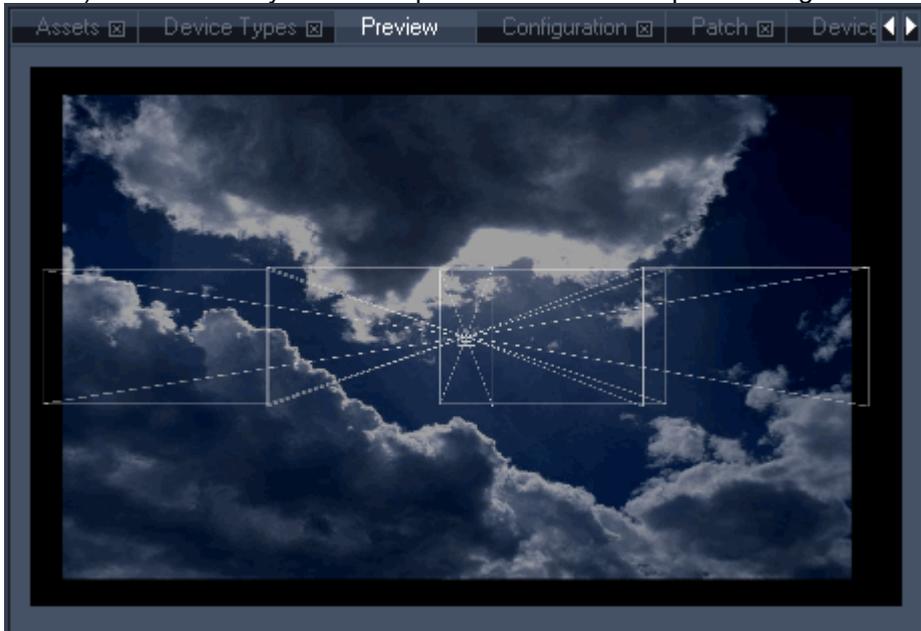


To switch from preview to fullscreen mode in Pandoras Box playback products, click on the Full Screen button or use CTRL + F.

The Global Camera

- Preview with different Camera Control Settings

In the example below a softedge projection with 4 outputs is shown (the 4 outputs have different X-offsets). You can easily see which part of the whole composition is given out by each camera.

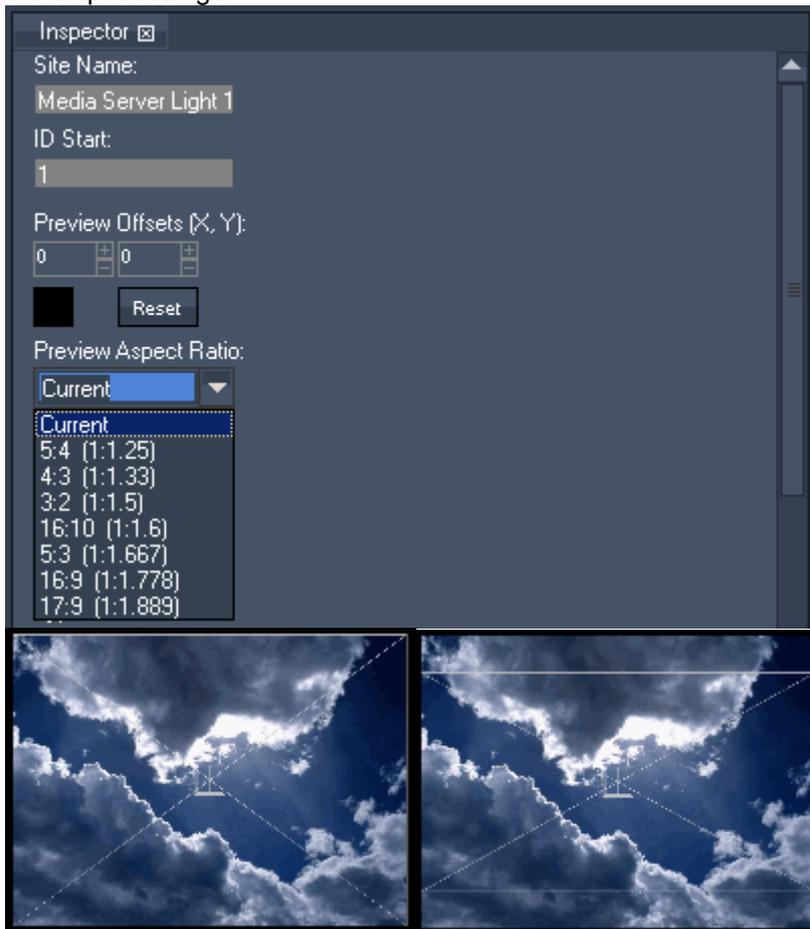


- Wireframes

The wireframes aspect ratio can be set up to the output aspect ratio. This gives you a better prospect of how your output will look like. This option is also very helpful for scaling the content to the right size as all image or video files are scaled to 4:3 when added into Pandoras Box.

Select the device you want to set up. The device inspector now allows you to choose between one of the options in the Preview Aspect Ratio pull down list: Current Screen Ratio, 5:4, 4:3, 3:2, 16:10, 5:3, 116

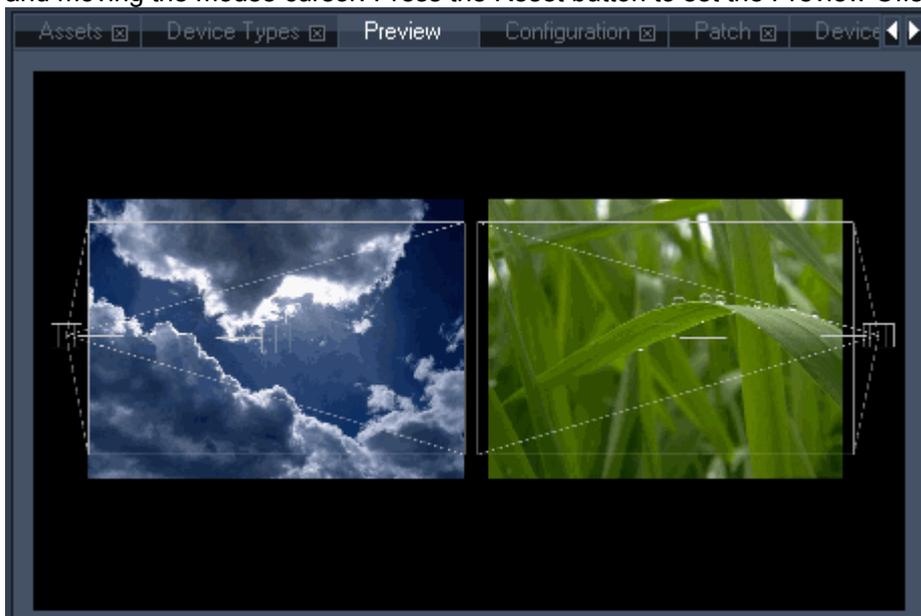
16:9 or 17:9. Please note: This setting refers only to the wireframes in the preview, it does not affect the output settings!



- Preview Offsets

Each device that is set to be previewed has the same preview offsets. To arrange the devices in the preview window, please use the possibility to set up the preview offsets in the device inspector for each device.

Apply an X and Y Offset for the Global Camera by entering the values or by clicking in the black box and moving the mouse cursor. Press the Reset button to set the Preview Offset back to default.



The example above shows two devices with different preview offsets.

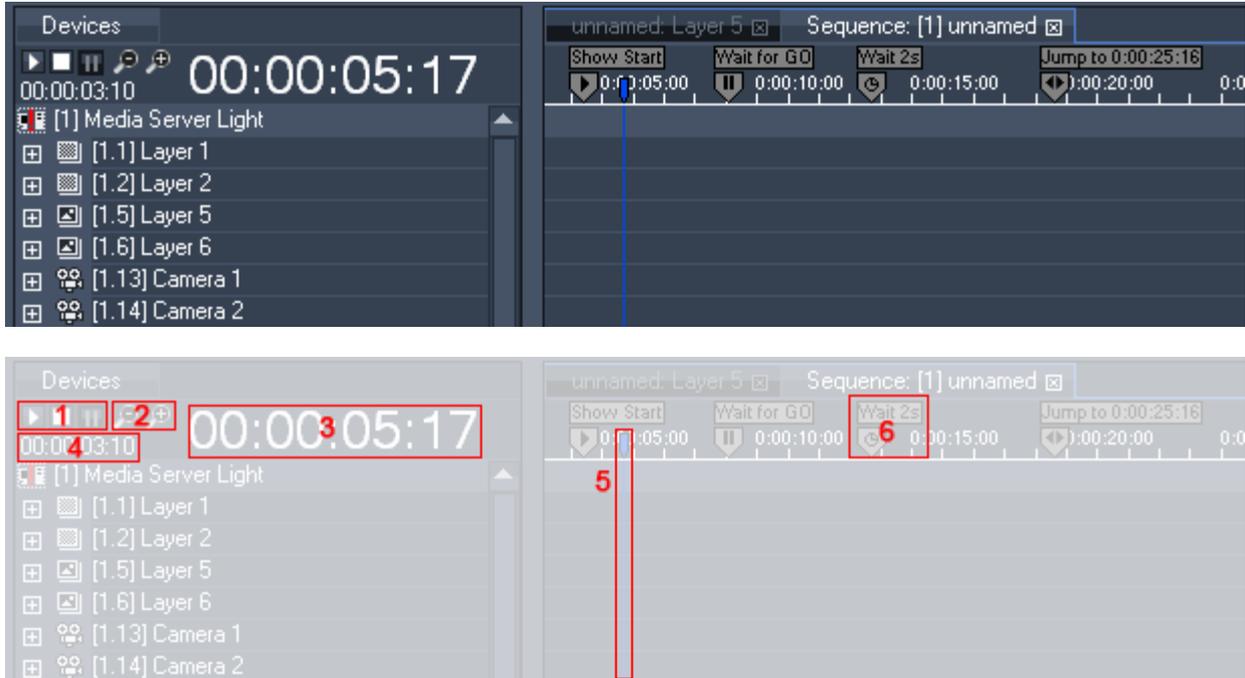
3.2.1.1.19 SEQUENCE

The sequence tab is context sensitive and always displays the selected sequence.

Select a sequence from the project tab to load it into the sequence tab.

3.2.1.1.19.1 OVERVIEW

Please look at the areas marked with red rectangles in the next illustration for an explanation of the different sequence items.



- 1: Sequence Play Mode: Play/Pause/Stop
- 2: Sequence Zooming
- 3: Timecode (current position of the Nowpointer)
- 4: Countdown for next Cue in Timeline
- 5: Nowpointer
- 6: Cue with displayed Cue Name, see [Cue Inspector](#).

3.2.1.1.19.2 CONTROLLING

Zooming

To zoom in/out the sequence, press +/- on your keyboard or click on the zoom tool on top of the Devices Tab or hold the SHIFT key. Another option is to click in the time bar and move the mouse up/down.

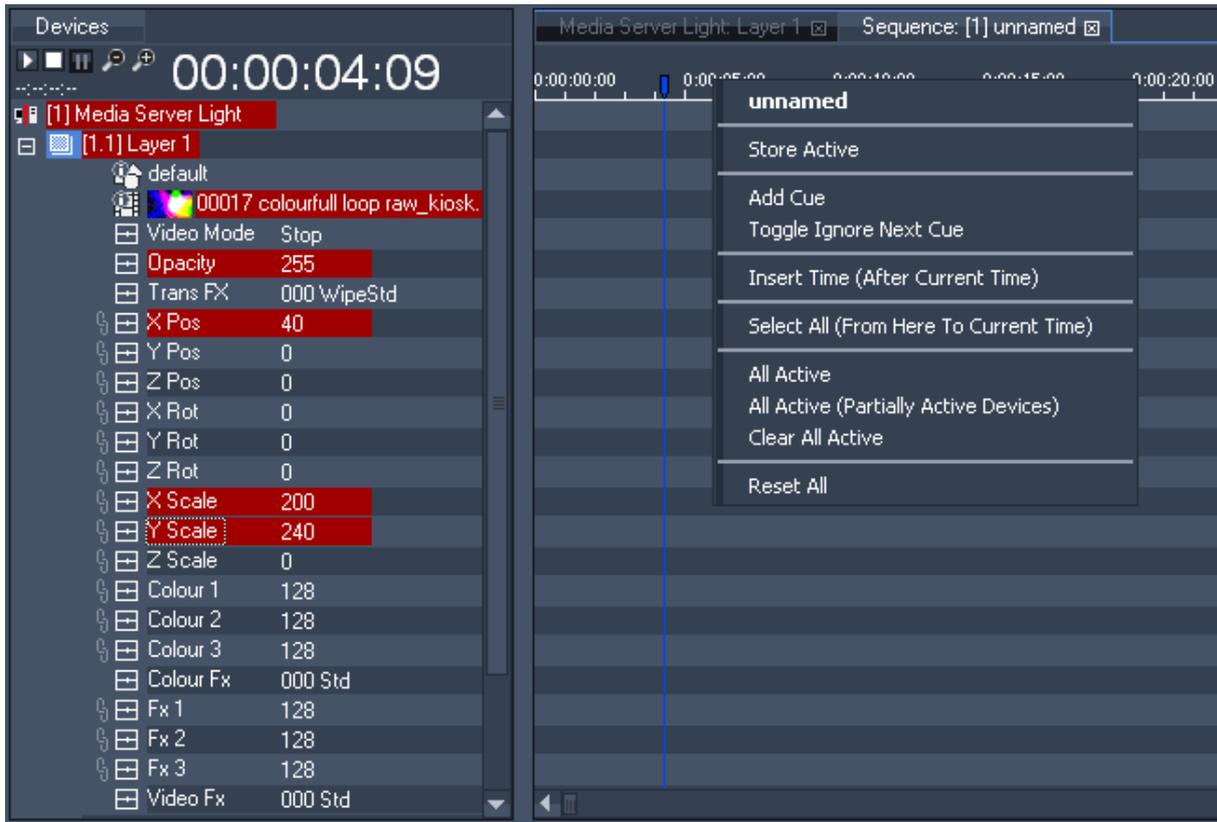
Play/Pause/Stop

To start/pause the sequence, press the space button on your keyboard or use the sequence control buttons Play, Stop and Pause on top of the Devices Tab.

Navigation

- Navigate through the sequence by dragging the nowpointer (blue vertical line) on the time bar.
- You can also enter the desired timecode on top of the Devices Tab. The timecode 00:00:00:00 stands for hours:minutes:seconds:frames. Use this format to enter a new timecode or just type the last numbers, i.e. "409" to get the displayed timecode 00:00:04:09.
- Use STRG + --> (arrow right) or STRG + <-- (arrow left) to jump from key to key (including the clip borders).

- Use STRG + ALT + --> (arrow right) or STRG + ALT + <-- (arrow left) to jump from cue to cue (including the clip borders).



3.2.1.1.19.3 COMMANDS

To access all sequence commands right-click on the time bar of the sequence tab.

- Store Active

This command stores all active values at the current time.

- Add Cue

Adds a Cue at the position of the mousepointer.

- Toggle Ignore Next Cue

Click here to ignore the Next Cue in the sequence (or use CTRL+SHIFT+I) or to respect this cue again if it was set to be ignored. An ignored cue will be displayed in orange.



- Insert Time (After Current Time)

Enter the amount of seconds that will be inserted after current time.

Please note: The Jump Target of Jump Cues will not be adjusted!

- Select All (From Here To Current Time)

All keys, containers and cues from the mousepointer up to current time will be selected.

- All Active

This command sets all parameters of all devices to active.

- All Active (Partially Active Devices)

This command sets all parameters of partially active devices to active.

- Clear All Active

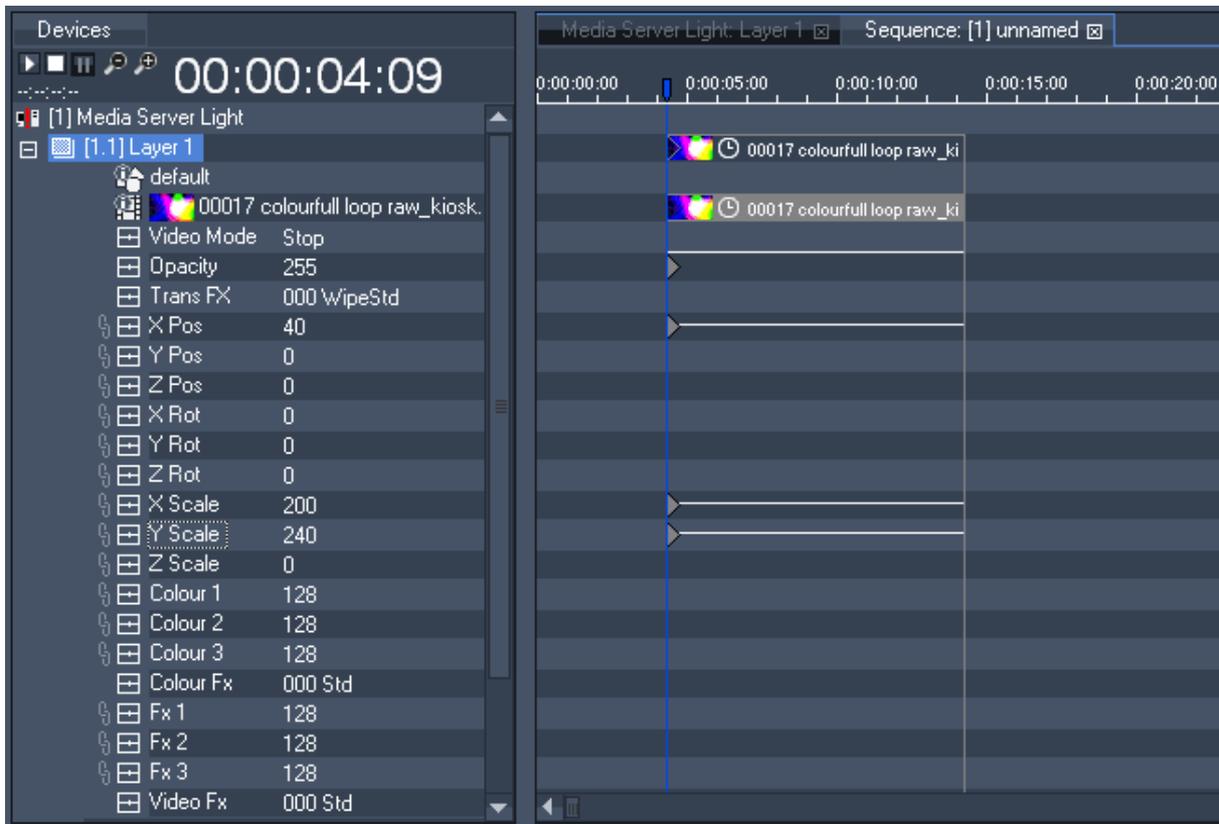
This command clears all active parameters.

- Reset All

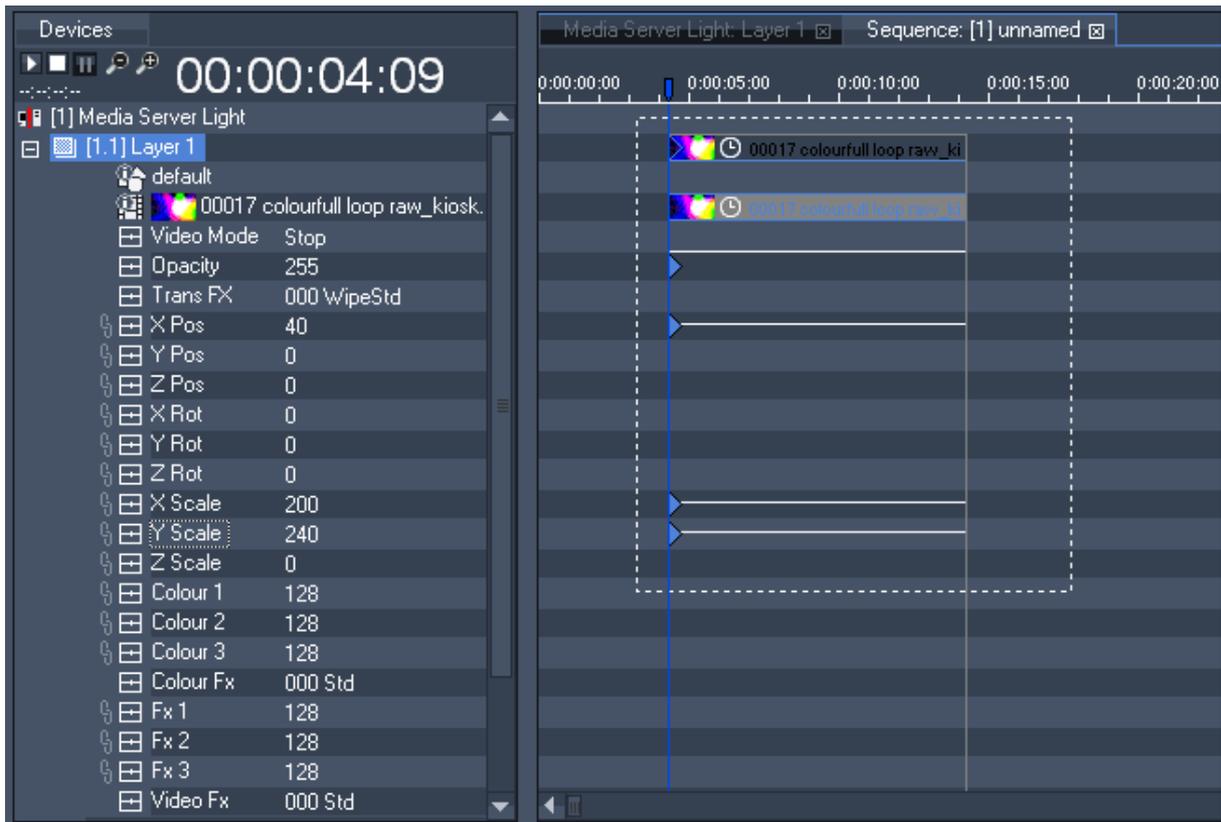
This command resets all active values.

3.2.1.1.19.4 PROGRAMMING

Once the store active command is executed, all active values are stored into the sequence at the current time (position of the nowpointer).



On the level of Layer 1 you see the clip summary container. Below that, there are the clip container and the keys of different parameters. The clip including all keys is framed by the clip boundaries on the left and right edge.



Clip containers can be positioned by selecting the summary clip container and moving it with the mouse.

Clip containers can be stretched in time by selecting the clip container boundaries and moving them with the mouse.

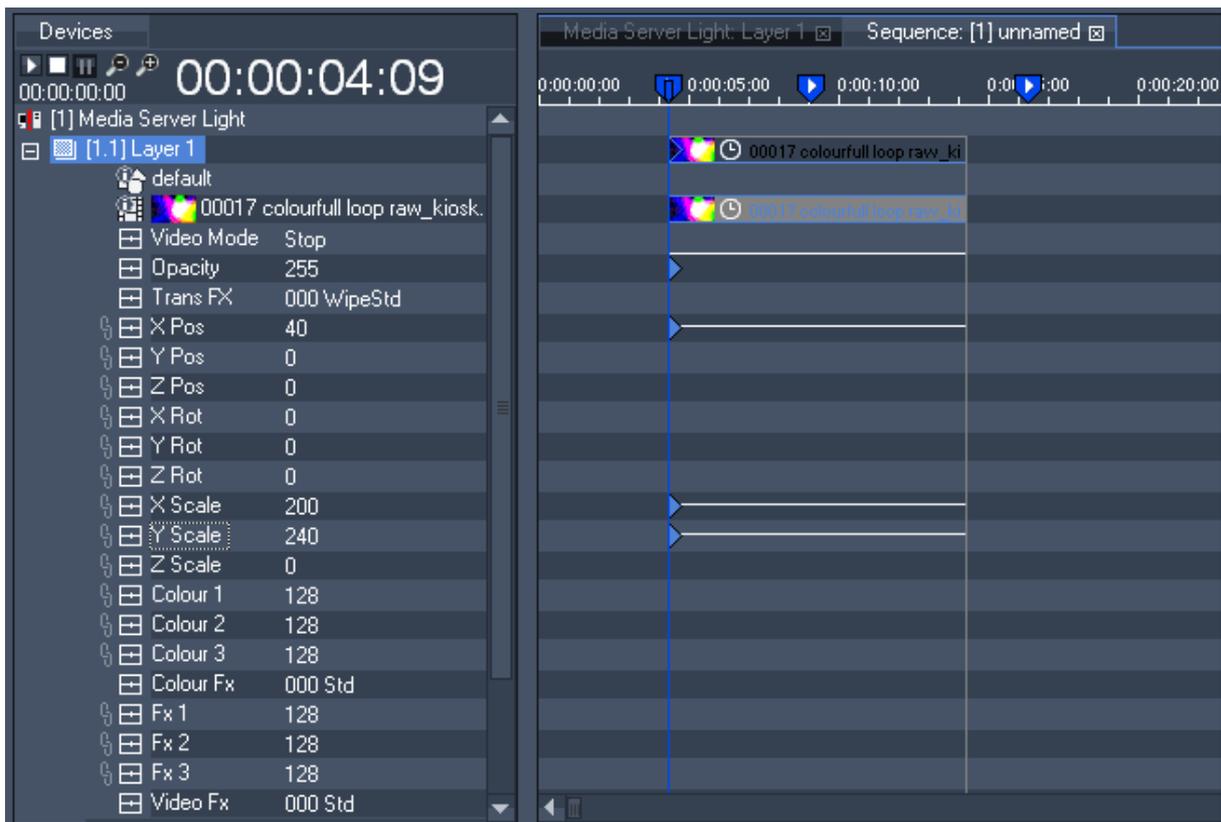
To select a single key, just click on it or drag a window across it. To select multiple keys, drag a window across the region of keys.

Once selected, the keys may be moved (left click and drag selection), copied (CTRL+C) and pasted (CTRL+V) within the same layer or device.

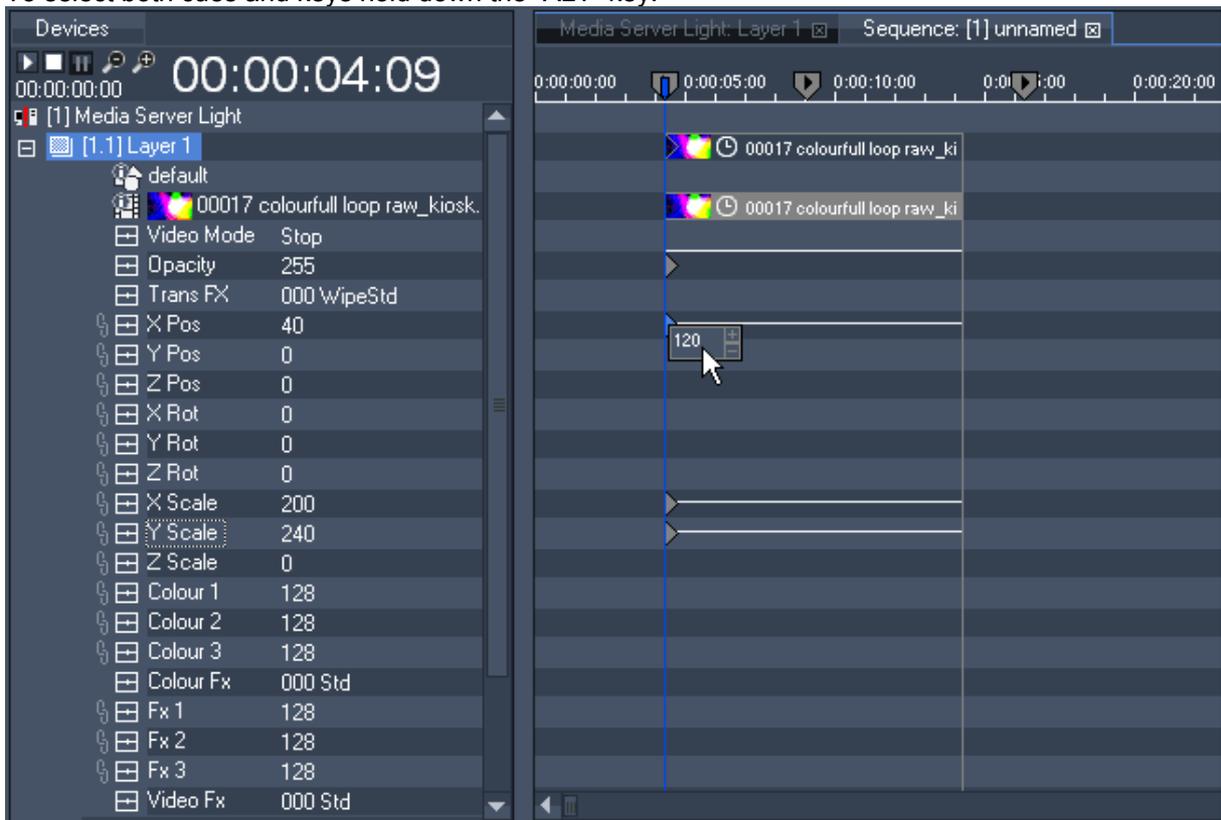
To copy a selection of keys from one device to another, use CTRL+C to copy and CTRL+Shift+V to paste to a new selection of devices.

Please note: If copying parameters from one device to a different device, only those parameters which are shared by both devices can be copied.

By holding down the "CTRL" key and moving the key selection a copy of the selection will be created as soon as the mouse is released.

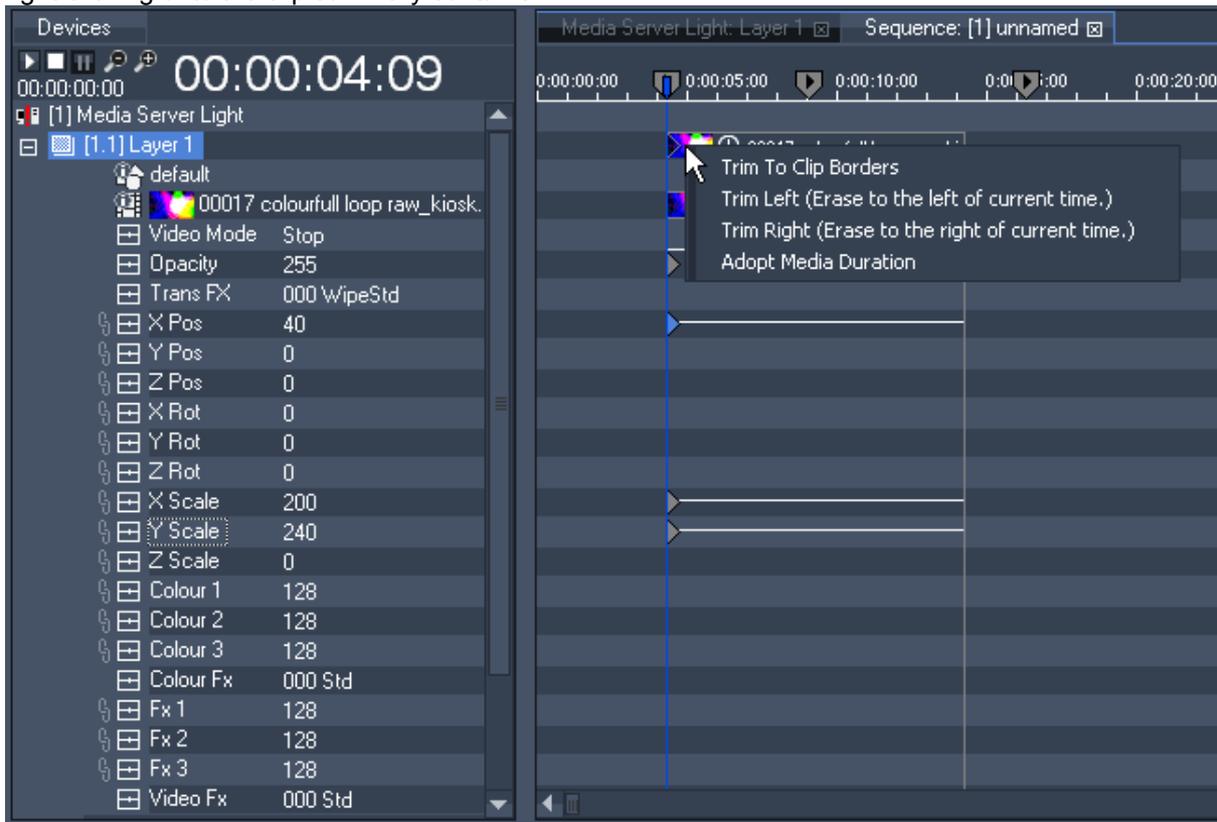


To select both cues and keys hold down the “ALT” key.



Keys can easily be added by right-clicking in the desired parameter track. Once a key is created, you may change its value by right-clicking again on the key to access its parameter handle. You can also select it and change its value in the key inspector tab. To replace the content of a clip container, drag and drop the new content from the project tab onto the clip.

If the new clip has a different length, you may adopt the clip container to the new media duration by right-clicking onto the clip summary container.



A right-click on the clip summary container gives you access to the following commands:

- Trim To Clip Borders

If there are keys somewhere between the clip boarders, this command will set one key at the left boarder with the default value of the parameter and one key at the right boarder with the same value of the key located next to the right boarder.

- Trim Left

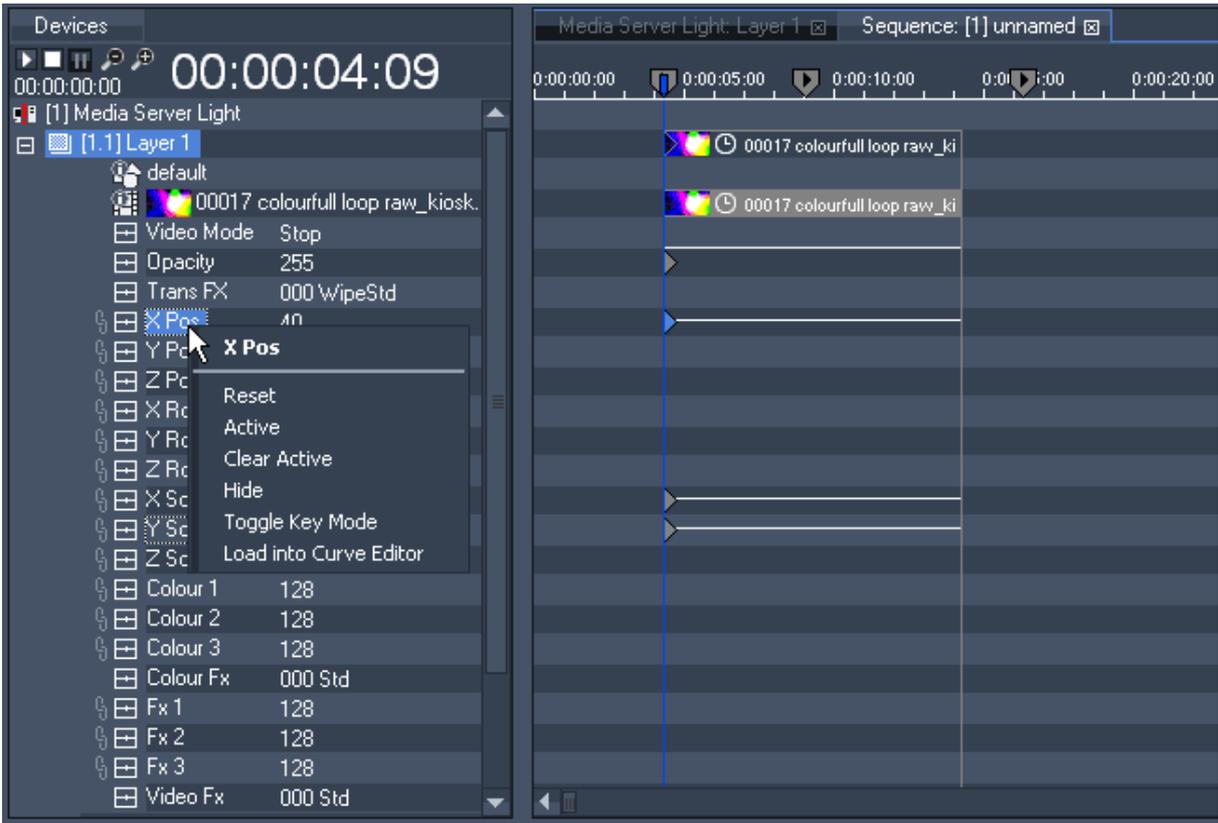
This command erases everything between the nowpointer and the left clip boarder. The last key of a parameter before the nowpointer will be moved to the new clip boarder time. The video clip will now be shortened at the beginning.

- Trim Right

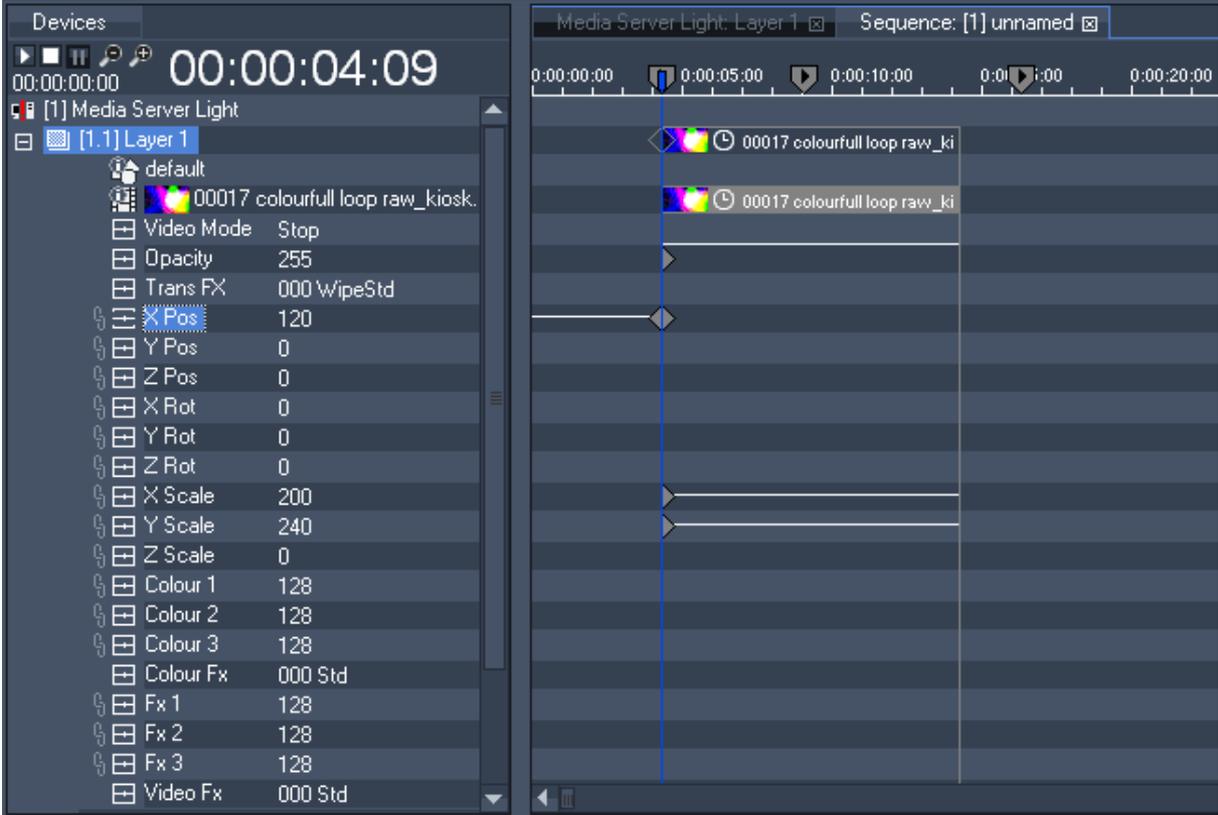
This command erases everything between the nowpointer and the right clip boarder. There will be a new key set at the right clip boarder containing the value a parameter had at the nowpointer before.

- Adopt Media Duration

This command adopts the duration of the clip if it was shortened/extended or replaced by another clip with different duration before.



If you want a parameter value to be applied for the whole sequence and not to be set up for each single clip, take it out of the clip orientated keymode by right-clicking on the parameter and choose Toggle Key Mode. Press OK in the upcoming pop-up window to proceed this action (this command cannot be undone!). Now the clip borders are no longer effective for this parameter.



To undo steps of sequence editing press CTRL+Z on your keyboard (except for Toggle Keymode).

3.2.1.1.19.5 TRACKING



- Enforce Defaults:
Choose between three states: ON, OFF and ONLY MESH / MEDIA:
In Pandora's Box timeline programming you normally determine the value of a parameter by setting a key. In some situations, however, a certain parameter may not have a key associated with it that explicitly determines its value at a certain point in time. For those situations the system can be set to "enforce defaults", i.e. to ensure that the parameter in question has the default value even though the default value is not explicitly set (by key) in the timeline.
There are two "default situations". First, the points in time in the "empty space" between clips (figure 1a). Second, the points in time to the left of the first key in a clip for a particular parameter (figure 1b).
In both of these situations, there are some parameters that the system can not associate with a key.

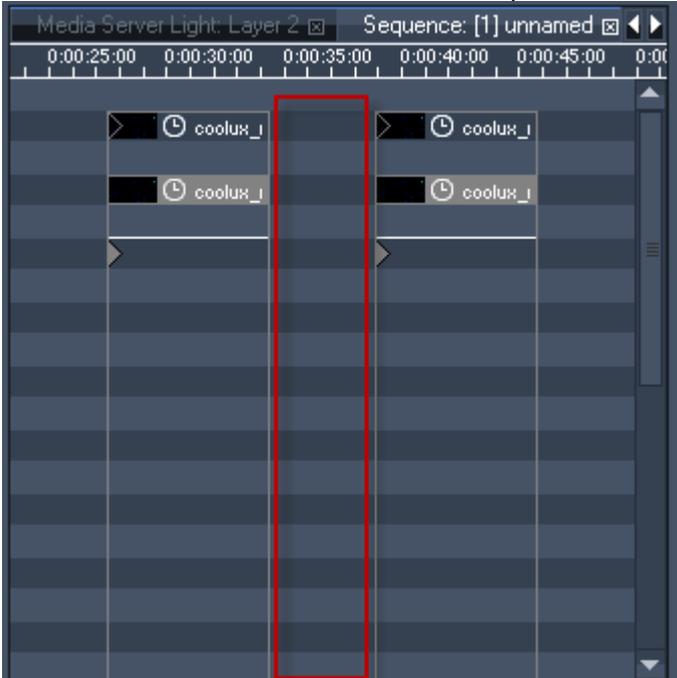


figure 1a: empty space between clips

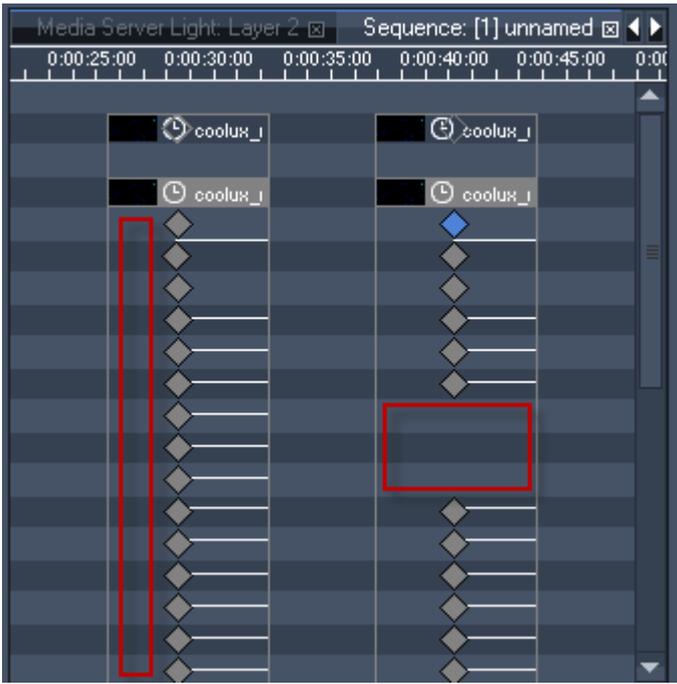


figure 1b: left of a first key in the clip

If Enforce Defaults is ON then the system will automatically apply default values to the parameters in default situations. This behaviour ensures that each frame in the timeline is associated with exactly one definite state for all parameters. So if you click into the timeline at TC 0:00:09:00, for example, then jump to other places in the timeline and return to TC 0:00:09:00 later, the output will be exactly the same as before at TC 0:00:09:00, even though you may not have explicitly set values for all the parameters.

If Enforce Defaults is OFF then the system does not apply defaults in the situations described above. Rather, the parameters retain whichever value was set before the situation was encountered. This means that the state associated with a particular frame in the timeline depends on two things. All parameters which have explicitly set keys are changed to reflect those keys. The values of the remaining parameters, however, are not changed at all (since defaults are not being enforced). The state of the output therefore depends in part on how the parameters for which no keys were explicitly set were edited before.

To see this, take a look at figures 2, 3a and 3b. At the beginning of the first clip, the scale of the object is explicitly set by a key.

Imagine the timeline is started at TC 0:00:09:00 and runs on until it is paused at TC 0:00:18:00.

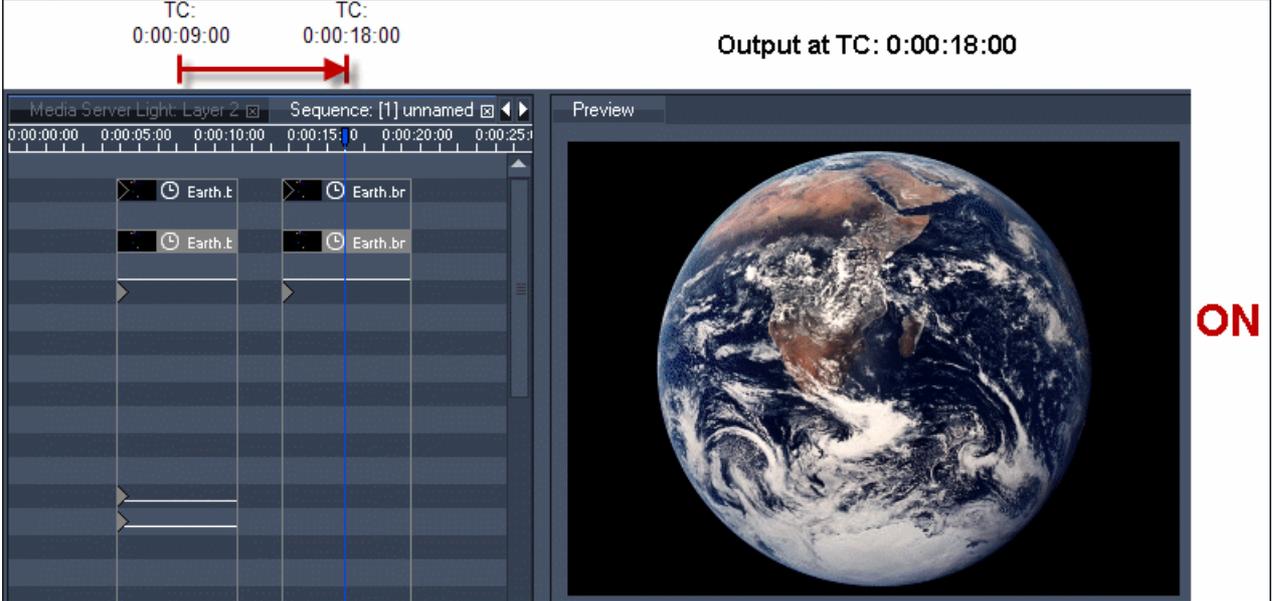


figure 2: Enforce Defaults is set to ON

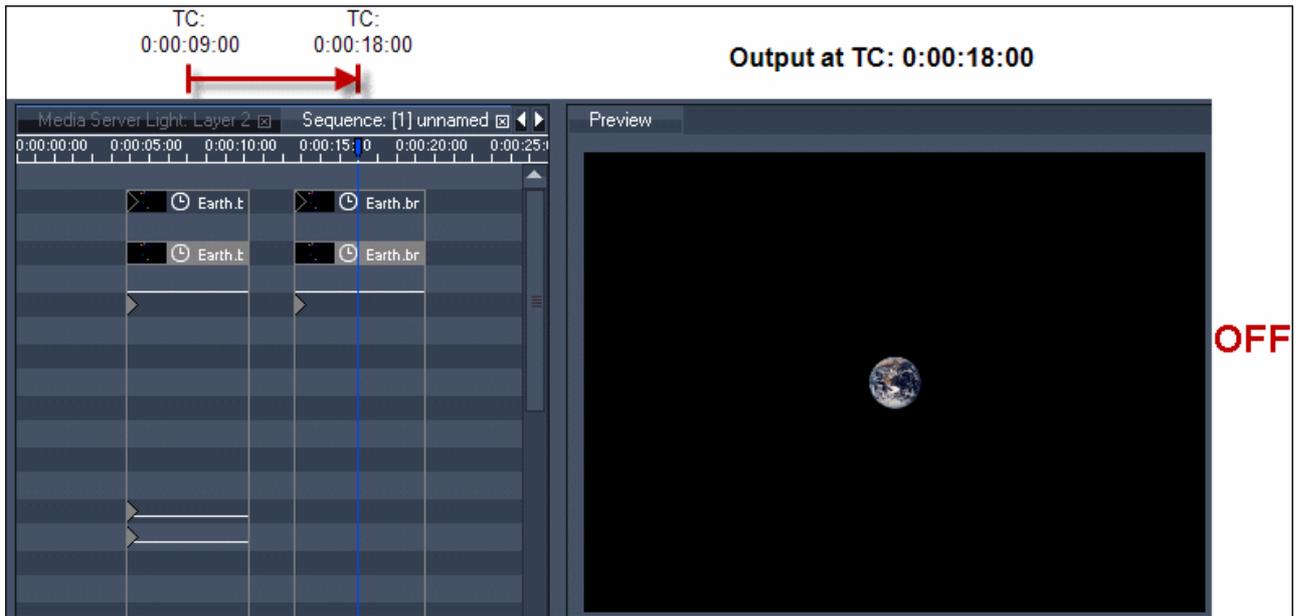


figure 3a: Enforce Defaults is set to OFF; the scaling keys of the first clip have very low values

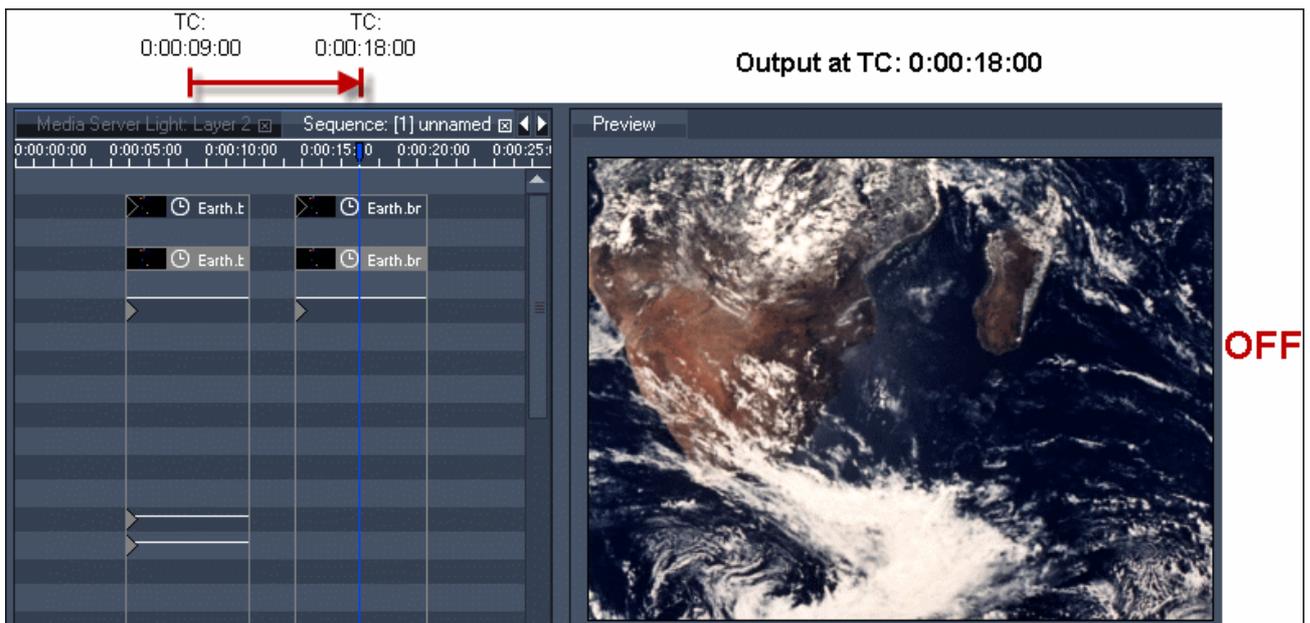


figure 3b: Enforce Defaults is set to OFF; the scaling keys of the first clip have very high values

The state of the output when Enforce Defaults is OFF is "path dependent" in the sense that it depends on the "path" you take to reach a particular timeline frame. When Enforce Defaults is ON it is "path independent" in that the output state depends only on the frame that you are in.

Take a look at figure 4 and 5 for an example of path dependency when Enforce Defaults is set to OFF. Consider a user clicking in the timeline at the different timecodes.

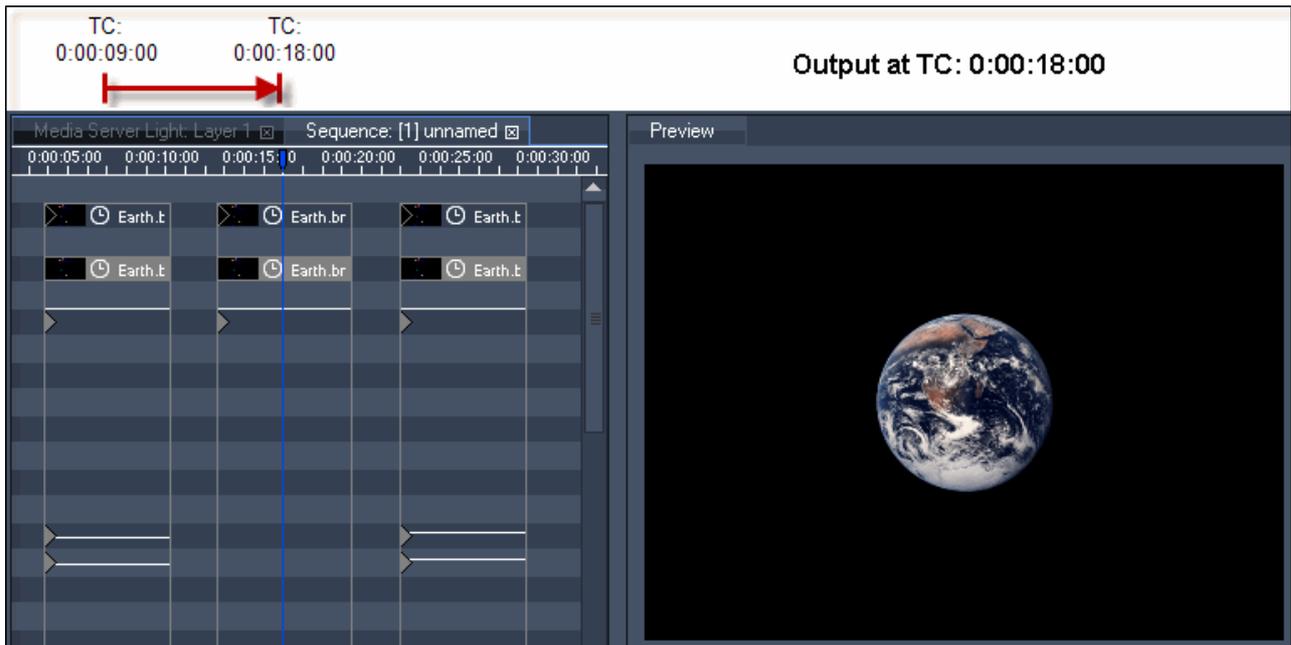


figure 4: Enforce Defaults is set to OFF.
Jumping from TC 0:00:09:00 (low values for object scale) to TC 0:00:18:00 (no scaling values) results in an object that is scaled very small.

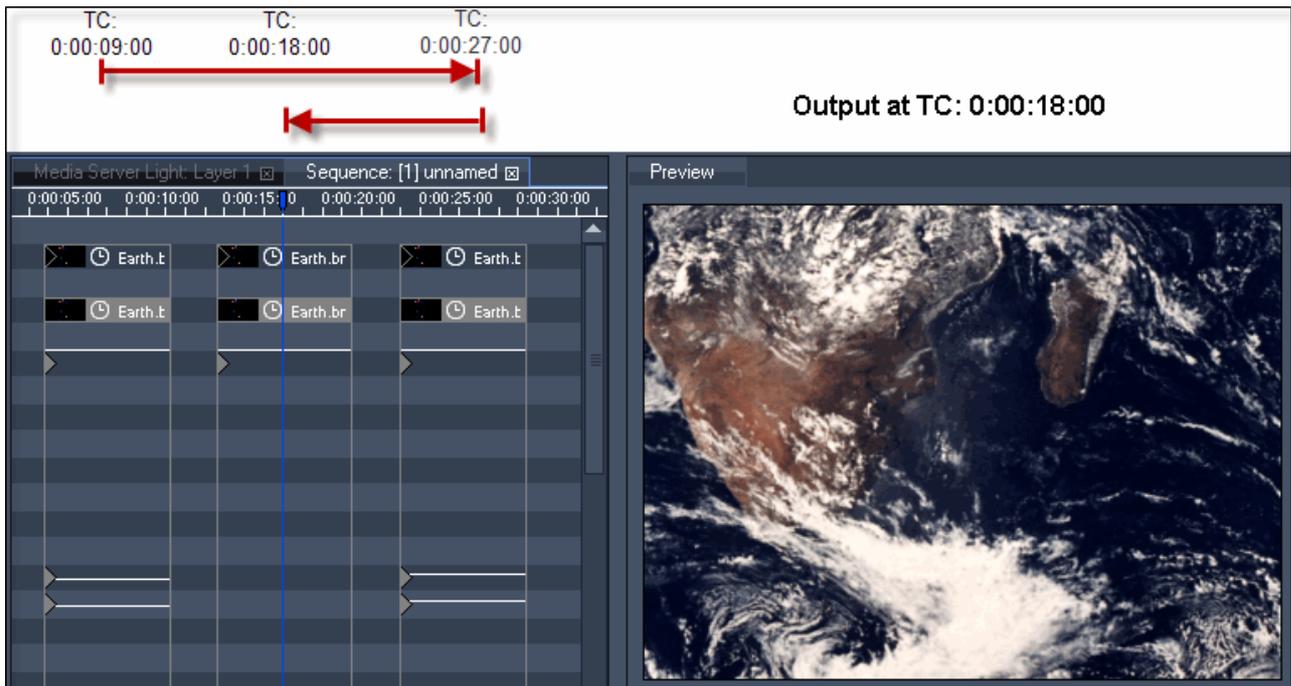


figure 5: Enforce Defaults is set to OFF
Jumping from TC 0:00:09:00 (low values for object scale) over TC 0:00:27:00 (high values for object scale) to TC 0:00:18:00 (no values for object scale) results in an object that is scaled very high.

Path independence means that leaving Enforce Defaults set to ON is usually a good idea, especially when working with a single timeline, since it helps you make sure that each frame in the timeline leads to exactly the result you want it to. When working with multiple timelines, however, you may want to use one timeline to control certain parameters of a device while using a different timeline to control other parameters of the same device. In this and similar scenarios, it is necessary for each timeline to only apply those values that are explicitly set in it via keys. This gives the other timelines the needed "space" to apply the values determined by their keys.

In these cases, setting Enforce Defaults to OFF makes sure that each timeline yields as much as possible to other timelines.

Note that you can use the inspector of a media or mesh assignment key to set the value of the key to "none". This allows you to unload mesh or media from layers even when Enforce Defaults is set to OFF by explicitly applying the default value ("none") via a key.

The setting ONLY MESH / MEDIA combines aspects of both of the other two Enforce Defaults modes. When it is set defaults are automatically applied to the mesh and media parameters. All other parameters besides mesh and media are not changed at all in the default situations.

3.2.1.1.20 SEQUENCE CONTROL

Use the sequence control tab to monitor the status of available sequences.

All created sequences in the project's sequence folder are displayed in the sequence control tab.

The sequence tapper shows the following information:

- ID and name of the sequence
- the percentaged value of the sequence opacity
- timecode of the nowpointers position
- current play mode (play, pause or stop)

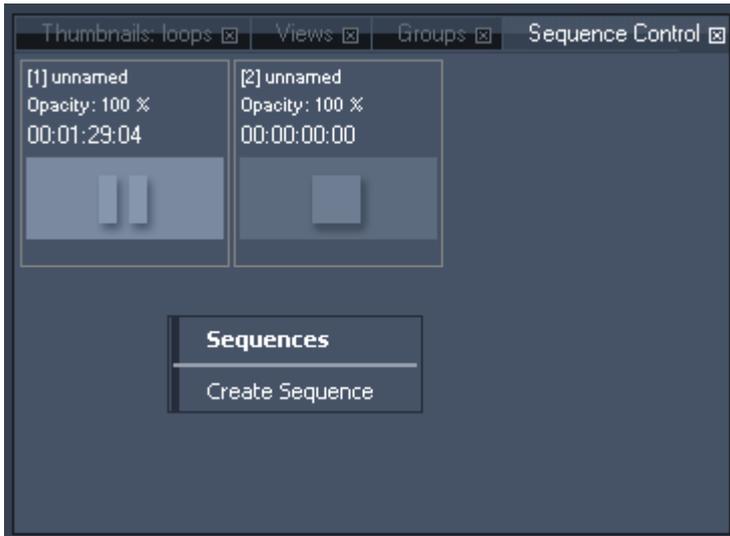


If the sequences opacity is set to zero, the sequence tapper background will turn red:



By clicking on a sequence item in the sequence control tab you may set the selected sequence to Play or Pause.

To create a new sequence you may right-click in any empty region of the sequence control tab. The newly created sequence will automatically be loaded into the Timeline Tab.



Once a sequence is shown in the sequence control tab, you may right-click on the sequence item at any time and choose one of the following available commands:



- Store Active

This command stores all active values at the current time.

- Add Cue

Adds a Cue at the position of the mousepointer. See the [Cue Inspector](#) for further information.

Please note: it is recommended to have a spacing of at least 10 frames inbetween two cues.

- Toggle Ignore Next Cue

Click here to ignore the Next Cue in the timeline (or use CTRL+SHIFT+I) or to respect this cue again if it was set to be ignored.

- Insert Time (After Current Time)

Enter the amount of seconds that will be inserted after current time.

- Select All (From Here To Current Time)

All keys, containers and cues from the mousepointer up to current time will be selected.

- All Active

This command sets all parameters of all devices to active.

- All Active (Partially Active Devices)

This command sets all parameters of partially active devices to active.

- Clear All Active

This command clears all active parameters.

- Reset All

This command resets all active values.

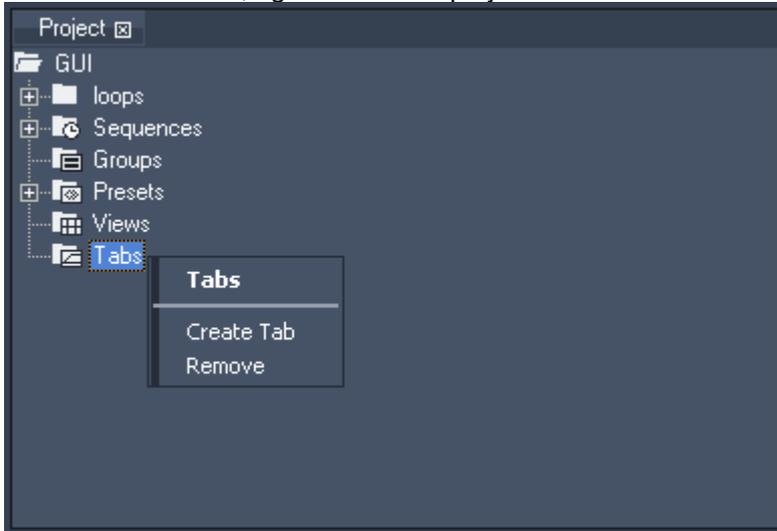
3.2.1.1.21 TABS

To access most of the common used context and main menu commands, custom tabs may be created to allow you a quick access via a single click from within a view layout.

Custom tabs consist of buttons that are especially useful for touchscreen operation with the user-interface as well as for direct access to your favourite features to speed up your workflow.

As tabs are part of your project, all settings you make here will be stored with each project you are working in.

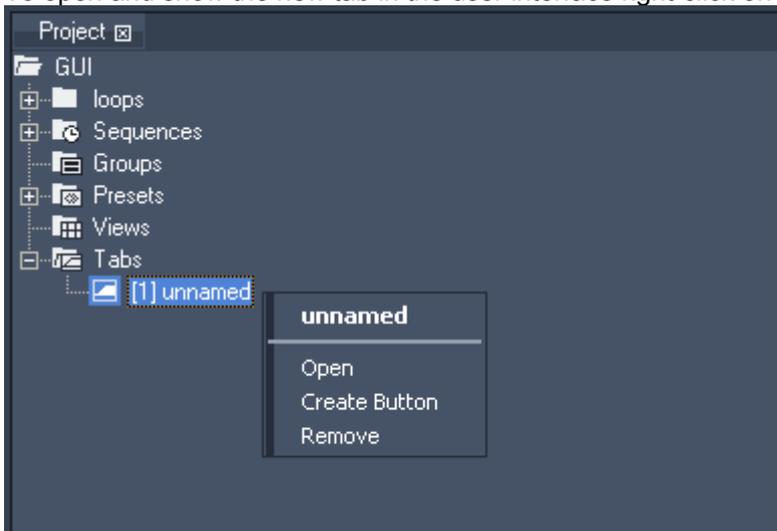
To create a new tab, right-click in the project tab on the folder called "Tabs" and choose "Create Tab".



Once a new tab entry is created, you will need to add button items to the tab.

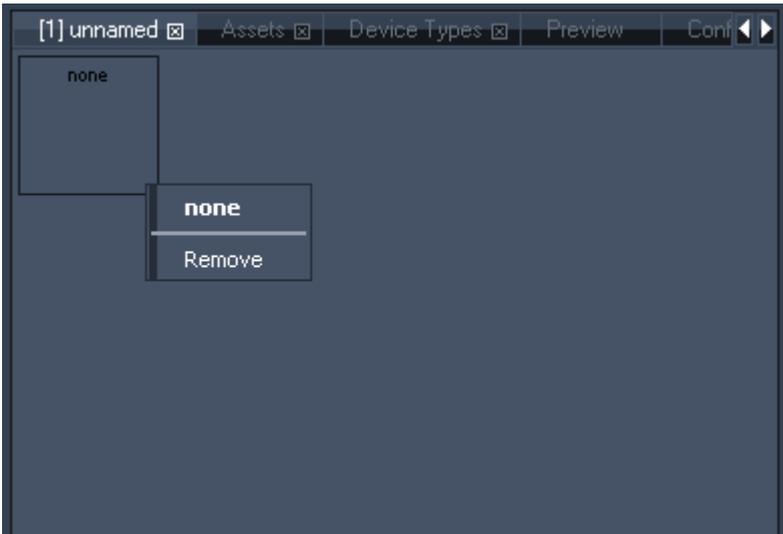
Do this by right-clicking on the new tab item and choose "create button".

To open and show the new tab in the user interface right-click on the tab again and choose "open"

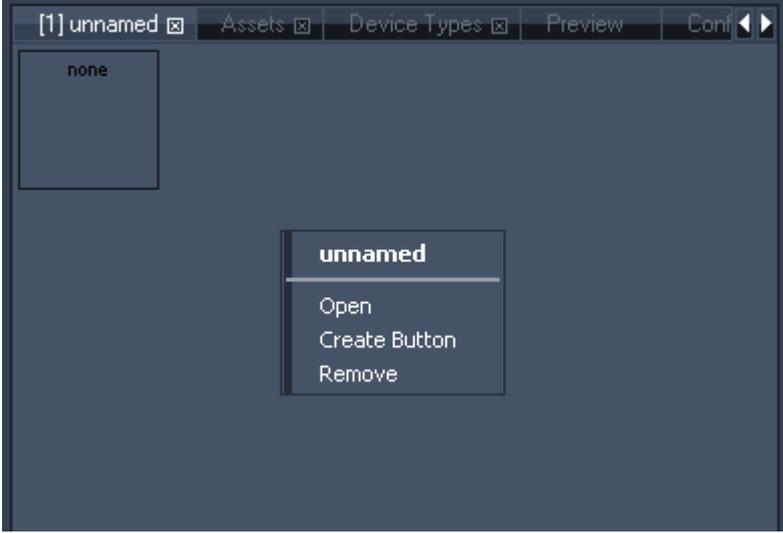


Now you should see a new tab with a single button in the user interface.

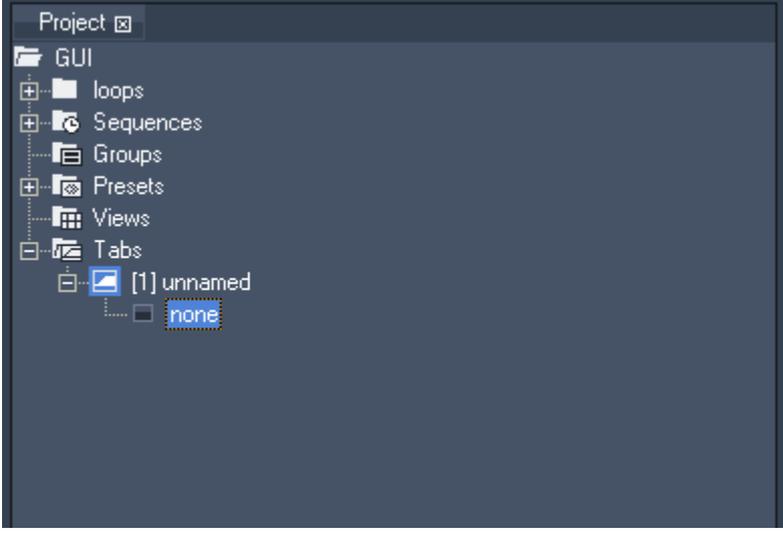
To remove this button, right-click on it and choose Remove.

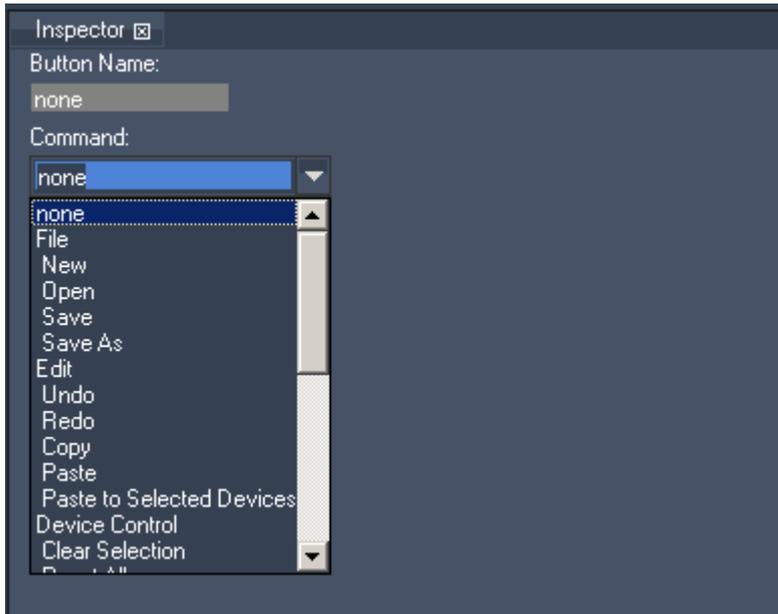


In the newly created and opened tab view you may right-click in any empty region to create new buttons.



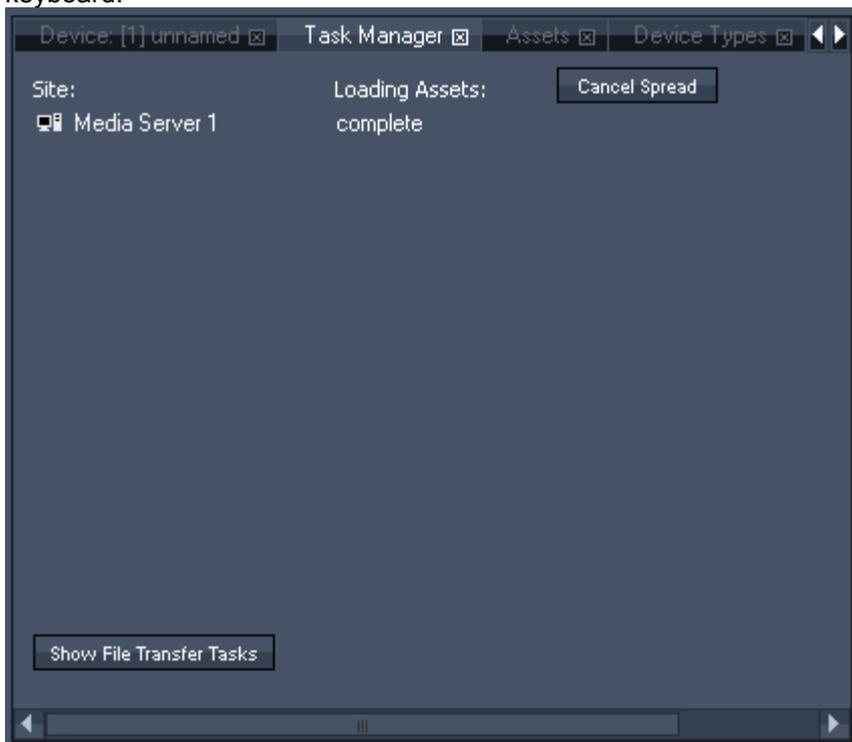
To edit the commands of any created button select the button from the project tab and select your favourite command from the drop down list in the tab inspector window.





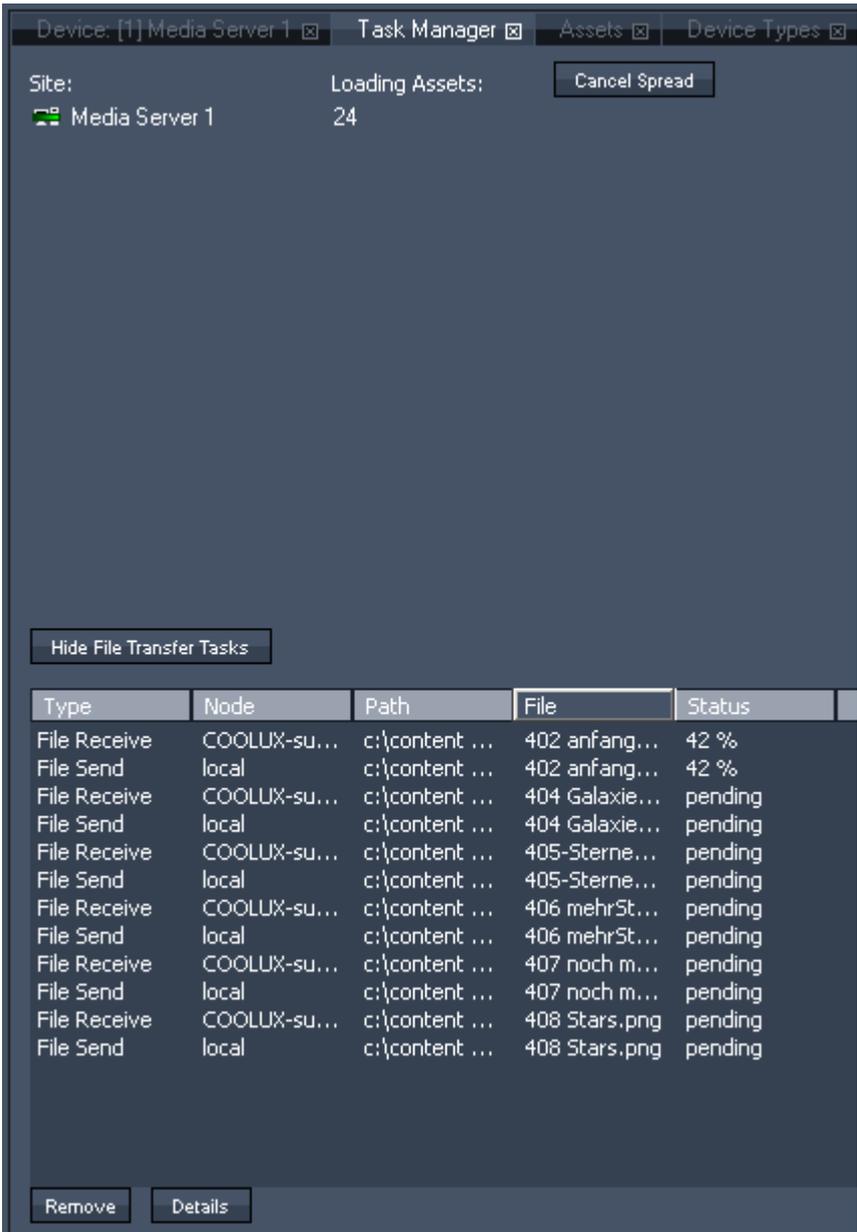
3.2.1.1.22 TASKMANAGER

To open the taskmanager tab, navigate to Tabs - Taskmanager or press CTRL+SHIFT+M on your keyboard.

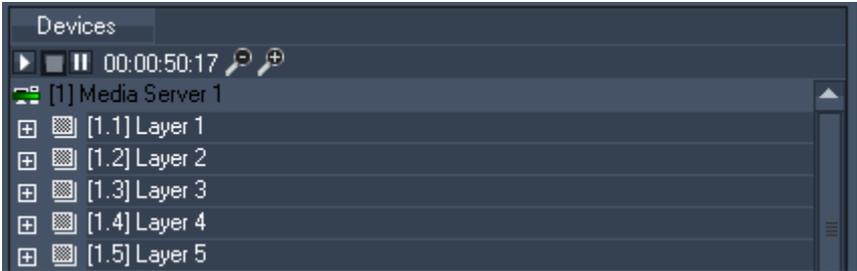


The taskmanager lets you monitor if a site is still loading files and if all file send and receive actions that were initiated by a file or folder spread process.

If you click on Show File Transfer Tasks, you will get a list with the status of all file transfers.



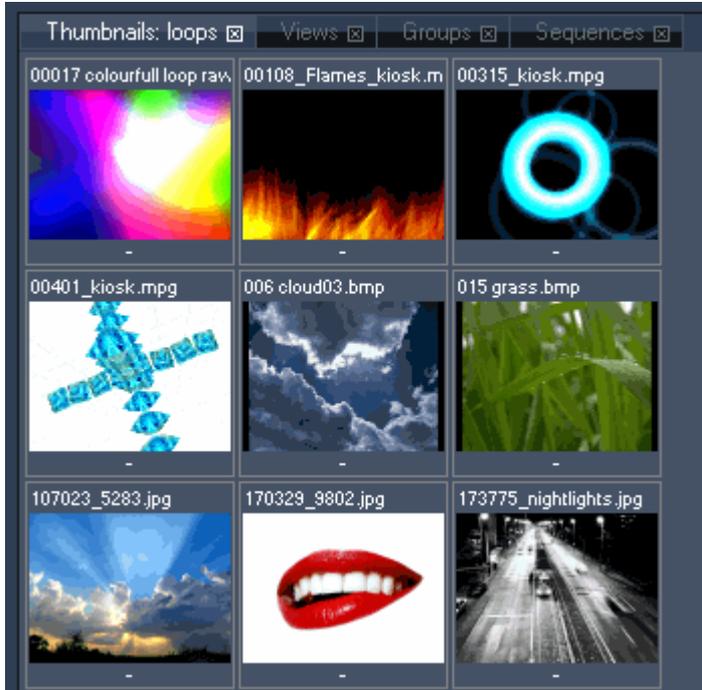
The site icon with a green stripe indicates that the site is still active receiving or loading assets. The same icon will also be shown in the Devices Tab.



The number of assets to load is shown next to the site name in the taskmanager. As soon as the loading process is done "complete" will be displayed and the site icon turns back to the normal one. Clicking on [Cancel Spread] will cancel the spreading process. If you encounter any network problems or issues of spreading files, individual items may be selected from the list and removed to continue with other spread operations.

If you encounter issues that you cannot solve yourself by removing and/or restarting the project, please collect the "details" description of the task that is causing the issue and report it to support@coolux.de.

3.2.1.1.23 THUMBNAIL VIEWER



The thumbnail viewer is context sensitive and depends on either an asset browser folder to be viewed or a project tab folder entry to be viewed.

The thumbnail viewer displays both 2D and 3D media.

Please note:

The 3D media is displayed with a default texture to identify the UV mapping orientation.

All video thumbnails will display a frame from the middle of the video. They do not show the first frame.

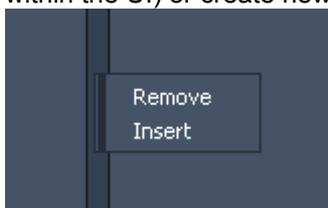
When used with the project tab and selected devices such as layers or cameras, you may double click on any thumbnail to assign it to the current selection of devices.

Please be aware that all thumbnail images are stored locally. If the media is not present on all clients you may have to spread the media to all clients in order to assign it to the selected devices.

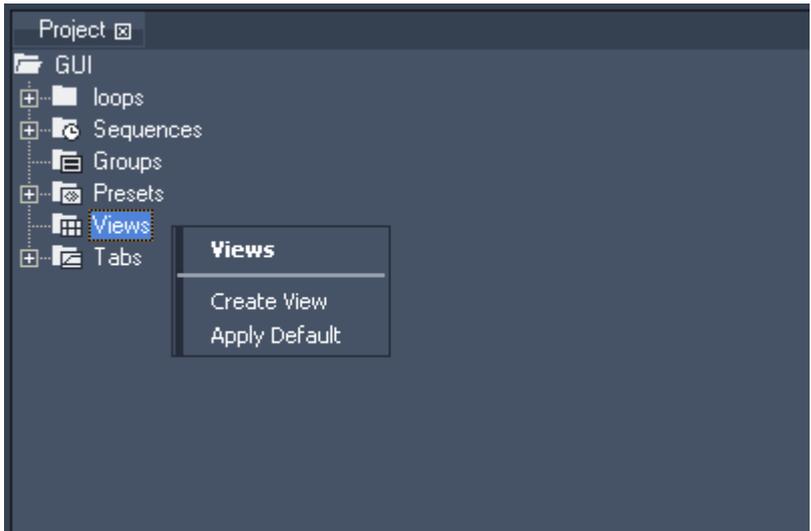
3.2.1.1.24 VIEW TAB

The view tab lets you recall stored view layouts of the user interface with a single mouse click.

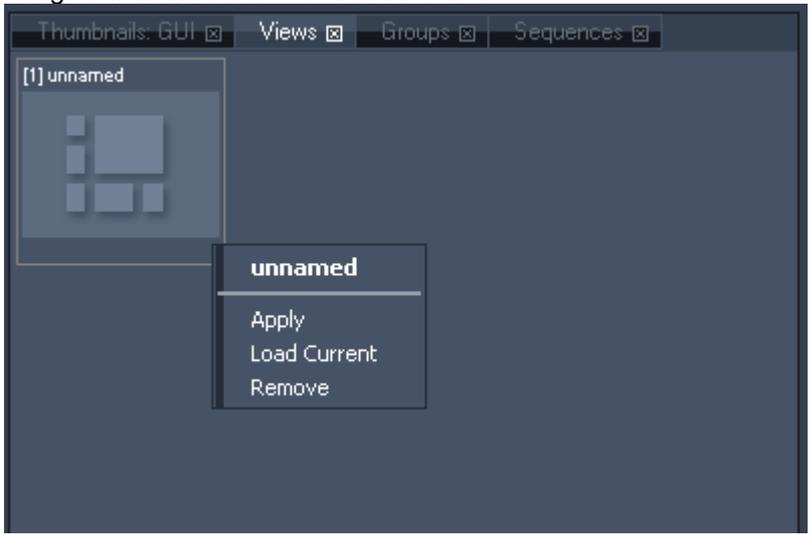
To create a new view layout, set up the tab sizes and location (drag and drop individual tab titles within the UI) or create new tab rows and columns by right clicking in between tabs.



Once you have set up a view layout that you would like to store, right click on the Views folder in the project tab and choose "Create View".

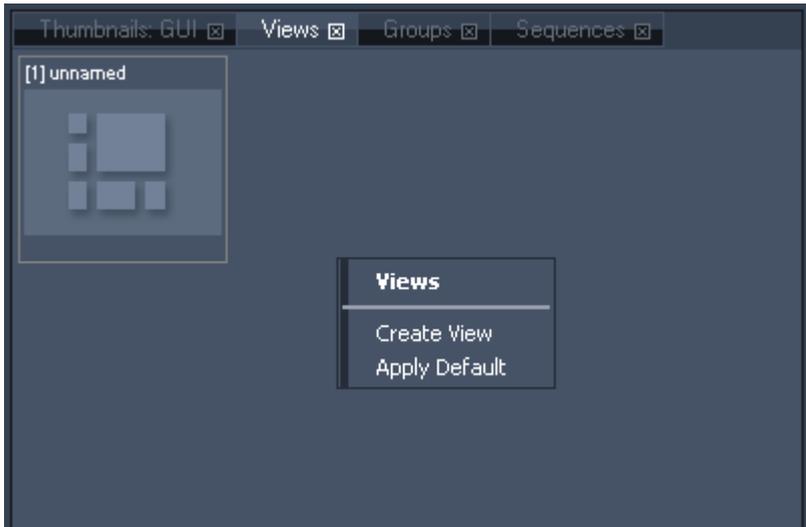


The new view item has now stored all tab locations and sizes of the user interface. If you're applying any changes now, you can recall the stored view at any time later on. Choose "Apply Default" if you want to reset the views to default layout. In the view tab you will see now a new entry that you can click on to activate the newly created view, or right-click on it to access its functions:



- Apply
This command activates the view.
- Load Current
This command lets you update and overwrite the stored view with the current view layout.
- Remove
This command removes the view.

If you want to store new views or to apply the default view directly in the view tab, right-click in any empty region of the view tab:



- Create View
Choose this command to add another view to your project.
- Apply Default
This command lets you activate the default view.

3.2.1.1.25 VIRTUAL SITE

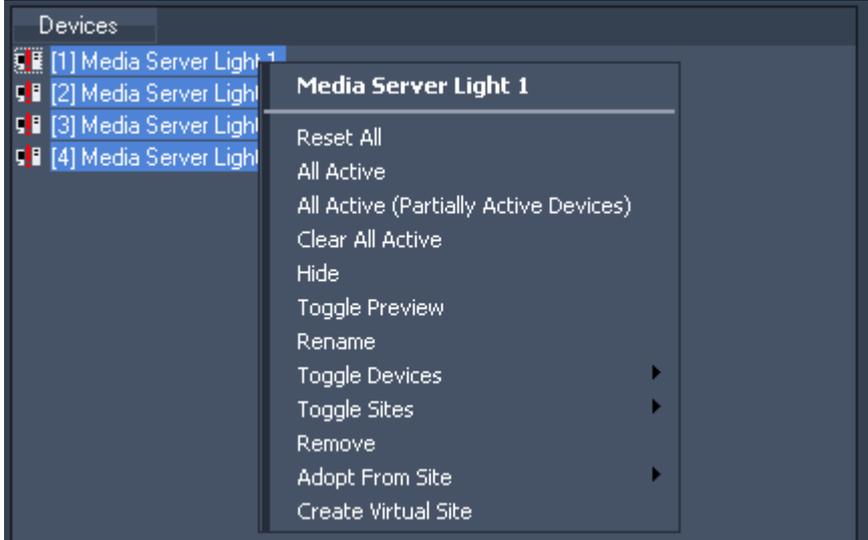
Instead of using groups to get changes made on several sites, it is more comfortable to work with a Virtual Site.

All desired devices with the same device type can be combined to one virtual site. Changing a value on a layer of this virtual site will change the value on the same layer of all combined devices.

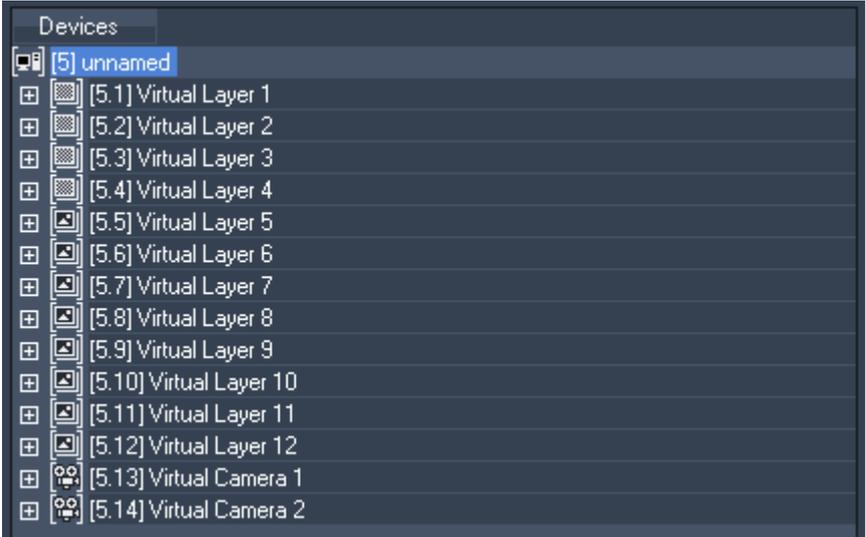
Please note:

If the sites that you want to make part of a new Virtual Site contain sequence information, all this sequence information will be deleted in the course of Virtual Site creation. This action cannot be undone!

Please select all sites that should be combined, make a right-click on one site and choose "Create Virtual Site".



The selected sites will disappear from the device tree and you will now see the Virtual Site instead.



Applying a parameter value or content to Virtual Layer 1 of the Virtual Site will apply it automatically to all Layer 1 of all sites that are combined in the Virtual Site.
 In order to see which sites are combined into the Virtual Site, please select the Virtual Site and open the "Virtual Site" Tab (Tabs -Virtual Site). Find here all combined Sites listed.



If you select one of the sites you still have access to the site inspector to edit its settings.
 To set up different camera offsets for each server, select the camera device in the device tab and view the virtual site tab. You will find all camera 1 of all servers listed. Click on the parameter of the device you want to edit and enter an offset value (plus or minus) or move the mouse cursor up and down.
 This offset will always be added to the parameter's value that is set up for the virtual site's device. If the X Offset for the virtual cam1 is set to 32768, in this example below the X Offset of server 1 camera 1 will be 33658 (32768 + 800).

Device	Opacity	X Axis	Y Axis	Z Axis	Rot	X Off...	Y Off...	KS L	KS LR	KS R	KS RR
[1.13] Camera 1	0	0	0	0	0	800	0	0	0	0	0
[2.13] Camera 1	0	0	0	0	0	0	0	0	0	0	0
[3.13] Camera 1	0	0	0	0	0	0	0	0	0	0	0
[4.13] Camera 1	0	0	0	0	0	0	0	0	0	0	0

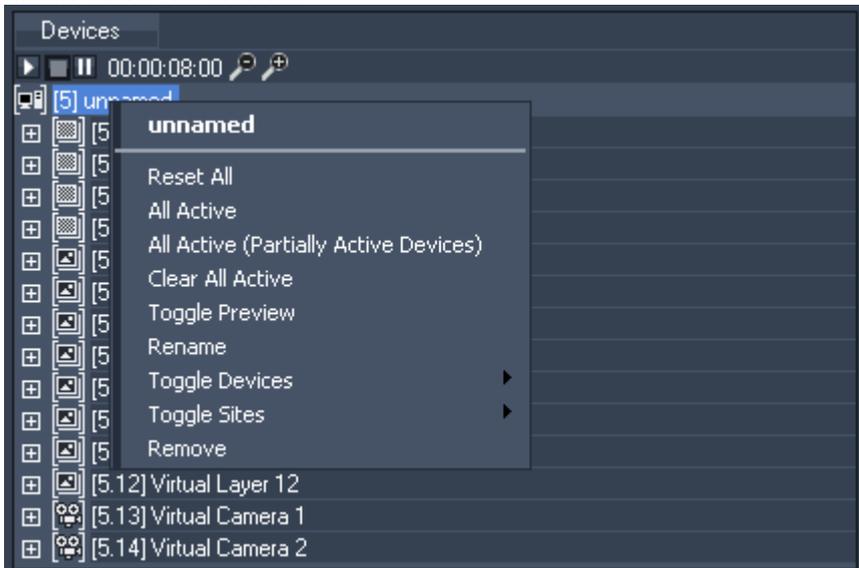
To reset the entered offsets, rightclick on the device and choose 'Remove'.
 To remove a Device from the virtual site, select the virtual site in the device tree. Then right-click on it and choose Remove.



To remove the virtual site right-click on it and choose Remove. You will again get access to all single devices that were combined in the virtual site.

Please note:

If a single site is removed from the Virtual Site, all its sequence information will be deleted in the course of removing the Virtual Site. The same happens when deleting the whole Virtual Site. This action cannot be undone!



The right-click menu provides the following commands:

- Reset All
This command will reset all parameters for all layers of this node.
- All Active
This command will activate all parameters of all layers of this node.
- All Active (Partially Active Devices)
This command will activate all parameters of all layers of this node that have active parameters.
- Clear All Active
This command will de-activate all parameters of all layers of this node.
- Toggle Preview
This command sets the node to be included in the preview tab.
- Rename
This command will enable you to rename the node. You can also do this by pressing F2.
- Toggle Devices
Choose which layers you want to show or hide in the device tree.
- Toggle Sites
Choose which sites you want to show or hide in the device tree.
- Remove
This command removes the virtual site from the device tree. You will again get access to all single

devices that were combined in the virtual site

3.2.1.2 KEYBOARD SHORTCUTS

ESC	Clear current device selection
CTRL+L	Lock Selection
CTRL+C	Copy keys to clipboard from source devices
CTRL+V	Paste keys from clipboard to target device
CTRL+SHIFT+V	Paste Keys in clipboard to selected devices
CTRL+SHIFT+A	Refresh File Tree in assets tab
F5	Refresh selected folder in assets tab
SHIFT+S	Spread all Resources
+	Zoom in
-	Zoom out
SHIFT + Mouse move up/down	Zoom the timeline
SHIFT+ +/-	Zoom in/out parameter value in curve editor
Alt + Mouse Drag	Select Cues
F2	Rename
ALT+F4	Exit Application
← Arrow Left	Previous Frame in Timeline
→ Arrow Right	Next Frame in Timeline
CTRL + ← Arrow Left	Jump to Previous Key (including Clip Borders)
CTRL + → Arrow Right	Jump to Next Key (including Clip Borders)
CTRL + ALT + ← Arrow Left	Jump to Previous Cue
CTRL + ALT + → Arrow Right	Jump to Next Cue
CTRL+SHIFT+I	Toggle Ignore Next Cue: The current loaded timeline ignores the next cue or not (toggle), the ignored cue will be coloured orange.
SHIFT + ← Arrow Left	Move Key -1 frame
SHIFT + → Arrow Right	Move Key +1 frame
CTRL+F	Toggle fullscreen
CTRL+M	Toggle Mouse on/off while in fullscreen mode
F1	Launch help
GUI Shortcuts:	
CTRL + Pause	lock/unlock GUI (Keyboard, Mouse, Jogshuttle)
CTRL + ALT + S	Store Active UI wide
CTRL + ALT + R	Reset All UI wide
CTRL + ALT + C	Clear All UI wide
CTRL + ALT + A	All Active UI wide
File Menu Shortcuts:	
CTRL+N	New Project
CTRL+O	Open Project
CTRL+S	Save Project
CTRL+SHIFT+S	Save Project As
CTRL+SHIFT+ALT+S	Save Project Copy

CTRL+W	Close Project
CTRL+Q	Exit

When working in device tree, the following shortcuts apply to current selected device:

A	Show all Parameters
H	Hide all Parameters
U	Show only Parameters used in Sequence/Show all Parameters
M	Show/Hide Media/Object Parameters
I	Show/Hide Opacity and TransFX Parameters
V	Show/Hide Video Mode Parameters
P	Show/Hide Position Parameters
R	Show/Hide Rotation Parameters
S	Show/Hide Scale Parameters
C	Show/Hide Colour and ColourFX Parameters
F	Show/Hide VideoFX Parameters

To open or load tabs use these shortcuts:

CTRL+R	Open the Project Tab
CTRL+A	Open the Assets Tab
CTRL+I	Open the Device Viewer Tab
CTRL+SHIFT+L	Open the Device Controls Tab
CTRL+D	Open the Active Values Tab
CTRL+E	Open the Timeline Tab
CTRL+M	Open the Inspector Tab
CTRL+SHIFT+R	Open the Thumbnails Tab
CTRL+K	Open the Configuration Tab
CTRL+P	Open the Patch Tab
CTRL+SHIFT+M	Open the Taskmanager Tab

3.2.1.3 JOG SHUTTLE CONTROL

The Jog Shuttle Controller is available to control up to two sequences.



Based on the selected sequence (use the select button for each sequence) the top 18 cue buttons let you go to cue 1-18 directly.

Based on the selection, use the Jog Shuttle controller to navigate back and forth through the timeline.

The keyboard block on the left will control the sequence with the ID 1, the block on the right will control the sequence with the ID 2.

For each sequence choose:

SELECT: selects the sequence

ON/OFF: to hide all layers from the selected sequence

KEY LAST/NEXT

CUE LAST/NEXT

STOP PAUSE

PLAY

Use the "STORE" key to store all currently active value to the selected sequence.

Use the "CUE" key to store a new cue at the current time of the selected sequence.

Use "COPY" and "PASTE" for keyframes in the selected sequence.

Use "RESET" to reset all devices to default.

Use "DELETE" to delete chosen keys in the selected sequence.

3.2.1.4 PLAYBACK EXTENSION



The Playback Extension enables a Pandoras Box Manager PRO to control up to 8 individual sequences directly, plus giving access to the commandline-achitecture via the numeric keypad and dedicated command buttons.

Depending on the desired operation, any command line input must be started with a mode button: "VIEW", "GROUP", "DEVICE", "SEQUENCE", "PRESET" and ends with pressing the "ENTER" key.

DEVICE CONTROL

Within the device tree, all items are organized in nodes that the devices belong to. In the properties you can assign a unique ID for both nodes and devices. For example if you have a Pandoras Box Server in the device tree, its node ID might be set to 1 and the individual layer ID count from 1 to 10.

DEV 1.5 Enter to select layer 5 of node 1.

Once a device is selected, you may use the encoders to adjust the parameters values. To select multiple devices you can keep adding devices to you current selection by simply selecting another one. To clear your current selection press "CLEAR" once. You may also use the "+" or "THRU" key to select multiple devices at once. For example: DEV 1.1 thru 1.10 Enter or DEV 1.1 + 1.3 Enter. Once you start changing values with the encoders, wiper or joystick, all changed values will turn red and get indicated as active values. Active values will be processed during a store-operation. If a parameter is inactive it will not be stored at any time. To de-activate and reset individual values to default, hold down the "RELEASE" key and turn the desired parameter encoder. In the device tree, the same operation can be achieved by right-clicking on the individual parameter and choosing "CLEAR ACTIVE". If you want to clear all active values you may also double click the "CLEAR" button. To reset all parameters back to default you may click the "CLEAR" button three times. The same commands are also available from the right-click menus in the user-interface in the device tree or by right-clicking in the time-bar of a sequence.

Device Command Overview

- Preview DEV 1 Enter** – switches the preview window to display the selected device
- Dev 1.1 Enter** – selects device 1.1 and allows access to encoders and parameters
- Dev1.1 + 1.2 Enter** – selects device 1.1 and 1.2
- Dev1.1 thru 1.11 Enter** – selects all devices from ID 1.1 to 1.11

Align – Based on the align setting <, >, <> or >> when multiple devices are selected you may align the parameters according to the align setting.

Clear 1x – Clear Selection

Clear 2x – Clear Active

Clear 3x – Reset All

Release + Encoder – de-activates and resets parameters to default of current selection

Dev 1.1 Enter Enter - sets all parameters of selected devices to active

@@ sets opacity value to 255 (100%)

GROUPS

If you need to control a single layer on multiple machines or to add the same values to multiple layers at once, the device tree control tab allows you to select multiple devices at the same time by clicking and holding the CTRL key.

All selected device icons will turn white, showing that they are selection members.

To release the current selection press ESC or press “CLEAR” once.

Please note: When multiple devices are selected, all changes of parameter values will apply to all members of the selection.

Creating & Editing Groups

Once a single or multiple devices is/are selected, you can store this specific selection as a group in the group bin of the project tab.

To create a group, please select the desired devices, then right-click on the group bin in the project folder and choose ‘create group’ or type **Store GRP 5 Enter** to create a new group of the current selection with the ID 5.

To delete a group, right-click on the group element in the project and choose “REMOVE” or type **Delete GRP 5 Enter**.

HINT: When working in device tree editing, you may also use the right-click menu on groups to determine if the members of the group should be activated, de-activated or reset.

PRESETS

Individual preset banks can be created by right-clicking on the preset folder in the project tab.

For each folder you may open a designated browser as a tab to be stored in views.

The presets are designed to hold a snap shot of active values, to be reused for later programming.

Presets apply to all selected devices. As source, the first stored values for each individual type of parameter are taken. When creating a preset with two layers that have different opacity values only the opacity value for the first selected layer will be applied when assigning the preset on a selected device. Applying a preset always causes setting relevant parameters to active.

The preset folder contains default preset banks for active value filtering during store operation.

This means that by right-clicking on any of these categories only the parameters that match the category group will be stored there as a new preset.

Global	All Parameters
INT	Opacity, Transition FX
PRS	Position, Rotation, Scale
MEDIA	File Selection, Playback
	Controls
OBJ	Object Selection
COL	Colour FX
AUDIO	TBA
FX	Video FX
CTRL	Camera Control Settings

Preset Commands

Store|ID.ID|Enter stores a new preset with specified ID.

Delete|ID.ID|Enter deletes selected preset.

ID.ID|Enter if no device is selected, the preset will recall the value to the stored selection

If devices are selected, the selected preset will be assigned to the entire selection.

SEQUENCE CONTROL

To create a new timeline, enter the following on the console:

Store SEQ 1 Enter or simply right-click on the sequences folder in the project tab.

Once the timeline is created, you will have access to it in the sequence tab by selecting it in the project bin.

Similar to the device control, all sequences can have a unique ID within the project. The ID can be set during the store operation from the console or via the properties of the sequence itself.

To load a SEQ into the jog shuttle controller type: **SEQ 1 Enter**

To load the SEQ into the sequence tab type: **Edit SEQ 1 Enter**

To go to a specific timecode in the selected sequence type: **Goto Time hhhmssff Enter**

Time-format is interpreted like this: Hours minutes seconds frames.

You can also type in "1000" => timecode 00:00:10:00.

To generate these new keys in the timeline, you will then have to right-click on the time-bar and choose "Store active" or type: **Store Enter** to store all active values at the current time in the selected sequence.

SEQUENCE COMMAND OVERVIEW

Store|Enter – stores all active values at current time of selected sequence.

Store|Seq|X|Enter – stores new sequence with ID X.

Store|Cue – stores new cue at current time of selected sequence.

Delete|Seq|X|Enter – deletes specific sequence.

Seq|X|Enter – selects Seq X and loads to Jog Shuttle Controller.

Goto|Time|XX|Enter jumps to Timecode XX. Use syntax HMSF or eg "105" for Timecode 00:00:01:05

Goto|Cue|XX|Enter or **Goto|XX|Enter** jumps to Cue XX

Goto|Time|+/-|HMSF|Enter relative movement in the current sequence with the time value HMSF.

Store|Time|HMSF|Playback button stores active values to the sequence controlled by playback button.

Store|Cue|XX|Enter stores active values at time of cue XX in selected sequence.

Store|Cue|XX|Time|HMSF|Enter creates cue with ID xx at time HMSF in selected sequence.

Store|@|Cue|XX|Enter stores active values and creates cue XX in selected sequence.

Store|@|Cue|XX|Time|HMSF|Enter stores active values and creates cue with ID XX at time HMSF in selected sequence.

Delete|Cue|ID|Enter deletes selected cue.

Delete|Cue|ID|Thru|ID|Enter deletes cues within selected ID range.

Delete|Time|HMSF|Enter deletes all keys at selected time.

Delete|Time|HMSF|Thru|HMSF|Enter deletes all keys in selected time range, independent of activation of selection of devices.

Delete|@|Cue|ID|Enter deletes all keys at time of the selected cue ID.

Delete|@|Cue|ID|Thru|ID|Enter deletes all keys in selected sequence which are between the entered Cue IDs.

Delete|TYP|...|Enter, with TYP @, Cue, or Time can now be applied to another sequence than the selected sequence, if directly after "DELETE" follows the number of the sequence.

View Commands

Store|ID|Enter stores the current view-layout as a new view with specified ID.

Delete|ID|Enter deletes selected view ID.

3.2.2 CLIENT

Pandoras Box Playback systems may be started in either Master or Client mode.

A Master system may connect to multiple Client systems while a Client may only connect to one single Master system.

A Master/Client setup is recommended when multiple video playbacks have to be synchronized.

The Master system takes care of all video synchronization of all Client systems then.

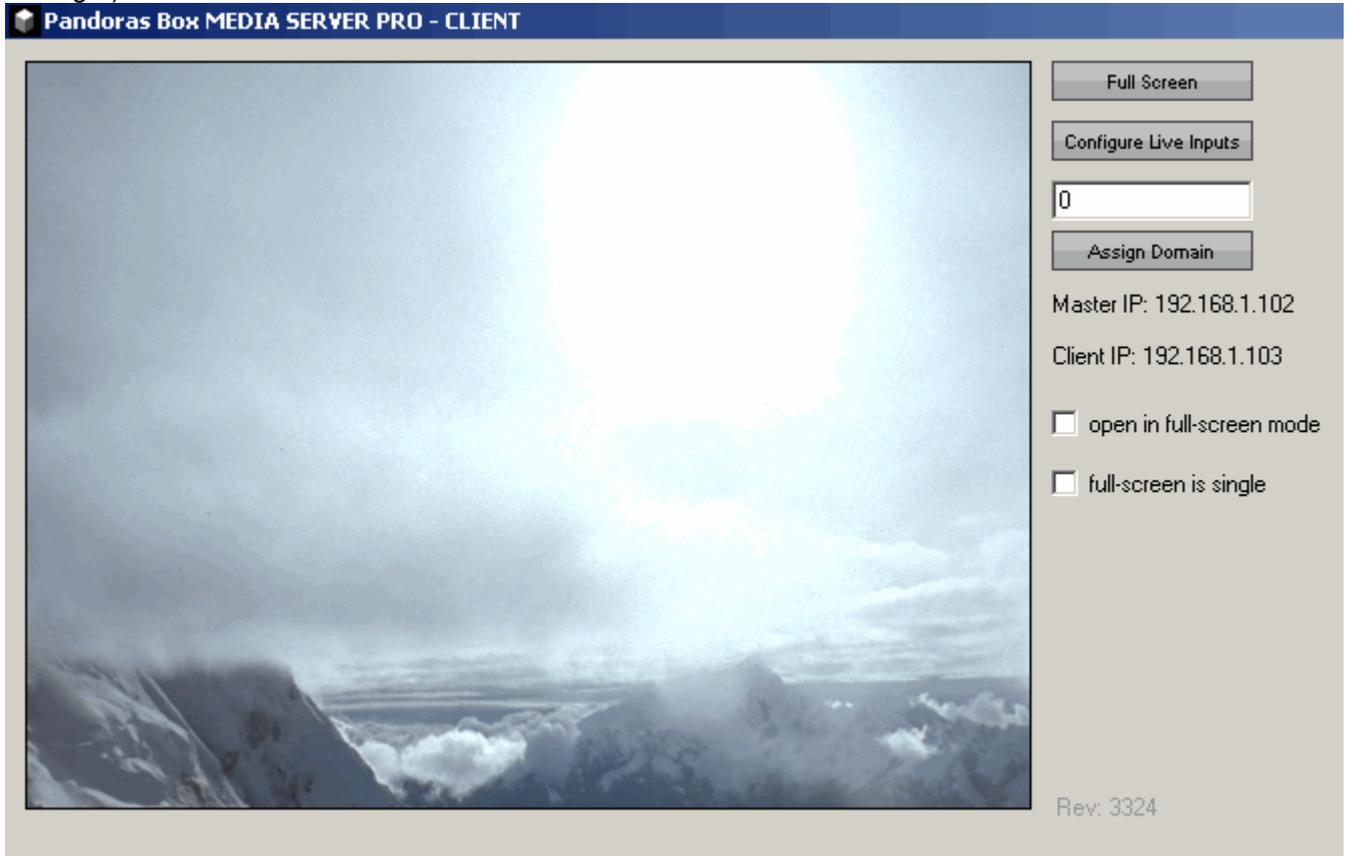
A Master/Client setup also allows you to manage files and upload them to multiple Clients from the Master system.

The Master acts in general as the main controller for all attached devices, while a Client system is "only" receiving commands and media to playback and process.

When working with Client systems, be aware that the local live input settings must be set up from the Clients user interface.

3.2.2.1 CLIENT INTERFACE

Any playback system that should be connected to a Master control system (i.e. a Pandoras Box Manager) needs to be started in Client mode.



The Client User Interface allows you to set up as follows:

- Toggle Fullscreen by clicking "Full Screen" or alternatively press CTRL+F
- Click "Configure Live Inputs" and a configuration window will open
- Change the domain type in the new number and confirm it by clicking "Assign Domain"
- Check "open in full-screen mode" and/or "full-screen is single" and the next time starting the client it will open in (single) full-screen-mode.

In order to connect Master and Client systems, please make sure that the identical software revision is used and that both Master and Client use the same domain channel for communication.

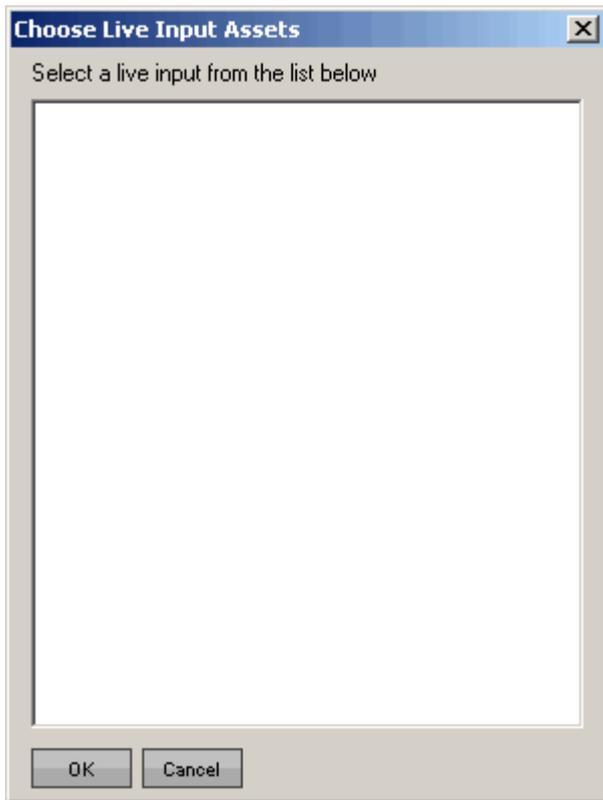
The revision number is displayed in the Master GUI in the bottom right corner of the interface. In the Client GUI the revision number is displayed next to the preview window.

The domain channel can be found in the configuration tab in any Master system and in the main window of any Client system.

Please note that multiple Master can be set up within the same network, as long as they use different unique domain channels.

Two Masters may not share the same domain channel.

3.2.2.2 CLIENT LIVE INPUT CONFIGURATION



Since you may have various different live input cards or software screen grabbers available within your system, you may choose the one that you want to configure from the live input list. Please note that Pandoras Box supports most input devices that are conform and support DirectShow. Depending on the installed component, the according driver window will show up and lets you set up the available parameters of the input device.

3.2.2.3 CLIENT KEYBOARD SHORTCUTS

- | | |
|--------|--|
| CTRL+F | Toggle Fullscreen |
| CTRL+M | Toggle Mouse on/off while in fullscreen mode |

3.3 DEVICE CONTROL

One of the most important features of Pandoras Box is its ability to control a wide range of devices based on various output control protocols.

Pandoras Box Servers and Players communicate directly via TCP/IP with any Pandoras Box Master control system, therefore a synchronization process takes care of all connected Client devices to be controlled in sync.

Besides the Pandoras Box product range other devices such as SMPTE, DMX, RS232 / 422 or any TCP/IP device might be remote controlled from any timeline as well. This allows perfectly synchronized showcontrol.

3.3.1 DMX DEVICES

All Pandoras Box Systems feature DMX device control.

DMX Control is especially useful for synchronized control of moving video projectors and the dynamic keystone correction of Pandoras Box. Furthermore it's used for installations where DMX needs to be programmed in sync to the video playback.

You may choose your DMX device from the built-in device list or create a custom device as XML file for DMX control.

Pandoras Box features both 8bit and 16 bit DMX parameters.

3.3.1.1 BUILT-IN DMX DEVICES

All Pandoras Box systems ship with a built-in DMX device list.

To add new DMX devices to your project simply drag and drop the device from the device type tab into the device tree tab.

To patch a DMX device, you may first open the patch view and then click on the truss-node icon of the device in the device tree.

Now you can assign DMX start addresses as well as Artnet Universes and Subnet ID's.

Please note that all DMX output of Pandoras Box is based on ArtNet.

3.3.1.2 CUSTOM DMX DEVICES

A custom DMX library file can be created as a text file with WordPad.

The file needs an extension called ".clib" and needs to be stored in the installation folder of the Master under: "data\types\DMX Fixtures".

Please find here an example of a DMX .clib file for a Martin MAC500:

```
<?xml encoding="yes" ?>
<descripDevice type="fixtureDmx" artNetIndexScope="16">
<descripModule type="param8bit" name="STROBE" default="34" artNetIndexOff="0" />
<descripModule type="param8bit" name="DIM" default="0" artNetIndexOff="1" />
<descripModule type="param8bit" name="COLOR1" default="0" artNetIndexOff="2" />
<descripModule type="param8bit" name="COLOR2" default="0" artNetIndexOff="3" />
<descripModule type="param8bit" name="GOBO1" default="0" artNetIndexOff="4" />
<descripModule type="param8bit" name="GOBO1 ROT" default="0" artNetIndexOff="5" />
<descripModule type="param8bit" name="GOBO2" default="0" artNetIndexOff="6" />
<descripModule type="param8bit" name="FOCUS" default="50" artNetIndexOff="7" />
<descripModule type="param8bit" name="IRIS" default="0" artNetIndexOff="8" />
<descripModule type="param8bit" name="PRISMA1" default="0" artNetIndexOff="9" />
<descripModule type="param16bit" name="PAN" default="32768" artNetIndexOff="10" />
<descripModule type="param16bit" name="TILT" default="32768" artNetIndexOff="12" />
<descripModule type="param8bit" name="SPEED1" default="0" artNetIndexOff="14" />
<descripModule type="param8bit" name="SPEED2" default="0" artNetIndexOff="15" />
</descripDevice>
```

As you can see the first line gives the general device description and the overall DMX channel count "artNetIndexScope=".

The following lines describe each DMX channel of the fixture by a zero based offset of the DMX channel count at the end of each line by "artNetIndexOff=".

You may also choose the type of parameters "param8bit" or "param16bit" as well as setting the descriptive name and reset and default value.

3.3.1.3 DMX LINK 8

The DMX link 8 converts up to 10 DMX universes to Ethernet (ArtNet protocol). Backwards, 8 DMX universes can be converted from ArtNet to DMX.

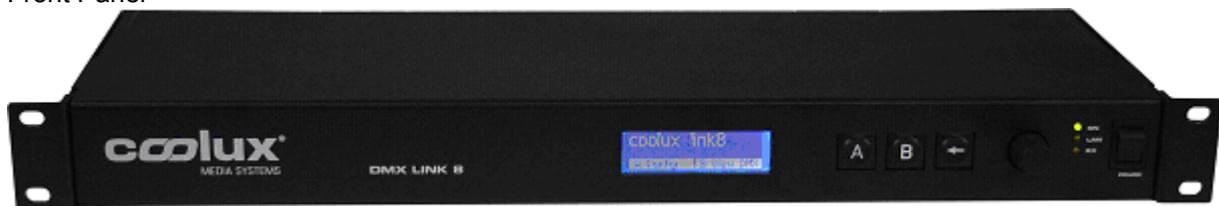
Furthermore it can be used stand alone as a universal programming digital merger (ex. 2 in 8 out) or splitter (ex. 2 splitters of 1 in to 4 out). Saving the lastly received signal DMX signal in the unit, it also acts as a perfect backup (ex. 4 in 4 out).

FEATURES

- Remote programming and monitoring
- DMX input options like Normal or Backup
- DMX output options like Normal, Merging in HTP/LTP or custom /Priority merging, Merging with channel by channel softpatch
- Remote takeover of fixture parameters
- Visualizer input support like WYSIWYG, ESP, Capture and many others

HARDWARE DESCRIPTION

Front Panel



The front panel has a graphic LC-display, 3 keys and a jog-encoder with push function and 3 LEDs.

Connections at the back



The dmXLAN node8 has many connectivity options. Viewed at the back from left to right:

RS-232 (top SUB-D 9pin)

Pin	Description
1	-
2	TX
3	RX
4	-
5	Ground
6-9	-
151	

To connect the RS-232 port to a PC you'll need a 1 to 1 male/female sub-d 9pin cable. (NO null-modem / cross cable)

Contact Closure Inputs (bottom SUB-D 9pin)

Pin	Description
1	Ground / Shield
2	Input 1
3	Input 2
4	Input 3
5	Input 4
6-9	Ground

These inputs have an internal pull-up resistor. A simple switch can be connected between the input pin and a ground pin. The contact inputs can be used to temporarily recall a patch setting.

Network 10/100 MBit Ethernet (on Neutrik Ethercon)
 The network connection uses a standard UTP network connection.

USB 2.0 Full-speed
 The USB connection uses standard USB pinout.

DMX port 1 – 8

Pin	Description
1	Ground/Screen
2	Data -
3	Data +
4	-
5	-

The DMX ports 1 to 8 are bi-directional(via programmable setup), have an internal terminator resistor and are RDM prepared.

DMX port 9 and 10

Pin	Description
1	Ground/Screen
2	Data -
3	Data +
4	-
5	-

DMX ports 9 and 10 are fixed DMX inputs and have a fixed internal terminator.
 There are 2 versions of node8 available, the normal and the Full Isolated (FI). The full isolated version has an optical/galvanic isolation barrier on all DMX ports (up to 1500V).

CONTROL THROUGH FRONT PANEL

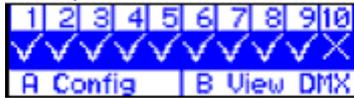
Main Display



- A Select config menu, to recall 1 of 4 previously saved configurations (patches)
- B View DMX values
- < (Setup) Enter setup menu
- Encoder +/- Select information displays

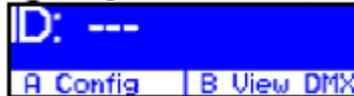
INFORMATION DISPLAYS

DMX port status



x > port does not receive data (or DMX when input)
 v > port receives data (or DMX when input)

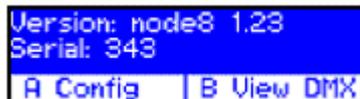
ID setting



IP address



Version and serial number



This product may only be used for controlling dimmers and moving lights. Using the product out of these specifications will remove all responsibility from the supplier

Configuration Menu



From the main display press A (config). Now you can either recall a previous setup or store the current one in one of the 4 options. Use the encoder to select a setup
 Press A to load the selected configuration
 Press B to store the current configuration
 Press _ to cancel the operation

The 4 contact closures on the back can be used to temporarily recall any of the 4 setups. The configuration is loaded on closing the contact and the normal configuration is loaded when the contact is opened. Contact closure 4 has the highest priority. Any change to the configuration, either thru the menu or via remote software (dmxLAN) is stored in the temporarily selected configuration.

DMX View Menu



small bars (120ch) large bars (40ch) decimal (6ch)

From the main display press B (View DMX)
 Now you can view the DMX values of each port (input or output).

Use the encoder to change the channel
 Press A to select a different port
 Press B to change the view mode

Press < to exit

Setup menu

Enter the setup menu from the main screen by pressing <



By using the encoder select the item you would like to adjust.

Options:

- Edit DMX port 1 to 8 or DMX input 9 and 10
- Set the ID
- Rename the current configuration
- Change network settings (IP address and netmask)

Edit the item by pressing A or the encoder.

All settings will be stored AFTER exiting the setup menu via the < key, a message will appear.

Edit DMX ports 1 to 8 or DMX input 9 and 10

Use the encoder to change the current selected option and press the encoder to select the next option.

Press A to store the configuration

Press B to set the DMX port to it's default value

Press < to cancel any changes

DMX port as output

When a port is set up as a DMX output, then you can select the working mode of that port.

Modes are:

- disabled > the DMX output is disabled
- outzero > the DMX sends out a DMX test signal with all channels at 0%
- single > the output sends out the DMX values of the selected (primary) ArtNet universe. The DMX output is enabled the first time when it detects the DMX universe on the network (or internal DMX inputs). If the universe on the network fails, the DMX output will go into DMX hold.
- dual HTP > like single, but merge two DMX universes (primary and secondary) in highest take precedence.
- dual LTP > like dual LTP, like dual HTP but in latest takes precedence (on a channel by channel basis)

DMX port as input

When a port is set up as a DMX input, it can be operated in the following modes.

- disabled > the DMX input does nothing
- normal > any valid DMX is sent onto the network (and internal use) using the selected universe (ArtNet)
- backup > the DMX input will not send data if the selected universe is present on the network. If the selected universe is not present on the network for several seconds and the input has valid DMX, then it will send DMX data. If another sender starts sending the same universe, the input will go back input backup mode. Please note. DMX input 9 and 10 are always fixed to work as input.

Set ID



Used the encoder to change the current selected digit, and press the encoder to select the next digit. The digits are in hexadecimal (16 possibilities 0-9, A-F). This means you can have up to 4095 different IDs in the system (ID 000 means that the ID is not used).

Press A to store

Press B to disable (---)

Press < to cancel the operation

Rename current configuration



The name of the current configuration is presented in the main display and in the dmXLAN software. The name is also used to indicate the configuration setting when it is stored in one of the 4 built in configurations.

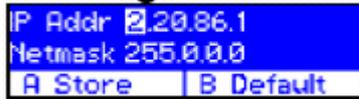
Use the encoder to change the current character, and press the encoder to select the next.

Press A to store the name

Press B to select the next character

Press < to cancel the operation

Network settings



Use the encoder to change the current parameter, and press to select the next.

Press A to store the configuration

Press B to select the factory default IP address and netmask

Press < to cancel the operation

GENERAL INFORMATION

CE – Product

The DMX Link 8 permits to the CE requirements set up by the European Community.

This can be recognized by this label on the outside of the product.



Technical Specifications:

Power: 85-264 VAC 47-440 Hz 10VA max

Dimensions 19" 1HE rack unit 483 x 44 x 150 mm

Weight 2kg

3.3.2 PANDORAS BOX SERVER / ENGINE

The Pandoras Box Server product range is divided in three upgradeable models:

Server PRO, 32GL 16 VL

Server STD, 16GL 8VL

Server LT, 8GL 4VL

The Pandoras Box Servers are shipped with 2 x DVI Output Cards.

The Pandoras Box Engine product range is divided in 2 different models:

Engine HD, 32GL 16VL, 2x HD-SDI IN, 1xHD-SDI OUT / 1xDVI OUT

Engine SD, 16GL 8VL, 2xSD-SDI IN, 1xSD-SDI OUT / 1xDVI OUT

All Pandoras Box Servers and Engines feature a real-time 3D compositing engine for image and video projection onto almost any surface at any size.

The layer based system offers individual 3D as well 2D control and 2 output viewpoints (cameras) for individual output setup.

3.3.2.1 LAYER CONTROL

3.3.2.1.1 INTENSITY

The intensity parameter group consists of the opacity and TransitionFX parameters.

The opacity sets the transparency & volume of each layer.

Opacity 0% fully transparent / sound off

Opacity 100% fully visible / sound 1:1 level

The opacity control allows smooth transitions for every layer.

Use the opacity control in conjunction with the TransitionFX to define the behavior of a crossfade between two layers.

Two layers blended with different kinds of TransitionFX create individual kinds of dissolves.

The opacity channel always affects the entire alpha channel of the selected layer, independent from any chosen Colour- or VideoFX.

A wide variety of wipes and dissolves is available in the TransitionFX section.

Together with the TransitionFX, the opacity channel can also be used to superimpose two images on top of each other or to mask specific areas.

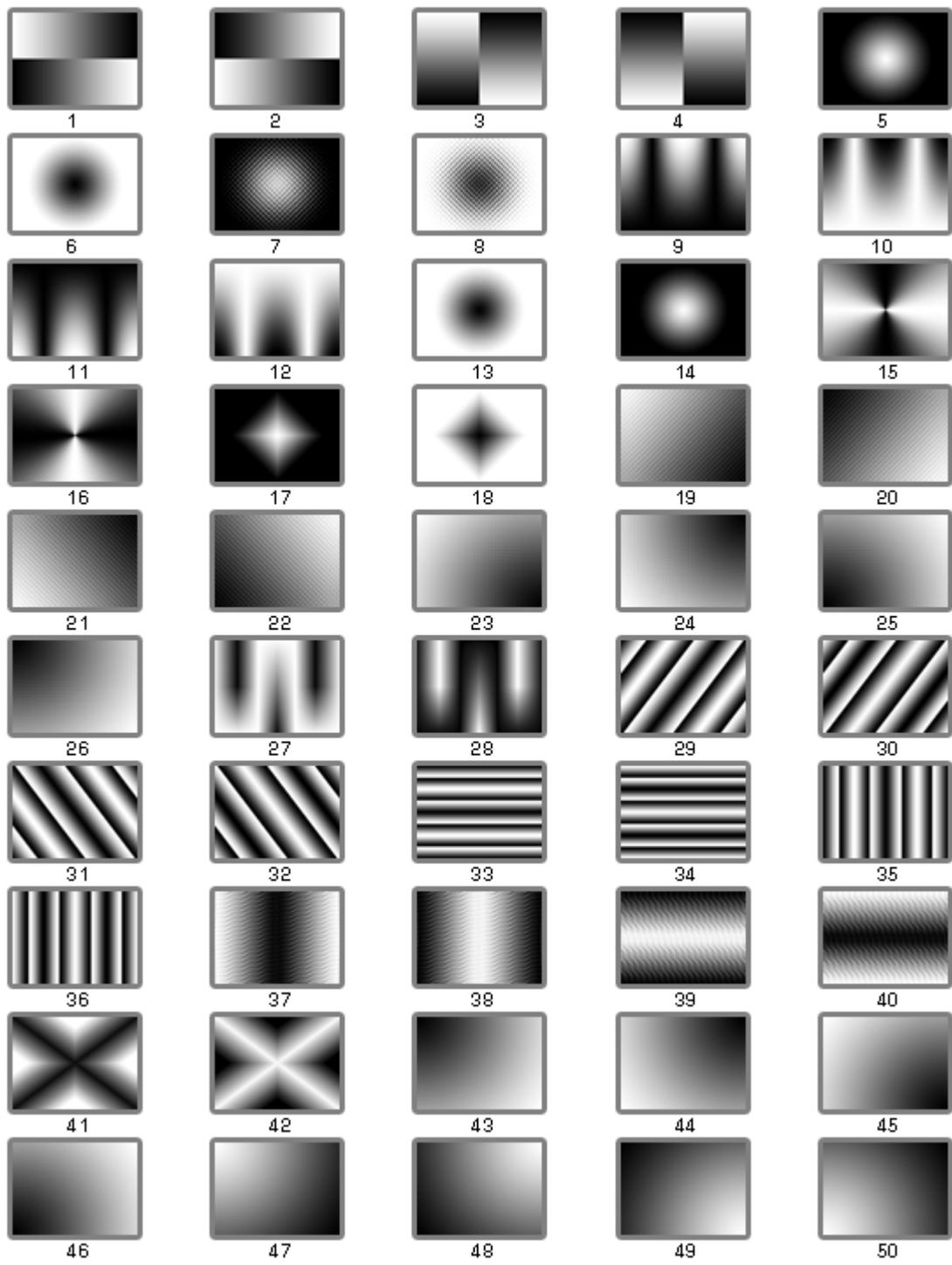
Please see here the [Transition FX Overview](#).

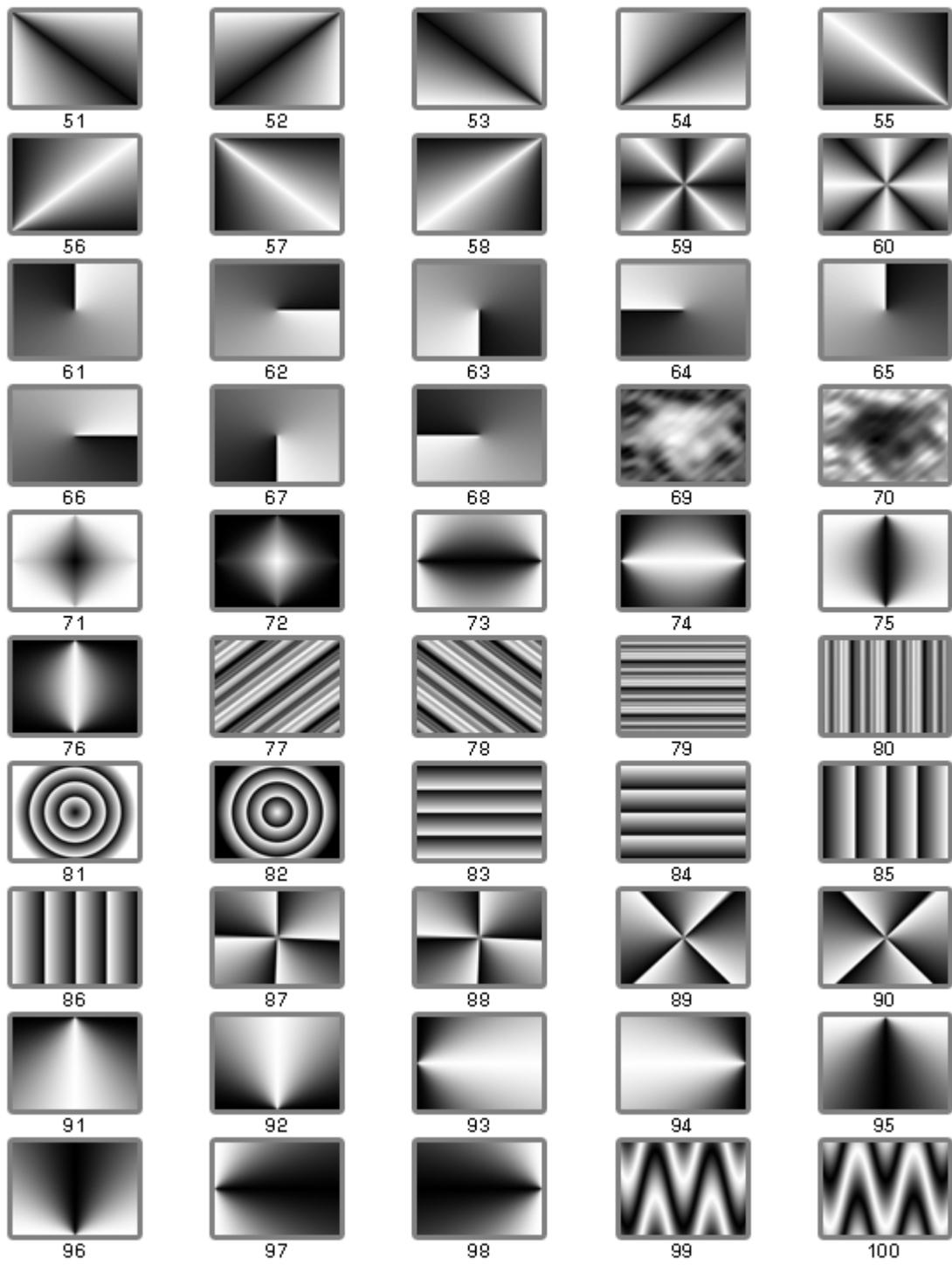
3.3.2.1.1.1 TRANSITION FX OVERVIEW

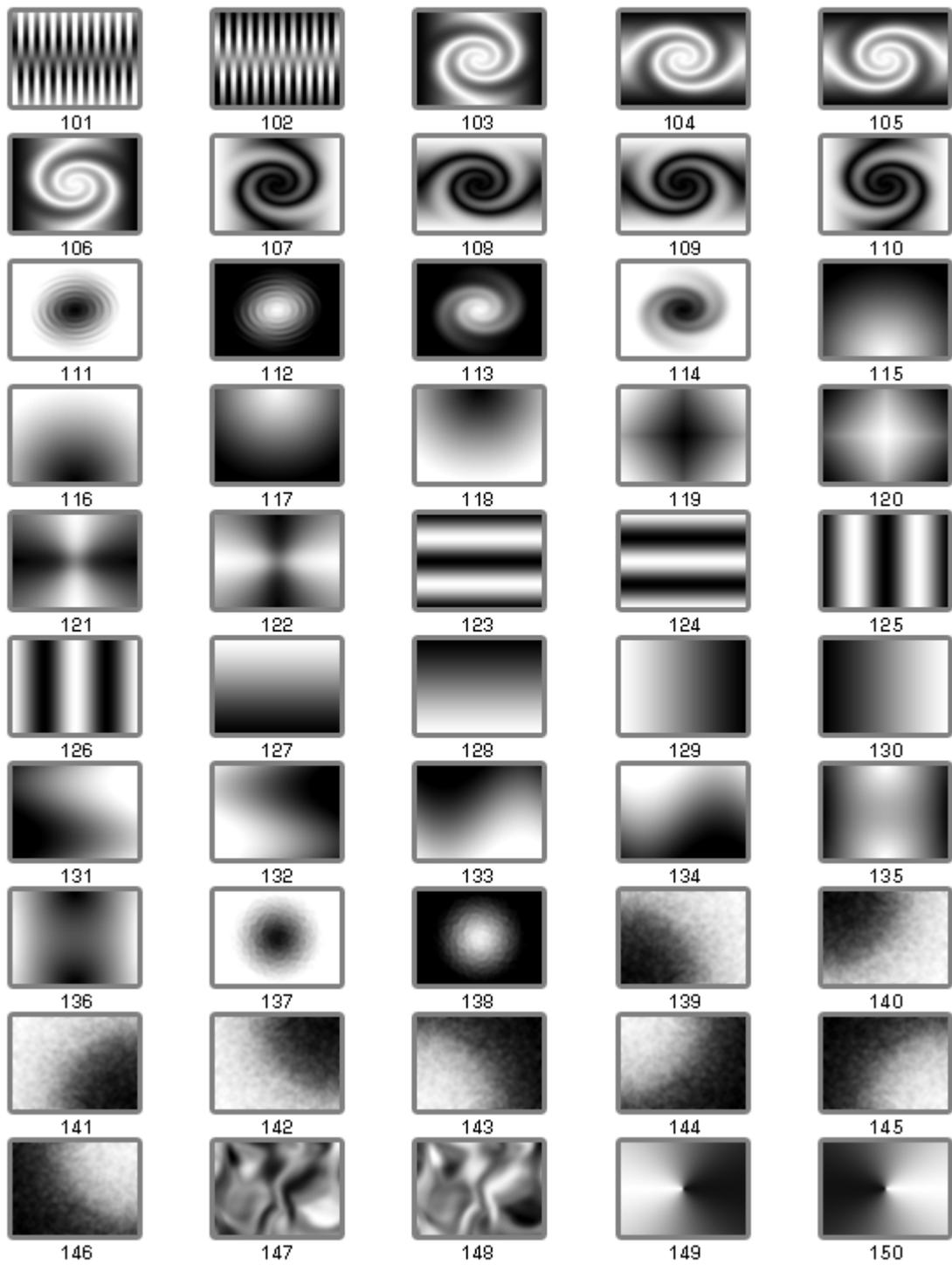
The TransitionFX set the transition type for each layer you may choose from a large selection of wipes and dissolves to fade from one layer to another.

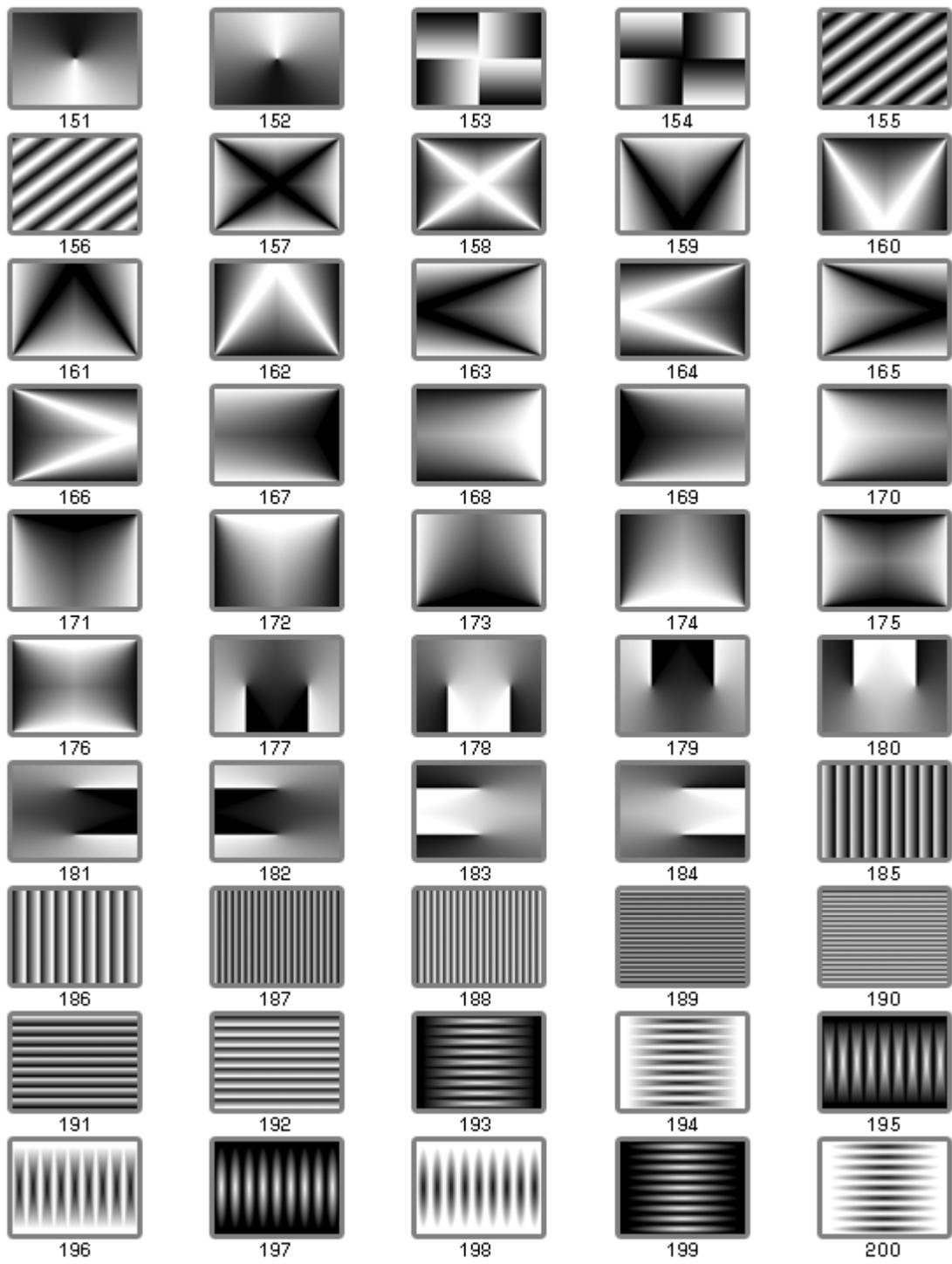
The TransitionFX are depending on the intensity level of the opacity parameter.

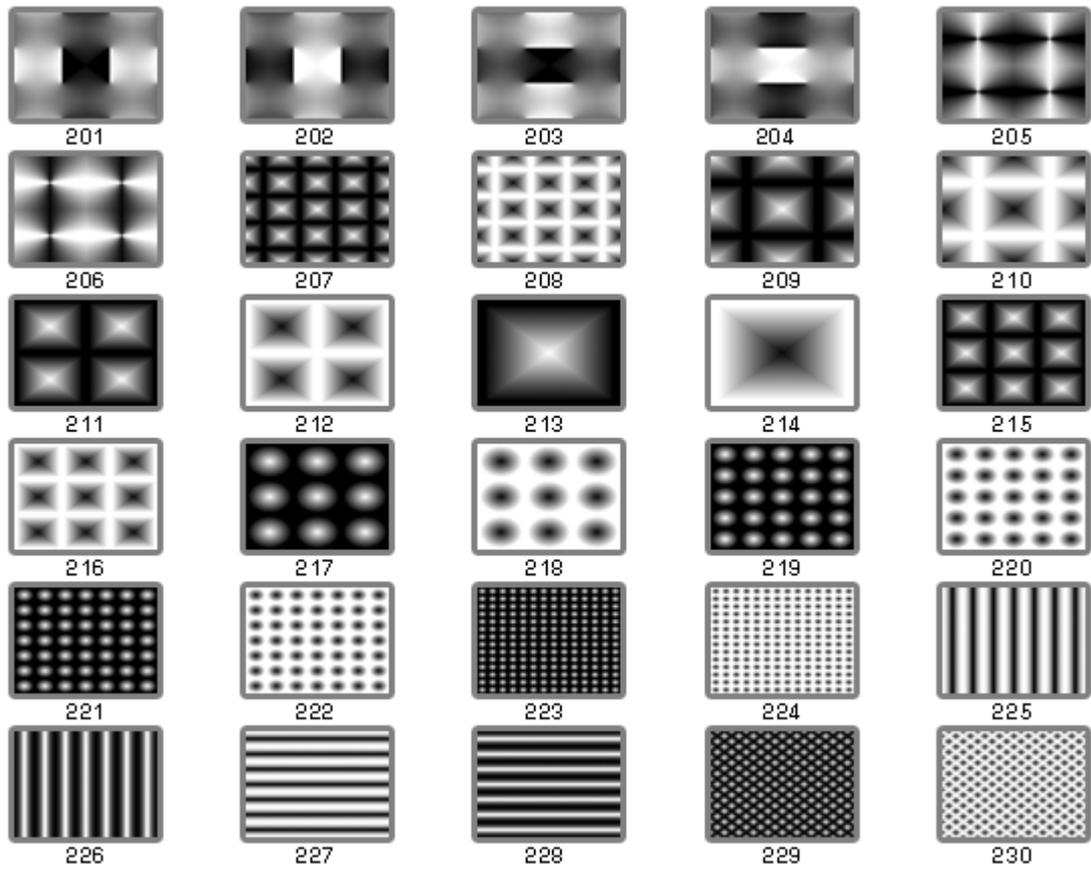
All available TransitionFX are listed below:











TransitionFX Examples

TransitionFX 0 Standard Dissolve

TransitionFX 1



TransitionFX 2



TransitionFX 3



TransitionFX 4



TransitionFX 5



TransitionFX 6



TransitionFX 7



TransitionFX 8



TransitionFX 9



TransitionFX 10



TransitionFX 11



TransitionFX 12



TransitionFX 13



TransitionFX 14



TransitionFX 15



TransitionFX 16



TransitionFX 17



TransitionFX 18



TransitionFX 19



TransitionFX 20



TransitionFX 21



TransitionFX 22



TransitionFX 23



TransitionFX 24



TransitionFX 25



TransitionFX 26



TransitionFX 27



TransitionFX 28



TransitionFX 29



TransitionFX 30



TransitionFX 31



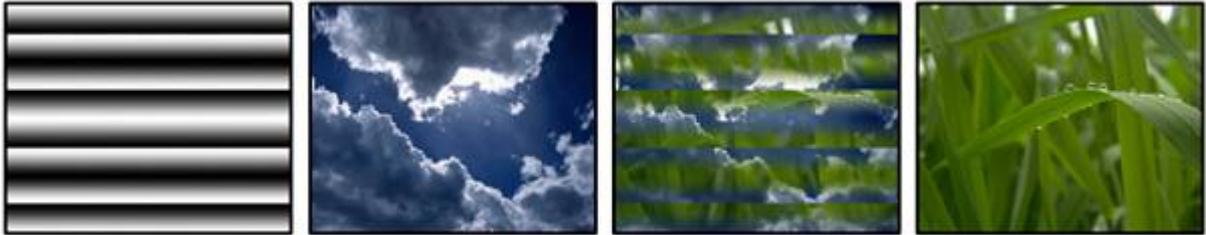
TransitionFX 32



TransitionFX 33



TransitionFX 34



TransitionFX 35



TransitionFX 36



TransitionFX 37



TransitionFX 38



TransitionFX 39



TransitionFX 40



TransitionFX 41



TransitionFX 42



TransitionFX 43



TransitionFX 44



TransitionFX 45



TransitionFX 46



TransitionFX 47



TransitionFX 48



TransitionFX 49



TransitionFX 50



TransitionFX 51



TransitionFX 52



TransitionFX 53



TransitionFX 54



TransitionFX 55



TransitionFX 56



TransitionFX 57



TransitionFX 58



TransitionFX 59



TransitionFX 60



TransitionFX 61



TransitionFX 62



TransitionFX 63



TransitionFX 64



TransitionFX 65



TransitionFX 66



TransitionFX 67



TransitionFX 68



TransitionFX 69



TransitionFX 70



TransitionFX 71



TransitionFX 72



TransitionFX 73



TransitionFX 74



TransitionFX 75



TransitionFX 76



TransitionFX 77



TransitionFX 78



TransitionFX 79



TransitionFX 80



TransitionFX 81



TransitionFX 82



TransitionFX 83



TransitionFX 84



TransitionFX 85



TransitionFX 86



TransitionFX 87



TransitionFX 88



TransitionFX 89



TransitionFX 90



TransitionFX 91



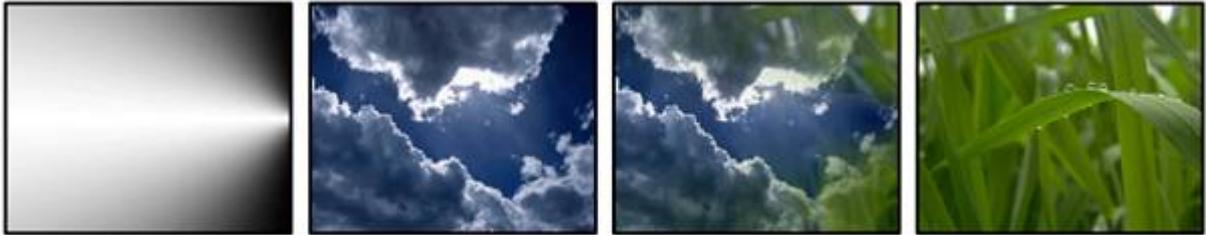
TransitionFX 92



TransitionFX 93



TransitionFX 94



TransitionFX 95



TransitionFX 96



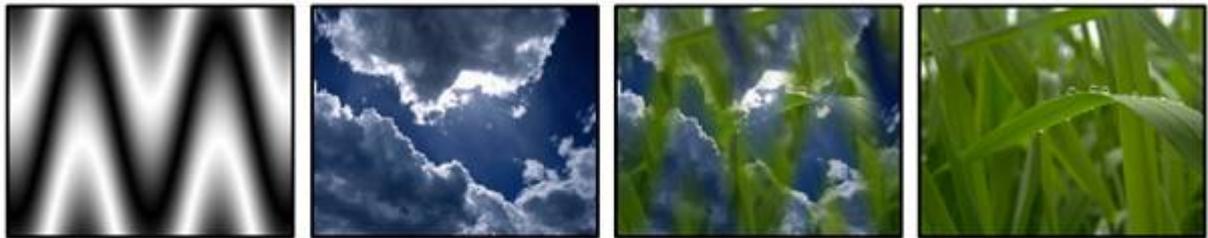
TransitionFX 97



TransitionFX 98



TransitionFX 99



TransitionFX 100



TransitionFX 101



TransitionFX 102



TransitionFX 103



TransitionFX 104



TransitionFX 105



TransitionFX 106



TransitionFX 107



TransitionFX 108



TransitionFX 109



TransitionFX 110



TransitionFX 111



TransitionFX 112



TransitionFX 113



TransitionFX 114



TransitionFX 115



TransitionFX 116



TransitionFX 117



TransitionFX 118



TransitionFX 119



TransitionFX 120



TransitionFX 121



TransitionFX 122



TransitionFX 123



TransitionFX 124



TransitionFX 125



TransitionFX 126



TransitionFX 127



TransitionFX 128



TransitionFX 129



TransitionFX 130



TransitionFX 131



TransitionFX 132



TransitionFX 133



TransitionFX 134



TransitionFX 135



TransitionFX 136



TransitionFX 137



TransitionFX 138



TransitionFX 139



TransitionFX 140



TransitionFX 141



TransitionFX 142



TransitionFX 143



TransitionFX 144



TransitionFX 145



TransitionFX 146



TransitionFX 147



TransitionFX 148



TransitionFX 149



TransitionFX 150



TransitionFX 151



TransitionFX 152



TransitionFX 153



TransitionFX 154



TransitionFX 155



TransitionFX 156



TransitionFX 157



TransitionFX 158



TransitionFX 159



TransitionFX 160



TransitionFX 161



TransitionFX 162



TransitionFX 163



TransitionFX 164



TransitionFX 165



TransitionFX 166



TransitionFX 167



TransitionFX 168



TransitionFX 169



TransitionFX 170



TransitionFX 171



TransitionFX 172



TransitionFX 173



TransitionFX 174



TransitionFX 175



TransitionFX 176



TransitionFX 177



TransitionFX 178



TransitionFX 179



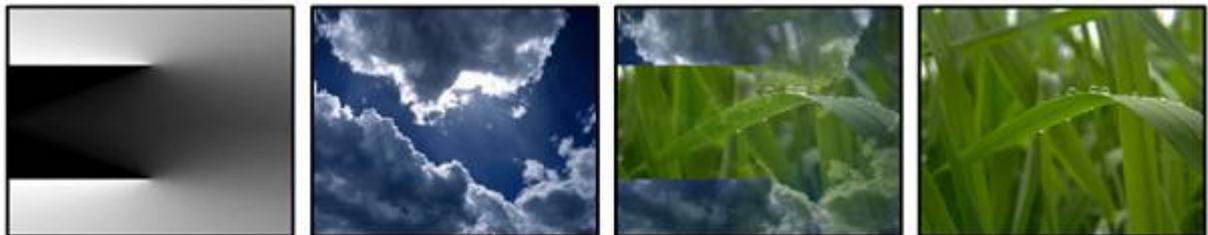
TransitionFX 180



TransitionFX 181



TransitionFX 182



TransitionFX 183



TransitionFX 184



TransitionFX 185



TransitionFX 186



TransitionFX 187



TransitionFX 188



TransitionFX 189



TransitionFX 190



TransitionFX 191



TransitionFX 192



TransitionFX 193



TransitionFX 194



TransitionFX 195



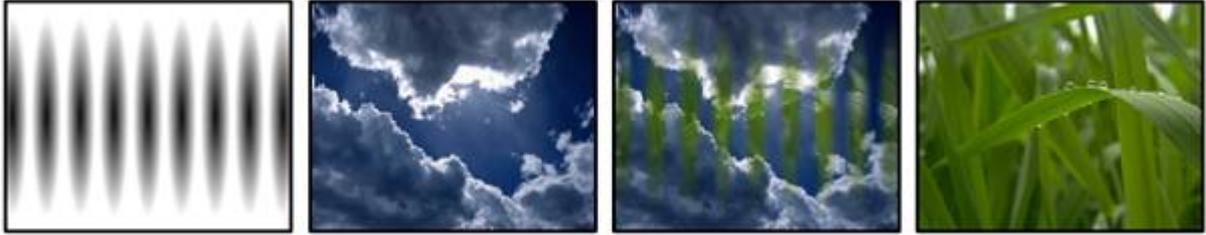
TransitionFX 196



TransitionFX 197



TransitionFX 198



TransitionFX 199



TransitionFX 200



TransitionFX 201



TransitionFX 202



TransitionFX 203



TransitionFX 204



TransitionFX 205



TransitionFX 206



TransitionFX 207



TransitionFX 208



TransitionFX 209



TransitionFX 210



TransitionFX 211



TransitionFX 212



TransitionFX 213



TransitionFX 214



TransitionFX 215



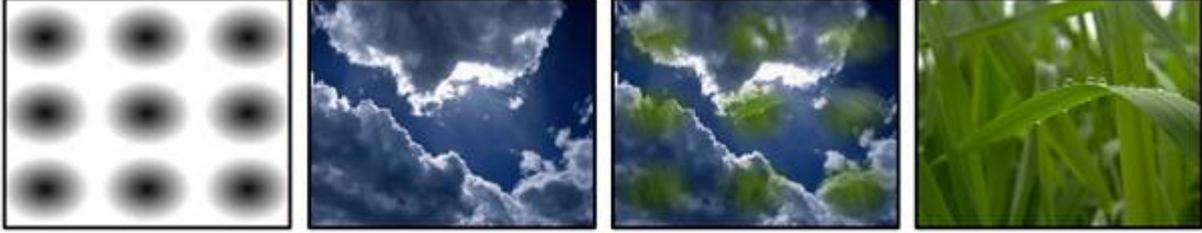
TransitionFX 216



TransitionFX 217



TransitionFX 218



TransitionFX 219



TransitionFX 220



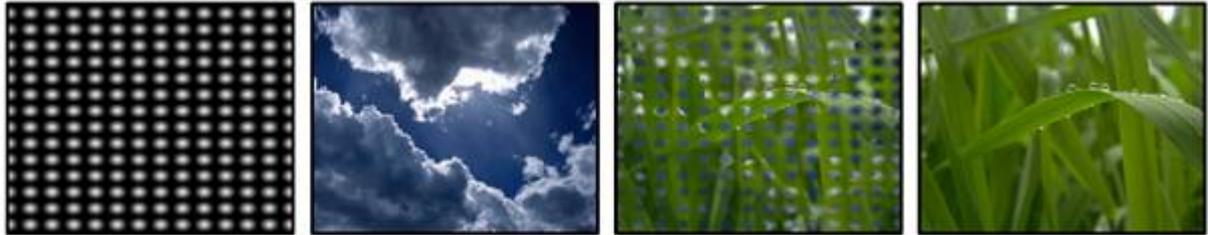
TransitionFX 221



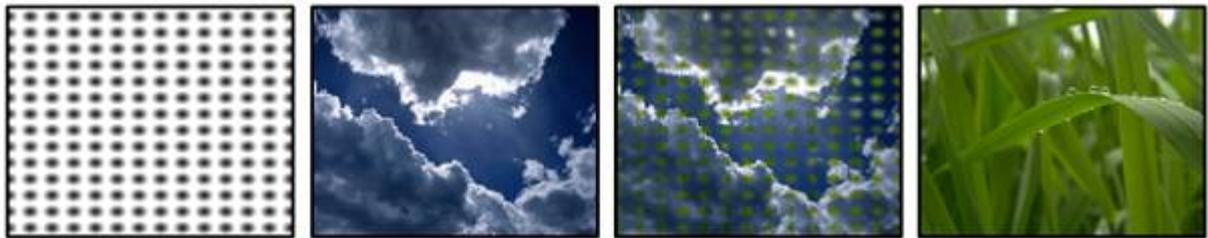
TransitionFX 222



TransitionFX 223



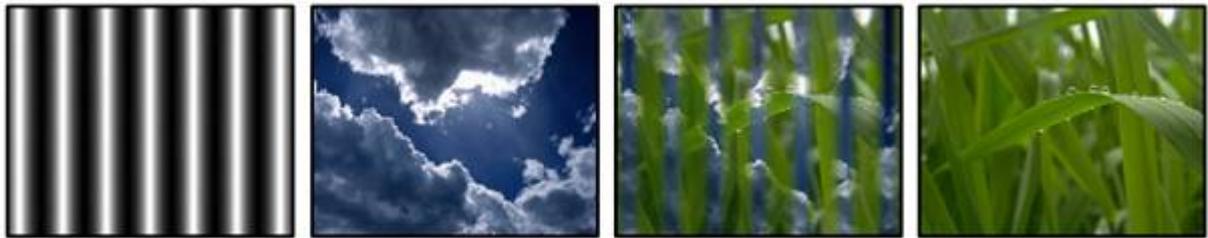
TransitionFX 224



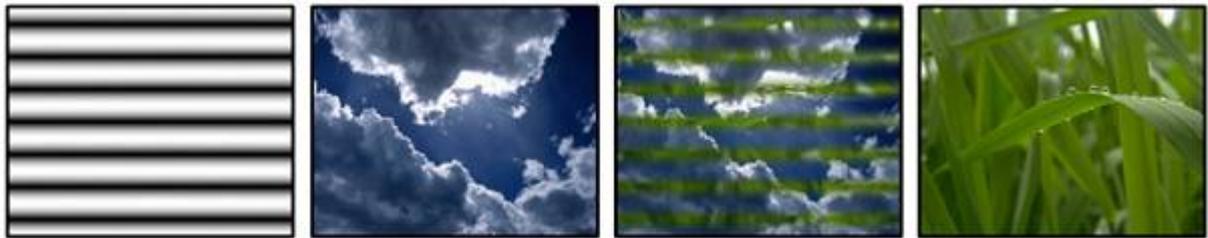
TransitionFX 225



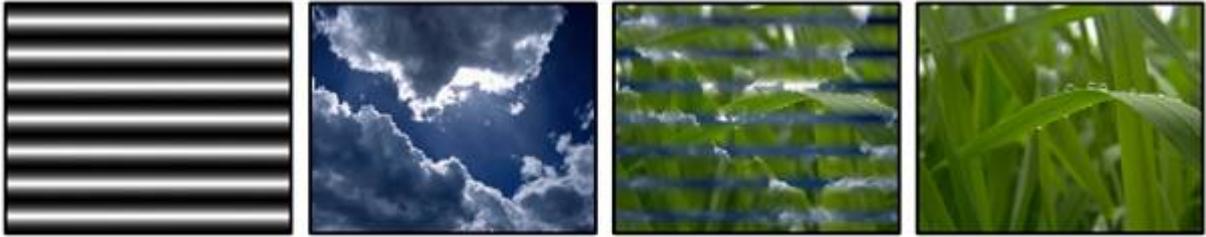
TransitionFX 226



TransitionFX 227



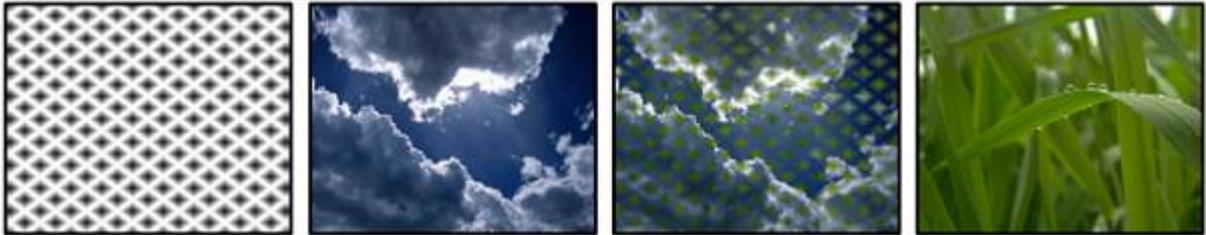
TransitionFX 228



TransitionFX 229



TransitionFX 230



TransitionFX 231



TransitionFX 232



TransitionFX 233



TransitionFX 234



TransitionFX 235



TransitionFX 236



TransitionFX 237



TransitionFX 238



TransitionFX 239



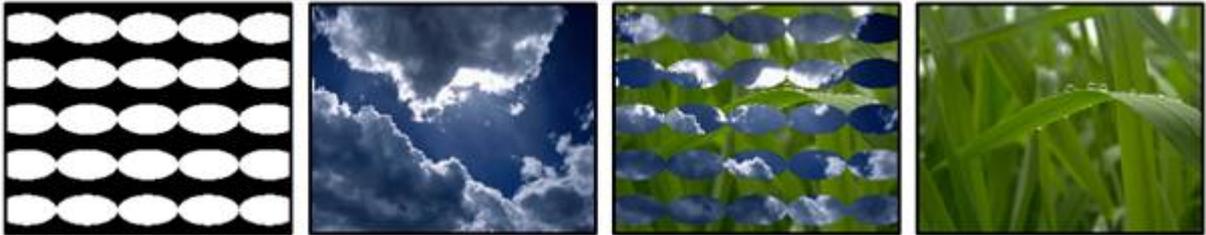
TransitionFX 240



TransitionFX 241



TransitionFX 242



TransitionFX 243

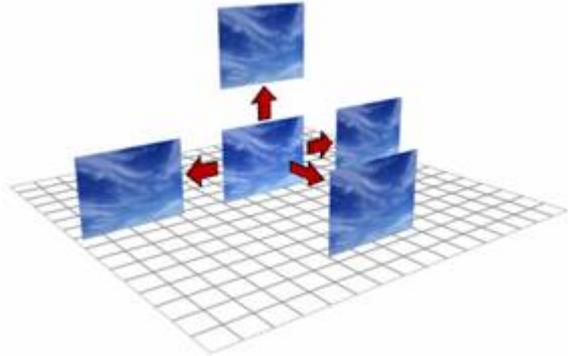


3.3.2.1.2 POSITION ROTATION SCALE

3D Position

Each layer can be positioned in XYZ individually.

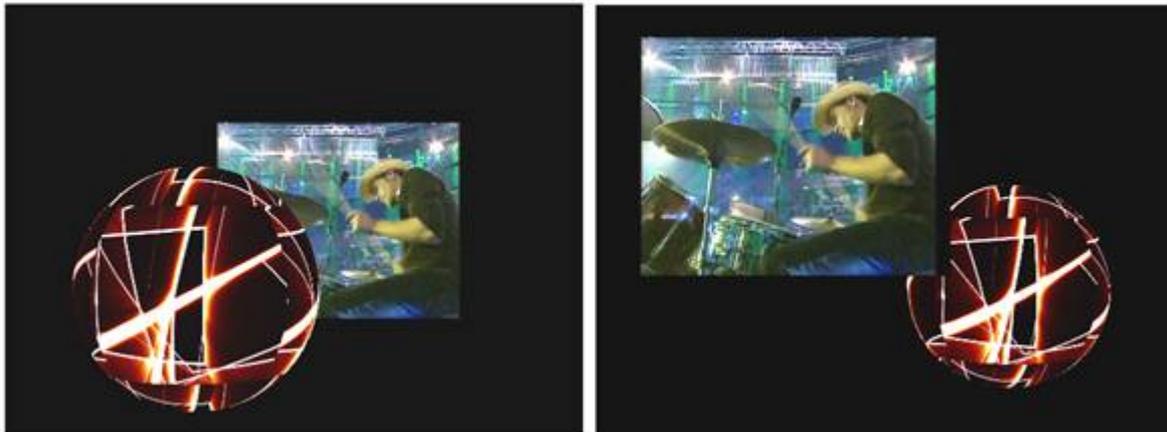
Each position parameter is 16bit for pixel accurate positioning of layers.



X Position 0% max. Image offset left
 X Position 50% Image centered
 X Position 100% max. Image offset right

Y Position 0% max. Image offset bottom
 Y Position 50% Image centered
 Y Position 100% max. Image offset top

Z Position 0% max. Image offset far
 Z Position 50% Image centered
 Z Position 100% max. Image offset near

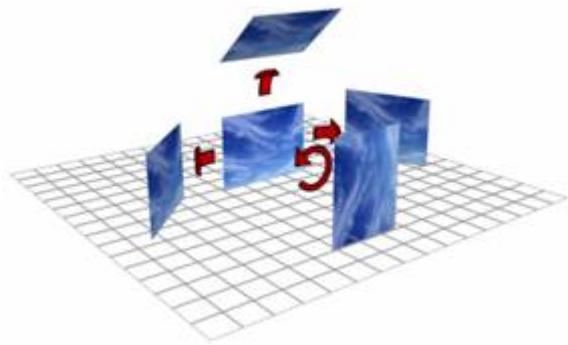


Depending on the XYZ position of a layer, the Z position affects the rendering order.

Please note: If the camera is set to “perspective view”, the Z axis will visually affect the size of the selected layer. This will not happen not in any “orthogonal” mode.

All position channels are 16bit and the default value is 32768.

3D ROTATION



Each layer can be rotated in XYZ individually.
For each axis you have one 16bit channel to control both, index and continuous rotation.

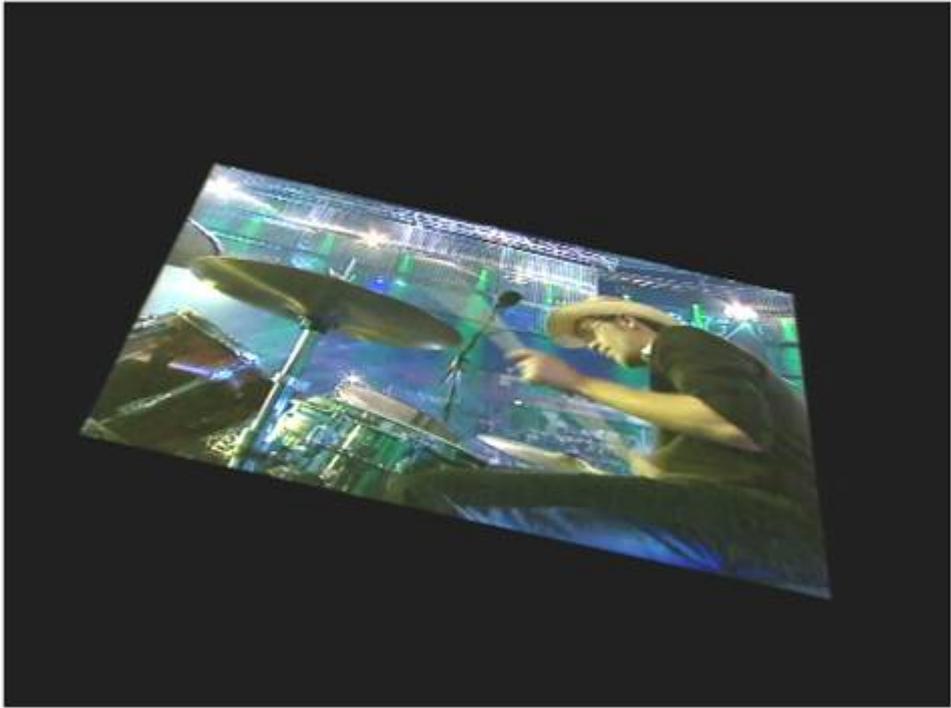
Index Rotation XYZ

- 360 degrees CCW 25% (064dec.) to
- 0 degrees 50% (128dec.),
- +360 degrees CW 50% to 75% (192dec.)

Continuous Rotation XYZ

- CCW fast 0% (000dec.)
- CCW slow/stop 25% (064dec.)
- CW slow/stop 75% (192dec.)
- CW fast 100% (255dec.)

Please note: All rotation channels are 16bit and the default value is 32768.



3D SCALE

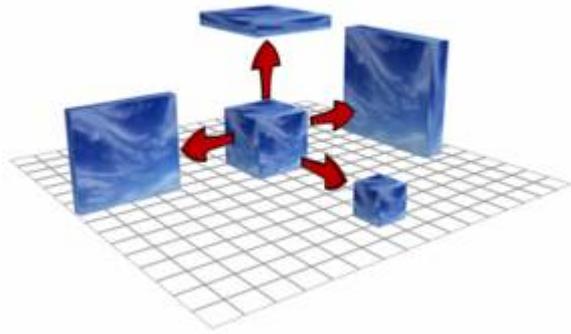
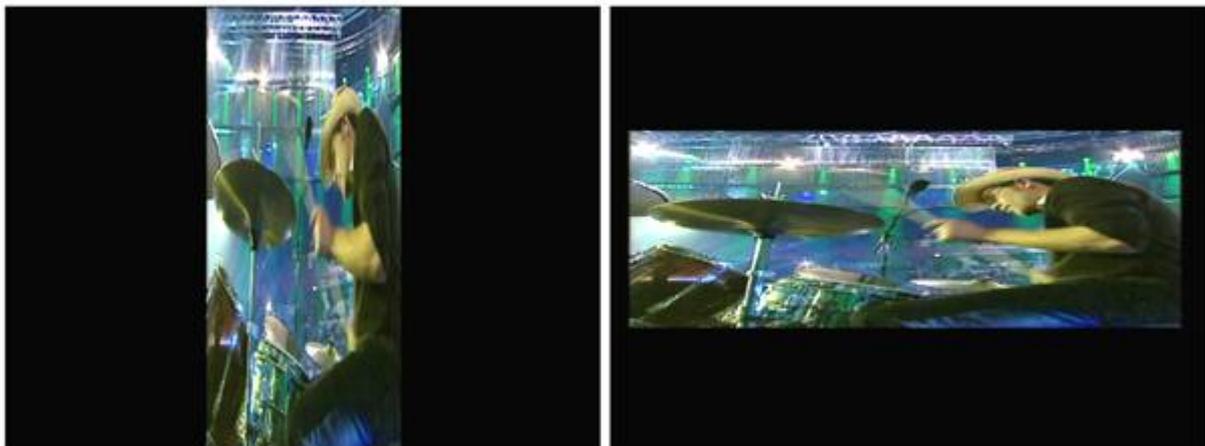


Image scaling allows for setting either individual aspect ratios or object sizes individually for each axis. When using the scaling on a layer the assigned video or still image is resized automatically to the scale of the object.

Scaling can also be used to zoom into a layer while the pixels are interpolated to give a smooth result.

- XYZ Scale 0% min. Scale
- XYZ Scale 50% 1:1 Scale
- XYZ Scale 100% max. Scale



Please note: All scaling channels are 16bit and the default value is 32768.

3.3.2.1.3 MEDIA SELECTION & CONTROL

Each layer has individual control of its object and media selection as well as playback control for video and audio.

Please note: The speed and playback behaviour varies, depending on the used codec.

Some video codecs may not support different playback speeds and some codecs may not be suitable for seamless looping.

Optimal playback can be achieved if you use mpg1, mpg2 files or Microsoft DV AVI files.

Please see the [Encoding](#) section as well as the [format](#) description for further information as well.

OBJECT SELECTION

To assign an object to a layer, drag and drop the resource from the project tab onto the designated layer. You can also highlight the target layer by left-clicking on it and use the right-click command on the resource in the project tab “assign to active device”.

To remove the resource from the layer, right-click in the layer tree on the object parameter and choose “reset”.

For DMX control depending on the ID assignment in the Pandoras Box Server user interface, each layer can access 255 folder and 255 file IDs of individual object files.

Object file selection set to 0% (000dec.) selects "no file", a 4:3 object is loaded by default.

MEDIA SELECTION

To assign a media resource to a layer, drag and drop the resource from the project tab onto the designated layer. You can also highlight the target layer by left-clicking on it and use the right-click command on the resource in the project tab “assign to active device”.

Media can also be assigned from the thumbnail browser by double clicking it for attributing it to the selected highlighted layers.

Please note: When working in a network session in Master/Client mode, please make sure that all media and objects are spread to all clients in order to be available for all servers to render.

To remove the resource of the layer, right-click in the layer tree on the object parameter and choose “reset”.

For DMX control depending on the ID assignment in the Pandoras Box Server user interface, each layer can access 255 folder and 255 file IDs of individual media files as well as live inputs.

Media file selection set to 0% (000dec.) selects “no file”

MEDIA CONTROL

The media control channel allows easy playback-control for start, stop and pause as well as speed control.

The media control is divided in two modes: play once and play loop.

DMX values for transport controls are:

Play Once Mode (DMX Control)

0% (000dec.)	Stop/First Frame
(depending on inpoint)	
0% (001dec.) thru 25% (063dec.)	slow > normal playback once
25% (064dec.)	Play once
25% (065dec.) thru 50% (127dec.)	normal > fast play once

Play Loop Mode (DMX Control)

50% (128dec.)	Pause/Actual Frame
(can be used for inpoint selection)	
50% (129dec.) thru 75% (191dec.)	slow > normal playback loop
75% (192dec.)	Play loop
75% (193dec.) thru 100% (254dec.)	normal > fast play loop
100% (255dec.)	Stop/Last Frame

In- / Outpoint selection (DMX control)

Set the in- and outpoint to define the specific start & end marks of a clip, the play loop will work in the resized area.

The in & outpoint selection works on a percentage base of the overall frame length. Use “Pause” and look up with the inpoint the frames you want to playback the file.

3.3.2.1.4 COLOUR FX - PB SERVER

The colour mixing channels are responsible for colour mixing for each layer based on the selected colourFX.

- A= Additive
- M= Multiplied
- I= Inverted

ColourFX 000 STD Original Texture – no colour mixing applied

C-MIX1: -

C-MIX2: -

C-MIX3: -

No ColourFX active.

ColourFX 001 Invert

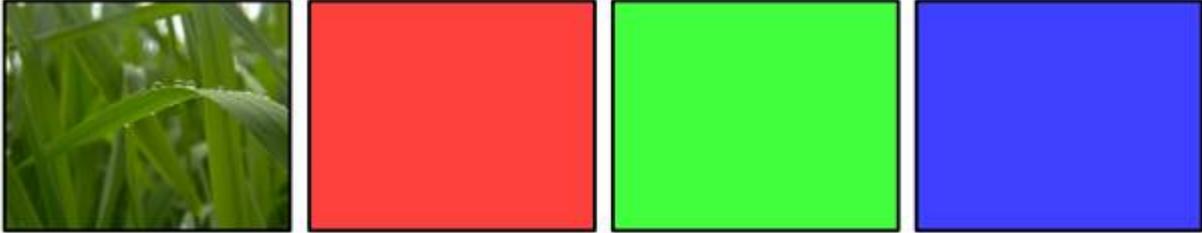
C-MIX1: -

C-MIX2: -

C-MIX3: -

All colours are inverted; values of the colourmix will not be processed.

ColourFX 002 ColourOnly



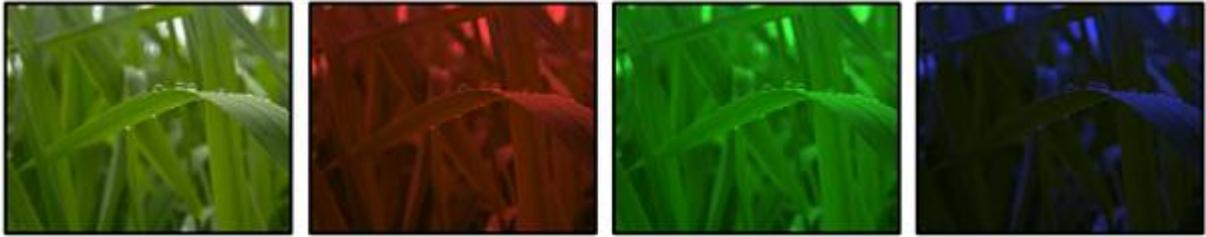
C-MIX1: Red

C-MIX2: Green

C-MIX3: Blue

Overwrites all pixels with RGB colour information, alphachannel is not affected.

ColourFX 003 Multiply



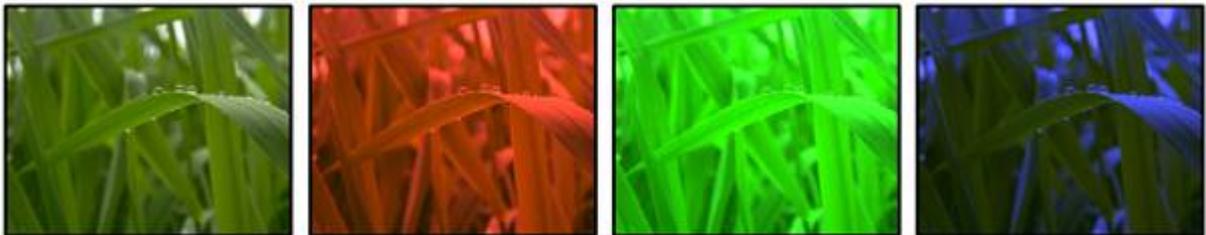
C-MIX1: Red
C-MIX2: Green
C-MIX3: Blue
All RGB colours are multiplied by RGB colourmix value.

ColourFX 004 Multiply INV



C-MIX1: Red
C-MIX2: Green
C-MIX3: Blue
All RGB colours are multiplied by RGB colourmix value, the resulting pixel is then inverted.

ColourFX 005 Multi2x



C-MIX1: Red
C-MIX2: Green
C-MIX3: Blue
All RGB colours are multiplied by 2x with the RGB colourmix value.

ColourFX 006 Multi2x INV



C-MIX1: Red
C-MIX2: Green
C-MIX3: Blue
All RGB colours are multiplied by 2x with the RGB colourmix value and inverted.

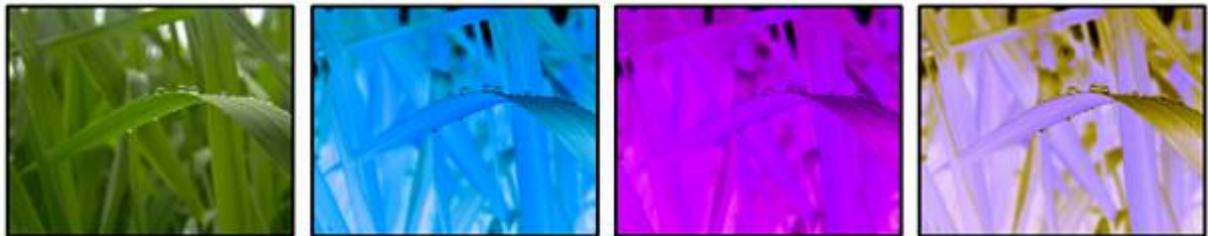
ColourFX 007 Multi4x



C-MIX1: Red
C-MIX2: Green
C-MIX3: Blue

All RGB colours are multiplied by 4x with the RGB colourmix value.

ColourFX 008 Multi4x INV



C-MIX1: Red
C-MIX2: Green
C-MIX3: Blue

All RGB colours are multiplied by 2x with the RGB colourmix value and inverted.

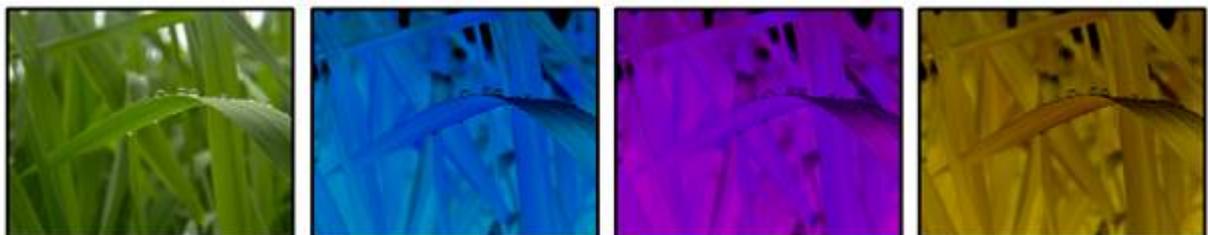
ColourFX 009 Add



C-MIX1: Red
C-MIX2: Green
C-MIX3: Blue

All RGB colours are added by the RGB colourmix value.

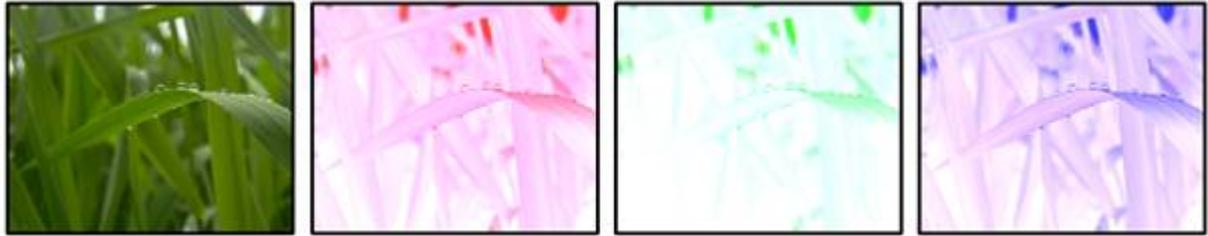
ColourFX 010 Add INV



C-MIX1: Red
C-MIX2: Green
C-MIX3: Blue

All RGB colours are added by the RGB colourmix value and inverted.

ColourFX 011 INV Add



C-MIX1: Red
C-MIX2: Green
C-MIX3: Blue

All RGB colours are inverted and then added by the RGB colourmix value.

ColourFX 012 RGB2RBG_M



C-MIX1: Red
C-MIX2: Green
C-MIX3: Blue

All RGB channels are shifted and multiplied by the colourmix value.

ColourFX 013 RGB2RBG_MI



C-MIX1: Red
C-MIX2: Green
C-MIX3: Blue

All RGB channels are shifted and multiplied by the colourmix value plus inverted.

ColourFX 014 RGB2GBR_M



C-MIX1: Red
C-MIX2: Green
C-MIX3: Blue

All RGB channels are shifted and multiplied by the colourmix value.

ColourFX 015 RGB2GBR_MI



C-MIX1: Red
C-MIX2: Green
C-MIX3: Blue

All RGB channels are shifted and multiplied by the colourmix value plus inverted.

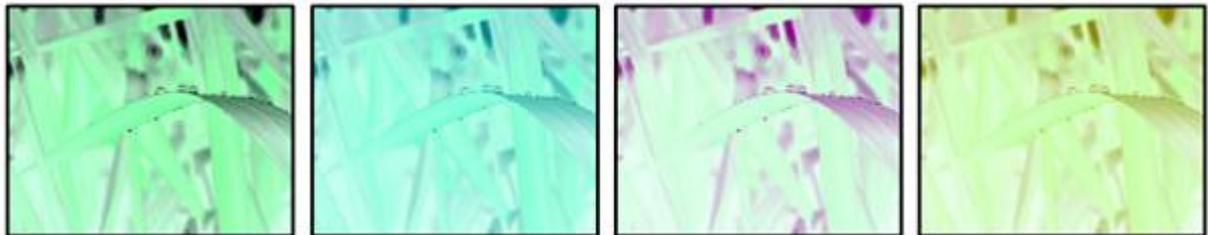
ColourFX 016 RGB2BRG_M



C-MIX1: Red
C-MIX2: Green
C-MIX3: Blue

All RGB channels are shifted and multiplied by the colourmix value.

ColourFX 017 RGB2BRG_MI



C-MIX1: Red
C-MIX2: Green
C-MIX3: Blue

All RGB channels are shifted and multiplied by the colourmix value plus inverted.

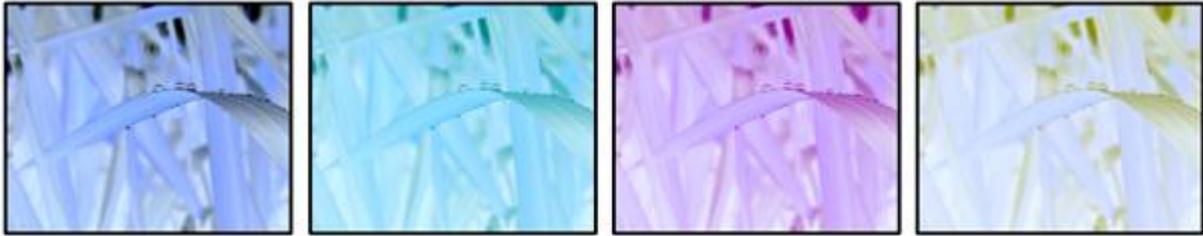
ColourFX 018 RGB2GRB_M



C-MIX1: Red
C-MIX2: Green
C-MIX3: Blue

All RGB channels are shifted and multiplied by the colourmix value.

ColourFX 019 RGB2GRB_MI



C-MIX1: Red
C-MIX2: Green
C-MIX3: Blue

All RGB channels are shifted and multiplied by the colourmix value plus inverted.

ColourFX 020 RGB2BGR_M



C-MIX1: Red
C-MIX2: Green
C-MIX3: Blue

All RGB channels are shifted and multiplied by the colourmix value.

ColourFX 021 RGB2BGR_MI



C-MIX1: Red
C-MIX2: Green
C-MIX3: Blue

All RGB channels are shifted and multiplied by the colourmix value plus inverted.

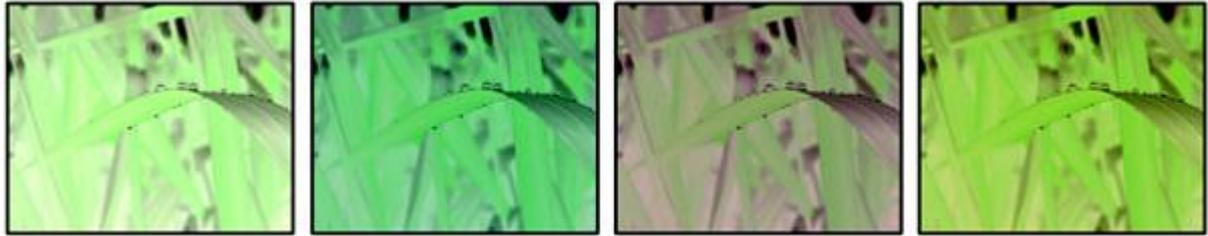
ColourFX 022 RGB2RBG_A



C-MIX1: Red
C-MIX2: Green
C-MIX3: Blue

All RGB channels are shifted and added by the colourmix value.

ColourFX 023 RGB2RBG_AI



C-MIX1: Red
C-MIX2: Green
C-MIX3: Blue

All RGB channels are shifted and added by the colourmix value plus inverted.

ColourFX 024 RGB2GBR_A



C-MIX1: Red
C-MIX2: Green
C-MIX3: Blue

All RGB channels are shifted and added by the colourmix value.

ColourFX 025 RGB2GBR_AI



C-MIX1: Red
C-MIX2: Green
C-MIX3: Blue

All RGB channels are shifted and added by the colourmix value plus inverted.

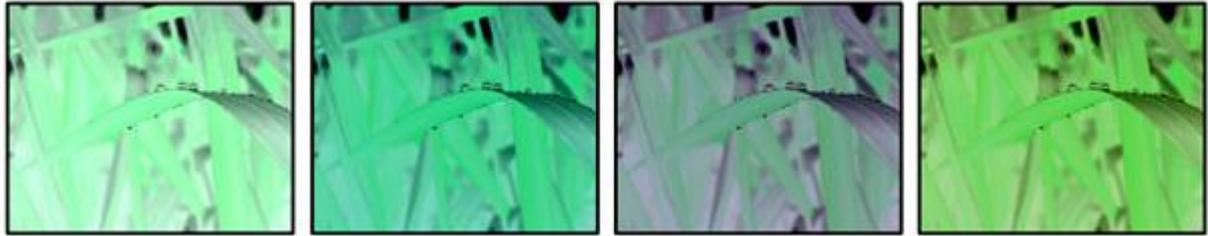
ColourFX 026 RGB2BRG_A



C-MIX1: Red
C-MIX2: Green
C-MIX3: Blue

All RGB channels are shifted and added by the colourmix value.

ColourFX 027 RGB2BRG_AI



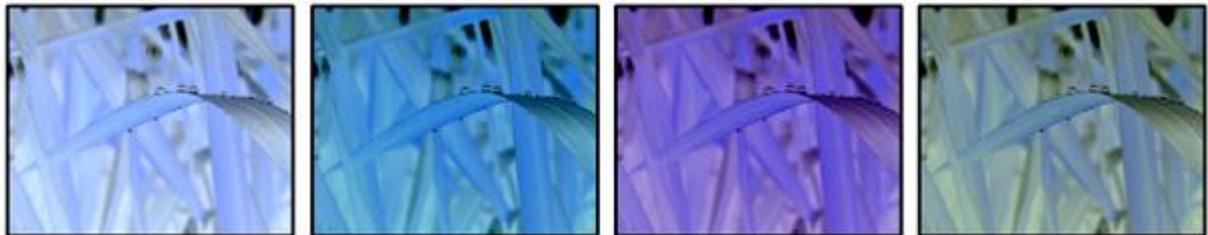
C-MIX1: Red
C-MIX2: Green
C-MIX3: Blue
All RGB channels are shifted and added by the colourmix value plus inverted.

ColourFX 028 RGB2GRB_A



C-MIX1: Red
C-MIX2: Green
C-MIX3: Blue
All RGB channels are shifted and added by the colourmix value.

ColourFX 029 RGB2GRB_AI



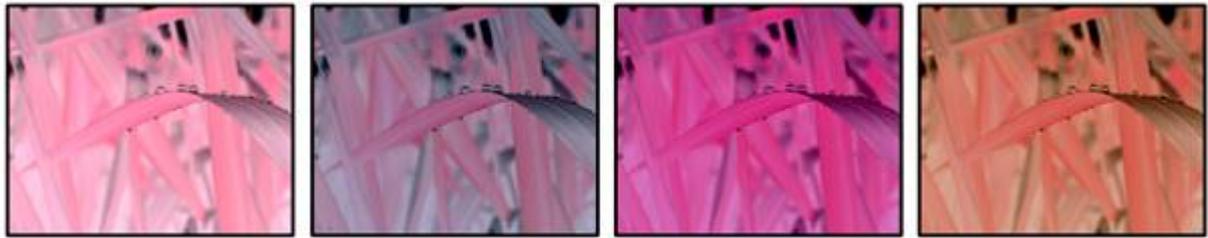
C-MIX1: Red
C-MIX2: Green
C-MIX3: Blue
All RGB channels are shifted and added by the colourmix value plus inverted.

ColourFX 030 RGB2BGR_A



C-MIX1: Red
C-MIX2: Green
C-MIX3: Blue
All RGB channels are shifted and added by the colourmix value.

ColourFX 031 RGB2BGR_AI



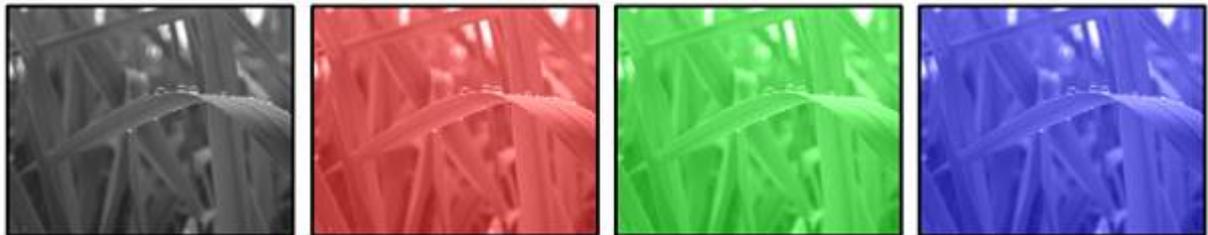
C-MIX1: Red
 C-MIX2: Green
 C-MIX3: Blue
 All RGB channels are shifted and added by the colourmix value plus inverted.

ColourFX 032 ColourFade



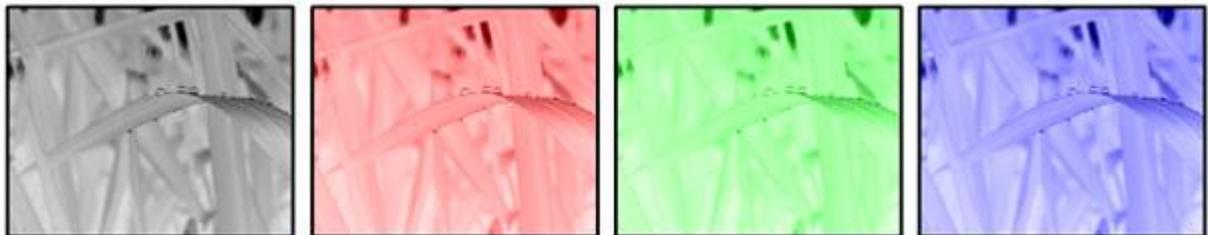
C-MIX1: Red
 C-MIX2: Green
 C-MIX3: Blue
 Fades all RGB colours to full colour saturation.

ColourFX 033 ColourBW_A



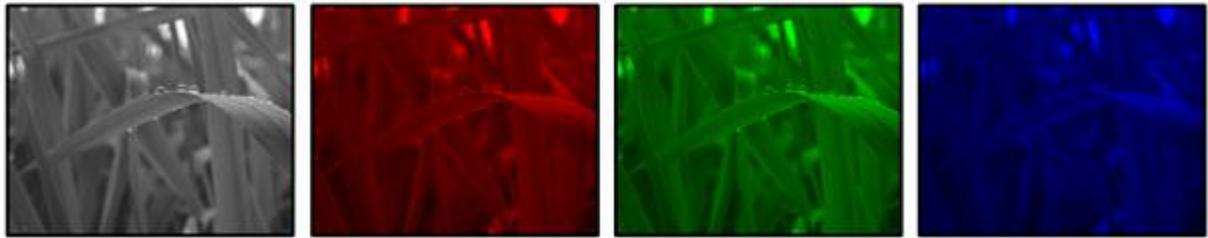
C-MIX1: Red
 C-MIX2: Green
 C-MIX3: Blue
 All RGB channels are converted to Black&White and added by colourmix values.

ColourFX 034 ColourBW_AI



C-MIX1: Red
 C-MIX2: Green
 C-MIX3: Blue
 All RGB channels are converted to Black&White, inverted and added by colourmix values.

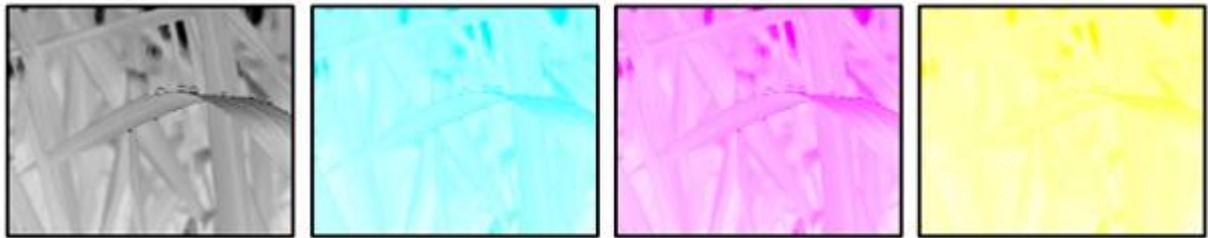
ColourFX 035 ColourBW_M



C-MIX1: Red
C-MIX2: Green
C-MIX3: Blue

All RGB channels are converted to Black&White and multiplied by colourmix values.

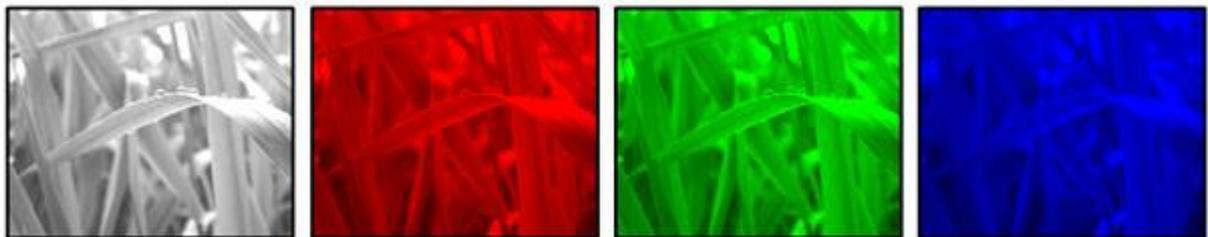
ColourFX 036 ColourBW_MI



C-MIX1: Red
C-MIX2: Green
C-MIX3: Blue

All RGB channels are converted to Black&White, multiplied by colourmix values and inverted.

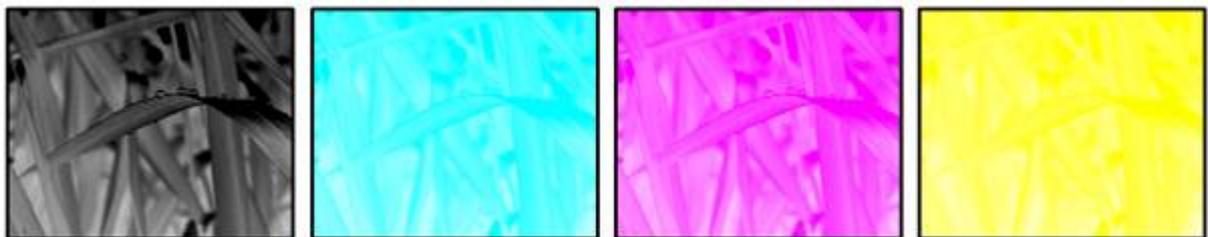
ColourFX 037 ColourM2BW_M



C-MIX1: Red
C-MIX2: Green
C-MIX3: Blue

All RGB channels are converted to Black&White and multiplied 2x by colourmix values.

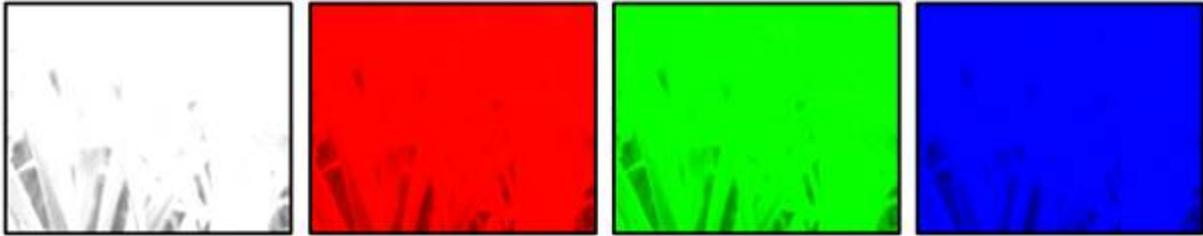
ColourFX 038 ColourM2BW_MI



C-MIX1: Red
C-MIX2: Green
C-MIX3: Blue

All RGB channels are converted to Black&White, multiplied 2x by colourmix values and inverted.

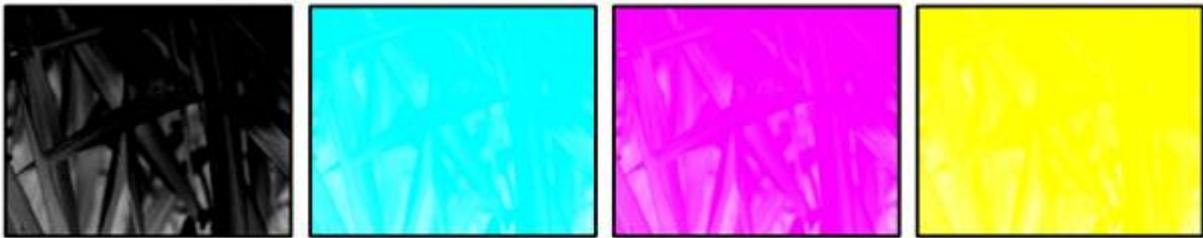
ColourFX 039 ColourM4BW_M



C-MIX1: Red
C-MIX2: Green
C-MIX3: Blue

All RGB channels are converted to Black&White and multiplied 4x by colourmix values.

ColourFX 040 ColourM4BW_MI



C-MIX1: Red
C-MIX2: Green
C-MIX3: Blue

All RGB channels are converted to Black&White, multiplied 4x by colourmix values and inverted.

ColourFX 041 BlackKey



C-MIX1: Amount
C-MIX2: Level
C-MIX3: Softness

Keying based on Blacklevel. Use the softness to adjust the edge of the key.

ColourFX 042 BlackKeyINV



C-MIX1: Amount
C-MIX2: Level
C-MIX3: Softness

Keying based on Blacklevel. Use the softness to adjust the edge of the key. Alpha inversion.

ColourFX 043 WhiteKey



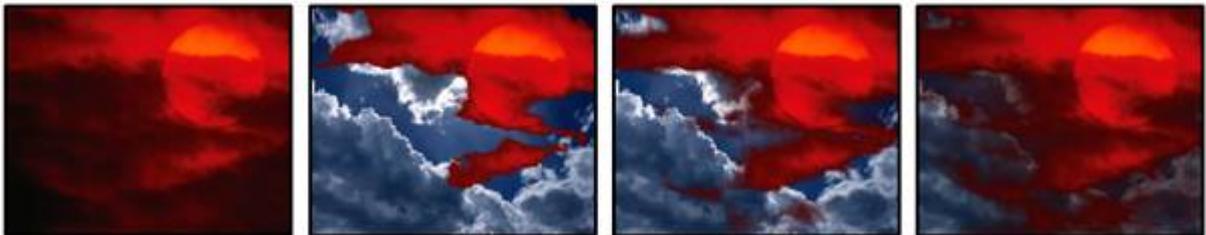
C-MIX1: Amount
 C-MIX2: Level
 C-MIX3: Softness
 Keying based on Whitelevel. Use the softness to adjust the edge of the key.

ColourFX 044 WhiteKeyINV



C-MIX1: Amount
 C-MIX2: Level
 C-MIX3: Softness
 Keying based on Whitelevel. Use the softness to adjust the edge of the key. Alpha inversion.

ColourFX 045 RedKey



C-MIX1: Amount
 C-MIX2: Level
 C-MIX3: Softness
 Keying based on Redlevel. Use the softness to adjust the edge of the key.

ColourFX 046 RedKeyINV



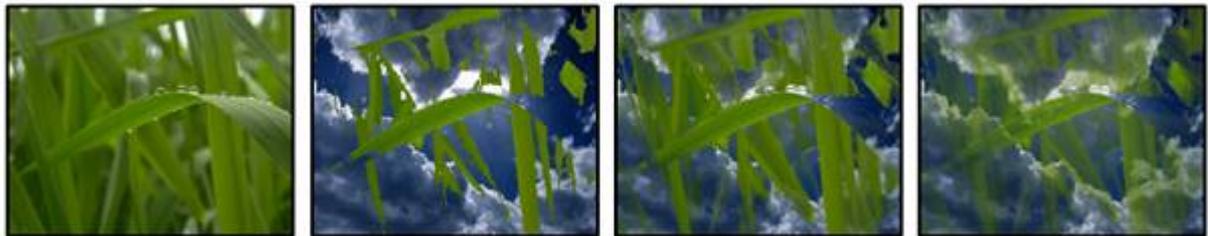
C-MIX1: Amount
 C-MIX2: Level
 C-MIX3: Softness
 Keying based on Redlevel. Use the softness to adjust the edge of the key. Alpha inversion.

ColourFX 047 GreenKey



C-MIX1: Amount
C-MIX2: Level
C-MIX3: Softness
Keying based on Greenlevel. Use the softness to adjust the edge of the key.

ColourFX 048 GreenKeyINV



C-MIX1: Amount
C-MIX2: Level
C-MIX3: Softness
Keying based on Greenlevel. Use the softness to adjust the edge of the key. Alpha inversion.

ColourFX 049 BlueKey



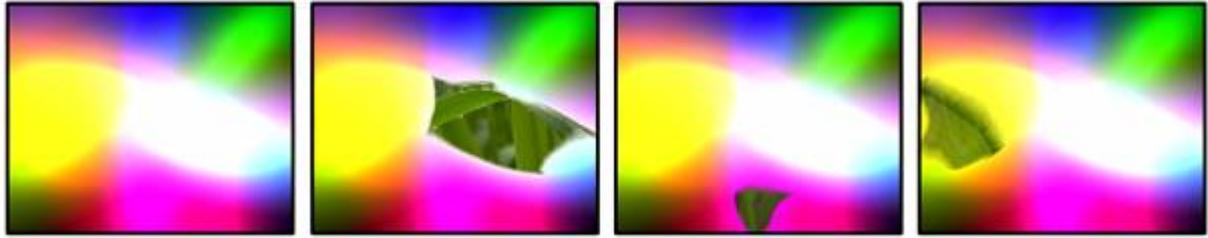
C-MIX1: Amount
C-MIX2: Level
C-MIX3: Softness
Keying based on Bluelevel. Use the softness to adjust the edge of the key.

ColourFX 050 BlueKeyINV



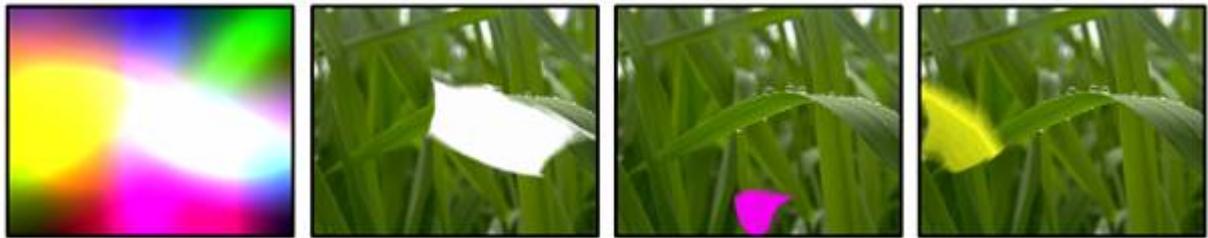
C-MIX1: Amount
C-MIX2: Level
C-MIX3: Softness
Keying based on Bluelevel. Use the softness to adjust the edge of the key. Alpha inversion.

ColourFX 051 RGBKey



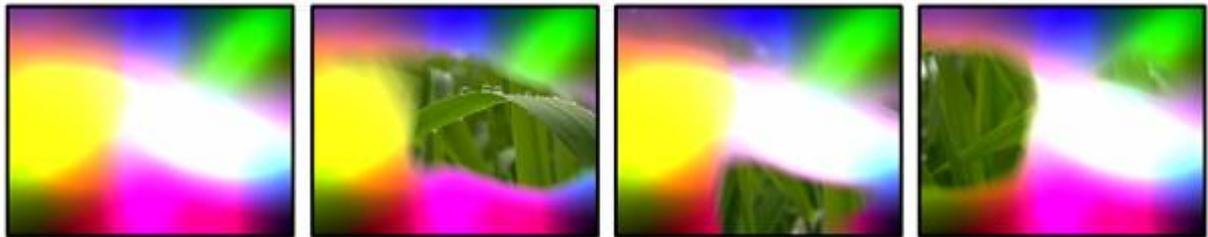
C-MIX1: Red
C-MIX2: Green
C-MIX3: Blue
RGB colourkey based on colour selection with colourmix channels.

ColourFX 052 RGBKeyINV



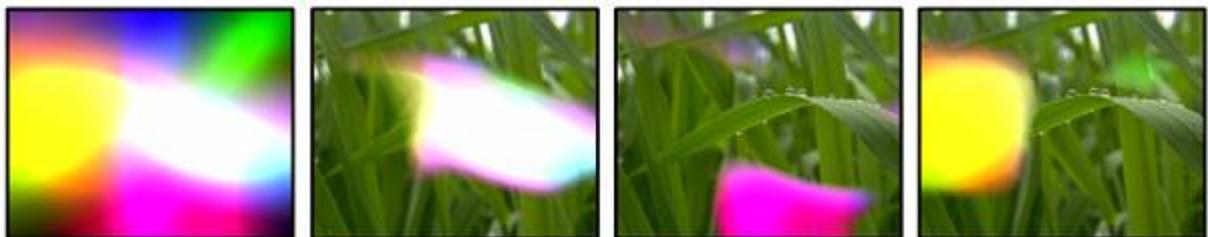
C-MIX1: Red
C-MIX2: Green
C-MIX3: Blue
Inverted RGB colourkey based on colour selection with colourmix channels.

ColourFX 053 RGBKey075



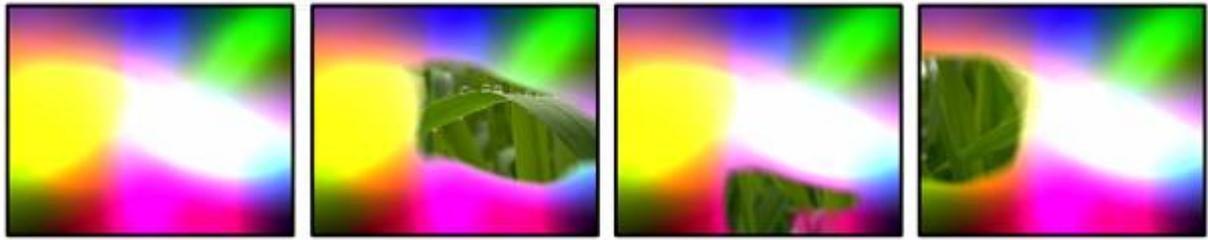
C-MIX1: Red
C-MIX2: Green
C-MIX3: Blue
RGB colourkey based on colour selection with colourmix channels. 0.75 Softness.

ColourFX 054 RGBKey075INV



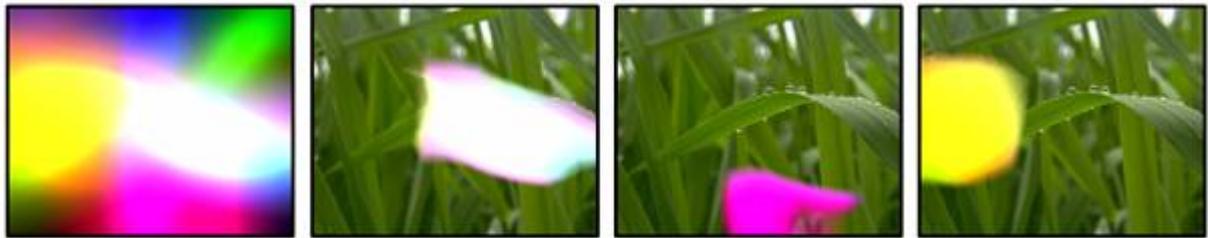
C-MIX1: Red
C-MIX2: Green
C-MIX3: Blue
Inverted RGB colourkey based on colour selection with colourmix channels. 0.75 Softness.

ColourFX 055 RGBKey050



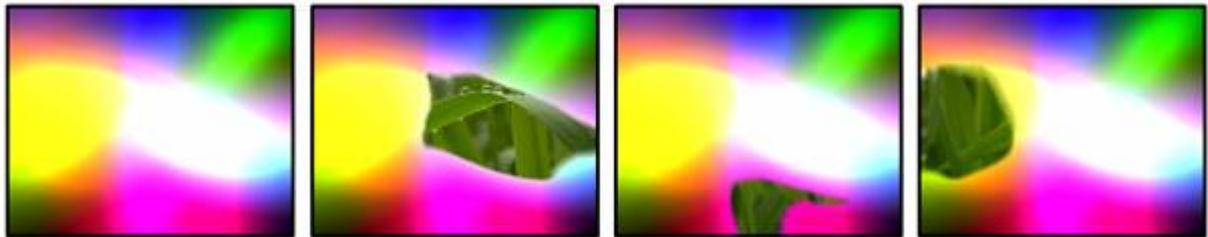
C-MIX1: Red
C-MIX2: Green
C-MIX3: Blue
RGB colourkey based on colour selection with colourmix channels. 0.5 Softness.

ColourFX 056 RGBKey050INV



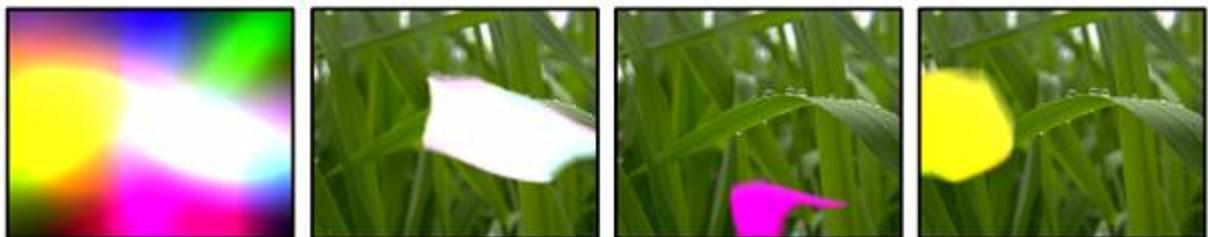
C-MIX1: Red
C-MIX2: Green
C-MIX3: Blue
Inverted RGB colourkey based on colour selection with colourmix channels. 0.5 Softness.

ColourFX 057 RGBKey025



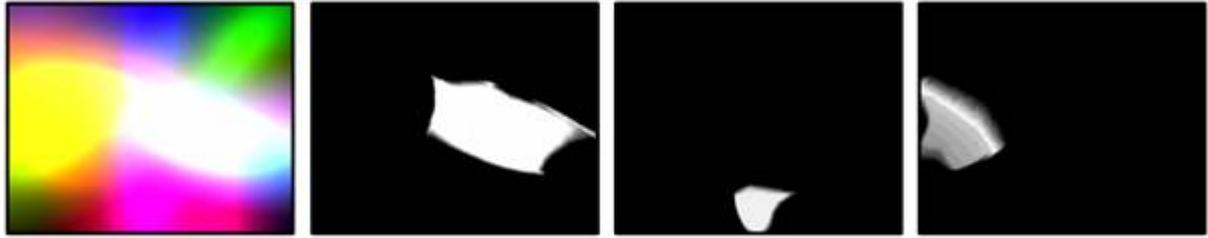
C-MIX1: Red
C-MIX2: Green
C-MIX3: Blue
RGB colourkey based on colour selection with colourmix channels. 0.25 Softness.

ColourFX 058 RGBKey025INV

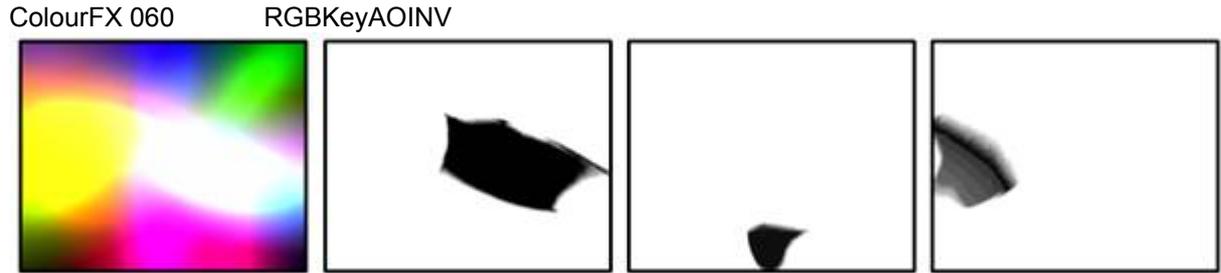


C-MIX1: Red
C-MIX2: Green
C-MIX3: Blue
Inverted RGB colourkey based on colour selection with colourmix channels. 0.25 Softness.

ColourFX 059 RGBKeyAO



C-MIX1: Red
C-MIX2: Green
C-MIX3: Blue
RGB colourkey based on colour selection with colourmix channels. Alpha only.



C-MIX1: Red
C-MIX2: Green
C-MIX3: Blue
Inverted RGB colourkey based on colour selection with colourmix channels. Alpha only.

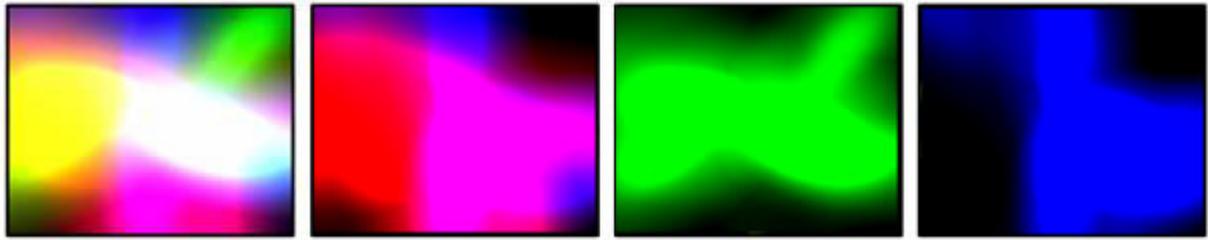


C-MIX1: Red
C-MIX2: Green
C-MIX3: Blue
Black Mask is based on colour selection with colourmix channels.



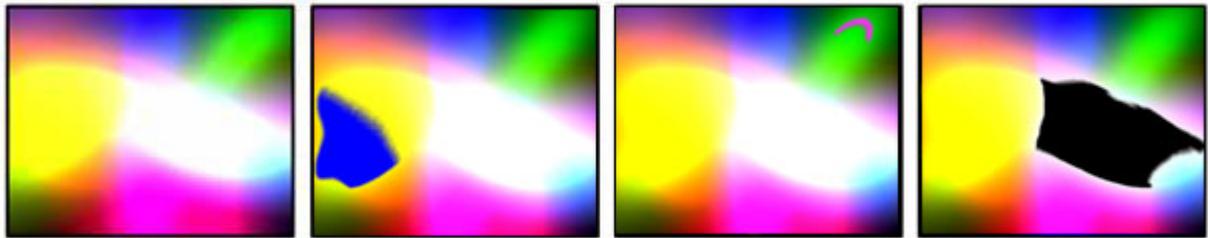
C-MIX1: Red
C-MIX2: Green
C-MIX3: Blue
Inverted Black Mask is based on colour selection with colourmix channels.

ColourFX 063 ColourShift



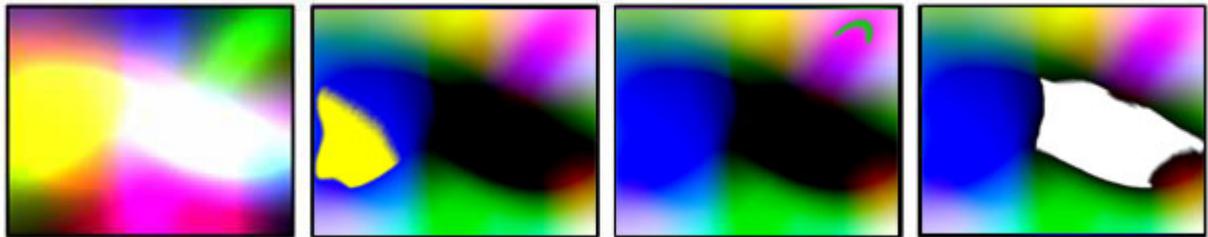
C-MIX1: Red
 C-MIX2: Green
 C-MIX3: Blue
 RGB channels are shifted by colourmix values.

ColourFX 064 SellInversion



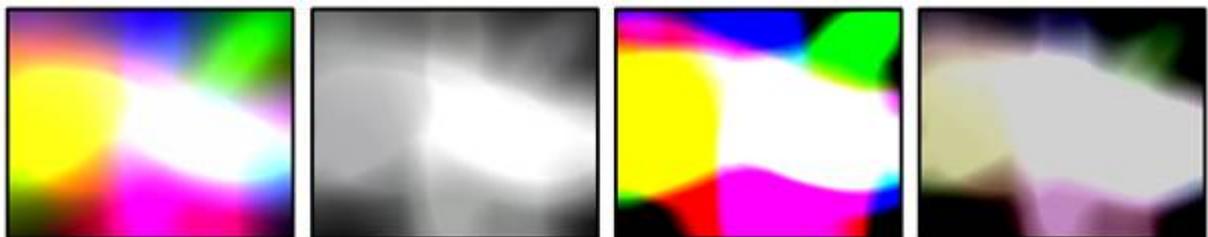
C-MIX1: Red
 C-MIX2: Green
 C-MIX3: Blue
 Selective colour inversion based on colourmix values.

ColourFX 065 SellInversionINV



C-MIX1: Red
 C-MIX2: Green
 C-MIX3: Blue
 Inverted selective colour inversion based on colourmix values.

ColourFX 066 CCB



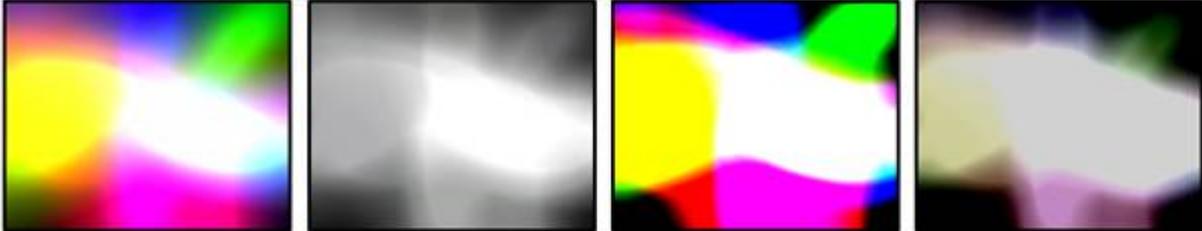
FX1: Chroma
 FX2: Contrast
 FX3: Brightness
 Independent Chroma, Contrast & Brightness control.

3.3.2.1.5 VIDEO FX - PB SERVER

Each layer has its own individual VideoFX palette that you can choose from. The VideoFX type selects the desired video effect while FX1, 2 and 3 control the parameters of the effect.

VideoFX 000 STD No VideoFX applied – all VideoFX switched off

VideoFX 001 CCB



FX1: Chroma
FX2: Contrast
FX3: Brightness
Independent Chroma, Contrast & Brightness control.

VideoFX 002 Levels



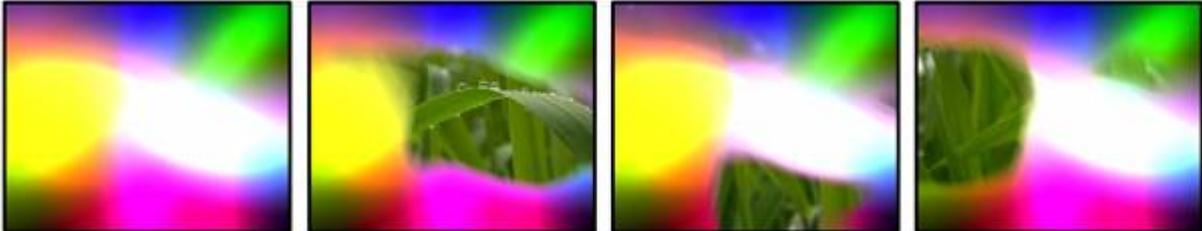
FX1: Blackvalue
FX2: Mid Value
FX3: Brightness Value
Level adjustment of overall colour range.

VideoFX 003 INV Levels



FX1: Black Value
FX2: Mid Value
FX3: Brightness Value
Inverted level adjustment of overall colour range.

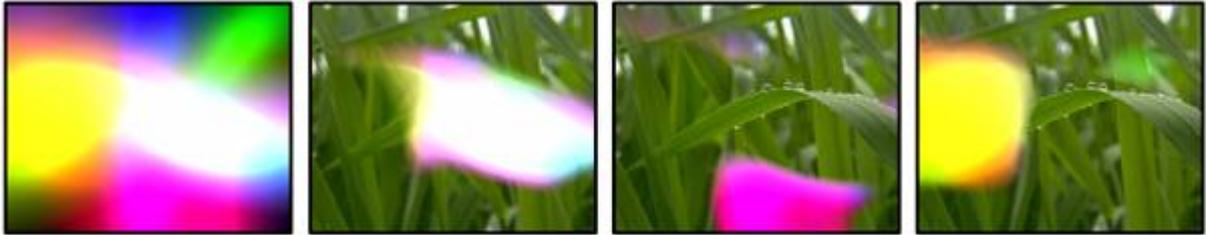
VideoFX 004 ColourKey



FX1: Amount

FX2: Range
 FX3: Softness
 Advanced colourkeying based on colourmix values.

VideoFX 005 INV ColourKey



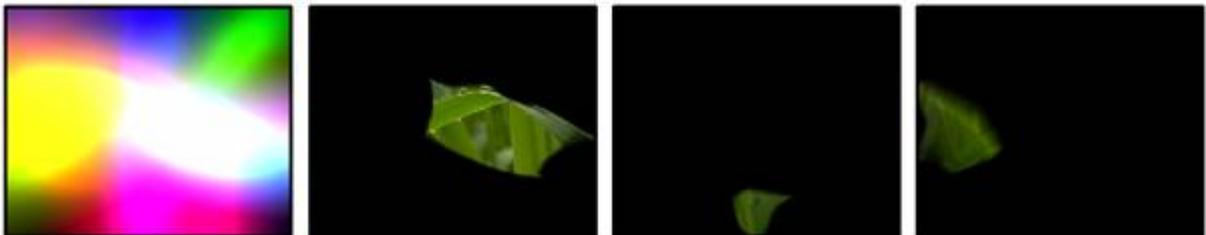
FX1: Amount
 FX2: Range
 FX3: Softness
 Advanced inverted colourkeying based on colourmix values.

VideoFX 006 MaskKey



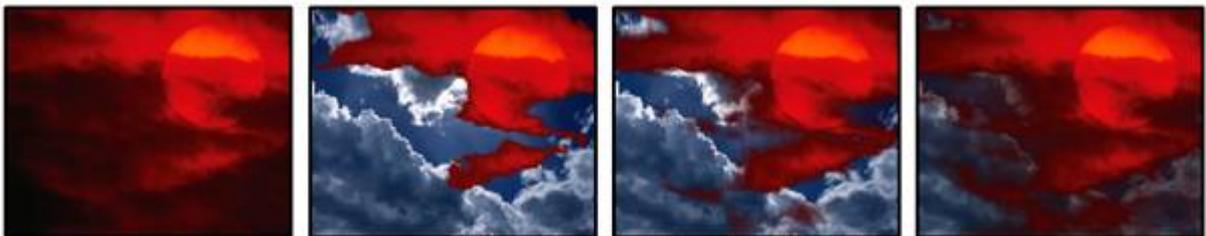
FX1: Amount
 FX2: Range
 FX3: Softness
 Advanced Black Mask is based on colour selection with colourmix channels.

VideoFX 007 INV MaskKey



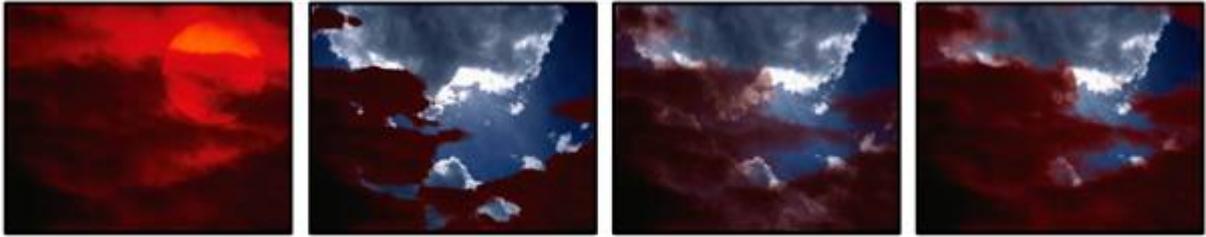
FX1: Amount
 FX2: Range
 FX3: Softness
 Advanced inverted Black Mask is based on colour selection with colourmix channels.

VideoFX 008 RedKey



FX1: Amount
 FX2: Range
 FX3: Softness
 Keying based on Redlevel. Use the softness to adjust the edge of the key.

VideoFX 009 INV RedKey



FX1: Amount
FX2: Range
FX3: Softness

Keying based on Redlevel. Use the softness to adjust the edge of the key. Alpha inversion.

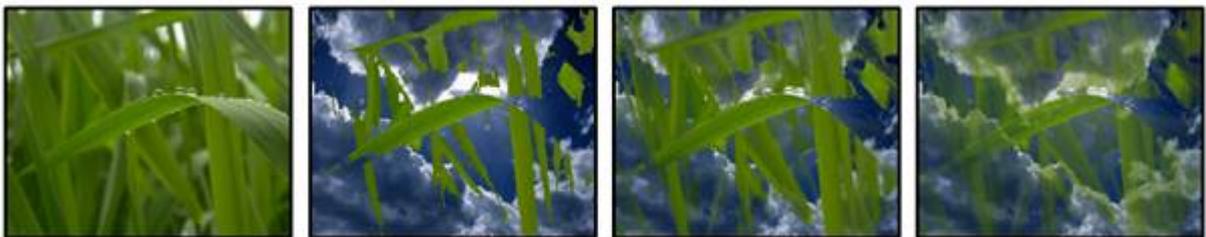
VideoFX 010 GreenKey



FX1: Amount
FX2: Range
FX3: Softness

Keying based on Greenlevel. Use the softness to adjust the edge of the key.

VideoFX 011 INV GreenKey



FX1: Amount
FX2: Range
FX3: Softness

Keying based on Greenlevel. Use the softness to adjust the edge of the key. Alpha inversion.

VideoFX 012 BlueKey



FX1: Amount
FX2: Range
FX3: Softness

Keying based on Bluelevel. Use the softness to adjust the edge of the key.

VideoFX 013 INV BlueKey



FX1: Amount
FX2: Range
FX3: Softness
Keying based on Bluelevel. Use the softness to adjust the edge of the key. Alpha inversion.

VideoFX 014 WhiteKey



FX1: Amount
FX2: Range
FX3: Softness
Keying based on Whitelevel. Use the softness to adjust the edge of the key.

VideoFX 015 INV WhiteKey



FX1: Amount
FX2: Range
FX3: Softness
Keying based on Whitelevel. Use the softness to adjust the edge of the key. Alpha inversion.

VideoFX 016 BlackKey



FX1: Amount
FX2: Range
FX3: Softness
Keying based on Blacklevel. Use the softness to adjust the edge of the key.

VideoFX 017 INV BlackKey



FX1: Amount
FX2: Range
FX3: Softness

Keying based on Blacklevel. Use the softness to adjust the edge of the key. Alpha inversion.

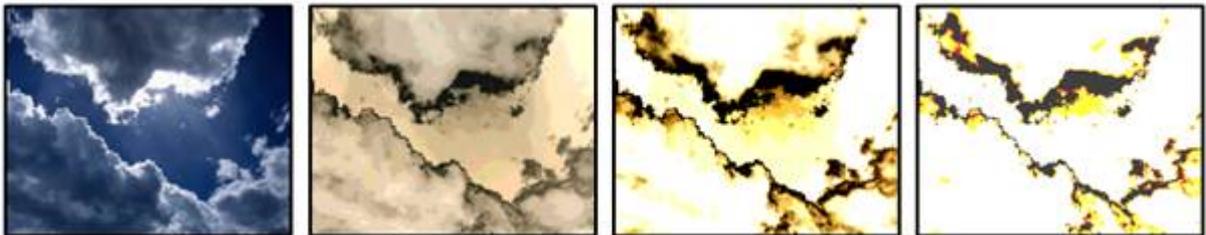
VideoFX 018 PosterizeCB



FX1: Amount
FX2: Contrast
FX3: Brightness

Posterizing allows reducing the colour range; amount, contrast and brightness are adjustable.

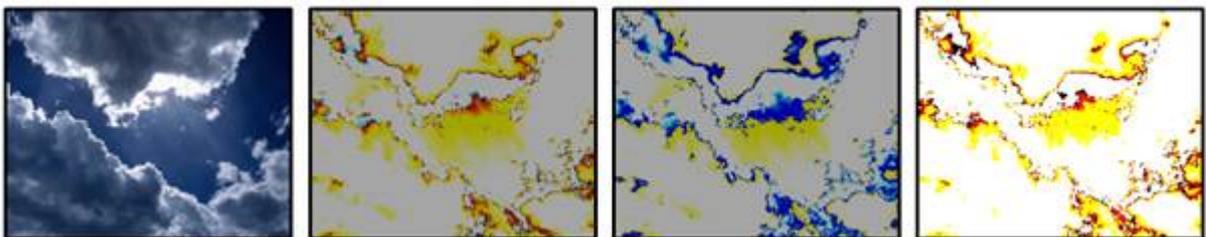
VideoFX 019 INV PosterizeCB



FX1: Amount
FX2: Contrast
FX3: Brightness

INV Posterizing allows reducing the colour range. Control amount, contrast and brightness.

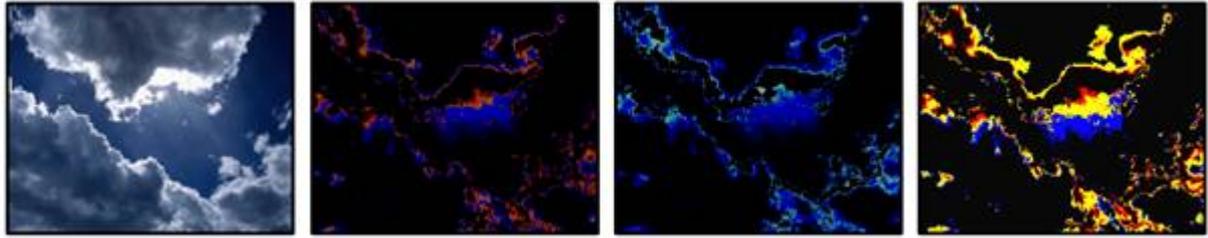
VideoFX 020 SolarizeCB



FX1: Amount
FX2: Contrast
FX3: Brightness

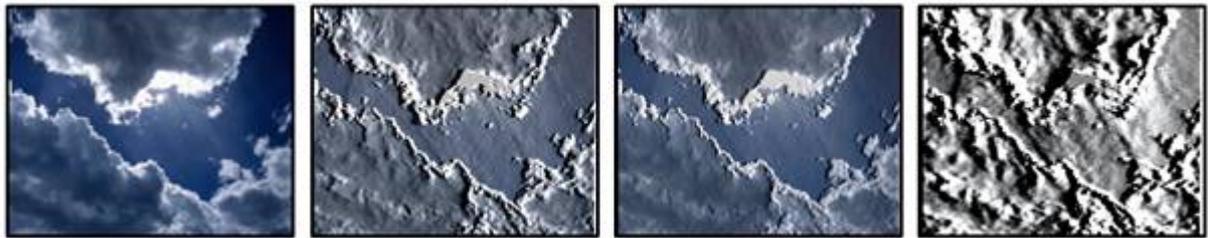
Solarize inverts first dark then brighter colours. Control amount, contrast and brightness.

VideoFX 021 INV SolarizeCB



FX1: Amount
 FX2: Contrast
 FX3: Brightness
 INV Solarize inverts first dark then brighter colours. Control amount, contrast and brightness.

VideoFX 022 ColourEmboss



FX1: Offset
 FX2: Angle
 FX3: Mix (w original)
 Colour emboss with controls for offset, angle and mix level.

VideoFX 023 INV ColourEmboss

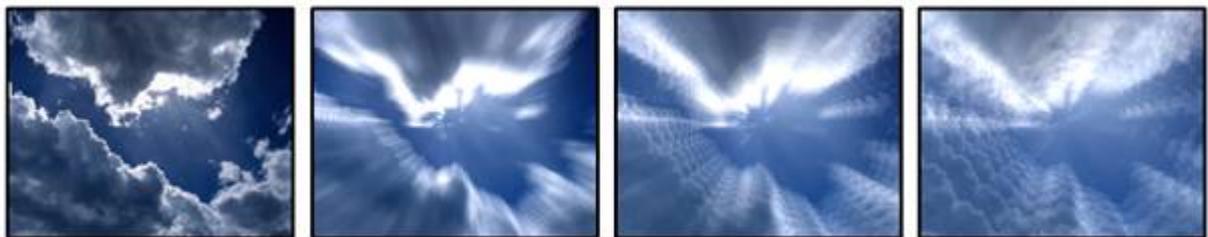
FX1: Offset
 FX2: Angle
 FX3: Mix (w original)
 Inverted colour emboss with controls for offset, angle and mix level.

VideoFX 024 Blur



FX1: Amount
 FX2: X Size
 FX3: Y Size
 Soft Blur with controls for amount, X- and Y- size.

VideoFX 025 RadialBlur



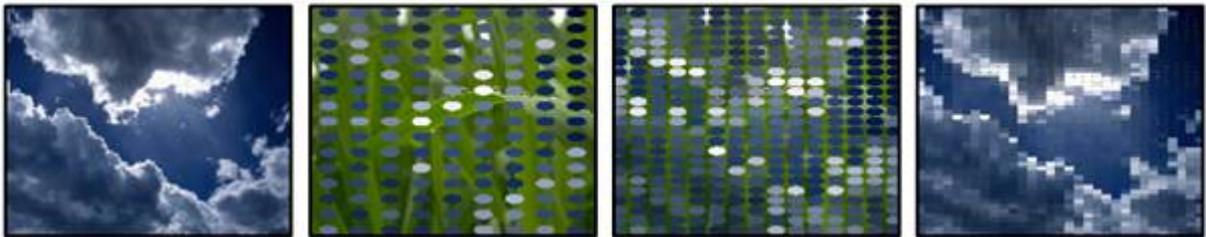
FX1: Amount
 FX2:
 FX3:
 -

VideoFX 026 Sharpen



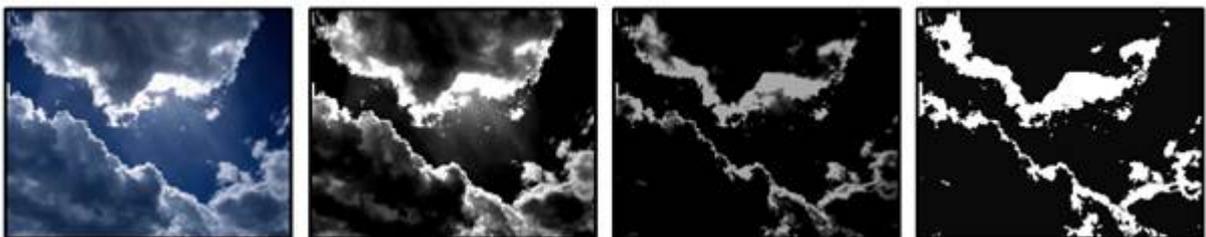
FX1: Amount
FX2: ---
FX3: ---
Edge sharpening.

VideoFX 027 LED



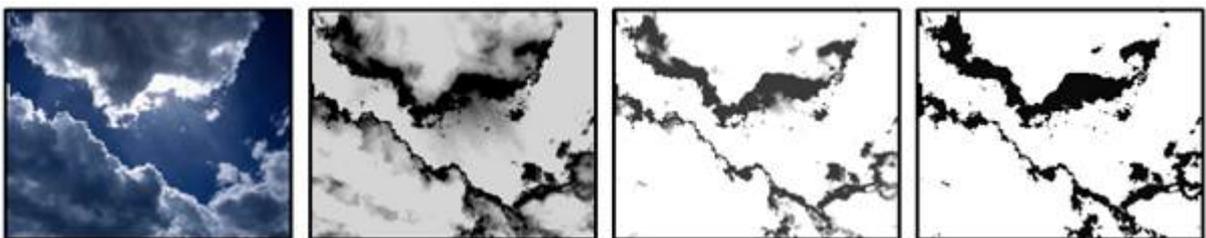
FX1: Raster Size
FX2: Pixel Size
FX3: Corner Radius
Creates a look like a LED wall, with controls for raster size, pixel size and corner radius.

VideoFX 028 BW



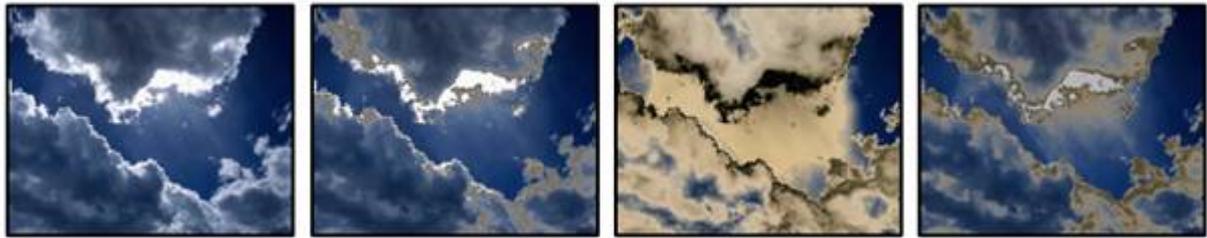
FX1: Amount
FX2: Black Level
FX3: White Level
Creates a B/W picture; amount, black level and white level are adjustable.

VideoFX 029 INV BW



FX1: Amount
FX2: Black Level
FX3: White Level
Creates a negative B/W Picture; amount, black level and white level are adjustable.

VideoFX 030 SelCollvert



FX1: Amount
 FX2: Range
 FX3: Softness
 Selective colour inversion based on colourmix values.

VideoFX 031 Deint1
 Odd field doubling

VideoFX 032 Deint2
 Even field doubling

VideoFX 033 AlphaBlend



2, 2, 14

1, 3, 5

1, 9, 9

Key + Fill:

			<p>Layer 2:</p> <p>Colour FX: Whitekey FX1: 255 FX2: 255 FX3: 255 Video FX: AlphaBlend FX1: 1 FX2: 0 FX3: 5</p>
		<p>Layer 3:</p> <p>Video FX: AlphaBlend FX1: 1 FX2: 8 FX3: 5</p>	

FX1 BlendOperation

- Add = 1
- Subtract = 2
- RevSubtract = 3
- MIN = 4
- MAX = 5

FX2 SRC(Source)Blend / FX3 DEST(Destination)Blend Modes

- Blend_ZERO = 1
- Blend_ONE = 2

Blend_SRC_COLOUR	=	3
Blend_INV_SRC_COLOUR	=	4
Blend_SRC_ALPHA	=	5
Blend_INV_SRC_ALPHA	=	6
Blend_DEST_ALPHA	=	7
Blend_INV_DEST_ALPHA	=	8
Blend_DEST_COLOUR	=	9
Blend_INV_DEST_COLOUR	=	10
Blend_SRC_ALPHA_SAT	=	11
Blend_BOTH_SRC_ALPHA	=	12
Blend_BOTH_INV_SRC_ALPHA	=	13
Blend_BLEND_FACTOR	=	14
Blend_INV_BLEND_FACTOR	=	15

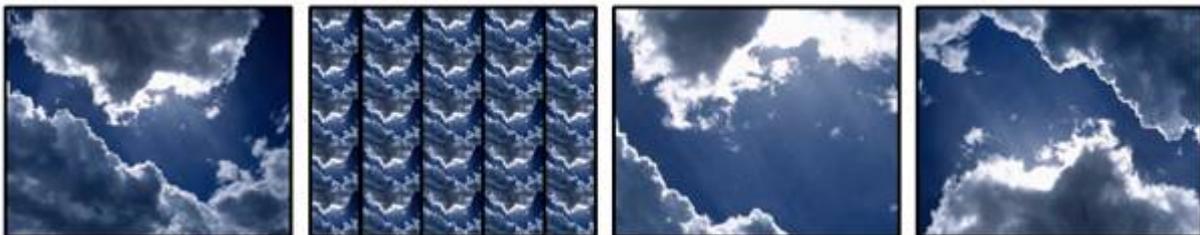
The colour and alpha value of the final pixel are calculated as follows:

$$\text{EndValue} = (\text{NewPixel} * \text{SRCBlendValue}) (\text{BlendOp}) (\text{OldPixel} * \text{DESTBlendValue})$$

VideoFX 034 MotionTile

- FX1: Amount
- FX2: X Speed
- FX3: Y Speed
-

VideoFX 035 Tiling



- FX1: Amount
- FX2: X Offset
- FX3: Y Offset

Tiling and texture positioning. With controls for amount, X- and Y- offset.

VideoFX 036 TilingMirror

- FX1: Amount
- FX2: X Speed
- FX3: Y Speed

VideoFX 037 TilingPulse

- FX1: Speed
- FX2: Size
- FX3: Mix

VideoFX 038 AlphaCropX



- FX1: Amount
- FX2: Offset

FX3: ---
Horizontal texture cropping, amount and offset are adjustable, cropped area is transparent.

VideoFX 039 AlphaCropY



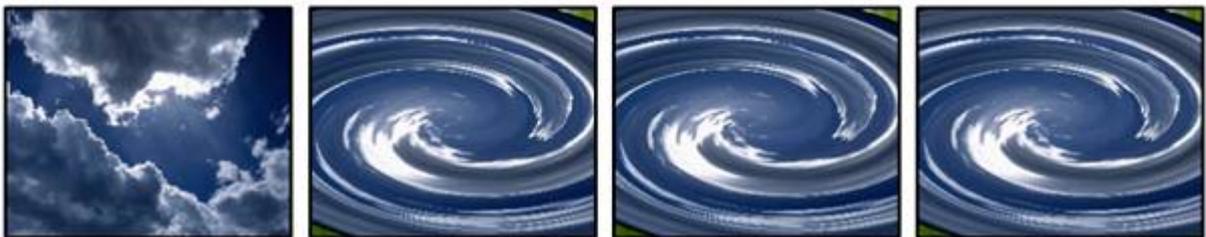
FX1: Amount
FX2: Offset
FX3: ---
Vertical texture cropping, amount and offset are adjustable, cropped area is transparent.

VideoFX 040 SwirlAngle



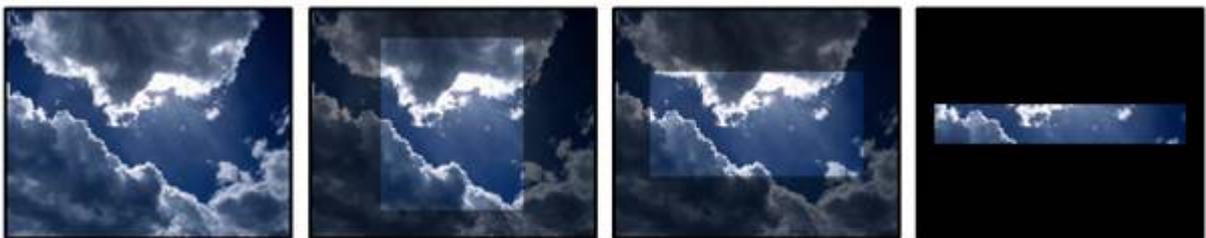
FX1: Range
FX2: Zoom
FX3: ---
Indexed Swirl; range and zoom are adjustable.

VideoFX 041 SwirlSpeed



FX1: Amount
FX2: ---
FX3: ---
Bouncing Swirl; speed (amount) is adjustable.

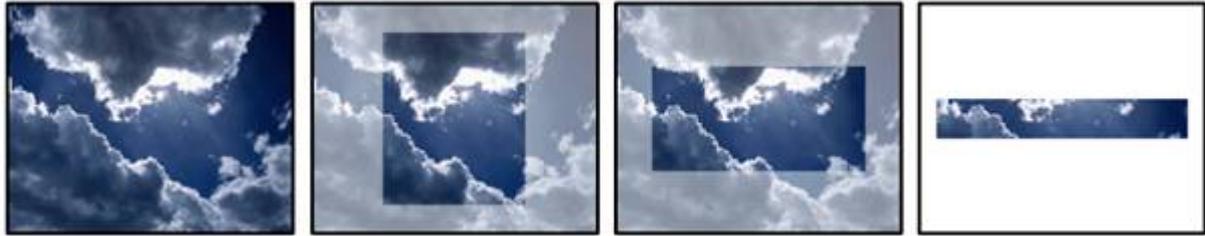
VideoFX 042 BlackCrop



FX1: Amount
FX2: Horizontal
FX3: Vertical
Horizontal and vertical texture cropping, cropped area is black.

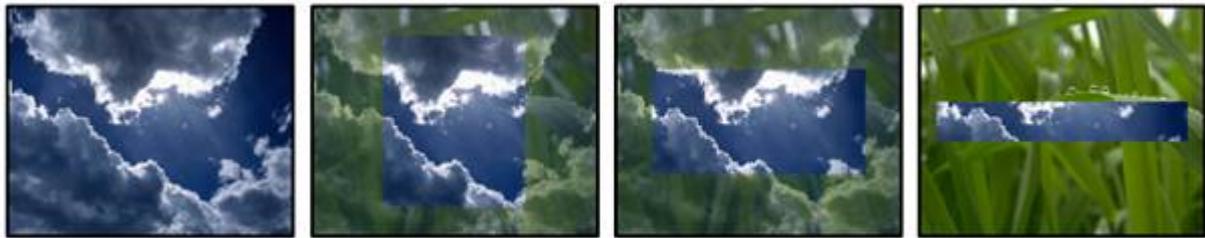
VideoFX 043

WhiteCrop



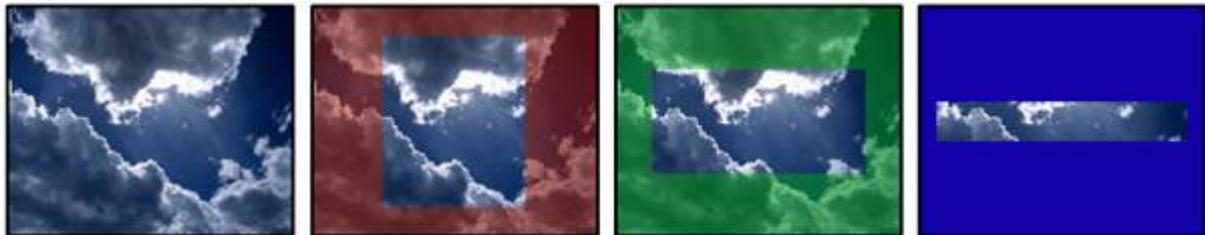
FX1: Amount
FX2: Horizontal
FX3: Vertical
Horizontal and vertical texture cropping, cropped area is white.

VideoFX 044 AlphaCrop



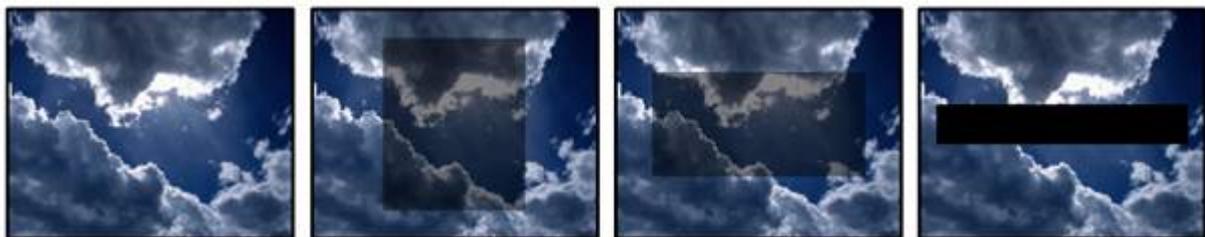
FX1: Amount
FX2: Horizontal
FX3: Vertical
Horizontal and vertical texture cropping, cropped area is transparent.

VideoFX 045 ColourCrop



FX1: Amount
FX2: Horizontal
FX3: Vertical
Horizontal and vertical cropping, cropped area is colorized based on colourmix parameter values.

VideoFX 046 INV BlackCrop



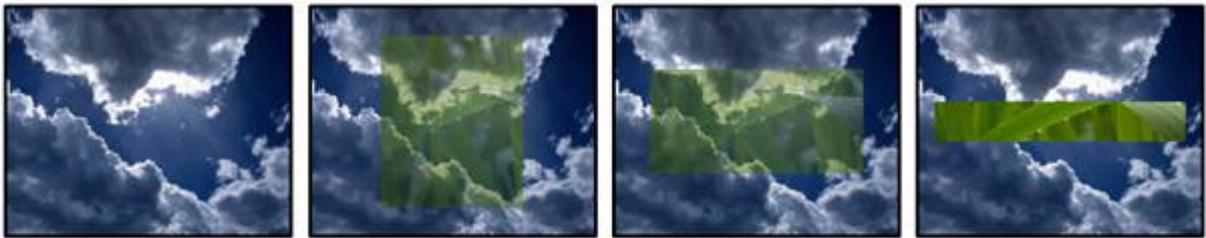
FX1: Amount
FX2: Horizontal
FX3: Vertical
Inverted horizontal and vertical texture cropping, cropped area is black.

VideoFX 047 INV WhiteCrop



FX1: Amount
FX2: Horizontal
FX3: Vertical
Inverted horizontal and vertical texture cropping, cropped area is white.

VideoFX 048 INVAAlphaCrop



FX1: Amount
FX2: Horizontal
FX3: Vertical
Inverted horizontal and vertical texture cropping, cropped area is transparent.

VideoFX 049 INVColourCrop



FX1: Amount
FX2: Horizontal
FX3: Vertical
Inverted horizontal and vertical cropping, cropped area is colorized based on colourmix values.

VideoFX 050 BlackSoftBorder



FX1: Amount
FX2: Size
FX3: Curve
Soft border on edges. Border area is black.

VideoFX 051 WhiteSoftBorder



FX1: Amount
FX2: Size
FX3: Curve
Soft border on edges. Border area is white.

VideoFX 052 AlphaSoftBorder



FX1: Amount
FX2: Size
FX3: Curve
Soft border on edges. Border area is transparent.

VideoFX 053 ColourSoftBorder



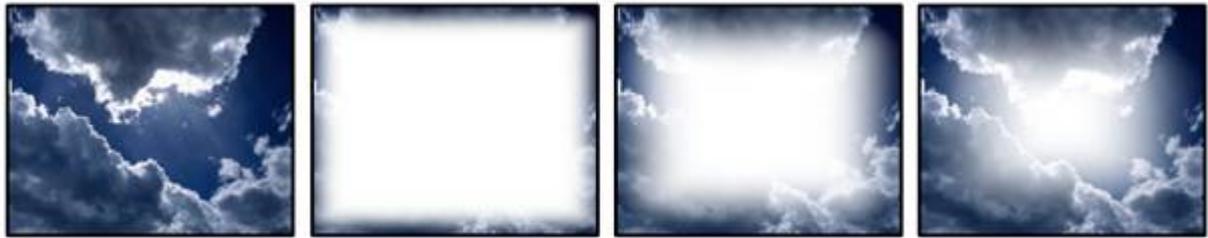
FX1: Amount
FX2: Size
FX3: Curve
Soft border on edges. Border area is colourized based on colourmix values.

VideoFX 054 INV BlackSoftBorder



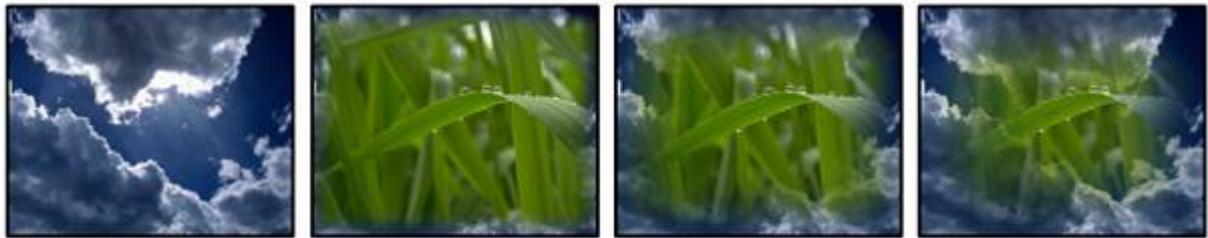
FX1: Amount
FX2: Size
FX3: Curve
Soft inverted border on edges. Border is black.

VideoFX 055 INV WhiteSoftBorder



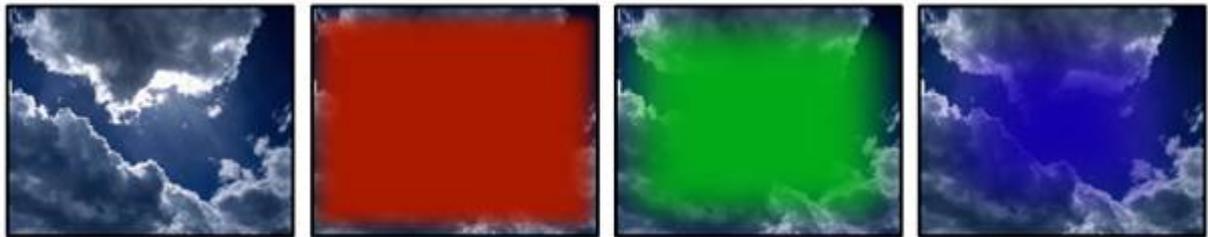
FX1: Amount
 FX2: Size
 FX3: Curve
 Soft inverted border on edges. Border is white.

VideoFX 056 INV AlphaSoftBorder



FX1: Amount
 FX2: Size
 FX3: Curve
 Soft inverted border on edges. Border is transparent.

VideoFX 057 INV ColourSoftBorder



FX1: Amount
 FX2: Size
 FX3: Curve
 Soft inverted border on edges. Border area is colorized based on colourmix values.

VideoFX 058 IrisBlack



FX1: Aspect
 FX2: Size
 FX3: Softness
 Centered iris; shape, size and edge are adjustable. Area outside of iris is black.

VideoFX 059 IrisWhite



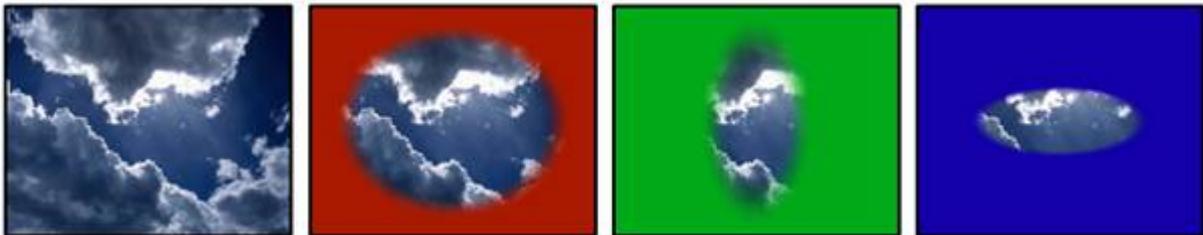
FX1: Aspect
 FX2: Size
 FX3: Softness
 Centered iris; shape, size and edge are adjustable. Area outside of iris is white.

VideoFX 060 IrisAlpha



FX1: Aspect
 FX2: Size
 FX3: Softness
 Centered iris; shape, size and edge are adjustable. Area outside of iris is transparent.

VideoFX 061 IrisColour



FX1: Aspect
 FX2: Size
 FX3: Softness
 Centered iris; shape, size and edge are adjustable. Area is colorized based on colourmix values.

VideoFX 062 INV IrisBlack



FX1: Aspect
 FX2: Size
 FX3: Softness
 Centered negative iris; shape, size and edge are adjustable. Area outside of iris is black.

VideoFX 063 INV IrisWhite



FX1: Aspect
 FX2: Size
 FX3: Softness
 Centered negative iris; shape, size and edge are adjustable. Area outside of iris is white.

VideoFX 064 INV IrisAlpha



FX1: Aspect
 FX2: Size
 FX3: Softness
 Centered negative iris; shape, size and edge are adjustable. Area outside of iris is transparent.

VideoFX 065 INV IrisColour

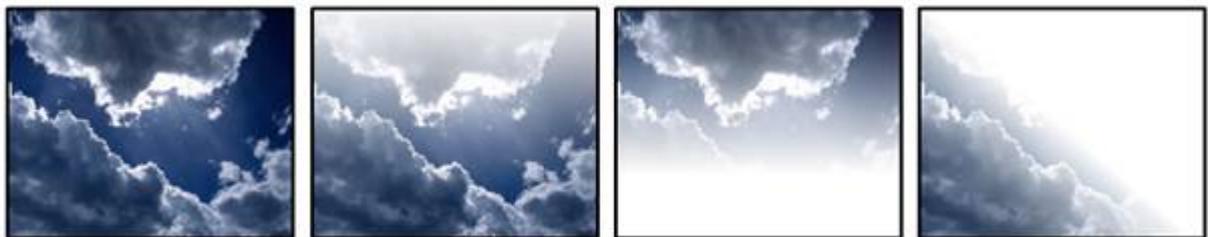
FX1: Aspect
 FX2: Size
 FX3: Softness
 Centered negative iris; shape, size and edge are adjustable. Area is based on colourmix values.

VideoFX 066 TB BlackGradient



FX1: Amount
 FX2: Size
 FX3: Rotation
 Top bottom gradient; size and edge are adjustable as well as rotation. Gradient area is black.

VideoFX 067 TB WhiteGradient



FX1: Amount
 FX2: Size
 FX3: Rotation
 Top bottom gradient; size and edge are adjustable as well as rotation. Gradient area is white.

VideoFX 068 TB AlphaGradient



FX1: Amount
 FX2: Size
 FX3: Rotation
 Top bottom gradient; size & edge are adjustable as well as rotation. Area is transparent.

VideoFX 069 TB ColourGradient



FX1: Amount
 FX2: Size
 FX3: Rotation
 Top bottom gradient. Controls for size, edge and rotation.
 Area is based on colourmix parameter values.

VideoFX 070 INV TB BlackGradient

FX1: Amount
 FX2: Size
 FX3: Rotation
 Top bottom inverted gradient. Controls for size, edge and rotation.
 Gradient area is black.

VideoFX 071 INV TB WhiteGradient

FX1: Amount
 FX2: Size
 FX3: Rotation
 Top bottom inverted gradient. Controls for size, edge and rotation.
 Gradient area is white.

VideoFX 072 INV TB AlphaGradient

FX1: Amount
 FX2: Size
 FX3: Rotation
 Top bottom inverted gradient. Controls for size, edge and rotation.
 Gradient area is transparent.

VideoFX 073 INV TB ColourGradient

FX1: Amount
 FX2: Size
 FX3: Rotation
 Top bottom inverted gradient. Controls for size, edge and rotation.
 Gradient area is based on colourmix values.

VideoFX 074 LR BlackGradient

FX1: Amount

FX2: Size
FX3: Rotation
Left right black gradient. Controls for size, edge and rotation.

VideoFX 075 LR WhiteGradient
FX1: Amount
FX2: Size
FX3: Rotation
Left right white gradient. Controls for size, edge and rotation.

VideoFX 076 LR AlphaGradient
FX1: Amount
FX2: Size
FX3: Rotation
Left right alpha gradient. Controls for size, edge and rotation.

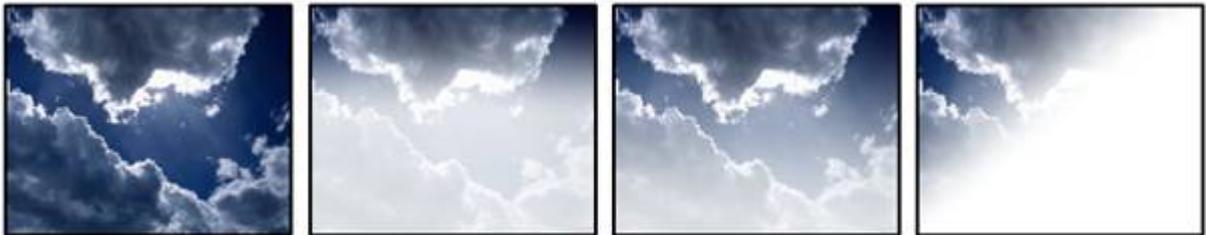
VideoFX 077 LRColourGradient
FX1: Amount
FX2: Size
FX3: Rotation
Left right coloured gradient. Controls for size, edge and rotation.

VideoFX 078 INV LR BlackGradient



FX1: Amount
FX2: Size
FX3: Rotation
Inverted left right black gradient. Controls for size, edge and rotation.

VideoFX 079 INV LR WhiteGradient



FX1: Amount
FX2: Size
FX3: Rotation
Inverted left right white gradient. Controls for size, edge and rotation.

VideoFX 080 INV LR AlphaGradient



FX1: Amount

FX2: Size
 FX3: Rotation
 Inverted left right alpha gradient. Controls for size, edge and rotation.

VideoFX 081 INV LR ColourGradient



FX1: Amount
 FX2: Size
 FX3: Rotation
 Inverted left right coloured gradient. Controls for size, edge and rotation.

VideoFX 082 FrameBlack



FX1: Amount
 FX2: Size
 FX3: Softness
 Frame. Size and edge are adjustable, frame is black.

VideoFX 083 FrameWhite



FX1: Amount
 FX2: Size
 FX3: Softness
 Frame. Size and edge are adjustable, frame is white.

VideoFX 084 FrameAlpha



FX1: Amount
 FX2: Size
 FX3: Softness
 Frame. Size and edge are adjustable, frame is transparent.

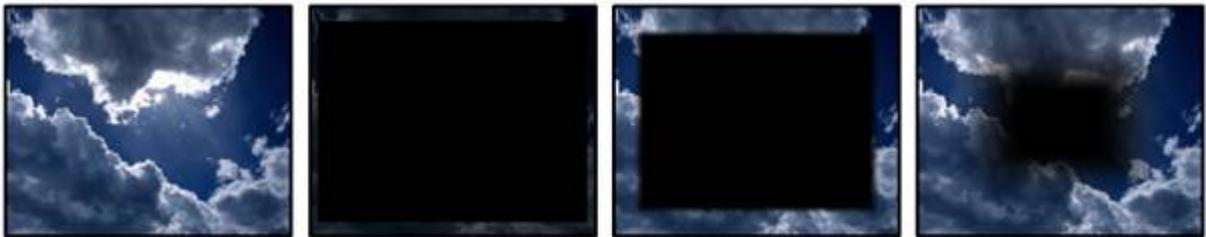
VideoFX 085 FrameColour



FX1: Amount
FX2: Size
FX3: Softness

Frame. Size and edge are adjustable; frame is colourized based on colourmix parameter values.

VideoFX 086 INV FrameBlack



FX1: Amount
FX2: Size
FX3: Softness

Inverted frame. Size and edge are adjustable; area inside the frame is black.

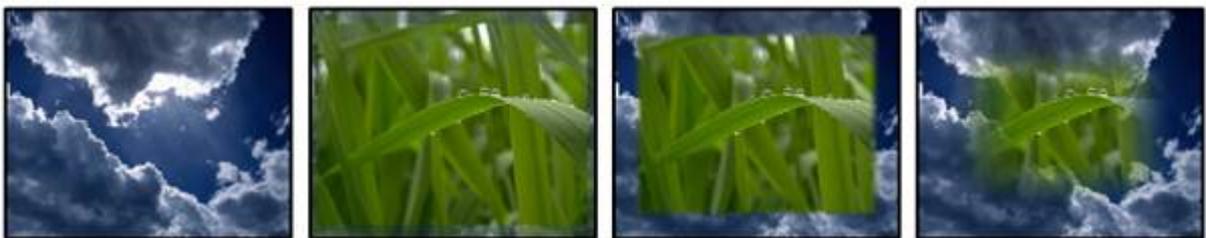
VideoFX 087 INV FrameWhite



FX1: Amount
FX2: Size
FX3: Softness

Inverted frame. Size and edge are adjustable; area inside the frame is white.

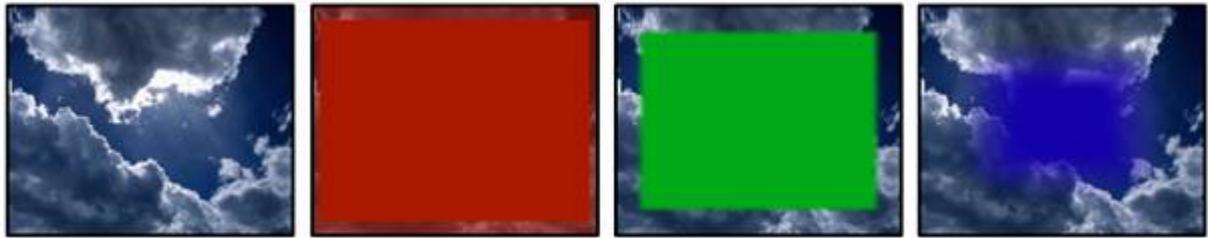
VideoFX 088 INV FrameAlpha



FX1: Amount
FX2: Size
FX3: Softness

Inverted frame. Size and edge are adjustable; area inside the frame is transparent

VideoFX 089 INV FrameColour



FX1: Amount
 FX2: Size
 FX3: Softness
 Inverted frame. Size and edge are adjustable; area inside the frame is based on colourmix.

VideoFX 090 SpotlightBlack



FX1: Size
 FX2: X Position
 FX3: Y Position
 Hard edge spot; size, X- and Y- Position are adjustable. Spot is black.

VideoFX 091 SpotlightWhite



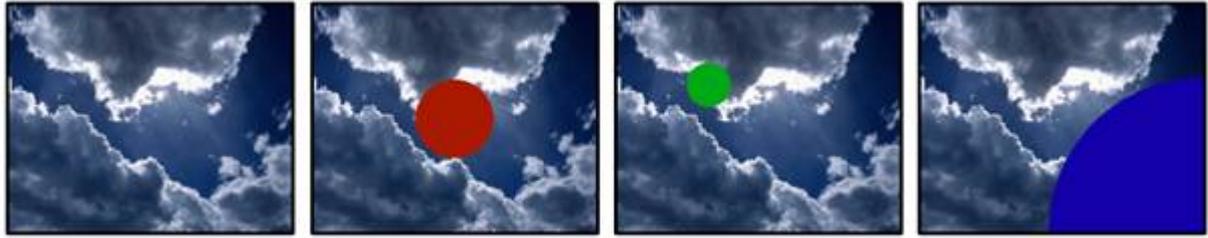
FX1: Size
 FX2: X Position
 FX3: Y Position
 Hard edge spot; size, X- and Y- Position are adjustable. Spot is white.

VideoFX 092 SpotlightAlpha



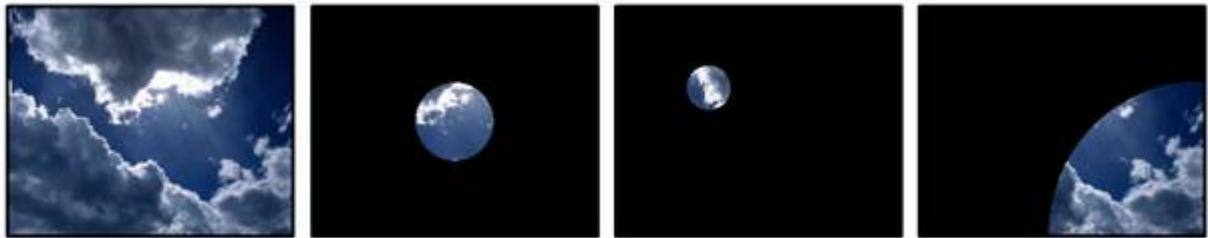
FX1: Size
 FX2: X Position
 FX3: Y Position
 Hard edge spot; size, X- and Y- Position are adjustable. Spot is transparent.

VideoFX 093 SpotlightColour



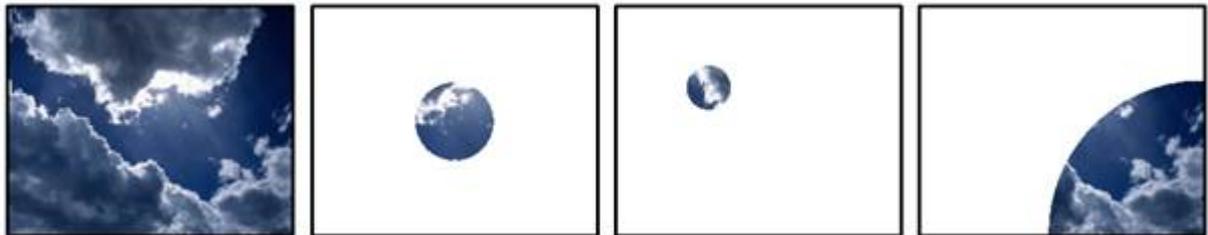
FX1: Size
 FX2: X Position
 FX3: Y Position
 Hard edge spot; size, X- and Y- Position are adjustable. Spot is colorized based on colourmix.

VideoFX 094 INV SpotlightBlack



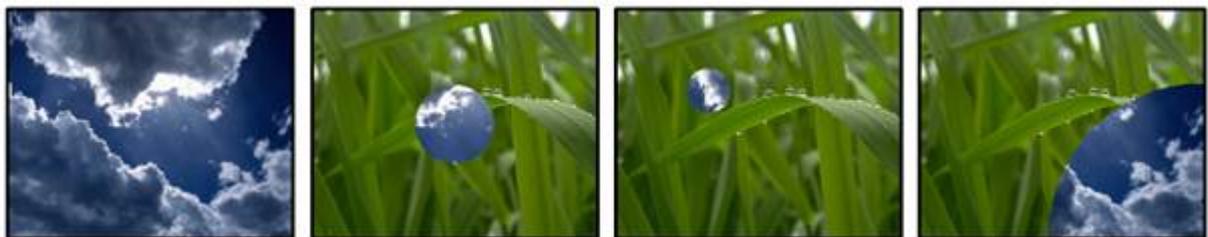
FX1: Size
 FX2: X Position
 FX3: Y Position
 Allows hard edge spot; size, X- and Y- Position are adjustable. Area outside of spot is black.

VideoFX 095 INV SpotlightWhite



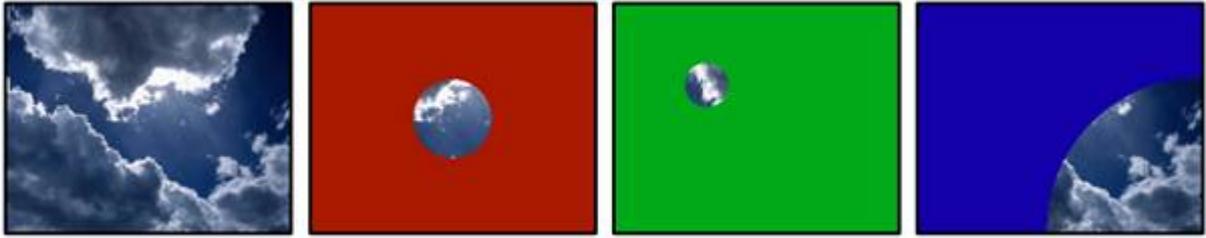
FX1: Size
 FX2: X Position
 FX3: Y Position
 Hard edge spot; size, X- and Y- Position are adjustable. Area outside of spot is white.

VideoFX 096 INV SpotlightAlpha



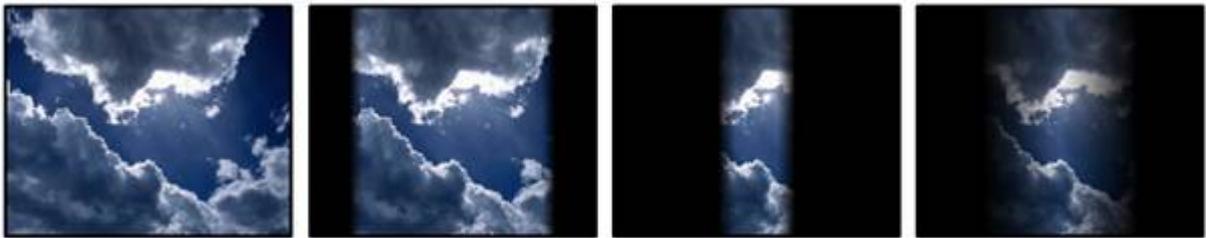
FX1: Size
 FX2: X Position
 FX3: Y Position
 Hard edge spot; size, X- and Y- Position are adjustable. Area outside of spot is transparent.

VideoFX 097 INV SpotlightColour



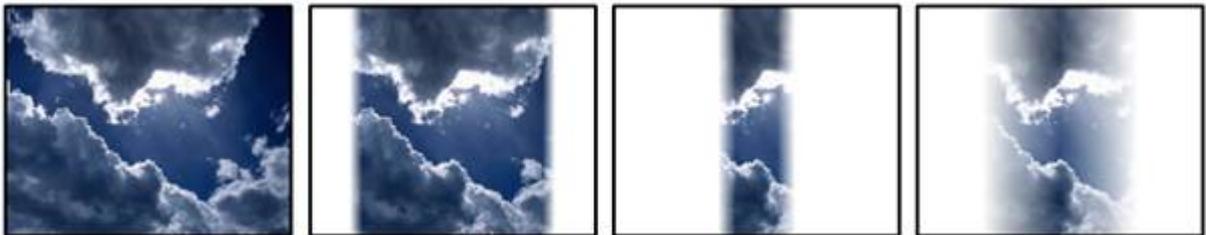
FX1: Size
 FX2: X Position
 FX3: Y Position
 Hard edge spot; size, X- and Y- Position are adjustable. Area is based on colourmix.

VideoFX 098 LR BorderBlack



FX1: Amount
 FX2: Size
 FX3: Softness
 Border from left & right to center. Size and edge of border are adjustable, border is black.

VideoFX 099 LR BorderWhite



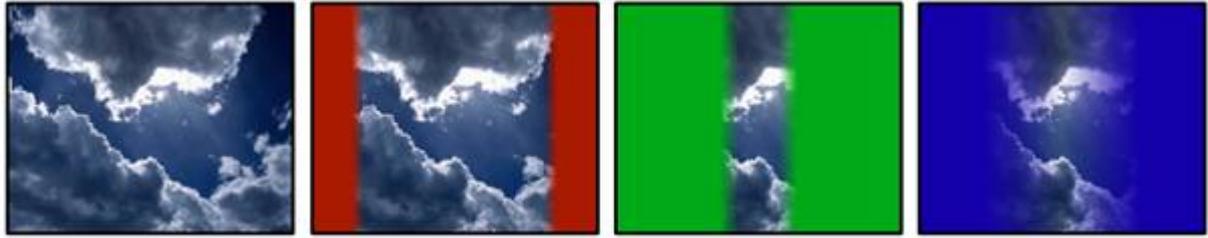
FX1: Amount
 FX2: Size
 FX3: Softness
 Border from left & right to center. Size and edge of border are adjustable, border is white.

VideoFX 100 LR BorderAlpha



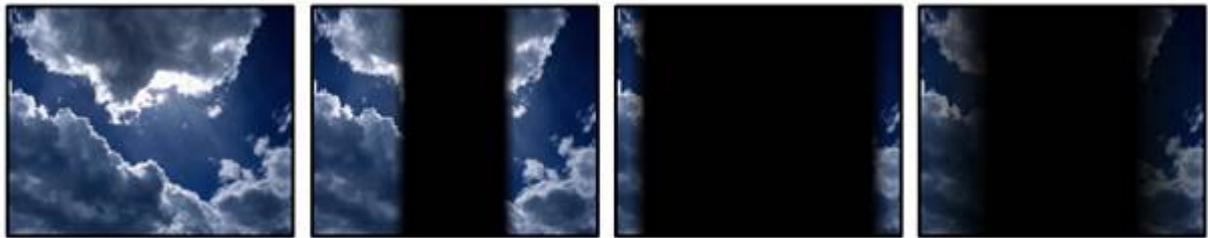
FX1: Amount
 FX2: Size
 FX3: Softness
 Border from left & right to center. Size & edge of border are adjustable, border is transparent.

VideoFX 101 LR BorderColour



FX1: Amount
 FX2: Size
 FX3: Softness
 Border from left & right to center. Size & edge of border are adjustable, border is colourmixed.

VideoFX 102 INV LR BorderBlack



FX1: Amount
 FX2: Size
 FX3: Softness
 Border from center to left & right. Size and edge of border are adjustable, border is black.

VideoFX 103 INV LR BorderWhite



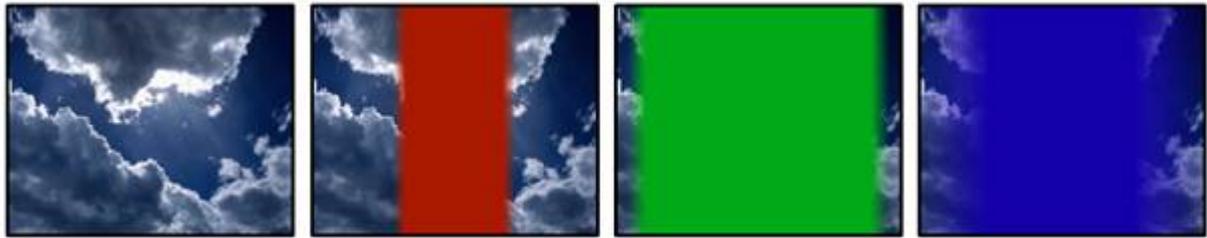
FX1: Amount
 FX2: Size
 FX3: Softness
 Border from center to left & right. Size and edge of border are adjustable, border is white.

VideoFX 104 INV LR BorderAlpha



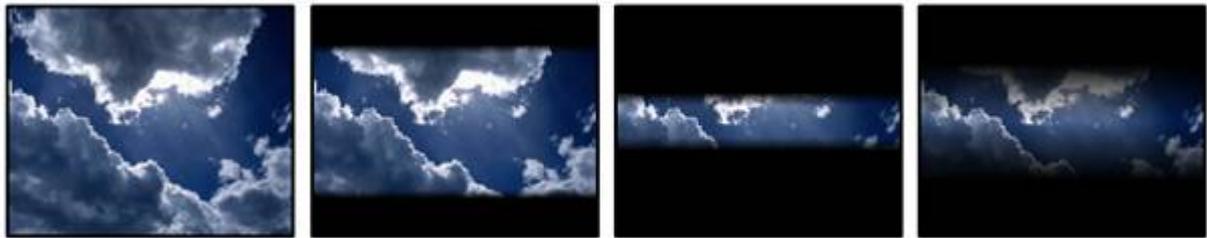
FX1: Amount
 FX2: Size
 FX3: Softness
 Border from center to left & right. Size & edge of border are adjustable, border is transparent.

VideoFX 105 INV LR BorderColour



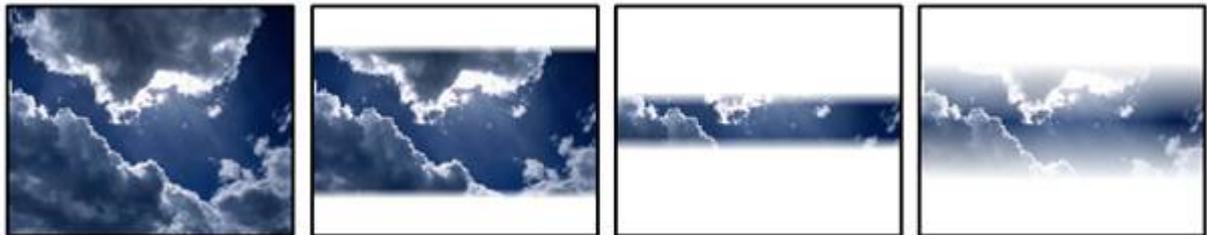
FX1: Amount
 FX2: Size
 FX3: Softness
 Border from center to left & right. Size & edge of border are adjustable, border is colourmixed

VideoFX 106 TB BorderBlack



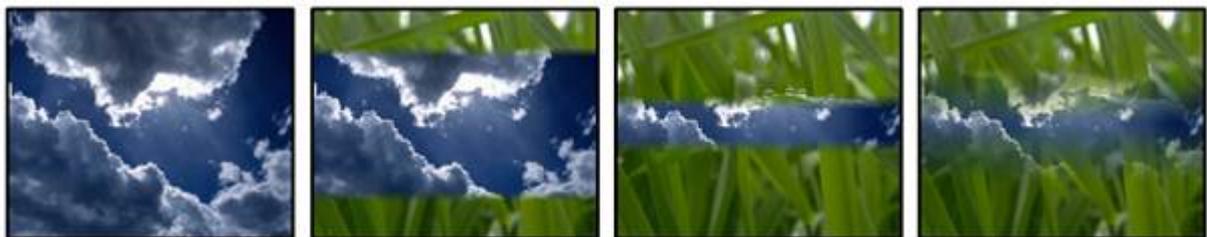
FX1: Amount
 FX2: Size
 FX3: Softness
 Border from top & bottom to center. Size and edge of border are adjustable, border is black.

VideoFX 107 TB BorderWhite



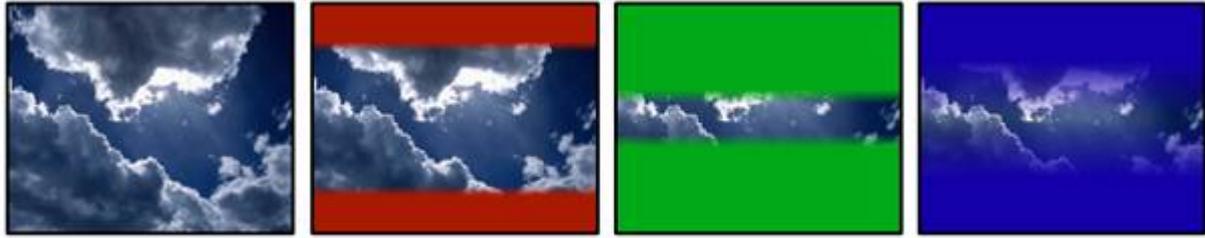
FX1: Amount
 FX2: Size
 FX3: Softness
 Border from top/bottom to center. Size and edge of border are adjustable, border is white.

VideoFX 108 TB BorderAlpha



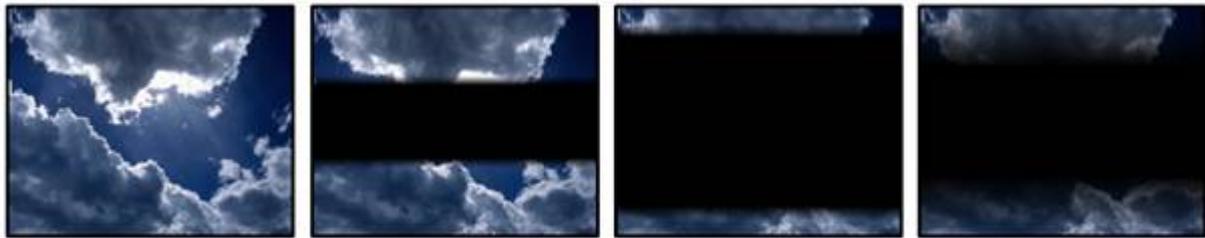
FX1: Amount
 FX2: Size
 FX3: Softness
 Border from top/bottom to center. Size & edge of border are adjustable, border is transparent.

VideoFX 109 TB BorderColour



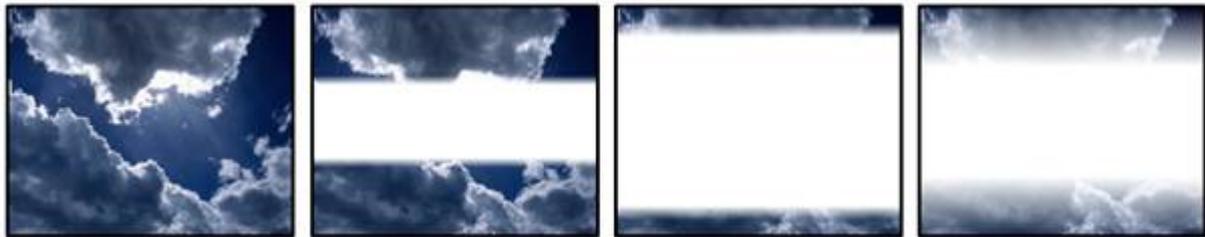
FX1: Amount
 FX2: Size
 FX3: Softness
 Border from top/bottom to center. Size & edge of border are adjustable, border is coloumixed.

VideoFX 110 INV TB BorderBlack



FX1: Amount
 FX2: Size
 FX3: Softness
 Border from center to top/bottom. Size & edge of border are adjustable, border is black.

VideoFX 111 INV TB BorderWhite



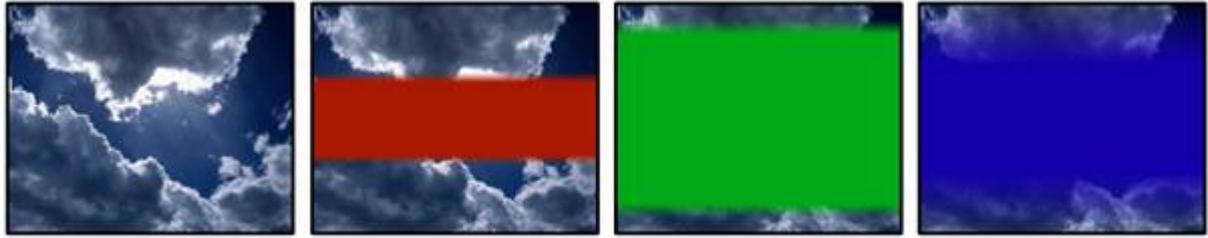
FX1: Amount
 FX2: Size
 FX3: Softness
 Border from center to top/bottom. Size & edge of border are adjustable, border is white.

VideoFX 112 INV TB BorderAlpha



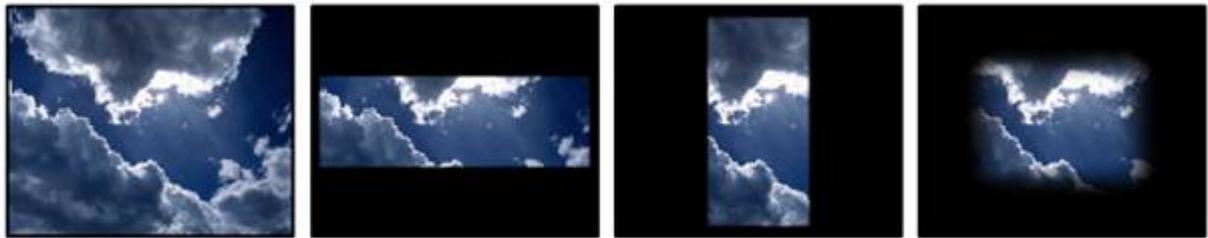
FX1: Amount
 FX2: Size
 FX3: Softness
 Border from center to top/bottom. Size & edge of border are adjustable, border is transparent.

VideoFX 113 INV TB BorderColour



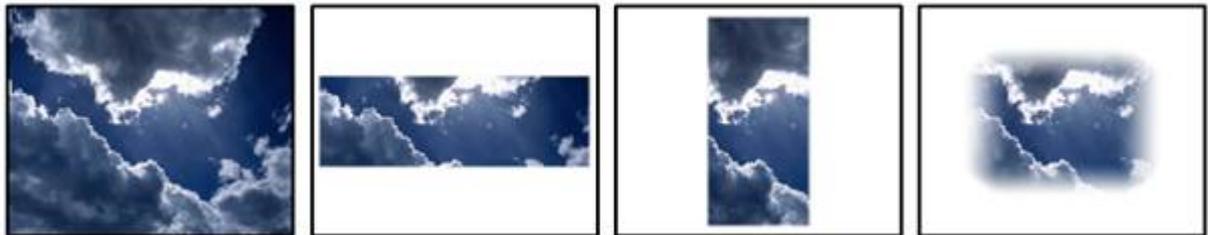
FX1: Amount
 FX2: Size
 FX3: Softness
 Border from center to top/bottom. Size & edge of border are adjustable, border is colourmixed.

VideoFX 114 SquareBlack



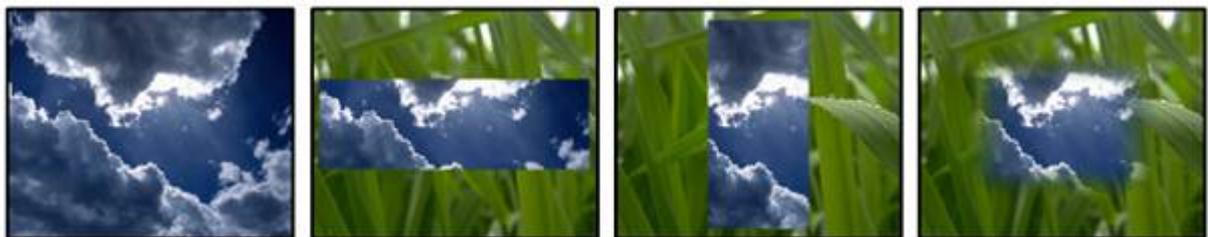
FX1: Aspect
 FX2: Size
 FX3: Softness
 Centered rectangle. Aspect ratio, size & edge are adjustable, area outside rectangle is black.

VideoFX 115 SquareWhite



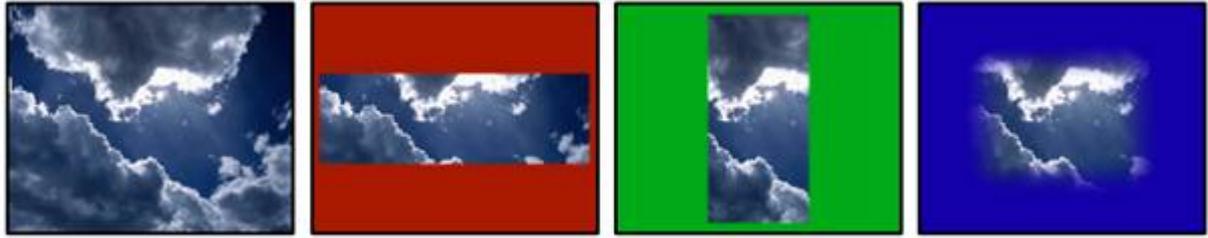
FX1: Aspect
 FX2: Size
 FX3: Softness
 Centered rectangle. Aspect ratio, size & edge are adjustable, area outside rectangle is white.

VideoFX 116 SquareAlpha



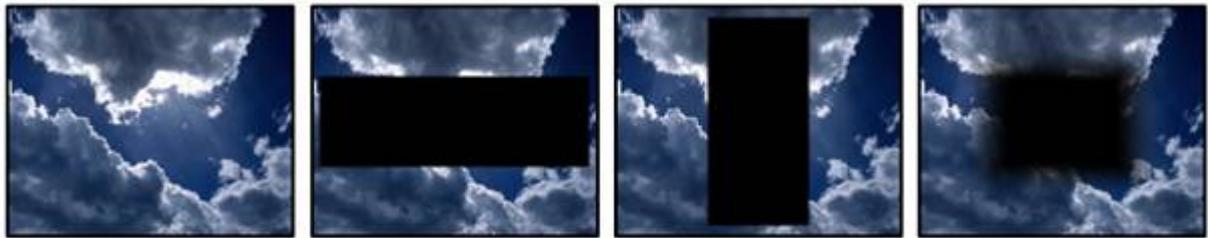
FX1: Aspect
 FX2: Size
 FX3: Softness
 Centered rectangle. Aspect ratio, size & edge are adjustable, area is transparent.

VideoFX 117 SquareColour



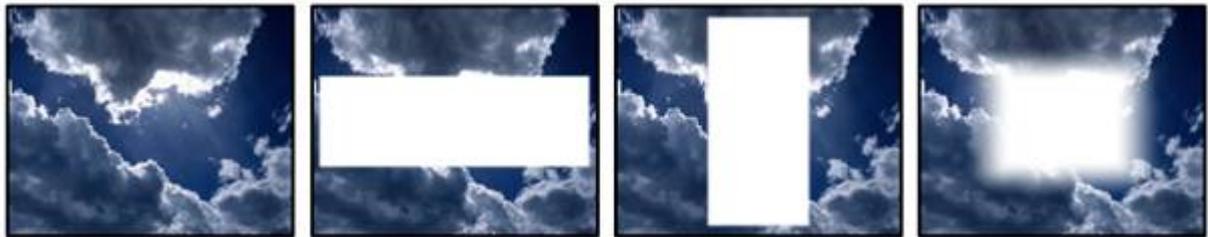
FX1: Aspect
 FX2: Size
 FX3: Softness
 Centered rectangle. Aspect ratio, size & edge are adjustable, area is colourmixed.

VideoFX 118 INV SquareBlack



FX1: Aspect
 FX2: Size
 FX3: Softness
 Centered rectangle. Aspect ratio, size & edge are adjustable, rectangle is black.

VideoFX 119 INV SquareWhite



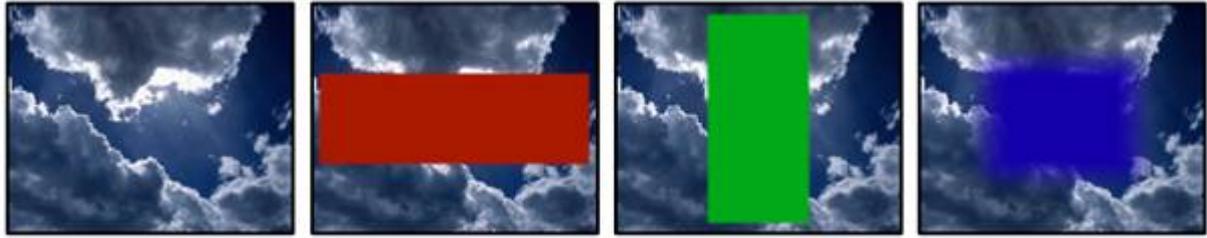
FX1: Aspect
 FX2: Size
 FX3: Softness
 Centered rectangle. Aspect ratio, size & edge are adjustable, rectangle is white.

VideoFX 120 INV SquareAlpha



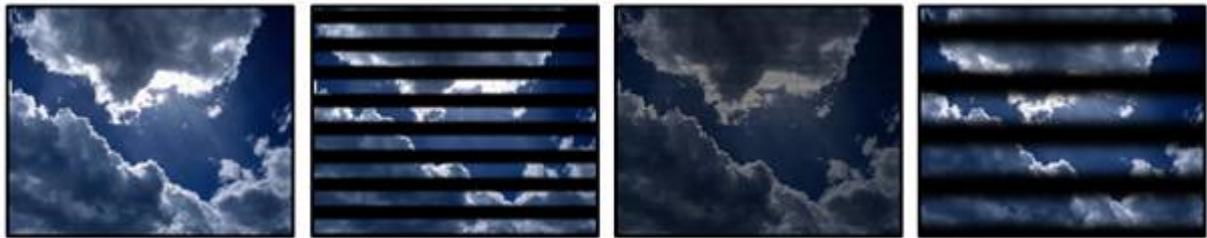
FX1: Aspect
 FX2: Size
 FX3: Softness
 Centered rectangle. Aspect ratio, size & edge are adjustable, rectangle is transparent.

VideoFX 121 INV SquareColour



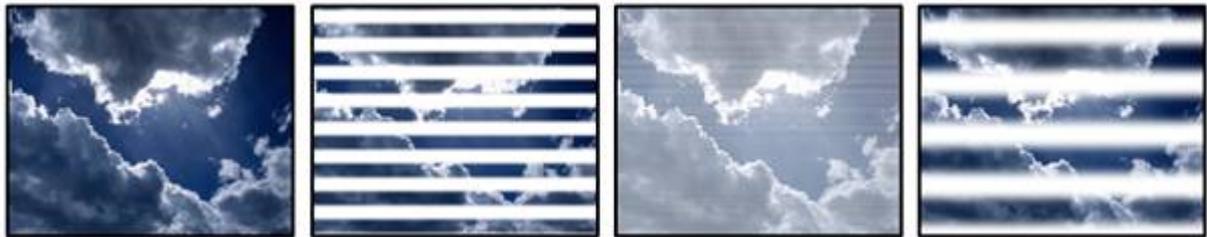
FX1: Aspect
 FX2: Size
 FX3: Softness
 Centered rectangle. Aspect ratio, size & edge are adjustable, rectangle is colourmix.

VideoFX 122 BarsBlackH



FX1: Amount
 FX2: Size
 FX3: Softness
 Horizontal bars; amount, size and edge are adjustable. Bars are black.

VideoFX 123 BarsWhiteH



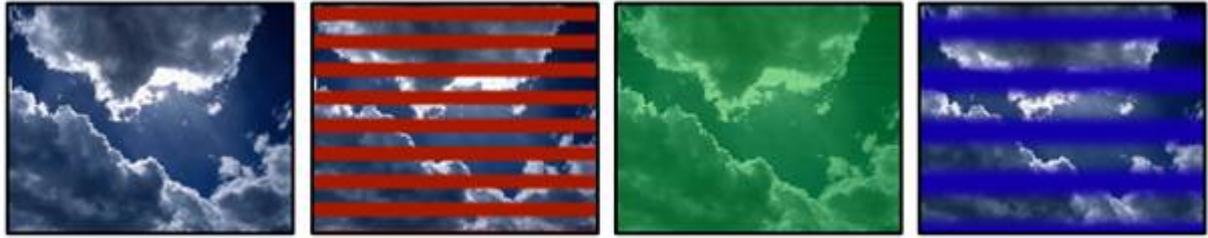
FX1: Amount
 FX2: Size
 FX3: Softness
 Horizontal bars; amount, size and edge are adjustable. Bars are white.

VideoFX 124 BarsAlphaH



FX1: Amount
 FX2: Size
 FX3: Softness
 Horizontal bars; amount, size and edge are adjustable. Bars are transparent.

VideoFX 125 BarsColourH



FX1: Amount
 FX2: Size
 FX3: Softness
 Horizontal bars; amount, size and edge are adjustable. Bars are colourized based on colourmix.

VideoFX 126 INV BarsBlackH



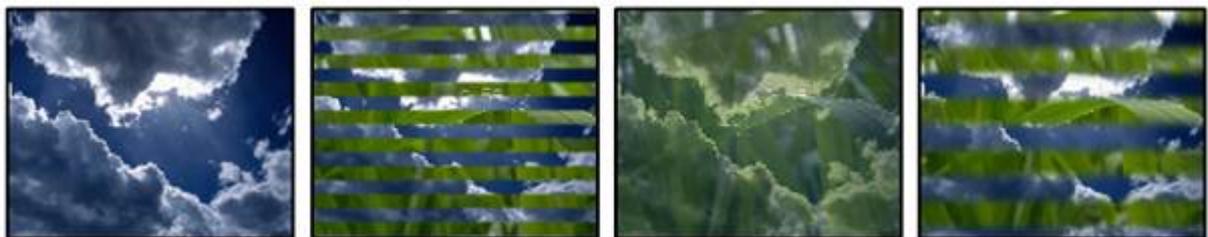
FX1: Amount
 FX2: Size
 FX3: Softness
 Allows horizontal bars; amount, size and edge are adjustable. Bars are black.

VideoFX 127 INV BarsWhiteH



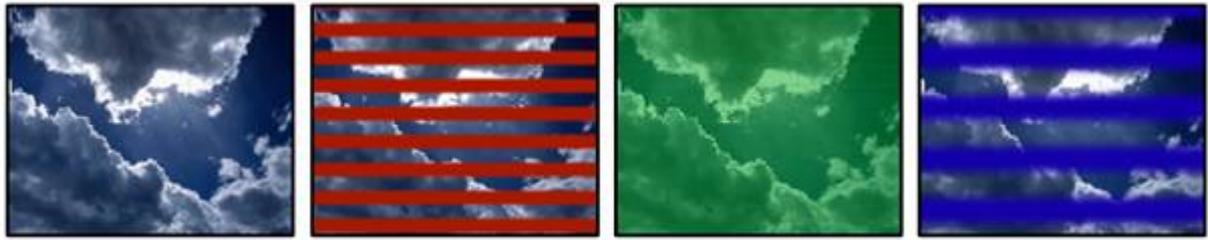
FX1: Amount
 FX2: Size
 FX3: Softness
 Horizontal bars; amount, size and edge are adjustable. Bars are white.

VideoFX 128 INV BarsAlphaH



FX1: Amount
 FX2: Size
 FX3: Softness
 Horizontal bars; amount, size and edge are adjustable. Bars are transparent.

VideoFX 129 INV BarsColourH



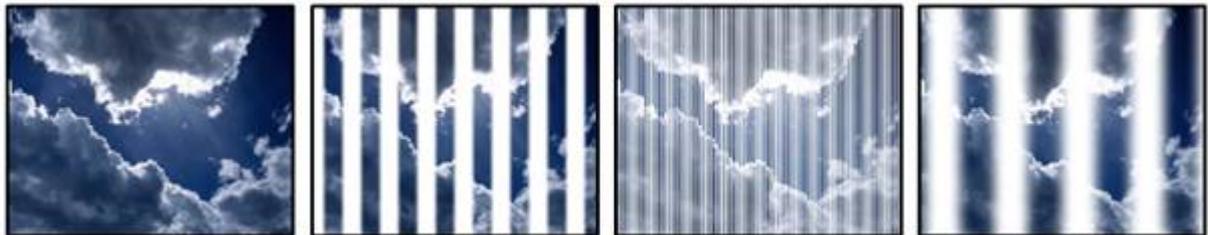
FX1: Amount
 FX2: Size
 FX3: Softness
 Horizontal bars; amount, size and edge are adjustable. Bars are colourized based on colourmix.

VideoFX 130 BarsBlackV



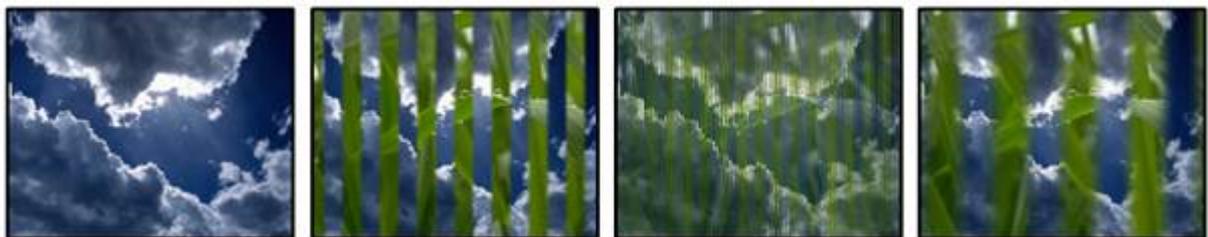
FX1: Amount
 FX2: Size
 FX3: Softness
 Vertical bars; amount, size and edge are adjustable. Bars are black.

VideoFX 131 BarsWhiteV



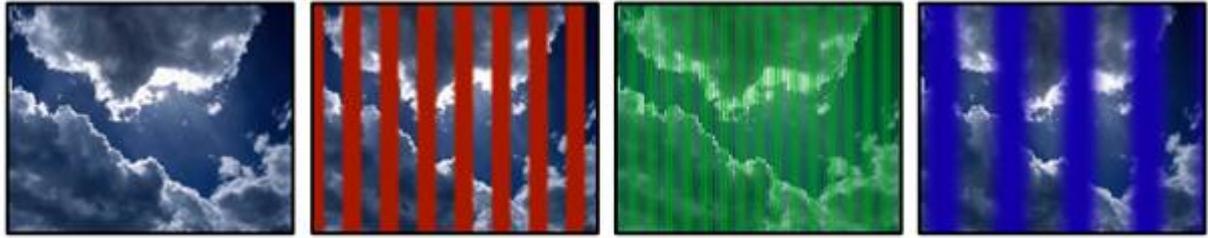
FX1: Amount
 FX2: Size
 FX3: Softness
 Vertical bars; amount, size and edge are adjustable. Bars are white.

VideoFX 132 BarsAlphaV



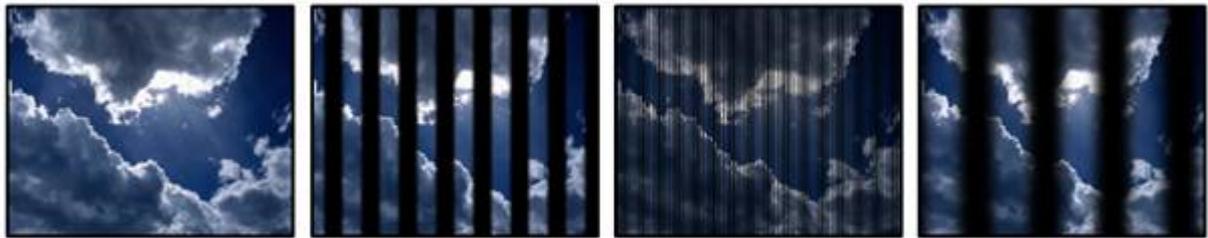
FX1: Amount
 FX2: Size
 FX3: Softness
 Vertical bars; amount, size and edge are adjustable. Bars are transparent.

VideoFX 133 BarsColourV



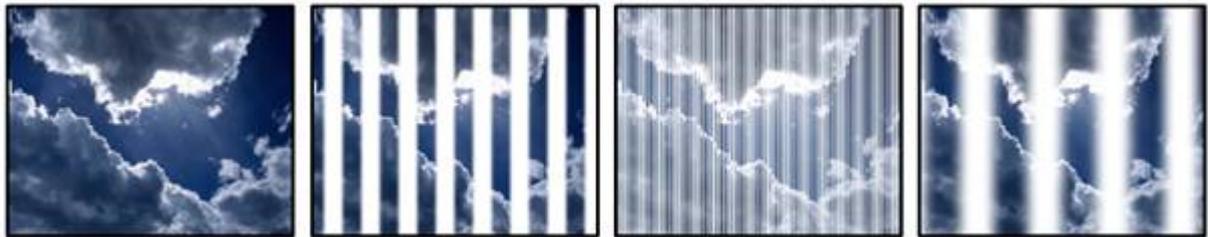
FX1: Amount
 FX2: Size
 FX3: Softness
 Vertical bars; amount, size and edge are adjustable. Bars are colourized based on colourmix.

VideoFX 134 INV BarsBlackV



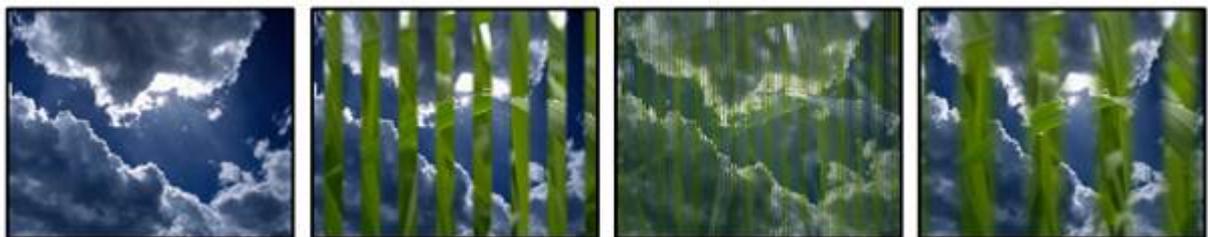
FX1: Amount
 FX2: Size
 FX3: Softness
 Vertical bars; amount, size and edge are adjustable. Bars are black.

VideoFX 135 INV BarsWhiteV



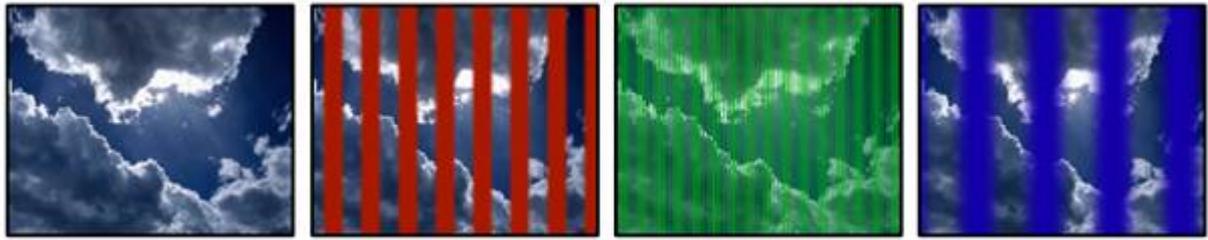
FX1: Amount
 FX2: Size
 FX3: Softness
 Vertical bars; amount, size and edge are adjustable. Bars are white.

VideoFX 136 INV BarsAlphaV



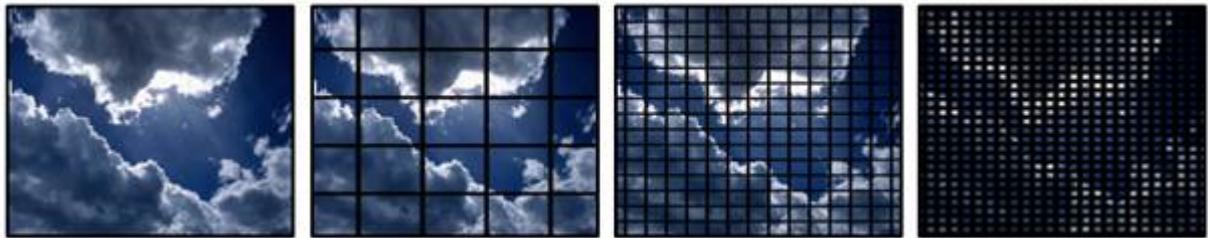
FX1: Amount
 FX2: Size
 FX3: Softness
 Vertical bars; amount, size and edge are adjustable. Bars are transparent.

VideoFX 137 INV BarsColourV



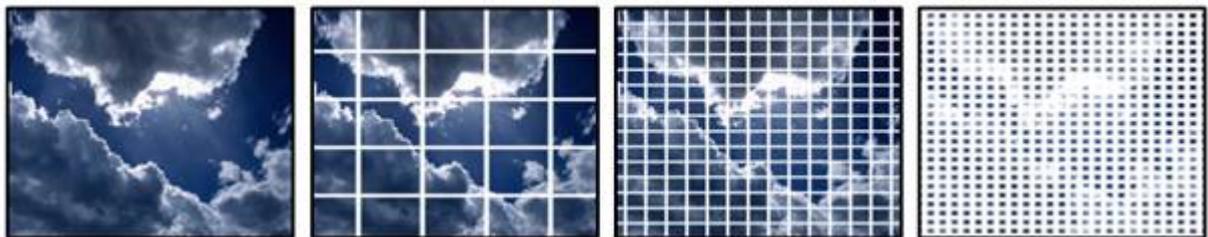
FX1: Amount
 FX2: Size
 FX3: Softness
 Vertical bars; amount, size and edge are adjustable. Bars are colourized based on colourmix.

VideoFX 138 RasterBlack



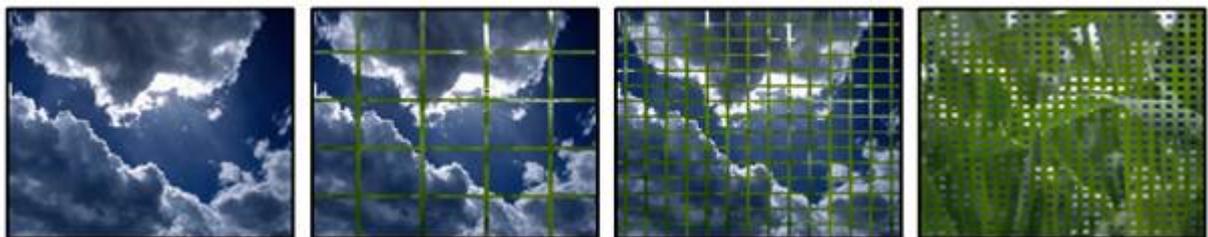
FX1: Amount
 FX2: Size
 FX3: Softness
 Raster, amount, size & edge are adjustable. Lines of raster are black.

VideoFX 139 RasterWhite



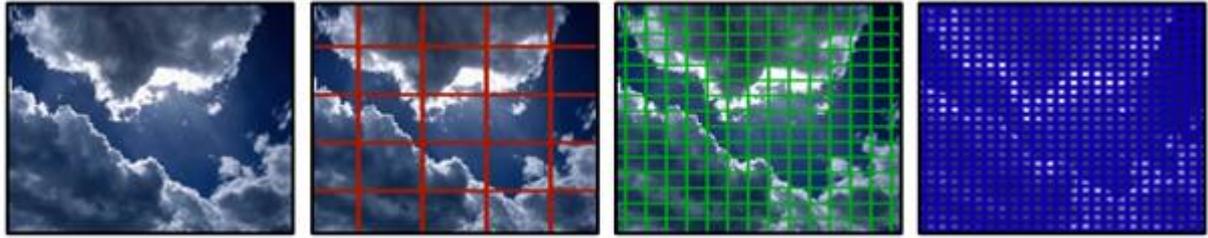
FX1: Amount
 FX2: Size
 FX3: Softness
 Raster, amount, size & edge are adjustable. Lines of raster are white.

VideoFX 140 RasterAlpha



FX1: Amount
 FX2: Size
 FX3: Softness
 Raster, amount, size & edge are adjustable. Lines of raster are transparent.

VideoFX 141 RasterColour



FX1: Amount
 FX2: Size
 FX3: Softness
 Raster, amount, size & edge are adjustable. Lines of raster are colorized based on colourmix.

VideoFX 142 INV RasterBlack



FX1: Amount
 FX2: Size
 FX3: Softness
 Inverted raster, amount, size & edge are adjustable. Fields of raster are black.

VideoFX 143 INV RasterWhite



FX1: Amount
 FX2: Size
 FX3: Softness
 Inverted raster, amount, size & edge are adjustable. Fields of raster are white.

VideoFX 144 INV RasterAlpha



FX1: Amount
 FX2: Size
 FX3: Softness
 Inverted raster, amount, size & edge are adjustable. Fields of raster are transparent.

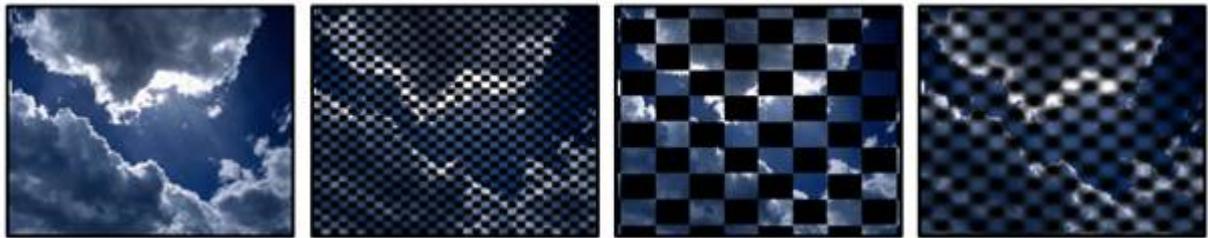
VideoFX 145 INV RasterColour



FX1: Amount
 FX2: Size
 FX3: Softness

Inverted raster, amount, size & edge are adjustable. Fields of raster are colourmixed.

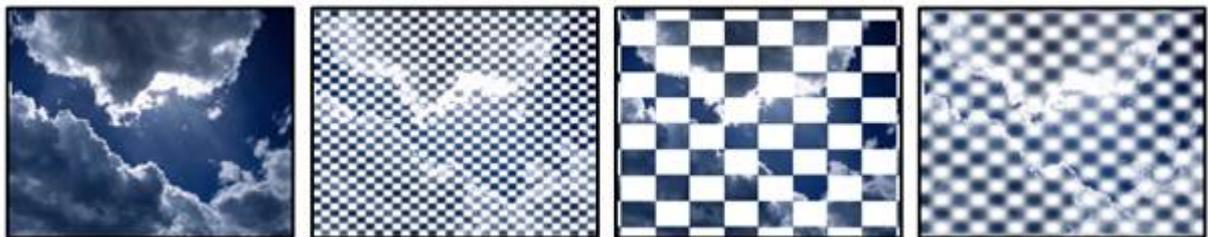
VideoFX 146 CheckerBoardBlack



FX1: Amount
 FX2: Size
 FX3: Softness

Checkerboard, amount, size & edge are adjustable, even fields are black.

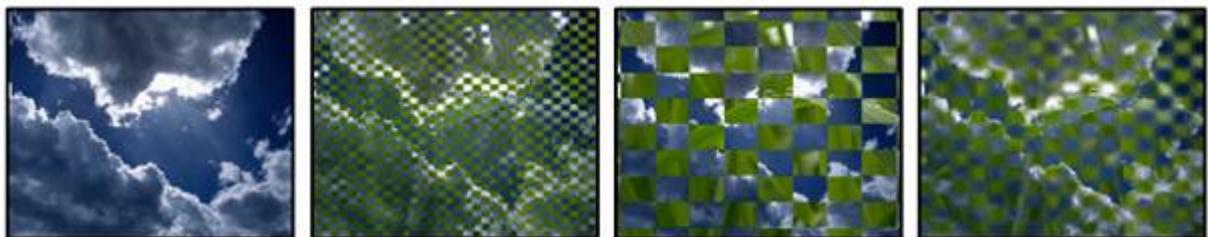
VideoFX 147 CheckerBoardWhite



FX1: Amount
 FX2: Size
 FX3: Softness

Checkerboard, amount, size & edge are adjustable, even fields are white.

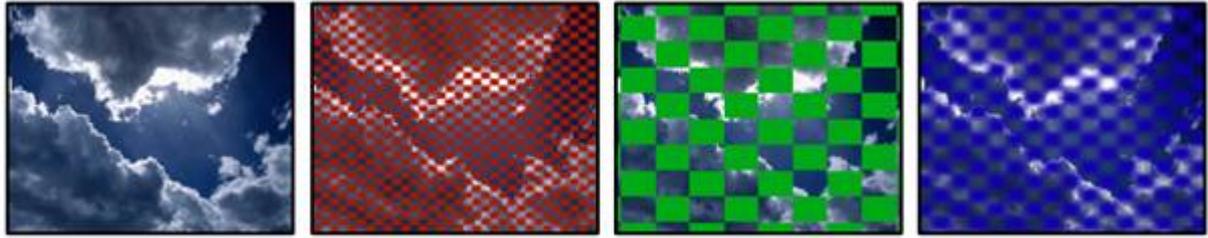
VideoFX 148 CheckerBoardAlpha



FX1: Amount
 FX2: Size
 FX3: Softness

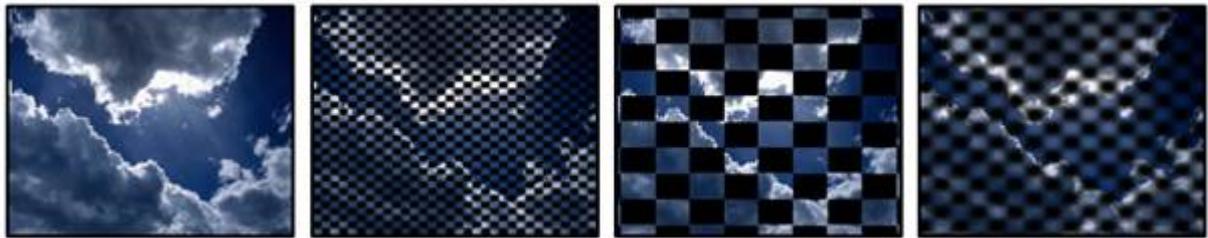
Checkerboard, amount, size & edge are adjustable, even fields are transparent.

VideoFX 149 CheckerBoardColour



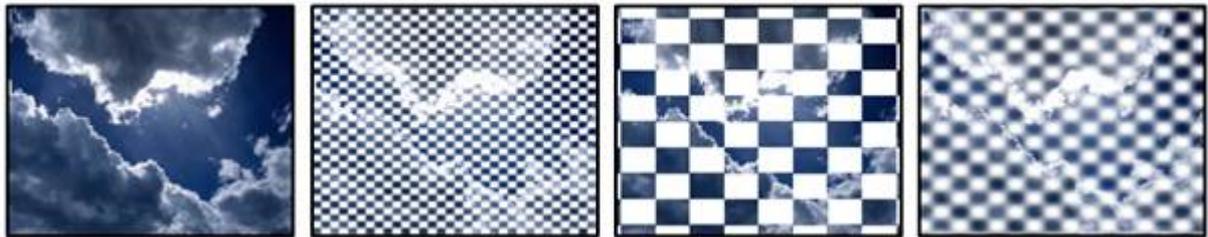
FX1: Amount
 FX2: Size
 FX3: Softness
 Checkerboard, amount, size & edge are adjustable, even fields are colourmixed.

VideoFX 150 INV CheckerBoardBlack



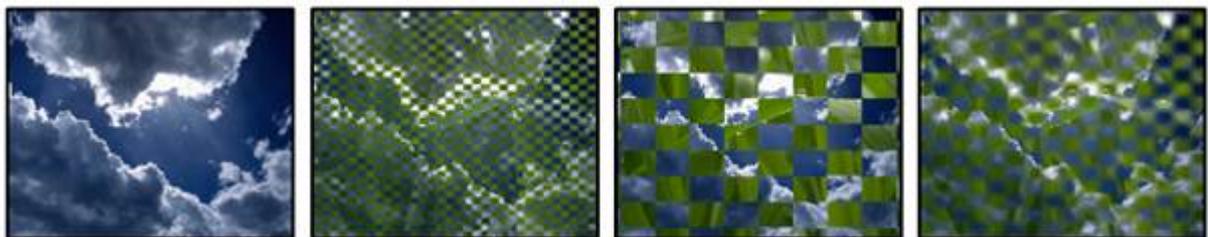
FX1: Amount
 FX2: Size
 FX3: Softness
 Checkerboard, amount, size & edge are adjustable, odd fields are black.

VideoFX 151 INV CheckerBoardWhite



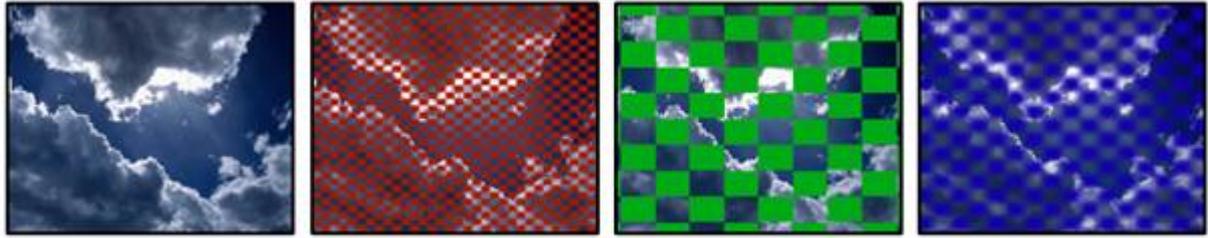
FX1: Amount
 FX2: Size
 FX3: Softness
 Checkerboard, amount, size & edge are adjustable, odd fields are white.

VideoFX 152 INV CheckerBoardAlpha



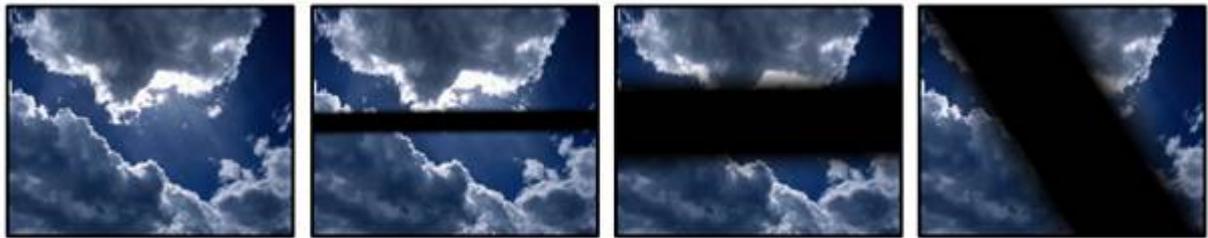
FX1: Amount
 FX2: Size
 FX3: Softness
 Checkerboard, amount, size & edge are adjustable, odd fields are transparent.

VideoFX 153 INV CheckerBoardColour



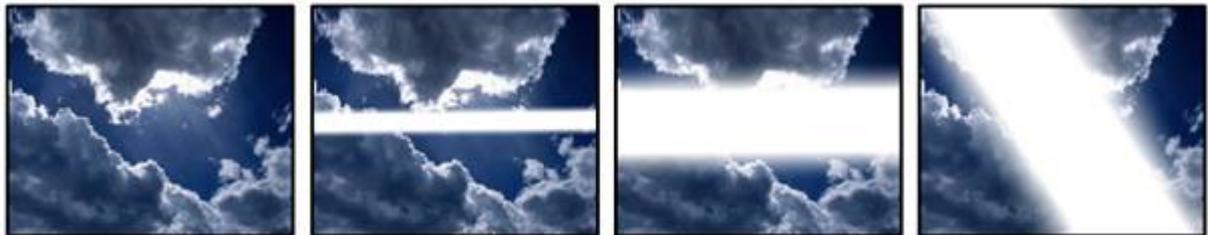
FX1: Amount
 FX2: Size
 FX3: Softness
 Checkerboard, amount, size & edge are adjustable, odd fields are colourmixed.

VideoFX 154 GradientCenterOutBlack



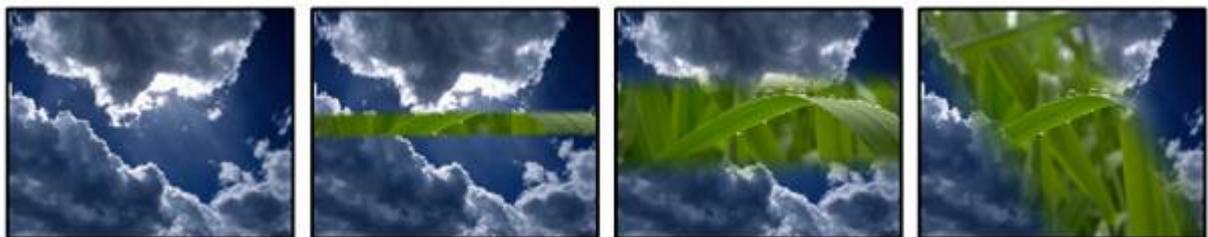
FX1: Amount
 FX2: Size
 FX3: Rotation
 Gradient center out. Amount, size & rotation are adjustable; gradient area is black.

VideoFX 155 GradientCenterOutWhite



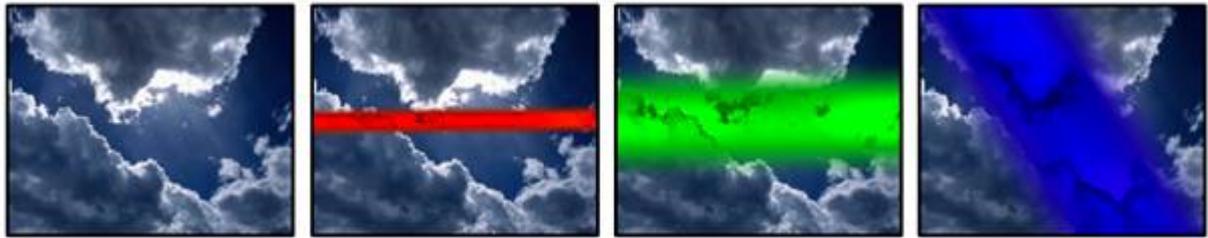
FX1: Amount
 FX2: Size
 FX3: Rotation
 Gradient center out. Amount, size & rotation are adjustable; gradient area is white.

VideoFX 156 GradientCenterOutAlpha



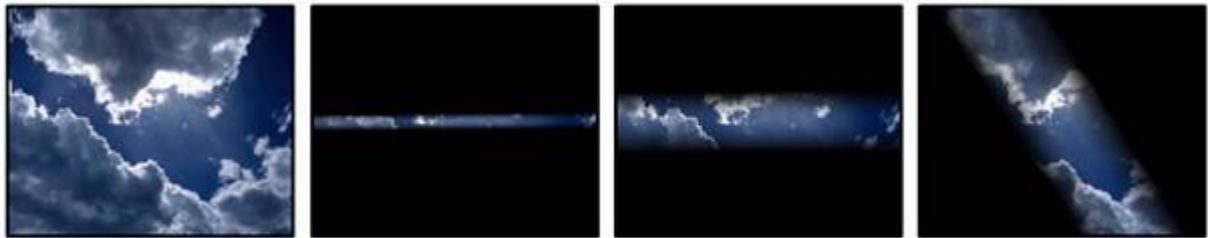
FX1: Amount
 FX2: Size
 FX3: Rotation
 Gradient center out. Amount, size & rotation are adjustable; gradient area is transparent

VideoFX 157 GradientCenterOutColour



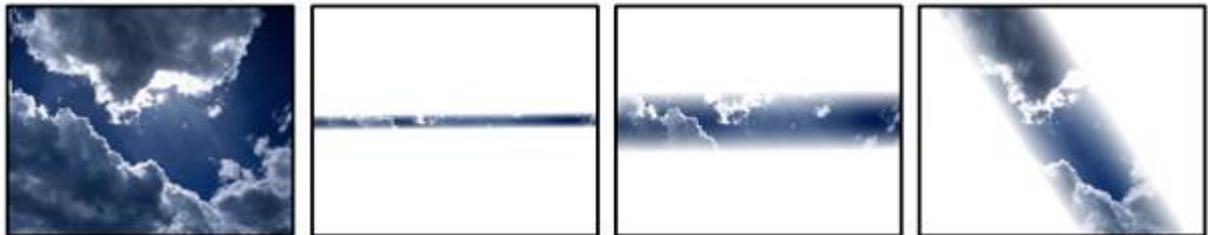
FX1: Amount
 FX2: Size
 FX3: Rotation
 Gradient center out. Amount, size & rotation are adjustable; gradient area is colourmixed.

VideoFX 158 INV GradientCenterOutBlack



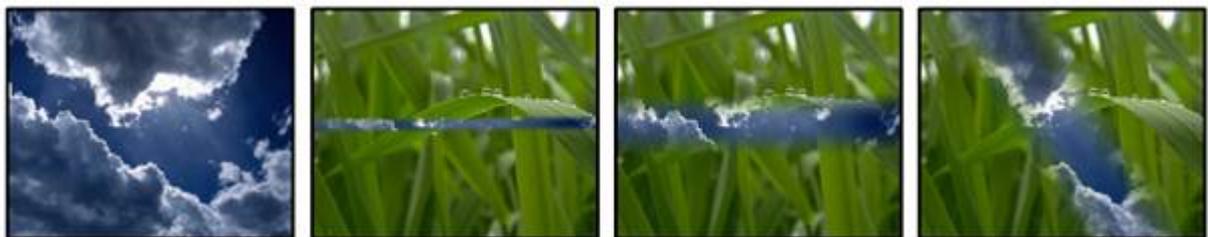
FX1: Amount
 FX2: Size
 FX3: Rotation
 INV gradient center out. Amount, size & rotation are adjustable; gradient area is black.

VideoFX 159 INV GradientCenterOutWhite



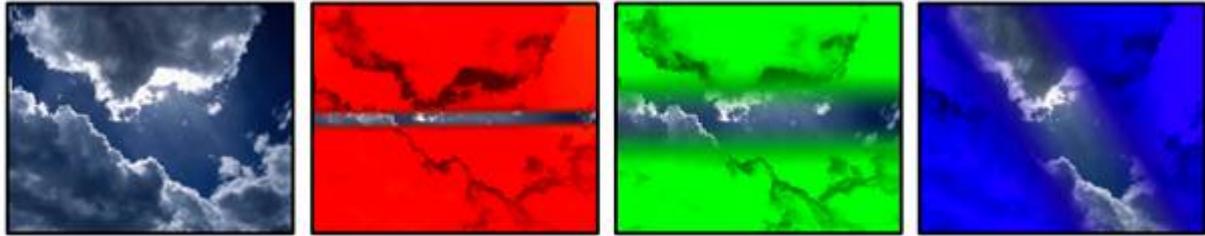
FX1: Amount
 FX2: Size
 FX3: Rotation
 INV gradient center out. Amount, size & rotation are adjustable; gradient area is white.

VideoFX 160 INV GradientCenterOutAlpha



FX1: Amount
 FX2: Size
 FX3: Rotation
 INV gradient center out. Amount, size & rotation are adjustable; gradient area is transparent.

VideoFX 161 INV GradientCenterOutColour



FX1: Amount
 FX2: Size
 FX3: Rotation
 INV gradient center out. Amount, size & rotation are adjustable; gradient area is colourmixed.

VideoFX 162 GradientCenterInBlack



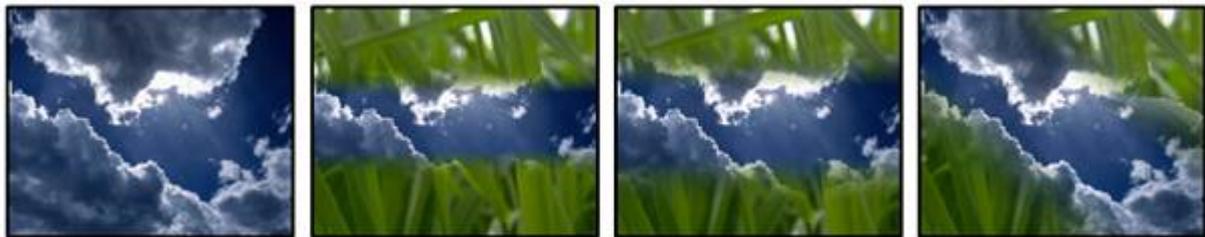
FX1: Amount
 FX2: Size
 FX3: Rotation
 Gradient to center. Amount, size & rotation are adjustable; gradient area is black.

VideoFX 163 GradientCenterInWhite



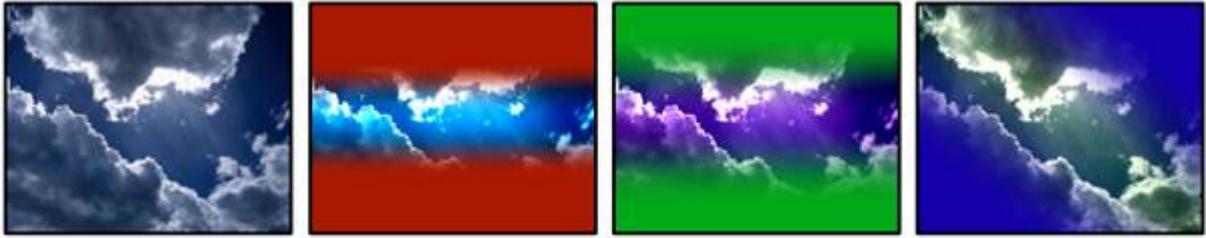
FX1: Amount
 FX2: Size
 FX3: Rotation
 Gradient to center. Amount, size & rotation are adjustable; gradient area is white.

VideoFX 164 GradientCenterInAlpha



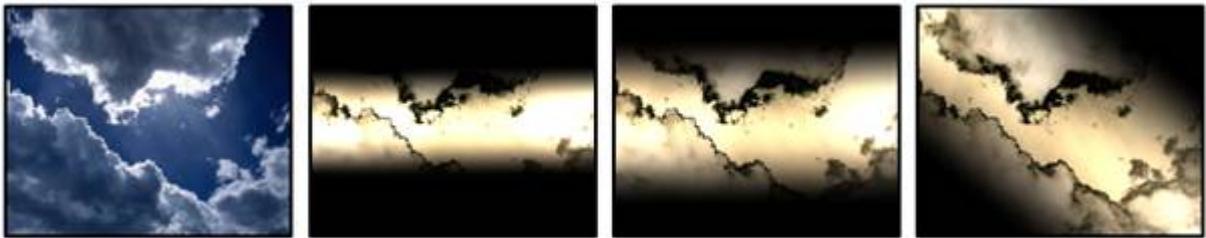
FX1: Amount
 FX2: Size
 FX3: Rotation
 Gradient to center. Amount, size & rotation are adjustable; gradient area is transparent.

VideoFX 165 GradientCenterInColour



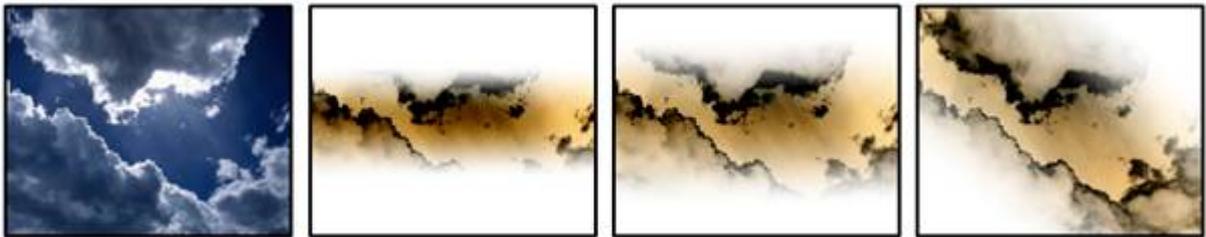
FX1: Amount
 FX2: Size
 FX3: Rotation
 Gradient to center. Amount, size & rotation are adjustable; gradient area is colourmixed.

VideoFX 166 INV GradientCenterInBlack



FX1: Amount
 FX2: Size
 FX3: Rotation
 Gradient to center. Amount, size & rotation are adjustable; gradient area is black & negative

VideoFX 167 INV GradientCenterInWhite



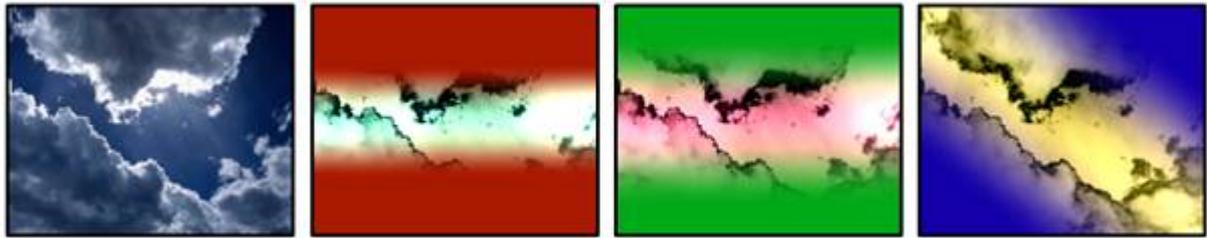
FX1: Amount
 FX2: Size
 FX3: Rotation
 Gradient to center. Amount, size & rotation are adjustable; gradient area is white & negative

VideoFX 168 INV GradientCenterInAlpha



FX1: Amount
 FX2: Size
 FX3: Rotation
 Gradient to center. Amount, size & rotation are adjustable; gradient area is alpha & negative

VideoFX 169 INV GradientCenterInColour



FX1: Amount
 FX2: Size
 FX3: Rotation
 Gradient to center. Amount, size & rotation are adjustable; gradient area is colour & negative

VideoFX 170 Sepiatone



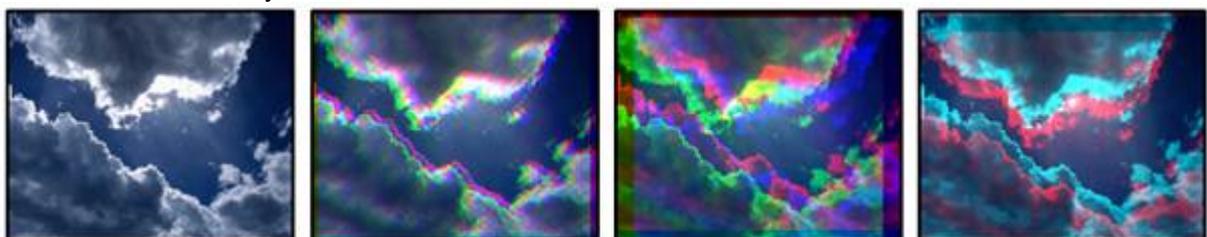
FX1: Amount
 FX2: ---
 FX3: ---
 Tints the texture in sepia tones, amount is adjustable.

VideoFX 171 INV Sepiatone



FX1: Mix AMT
 FX2: ---
 FX3: ---
 Tints the texture in sepia tones plus inversion, amount is adjustable.

VideoFX 172 Psychedelic



FX1: Red channel offset
 FX2: Green channel offset
 FX3: Blue channel offset
 Offset of single colour channels.

VideoFX 173 BWFX



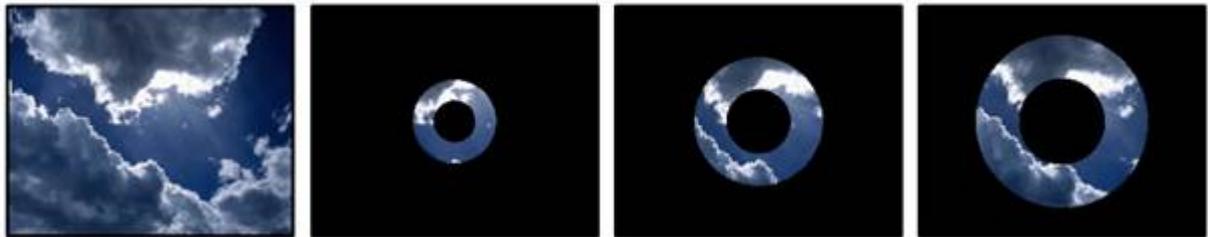
FX1: Amount
 FX2: Colour depth
 FX3: Softness
 Black & White conversion, amount, colour depth & softness are adjustable.

VideoFX 174 Crosshair



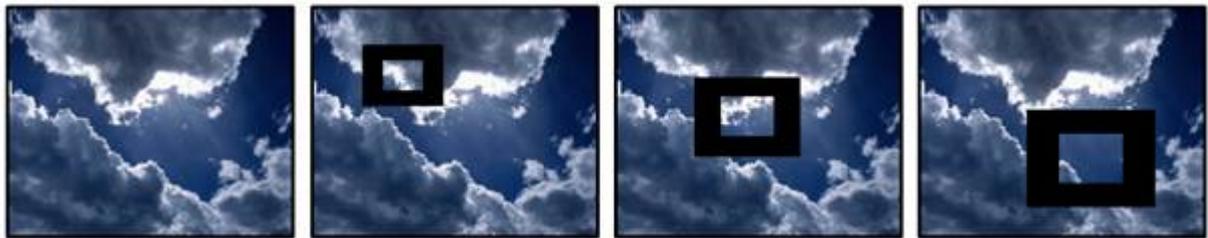
FX1: Size
 FX2: X Position
 FX3: Y Position
 Crosshair; size, X- and Y- position are adjustable. Crosshair is colourmixed.

VideoFX 175 CircleOutline



FX1:
 FX2:
 FX3:
 Outlined circle; size, X- and Y- position are adjustable; areas outside the line are black.

VideoFX 176 RectangleOutline



FX1:
 FX2:
 FX3:
 Outlined rectangle; size, X- and Y- position are adjustable; areas outside the line are black.

VideoFX 177 SquareOutline



FX1:
 FX2:
 FX3:
 Outlined square; size, X- and Y- position are adjustable; areas outside the line are black.

VideoFX 178 Nightvision



FX1: Amount
 FX2: Green Add
 FX3: Resolution
 Green add, amount & resolution are adjustable.

VideoFX 179 INV Nightvision



FX1: Mix AMT
 FX2: Green Add
 FX3: Resolution
 Inverted plus green add, amount & resolution are adjustable. Content is negative.

VideoFX 180 Fisheye



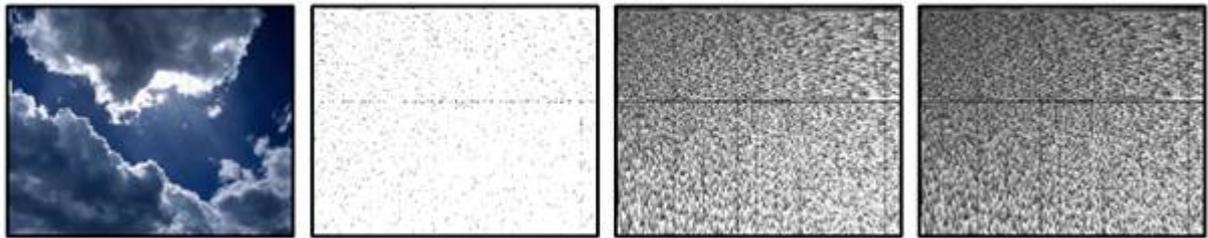
FX1: Lens Size
 FX2: X Position
 FX3: Y Position
 Fisheye lens effect; size, X- and Y- position are adjustable.

VideoFX 181 Waterdrop



FX1: Size
 FX2: X Position
 FX3: Y Position
 Animated Ripple effect; size, X- and Y- position are adjustable.

VideoFX 182 TVNoise



FX1: Amount
 FX2: Roughness
 FX3: Mix
 Allows the look of a TV without signal. Amount, roughness and mix are adjustable.

VideoFX 183 StrobeBlack

FX1: Speed
 FX2: Hold
 FX3: Fade
 Strobes to black. Speed, hold and fade are adjustable.

VideoFX 184 StrobeWhite

FX1: Speed
 FX2: Hold
 FX3: Fade
 Strobes to white. Speed, hold and fade are adjustable.

VideoFX 185 StrobeAlpha

FX1: Speed
 FX2: Hold
 FX3: Fade
 Strobes to transparency. Speed, hold and fade are adjustable.

VideoFX 186 PulseBlack

FX1: Speed
 FX2: Hold
 FX3: Fade
 Pulses to black. Speed, hold and fade are adjustable

VideoFX 187 PulseWhite

FX1: Speed
 FX2: Hold
 FX3: Fade
 Pulses to white. Speed, hold and fade are adjustable.

VideoFX 188 PulseAlpha

FX1: Speed
 FX2: Hold

FX3: Fade
Pulses to transparency. Speed, hold and fade are adjustable.

VideoFX 189 IrisStrobeBlack
FX1: Speed
FX2: Hold
FX3: Fade
Strobing iris. Speed, hold and fade are adjustable. Area around iris is black.

VideoFX 190 IrisStrobeWhite
FX1: Speed
FX2: Hold
FX3: Fade
Strobing iris. Speed, hold and fade are adjustable. Area around iris is white.

VideoFX 191 IrisStrobeAlpha
FX1: Speed
FX2: Hold
FX3: Fade
Strobing iris. Speed, hold and fade are adjustable. Area around iris is transparent.

VideoFX 192 INV IrisStrobeBlack
FX1: Speed
FX2: Hold
FX3: Fade
Strobing iris. Speed, hold and fade are adjustable. Iris itself is black.

VideoFX 193 INV IrisStrobeWhite
FX1: Speed
FX2: Hold
FX3: Fade
Strobing iris. Speed, hold and fade are adjustable. Iris itself is white.

VideoFX 194 INV IrsiStrobeAlpha
FX1: Speed
FX2: Hold
FX3: Fade
Strobing iris. Speed, hold and fade are adjustable. Iris itself is transparent.

VideoFX 195 SquareStrobeBlack
FX1: Speed
FX2: Hold
FX3: Fade
Strobing square. Speed, hold and fade are adjustable. Area around square is black.

VideoFX 196 SquareStrobeWhite
FX1: Speed
FX2: Hold
FX3: Fade
Strobing square. Speed, hold and fade are adjustable. Area around square is white.

VideoFX 197 SquareStrobeAlpha
FX1: Speed
FX2: Hold
FX3: Fade
Strobing square. Speed, hold and fade are adjustable. Area around square is transparent.

VideoFX 198 INV SquareStrobeBlack
FX1: Speed
FX2: Hold

FX3: Fade
 Strobing square. Speed, hold and fade are adjustable. Square itself is black.

VideoFX 199 INV SquareStrobeWhite
 FX1: Speed
 FX2: Hold
 FX3: Fade
 Strobing square. Speed, hold and fade are adjustable. Square itself is white.

VideoFX 200 INV SquareStrobeAlpha
 FX1: Speed
 FX2: Hold
 FX3: Fade
 Strobing square. Speed, hold and fade are adjustable. Square itself is transparent.

VideoFX 201 SwirlIndexed
 FX1: Amount
 FX2: ---
 FX3: ---
 Indexed swirl; amount is adjustable.

VideoFX 202 SwirlTimed
 FX1: Speed
 FX2: ---
 FX3: ---
 Bouncing swirl; speed is adjustable.

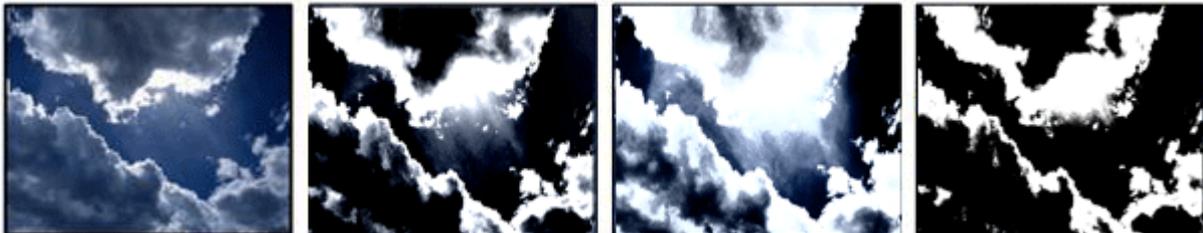
VideoFX 203 PosScrollX
 FX1: Speed
 FX2: Size
 FX3: Pause Time
 Scrolling in X- position, speed, size and size of gaps are adjustable.

VideoFX 204 PosScrollY
 FX1: Speed
 FX2: Size
 FX3: Pause Time
 Scrolling in Y- position, speed, size and size of gaps are adjustable.

VideoFX 205 PosCircles
 FX1: XZ Speed
 FX2: YZ Speed
 FX3: XY Speed
 Circles in various directions; all speeds are adjustable.

VideoFX 206 ScaleSinX
 FX1: X Speed
 FX2: Y Speed
 FX3: Z Speed
 Bouncing scaling of content, speed and size are adjustable.

VideoFX 207 Hatch0



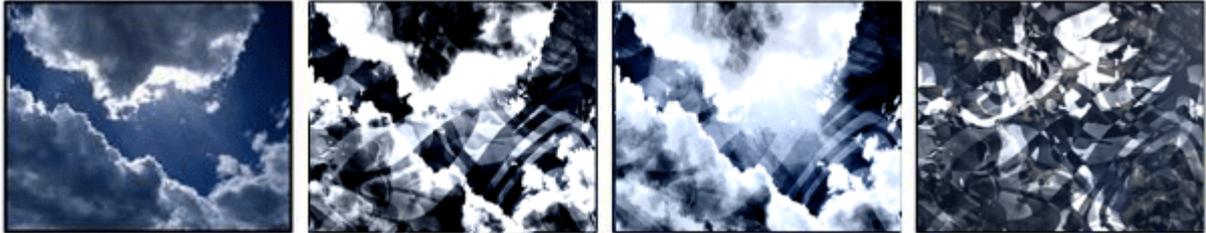
FX1: Mix

FX2: Structure

FX3: Amount of structure

The structure is generated out of the images black and white values in combination with a pattern - mix, structure and amount are adjustable.

VideoFX 208 Hatch1



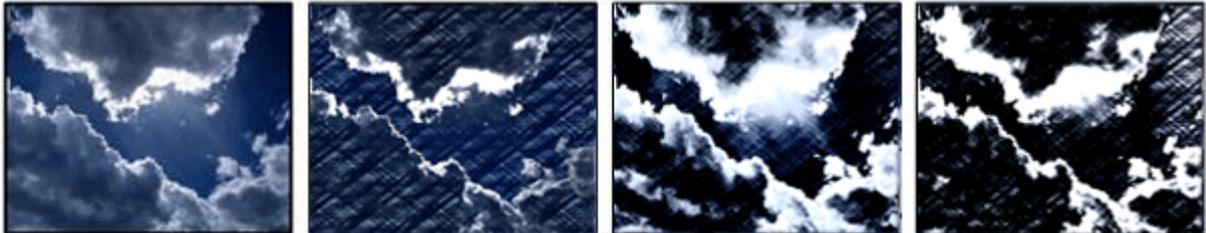
FX1: Mix

FX2: Structure

FX3: Amount of structure

The structure is generated out of the images black and white values in combination with a pattern - mix, structure and amount are adjustable.

VideoFX 209 Hatch2



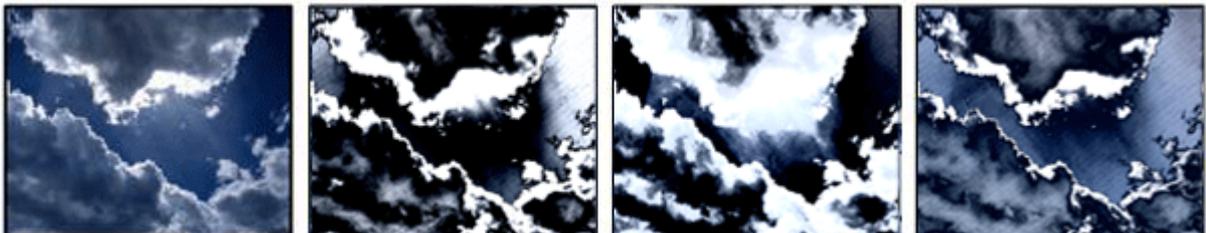
FX1: Mix

FX2: Structure

FX3: Amount of structure

The structure is generated out of the images black and white values in combination with a pattern - mix, structure and amount are adjustable.

VideoFX 210 Hatch3



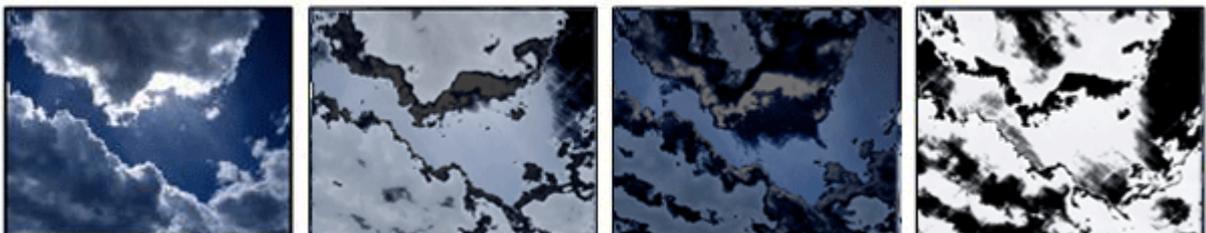
FX1: Mix

FX2: Structure

FX3: Amount of structure

The structure is generated out of the images black and white values - mix, structure and amount are adjustable.

VideoFX 211 Hatch4



FX1: Mix
FX2: Structure
FX3: Amount of structure
The structure is generated out of the images inverted black and white values - mix, structure and amount are adjustable.

VideoFX 212 Glassblocks1



FX1: Mix
FX2: Amount
FX3: -
Glassblocks FX, mix and amount are adjustable

VideoFX 213 Heathaze1



FX1: Mix
FX2: Width
FX3: Height
The image flickers like heated from below -mix, width and height are adjustable

VideoFX 214 Heathaze2



FX1: Mix
FX2: Width
FX3: Height
The image flickers strong like heated from below -mix, width and height are adjustable

VideoFX 215 Rauchglas



FX1: Mix
FX2: Amount
FX3: -

Smoked glas FX - mix and amount are adjustable

VideoFX 216 Fieldblending

FX1: -
FX2: -
FX3: -

Fieldblending is switched on

VideoFX 217 PPL



FX1: X Position of lightsource

FX2: Y Position of lightsource

FX3: -

PerPixelLighting, reflection at the center of the image - X- and Y-Position are adjustable

VideoFX 218 PPL hard



FX1: X Position of lightsource

FX2: Y Position of lightsource

FX3: Z Position of lightsource

PerPixelLighting, reflection on hard structure - X-, Y- and Z-Position of the lightsource are adjustable

VideoFX 219 PPL medium



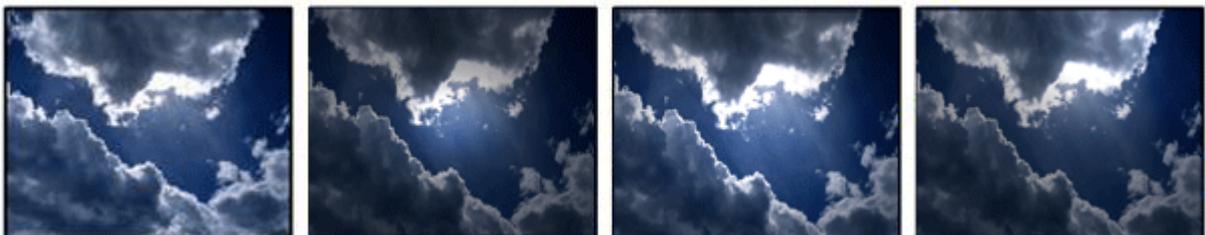
FX1: X Position of lightsource

FX2: Y Position of lightsource

FX3: Z Position of lightsource

PerPixelLighting, reflection on medium structure - X-, Y- and Z-Position of the lightsource are adjustable

VideoFX 220 PPL soft



FX1: X Position of lightsource
 FX2: Y Position of lightsource
 FX3: Z Position of lightsource
 PerPixelLighting, reflection on soft structure - X-, Y- and Z-Position of the lightsource are adjustable

VideoFX 221 PPL very soft



FX1: X Position of lightsource
 FX2: Y Position of lightsource
 FX3: Z Position of lightsource
 PerPixelLighting, reflection on very soft structure - X-, Y- and Z-Position of the lightsource are adjustable

3.3.2.2 CAMERA CONTROL

The camera is the device that controls the overall output of the Pandoras Box Server. Two cameras are available: camera 1 for the primary output and camera 2 for the secondary output. The cameras allow setting up the look at point in 3D space. Here you can determine whether each output should display the same or different areas in 3D space. This allows to stretch layers over two outputs or to create Softedge blended setups.

MASTER LEVEL

The level sets the overall output brightness level as well as the overall audio level.

Level 0% black, no output / no sound
 Level 100% full brightness / 1:1 sound level

Camera X&Y Offset

The camera x&y offset allows to position the center of the cameras perspective. This is especially used when one perspective view needs to be shared across several outputs. For example, if you have 4 screens set up next to each other, you would offset each screen in the way that you can move your layers with the XYZ position smoothly across all outputs, while maintaining a correct perspective 3D view.

OBJECT SELECTION

The camera allows selection of the same object as for the layers. The big difference is that the overall rendering will now be displayed on the selected object depending on its texture mapping. You may consider the use of an object with the camera as an image filter that is applied to the overall rendering of each individual output. This feature may be used as visual effect or to select specific objects that allow keystone correction on any curved or non planar screen. To create a keystone object, we recommend creating it with 3D Studio Max or its freeware version GMAX in fullscreen while Pandoras Box is off. Once you have set up the object according to your screen, you can export it to Pandoras Box and use it individually for each camera.

Please note:

When creating this kind of object, the mapping coordinates need to be distorted in 3D Studio Max or GMAX in the way that a grid would look correct on your projection screen.

3.3.2.2.1 CAMERA MODES

XYZ Axis & Z Rotation

Based on the control mode, the camera of each output can be set up individually. Four 16 Bit control channels can position, rotate or shift the 3D look-at-point based on the selected control mode.

One 16 bit step in the camera control channels for X, Y and Z Axis is equivalent to 0,01 units.

In all camera modes except mode 41 and 45 the camera is located in 0,0,-25 from the origin. The perspective modes allow a perspective view from different angles to your 3D scene. Use the control channels to orient the 3D camera in space.

Mode0 - Perspective look at Center

- X Axis: Cam X Pos,
- Y Axis: Cam Y Pos,
- Z Axis: Cam Z Pos,
- Z Rot. : Cam Z Rot
-

Mode1 - Perspective look at Layer 1

- X Axis: Cam X Pos,
- Y Axis: Cam Y Pos,
- Z Axis: Cam Z Pos,
- Z Rot. : Cam Z Rot
-

Mode2 - Perspective look at Layer 2

- X Axis: Cam X Pos,
- Y Axis: Cam Y Pos,
- Z Axis: Cam Z Pos,
- Z Rot. : Cam Z Rot
-

Mode3 - Perspective look at Layer 3

- X Axis: Cam X Pos,
- Y Axis: Cam Y Pos,
- Z Axis: Cam Z Pos,
- Z Rot. : Cam Z Rot
-

Mode4 - Perspective look at Layer 4

- X Axis: Cam X Pos,
- Y Axis: Cam Y Pos,
- Z Axis: Cam Z Pos,
- Z Rot. : Cam Z Rot
-

Mode5 - Perspective look at Layer 5

- X Axis: Cam X Pos,
- Y Axis: Cam Y Pos,
- Z Axis: Cam Z Pos,
- Z Rot. : Cam Z Rot

-
Mode6 - Perspective look at Layer 6

X Axis: Cam X Pos,
Y Axis: Cam Y Pos,
Z Axis: Cam Z Pos,
Z Rot. : Cam Z Rot
-

Mode7 - Perspective look at Layer 7

X Axis: Cam X Pos,
Y Axis: Cam Y Pos,
Z Axis: Cam Z Pos,
Z Rot. : Cam Z Rot
-

Mode8 - Perspective look at Layer 8

X Axis: Cam X Pos,
Y Axis: Cam Y Pos,
Z Axis: Cam Z Pos,
Z Rot. : Cam Z Rot
-

Mode9 - Perspective look at Layer 9

X Axis: Cam X Pos,
Y Axis: Cam Y Pos,
Z Axis: Cam Z Pos,
Z Rot. : Cam Z Rot
-

Mode10 - Perspective look at Layer 10

X Axis: Cam X Pos,
Y Axis: Cam Y Pos,
Z Axis: Cam Z Pos,
Z Rot. : Cam Z Rot
-

Mode11 - Perspective look at Layer 11

X Axis: Cam X Pos,
Y Axis: Cam Y Pos,
Z Axis: Cam Z Pos,
Z Rot. : Cam Z Rot
-

Mode12 - Perspective look at Layer 12

X Axis: Cam X Pos,
Y Axis: Cam Y Pos,
Z Axis: Cam Z Pos,
Z Rot. : Cam Z Rot
-

Mode13 - Perspective free Position

X Axis: Cam X Pos,
Y Axis: Cam Y Pos,
Z Axis: Cam Z Pos,
Z Rot. : Cam Z Rot
-

Mode14 - Perspective free Rotation

X Axis: Cam X Rotation

Y Axis: Cam Y Rotation
Z Axis: Cam Z Pos,
Z Rot. : Cam Z Rotation
-

The orthogonal modes switch off the depth and perspective view of the camera.

The control channels do still access the three dimensional orientation of the 3D camera.

Please note: The Z position of any layer will only affect the rendering order but won't make any visual change to the layer.

Mode20 – Orthogonal look at Center

X Axis: Cam X Pos,
Y Axis: Cam Y Pos,
Z Axis: Cam Z Pos,
Z Rot. : Cam Z Rot
-

Mode21 – Orthogonal look at Layer 1

X Axis: Cam X Pos,
Y Axis: Cam Y Pos,
Z Axis: Cam Z Pos,
Z Rot. : Cam Z Rot
-

Mode22 – Orthogonal look at Layer 2

X Axis: Cam X Pos,
Y Axis: Cam Y Pos,
Z Axis: Cam Z Pos,
Z Rot. : Cam Z Rot
-

Mode23 – Orthogonal look at Layer 3

X Axis: Cam X Pos,
Y Axis: Cam Y Pos,
Z Axis: Cam Z Pos,
Z Rot. : Cam Z Rot
-

Mode24 – Orthogonal look at Layer 4

X Axis: Cam X Pos,
Y Axis: Cam Y Pos,
Z Axis: Cam Z Pos,
Z Rot. : Cam Z Rot
-

Mode25 – Orthogonal look at Layer 5

X Axis: Cam X Pos,
Y Axis: Cam Y Pos,
Z Axis: Cam Z Pos,
Z Rot. : Cam Z Rot
-

Mode26 – Orthogonal look at Layer 6

X Axis: Cam X Pos,
Y Axis: Cam Y Pos,
Z Axis: Cam Z Pos,
Z Rot. : Cam Z Rot

Mode27 – Orthogonal look at Layer 7

X Axis: Cam X Pos,
Y Axis: Cam Y Pos,
Z Axis: Cam Z Pos,
Z Rot. : Cam Z Rot

Mode28 – Orthogonal look at Layer 8

X Axis: Cam X Pos,
Y Axis: Cam Y Pos,
Z Axis: Cam Z Pos,
Z Rot. : Cam Z Rot

Mode29 – Orthogonal look at Layer 9

X Axis: Cam X Pos,
Y Axis: Cam Y Pos,
Z Axis: Cam Z Pos,
Z Rot. : Cam Z Rot

Mode30 – Orthogonal look at Layer 10

X Axis: Cam X Pos,
Y Axis: Cam Y Pos,
Z Axis: Cam Z Pos,
Z Rot. : Cam Z Rot

Mode31 – Orthogonal look at Layer 11

X Axis: Cam X Pos,
Y Axis: Cam Y Pos,
Z Axis: Cam Z Pos,
Z Rot. : Cam Z Rot

Mode32 – Orthogonal look at Layer 12

X Axis: Cam X Pos,
Y Axis: Cam Y Pos,
Z Axis: Cam Z Pos,
Z Rot. : Cam Z Rot

Mode33 - Orthogonal free Position

X Axis: Cam X Pos,
Y Axis: Cam Y Pos,
Z Axis: Cam Z Pos,
Z Rot. : Cam Z Rot

Mode34 – Orthogonal free Rotation

X Axis: Cam X Rotation
Y Axis: Cam Y Rotation
Z Axis: Cam Z Pos,
Z Rot. : Cam Z Rotation

Mode35 - 39 ---

Mode40 – 3D RT XYZ POS (3D Keystone /Render Object Adjustment)

X Axis: Cam X Pos,
 Y Axis: Cam Y Pos,
 Z Axis: Cam Z Pos,
 Z Rot. : Cam Z Rot

This mode enables you to adjust a keystone object, created in a 3rd party program, by changing its size and position as well as rotating it by the control channels.

Mode41 – 3D RT XYZ FOV (3D Keystone /Render Object Adjustment)

X Axis: Cam X Pos,
 Y Axis: Cam Y Pos,
 Z Axis: Cam Z Pos,
 Z Rot. : Field of View

This mode enables you to adjust a keystone object, created in a 3rd party program, by changing its size and position as well as the cameras Field of View by the control channels.

Please note: in this mode the camera is located -25 units from the origin.

Mode42 - 44 ---

Mode45 – 3D FOV 0,0,0 (3D Camera Position & Field of View Adjustment)

X Axis: Cam X Pos,
 Y Axis: Cam Y Pos,
 Z Axis: Cam Z Pos,
 Z Rot. : Field of View

This mode enables you to adjust a keystone object, created in a 3rd party program, by changing its viewpoint and field of view setting with the control channels. The position of the camera is 0,0,0.

Mode46 – 3D FOV 0,0,-25 (3D Camera Position & Field of View Adjustment)

X Axis: Cam X Pos,
 Y Axis: Cam Y Pos,
 Z Axis: Cam Z Pos,
 Z Rot. : Field of View

This mode enables you to adjust a keystone object, created in a 3rd party program, by changing its viewpoint and field of view setting with the control channels. In contrast to Camera Mode 45 the camera is located -25 units from the origin. The position of the camera is 0,0,-25)

Mode47 - 48 ---

Mode49 – Orthogonal Direct Backbuffer Render (High Quality)

X Axis: Cam X Pos,
 Y Axis: Cam Y Pos,
 Z Axis: Cam Z Pos,
 Z Rot. : Cam Z Rot

-

This mode allows bypassing the keystone rendering pass to gain the highest rendering performance. This mode might be used in setups where no keystone or screen warping is needed and highest image rendering quality is required.

Mode50 – Perspective Direct Backbuffer Render (High Quality)

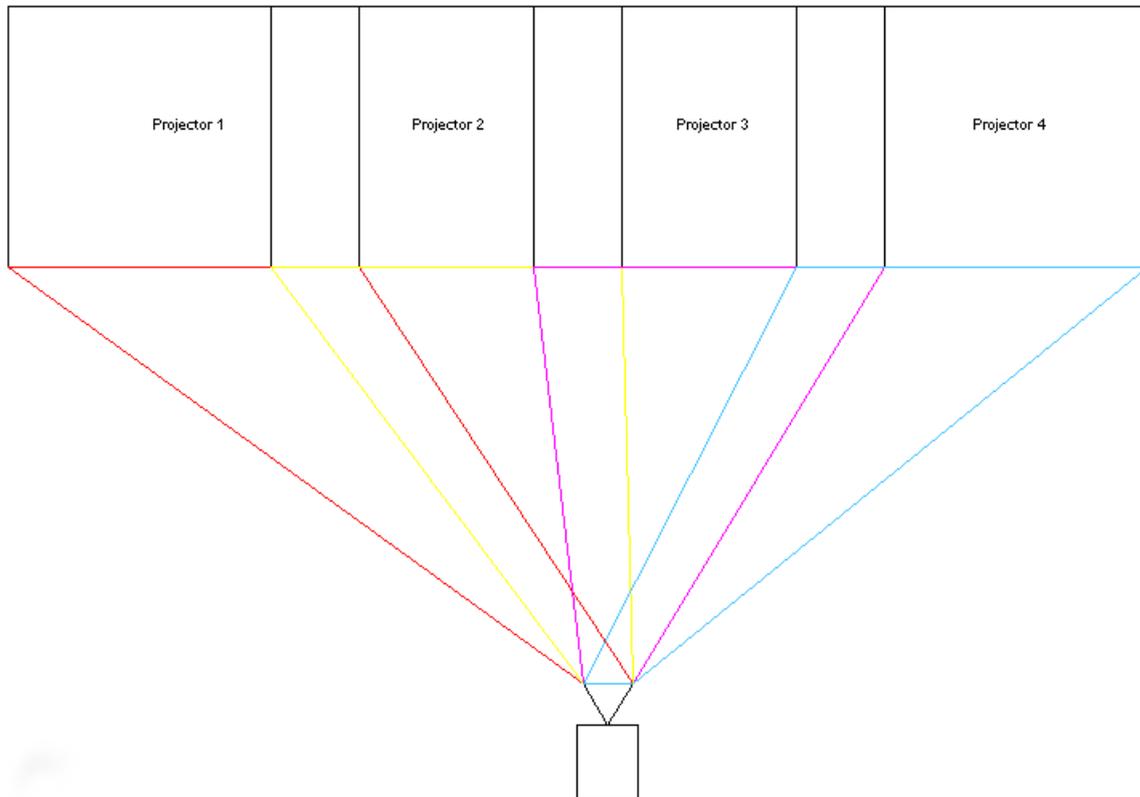
X Axis: Cam X Pos,
 Y Axis: Cam Y Pos,
 Z Axis: Cam Z Pos,
 Z Rot. : Cam Z Rot

-

This mode allows bypassing the keystone rendering pass to gain the highest rendering performance. This mode might be used in setups where no keystone or screen warping is needed and highest image rendering quality is required.

3.3.2.2.2 CAMERA X&Y OFFSET

The camera x&y offset allows to position the center of the cameras perspective. This is especially used when one perspective view needs to be shared across several outputs. For example, if you have 4 screens set up next to each other, you would offset each screen in the way that you can move your layers with the XYZ position smoothly across all outputs, while maintaining a correct perspective 3D view.



3.3.2.2.3 KEYSTONE CORRECTION

The keystone function of the Pandoras Box Server is a powerful feature for planar projection. Please make sure to set the object selection to zero to activate the Keystone channels for the output.

The Keystone device is designed in the way that it can be operated as standard beam shapers.

Each output edge can be moved in or out and rotated according to the projection surface.

Once you have set up each edge, you might compensate for the linearity distortion with the x&y Keystone parameters.

To do this, use a raster grid test pattern on a layer and reset the image center with the x&y channels.

3.3.2.2.4 CAMERA OBJECT

The camera allows selecting the same object as layers do. The big difference is that the overall rendering will be now displayed on the selected object depending on its texture mapping.

You may consider the use of an object with the camera as an image filter that is applied to the overall rendering of each individual output.

This feature may be used as visual effect or to select specific objects that allow Keystone correction on any curved or non planar screen.

To create a keystone object, we recommend creating it with 3D Studio Max or its freeware version GMAX in fullscreen while Pandoras Box is off.

Once you have set up the object according to your screen, you can export it to Pandoras Box and use it for each camera individually.

Please note: Creating this kind of object, the mapping coordinates need to be distorted in 3D Studio Max or GMAX in the way that a grid would look correct on your projection screen.

3.3.2.2.5 SOFTEDGE BLENDING

Pandoras Box Servers feature a four sided image blending for any output configuration. Softedge allows smooth image blending of multiple projectors with multiple Pandoras Box Servers. Softedge projection has been a difficult task to fulfill with traditional video technology in the past. Pandoras Box Servers offer an easy solution to create Softedge projections with two or more projectors.

OVERLAP

Traditionally, the overlap was an important information for anybody who wanted to create images for Softedge projection. The amount can still be important depending on the setup of your Softedge. The overlapping area is that part of the projection, where the projected images of two projectors share the same image information to create a smooth image-blending from one projector to the other. Due to the physical setup of the projectors - their light output and contrast - the overlapping has to be adjusted carefully to match a seamless image.

Pandoras Box Server Softedge feature allows a variable overlap between 0% and 25% off each image edge.

Each edge (left/right, top/bottom) has its own Softedge gradient with an individual gradient curve control for the light falloff of the projector.

CREATING CONTENT FOR SOFTEDGE PROJECTIONS

Overlapping content vs. stretched content

In general, for an optimum image quality, the best way is to create two parts of an image: a left part for the left projector and a right part for the right projector.

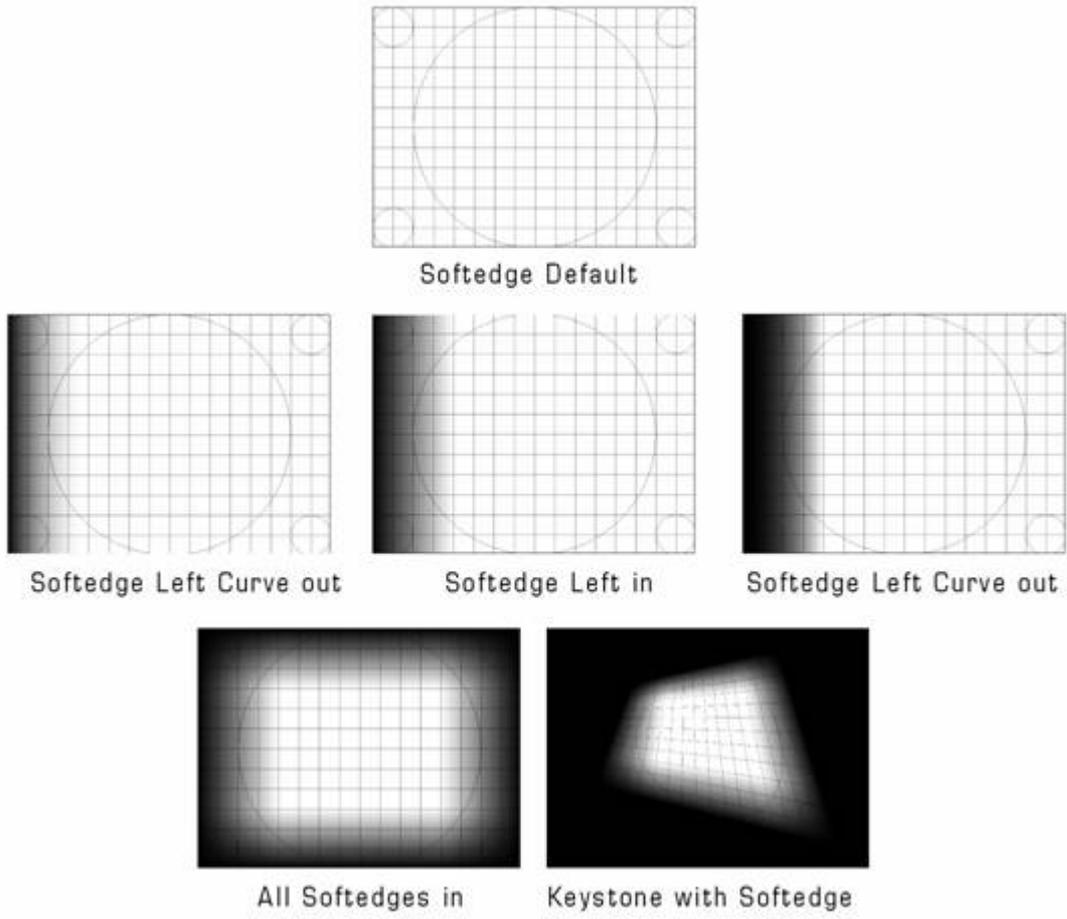
But if you would like to move a layer across the two projectors you will need to stretch the content and use the same image for both projectors and match them by x&y positioning on top of each other.

It is also possible to use both methods in the same show.

SOFTEDGE SETUP

After setting up the projectors properly (matching the raster, size and keystone) the adjacent edges need to be blend together.

The best way to do this is by using a test-pattern with text and positioning it precisely on top of each other. Now you may bring the Softedges in and adjust the curves until there is no more hotspot area.



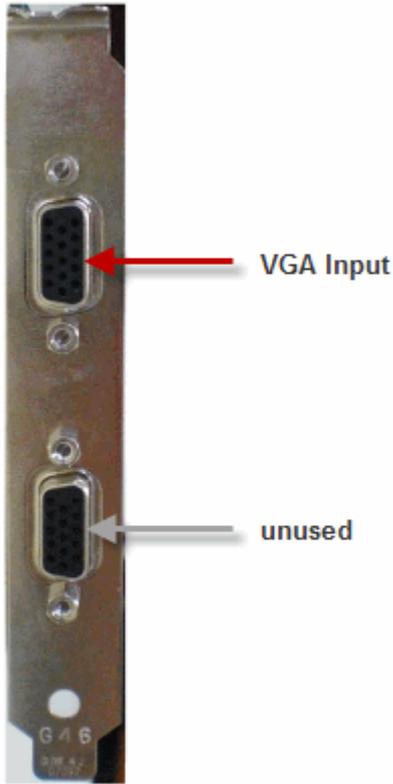
Please note: Softedge is always on top of all layers and will be adjusted automatically according to the keystone settings.

3.3.2.3 INPUT CARD SETTINGS

You may have various different live input cards or software screen grabbers available within your system. Choose the one that you want to configure from the live input list (Client Mode) or mark your Input Device in the Project Tab and click on [Configure] in the Inspector Tab (Master Mode). Please note that Pandoras Box supports most input devices that are conform and support DirectShow. Depending on the installed component, the according driver window will show up and let you set up the available parameters of the input device.

- [Datapath Vision RGB Pro](#) (VGA Capture Card)
- [Winnov Videum 4400](#) (4xComposite Capture Card)
- [Decklink Video Capture Card](#) (SDI) - discontinued
- [Coolux SD SDI](#)
- [Coolux HD SDI](#)
- [Coolux Dual DVI Capture Card](#)

3.3.2.3.1 DATAPATH VISION RGB PRO (VGA)

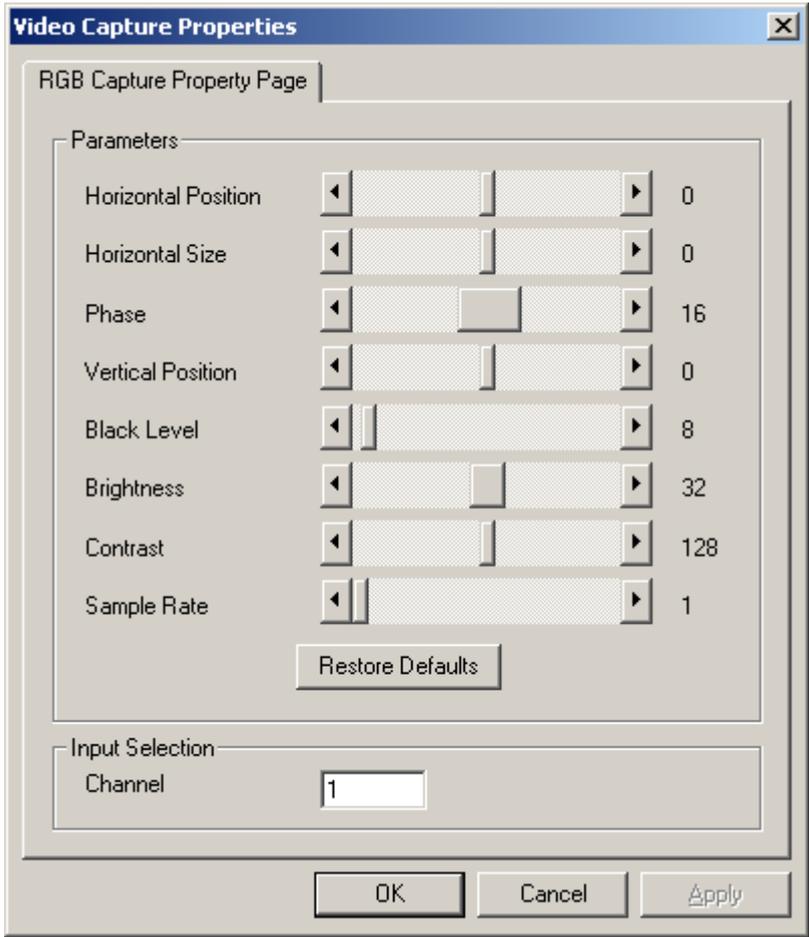


Configuration

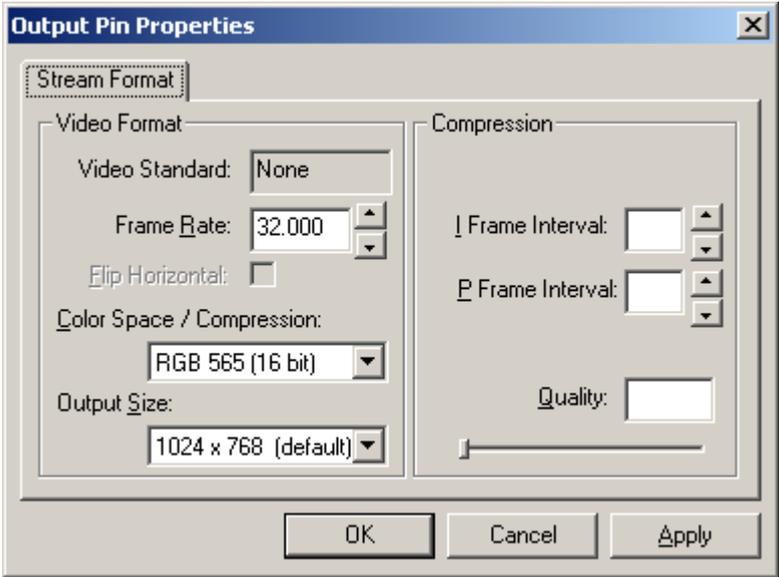
Please note:

Make sure to always use the up-to-date driver from our homepage. Visit our user forum www.coolux.de/kb, you will find all input card drivers under Downloads - Drivers - Input Card drivers. A short registration is required.

To configure the VGA Capture Card, please click on [Configure Live Inputs] and choose your VGA Capture Card from the live input list (Client Mode) or mark your Input Device in the Project Tab and click on [Configure] in the Inspector Tab (Master Mode).

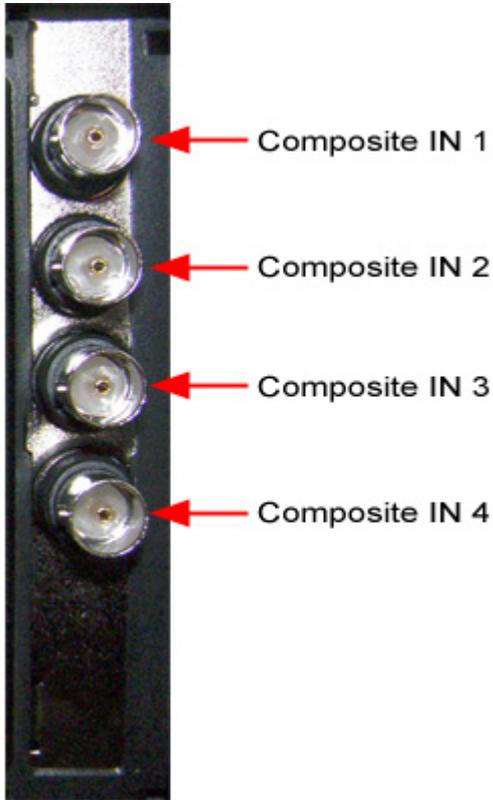


In this window please choose the values for Horizontal Position and Size, Phase, Vertical Position, Black Level, Brightness, Contrast and Sample Rate, or Restore Defaults by pressing the button. Please also choose the Input Channel. After clicking OK in the first dialog a second appears:



Please choose the desired frame rate, the Colour Space (RGB 565 or RGB 32) and the Output Size and if necessary the Compression.

3.3.2.3.2 WINNOV VIDEUM 4400 VO / XPRESS (Composite)

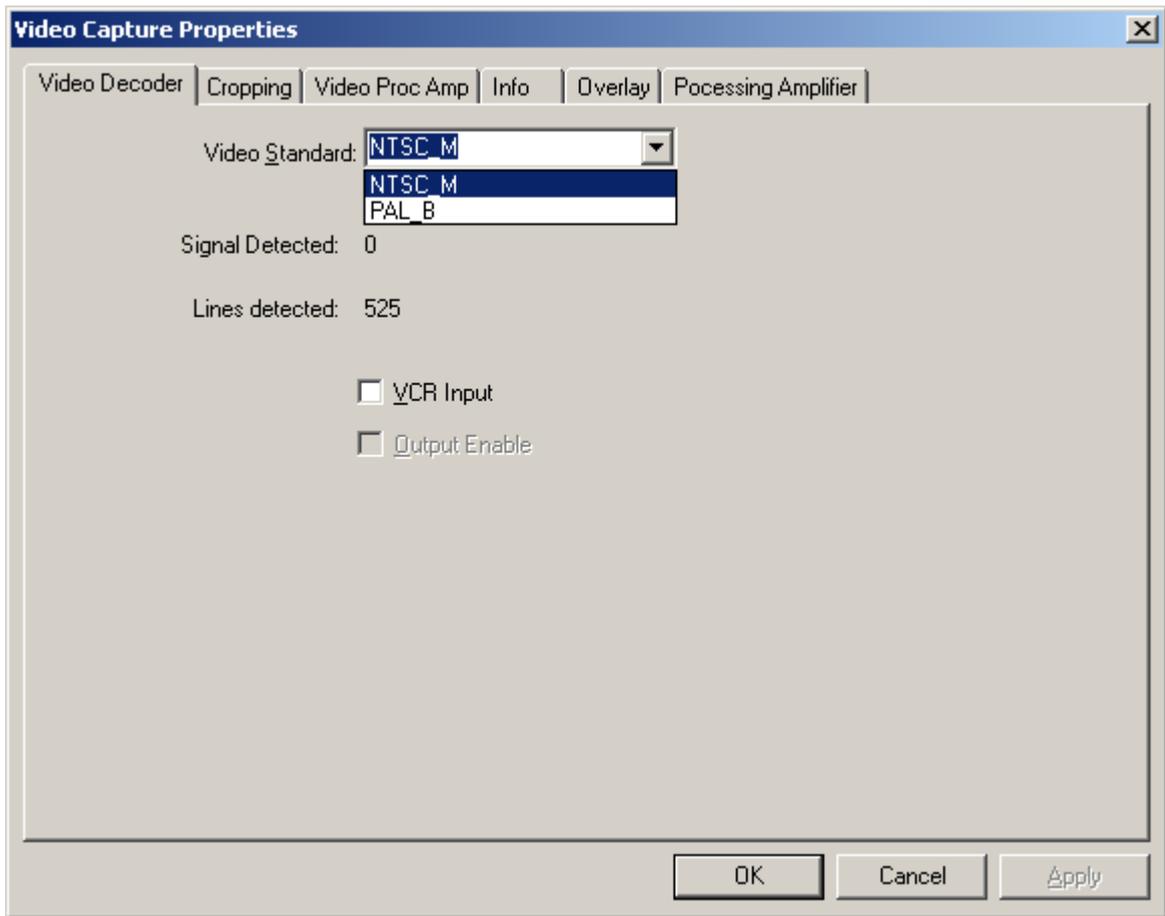


Configuration

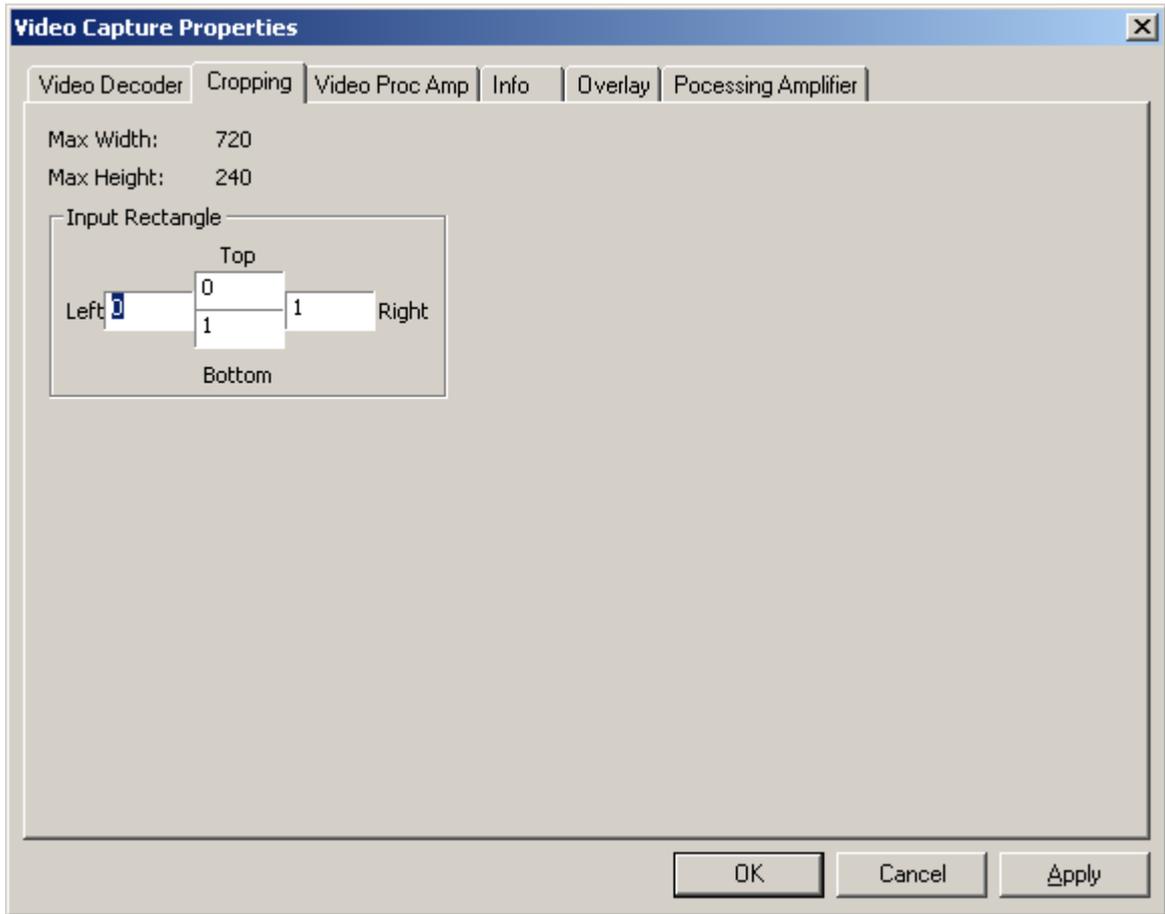
Please note:

Make sure to always use the up-to-date driver from our homepage. Visit our user forum www.coolux.de/kb, you will find all input card drivers under Downloads - Drivers - Input Card drivers. A short registration is required.

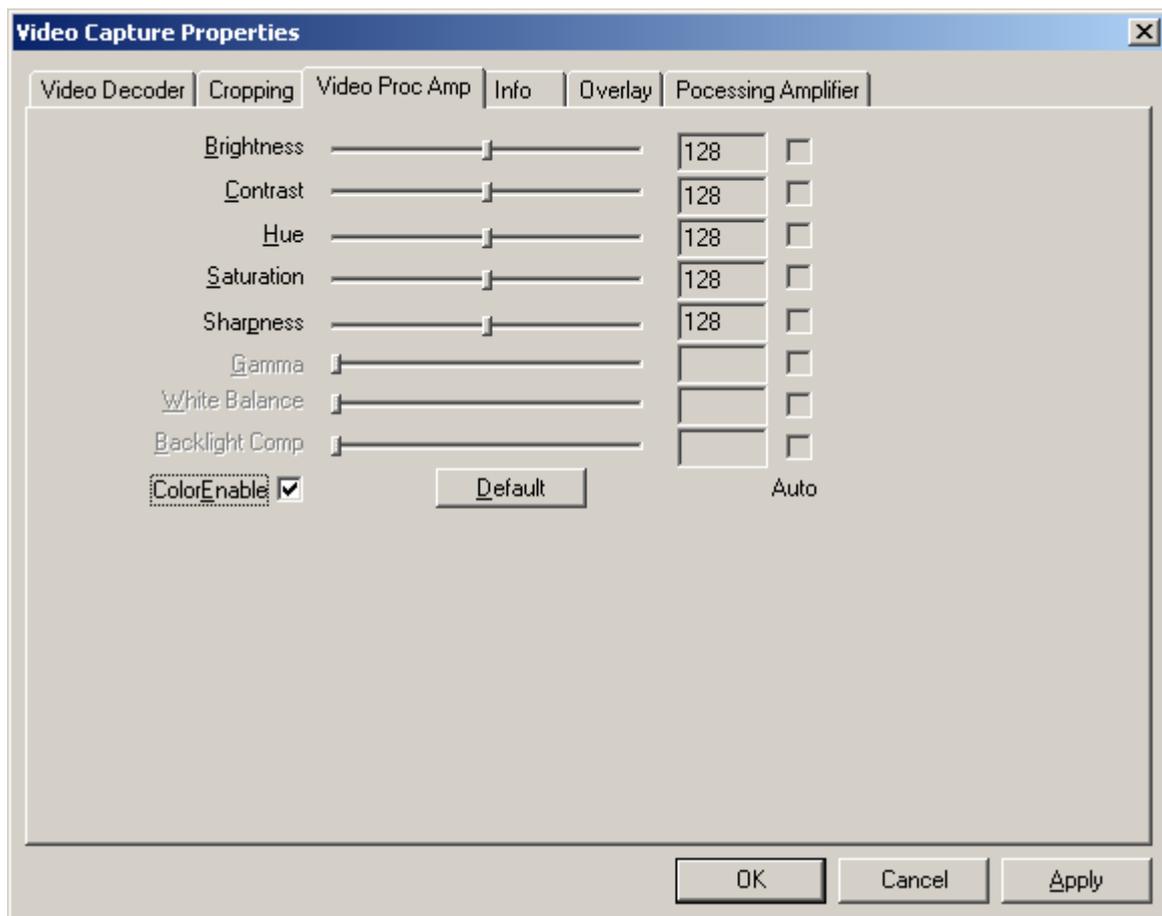
To configure the Composite Capture Card, please click on [Configure Live Inputs] and choose your Composite Capture Card from the live input list (Client Mode) or mark your Input Device in the Project Tab and click on [Configure] in the Inspector Tab (Master Mode).



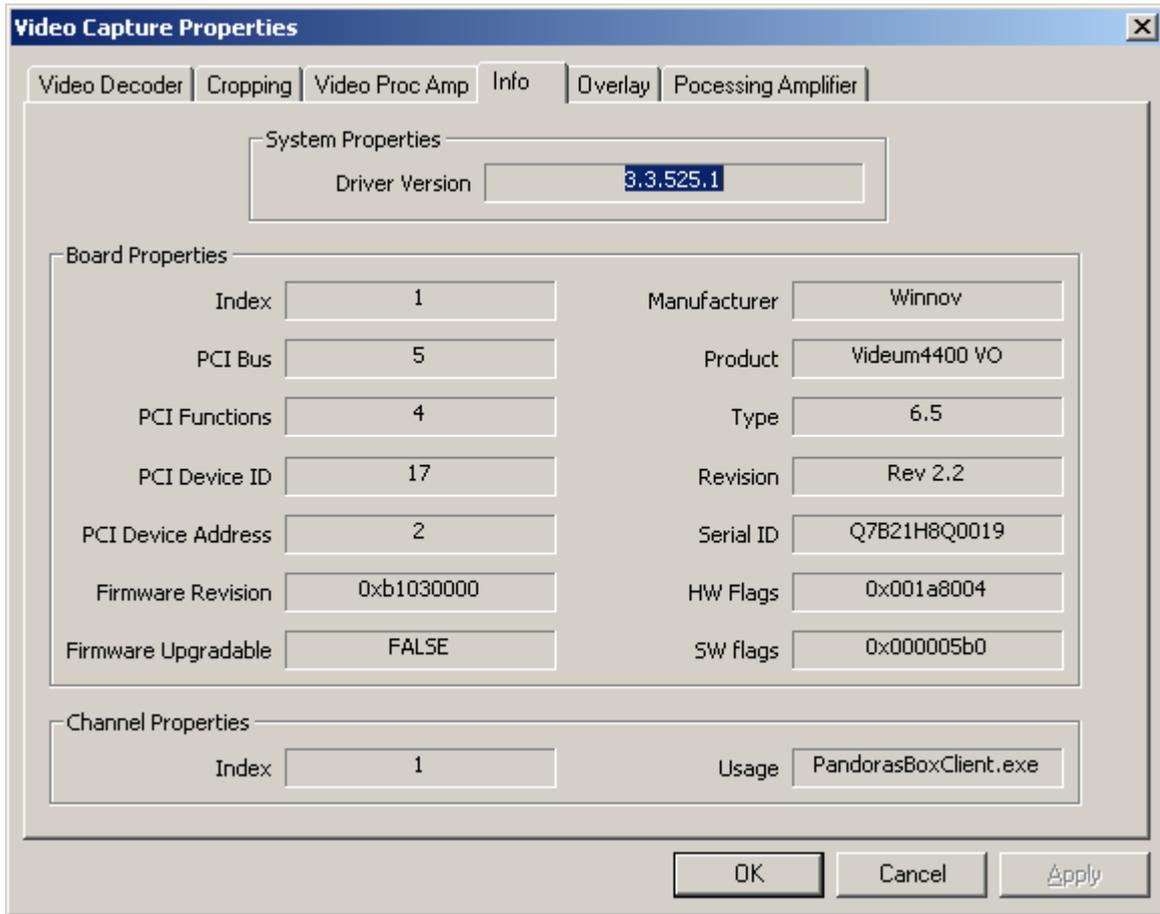
Choose the video standard (NTSC or PAL).



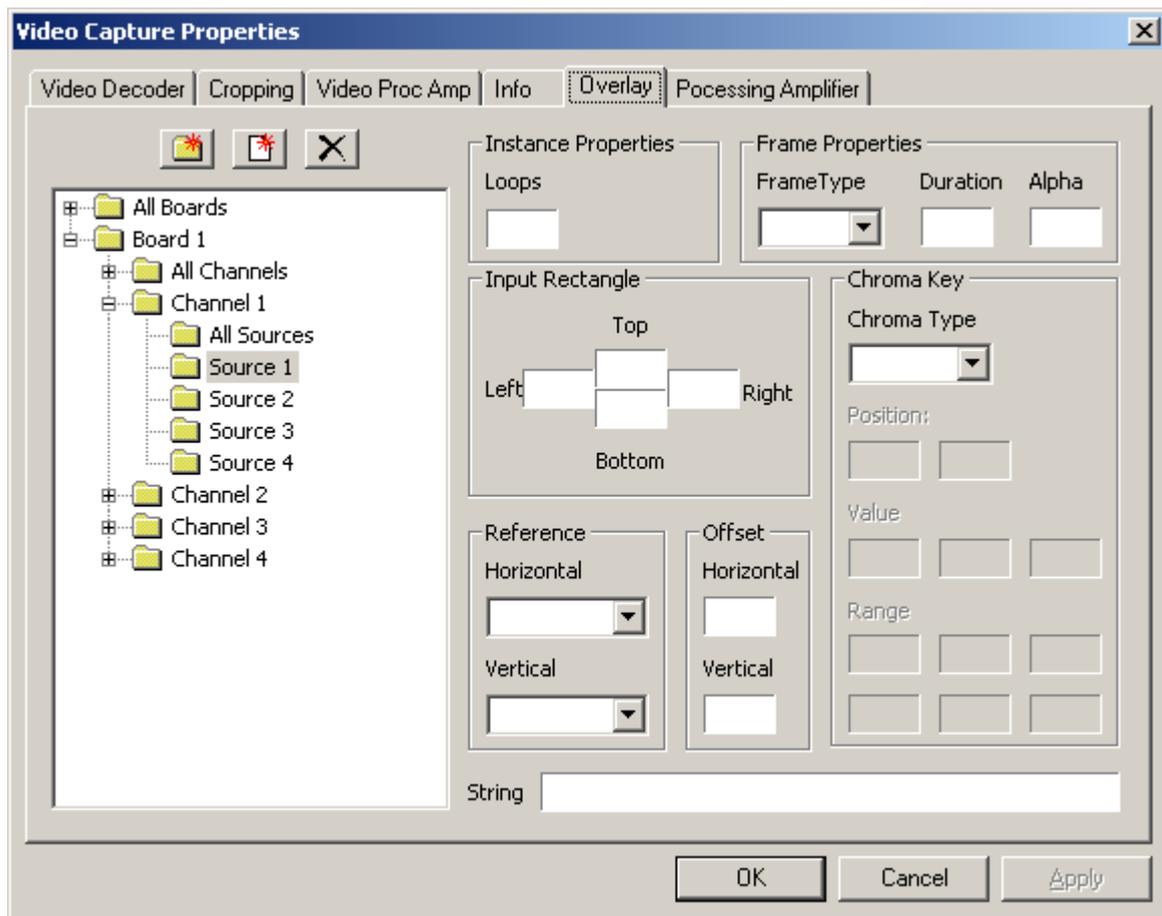
If you want to crop some parts of the input signal (for example a timecode at the bottom), do it by defining values for the 4 sides of the Input Rectangle.



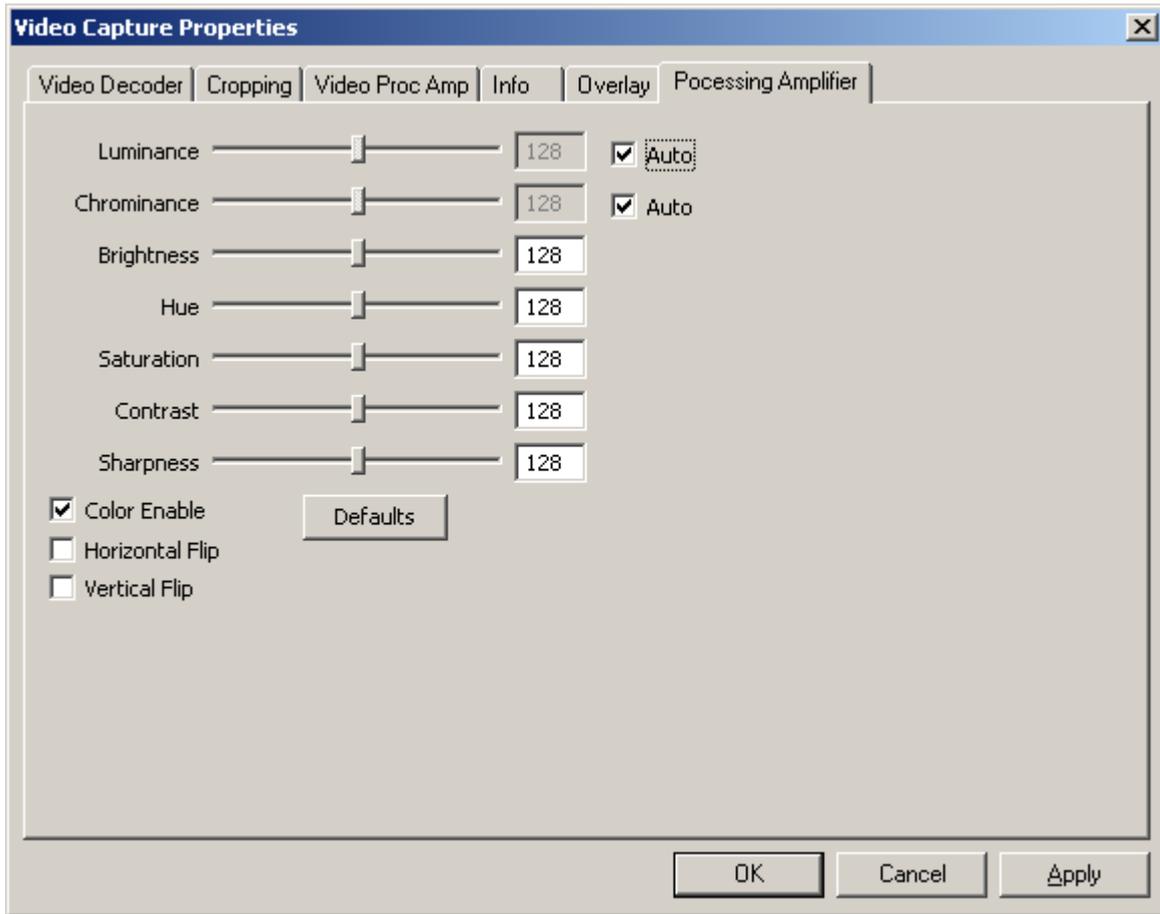
Brightness, Contrast, Hue, Saturation and Sharpness of the Input Signal can be adjusted by moving the faders.



The Information Control Panel simply provides useful information such as the product name, installed driver version, and PCI bus number. This information may be requested by our support if a problem occurs.



The Overlay Tab, in which you normally can add graphics as an overlay on the image, is enabled by using with Pandoras Box.

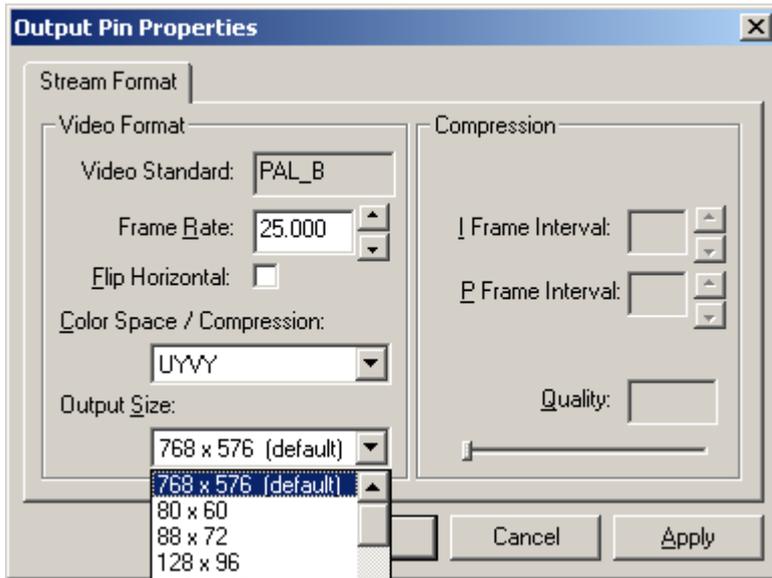


In the Processing Amplifier Tab an automatic luminance and chrominance control is set by default. By unchecking 'Auto' you can set new values manually.

To set new values for brightness, hue, saturation, contrast and sharpness you can do it by moving the faders left and right or typing the values in the textboxes next to the faders.

To capture the input signal in grey scale, uncheck 'Color Enable'. You may also flip the image horizontally or vertically.

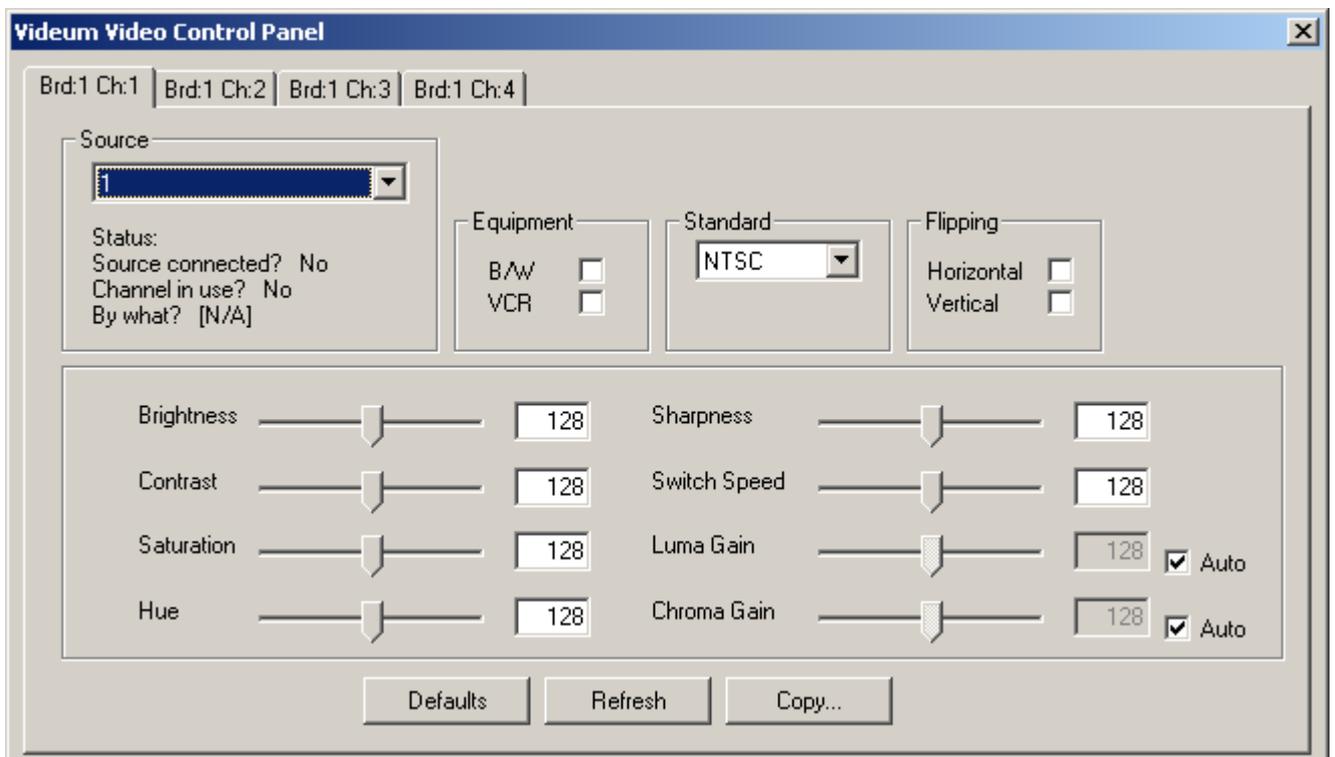
After clicking OK the Output Pin Properties Dialog appears. Please set here the frame rate, colour space and output size.



Please note:

Using the Winnov Videum Video Control Panel (you will find it here: WindowsStart/Programs/Winnov/Videum/Video Control Panel) you also can adjust the processing amplifier settings per board/channel/source. The settings are modified out of process and independent of software using the drivers.

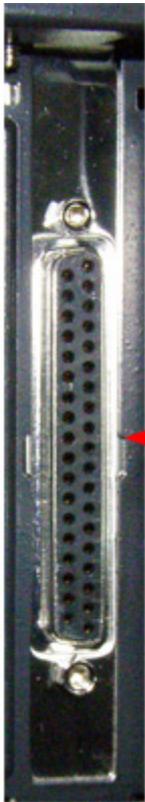
As the Winnov Videum Capture Card works like a matrix, you can set in the Video Control Panel you can set which physical source will be linked to which channel.



To do this, choose the channel from the 4 channel tabs and set the source by the source scroll down list.

After clicking OK the Output Pin Properties Dialog appears. Please set here the frame rate, colour space and output size.

3.3.2.3.3 DECKLINK SD SDI VIDEO CAPTURE CARD



Decklink Breakout Cable:

- SD-SDI IN
- Component IN
- Composite IN

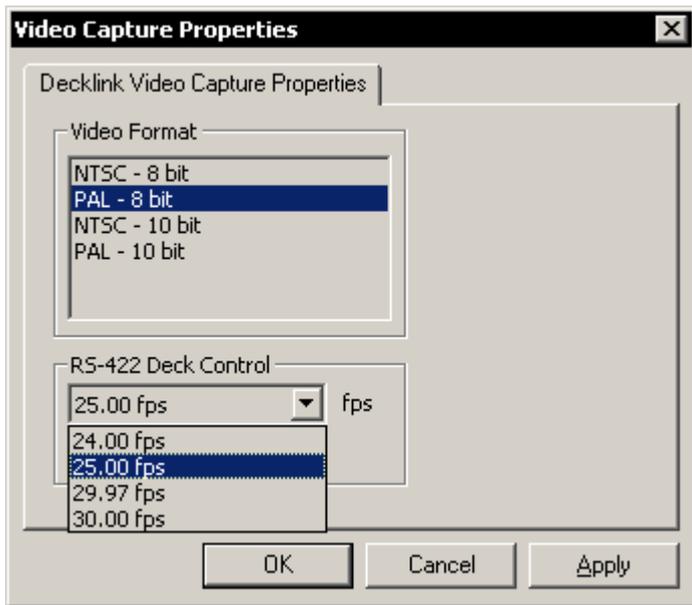
Configuration

Please note:

Make sure to always use the up-to-date driver from our homepage. Visit our user forum www.coolux.de/kb. There you will find all input card drivers under Downloads - Drivers - Input Card drivers. A short registration is required.

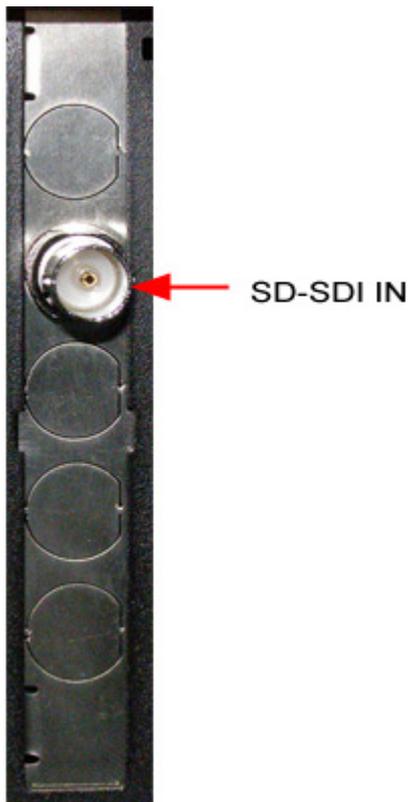
To configure the Decklink Video Capture Card, please click on [Configure Live Inputs] and choose your Decklink Video Capture Card from the live input list (Client Mode) or mark your Input Device in the Project Tab and click on [Configure] in the Inspector Tab (Master Mode).

In the Video Capture Properties it is only possible to set the Video Format and the framerate for the captured SDI-signal.



If you want to use a different input signal, please set up the driver under windows.

3.3.2.3.4 COOLUX SD SDI CAPTURE CARD



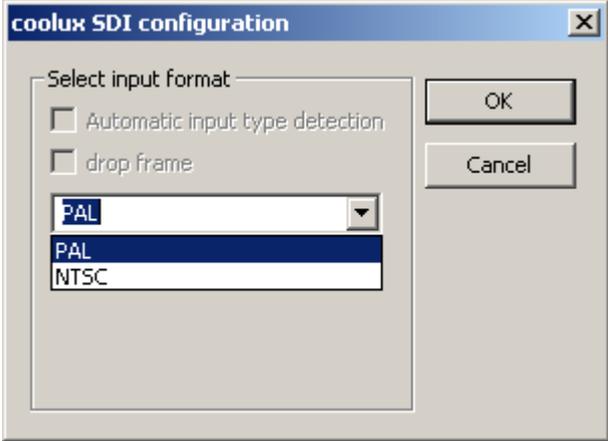
Configuration

Please note:

Make sure to always use the up-to-date driver from our homepage. Visit our user forum www.coolux.de/ku, you will find all input card drivers under Downloads - Drivers - Input Card drivers. A short registration is required.

To configure the coolux SD SDI Capture Card, please click on [Configure Live Inputs] and choose your SD SDI Capture Card from the live input list (Client Mode) or mark your Input Device in the Project Tab and click on [Configure] in the Inspector Tab (Master Mode).

When your source is connected, you may check the automatic input type detection or manually choose your video format from the scroll down list.

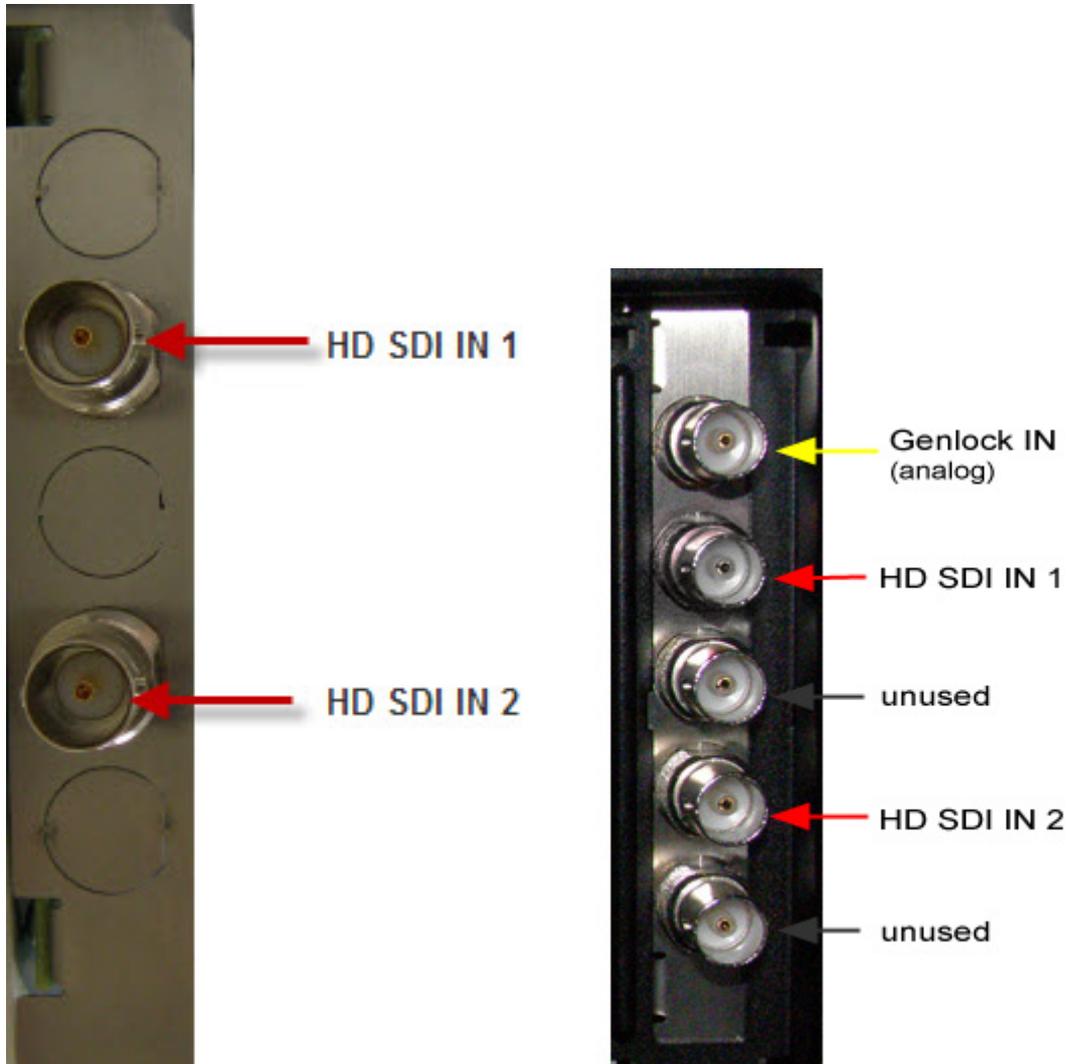


Supported Video Signal Standard

The coolux SD SDI Capture Card supports SMPTE 259M-C.

3.3.2.3.5 COOLUX HD SDI CAPTURE CARD

See below on the left side the new coolux HD SDI input card. On the right side the older version is shown.

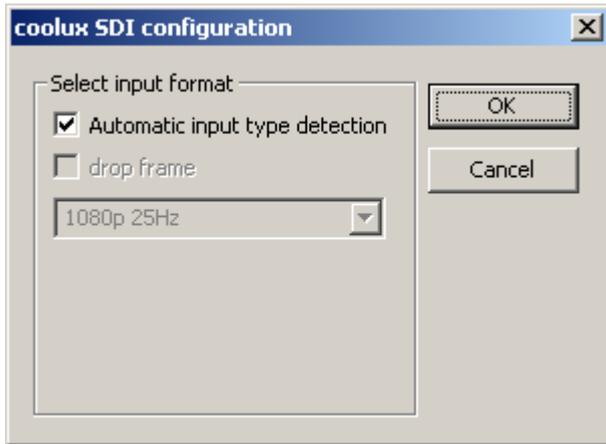


Configuration

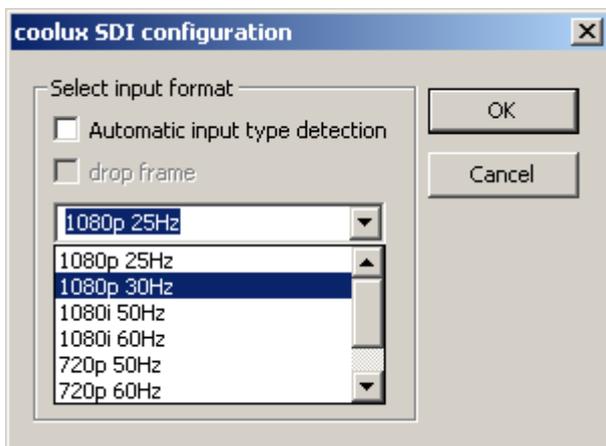
Please note:

Make sure to always use the up-to-date driver from our homepage. Visit our user forum www.coolux.de/kb, you will find all input card drivers under Downloads - Drivers - Input Card drivers. A short registration is required.

To configure the coolux HD SDI Capture Card, please click on [Configure Live Inputs] and choose your HD SDI Capture Card from the live input list (Client Mode) or mark your Input Device in the Project Tab and click on [Configure] in the Inspector Tab (Master Mode).



When your source is connected, you may check the automatic input type detection or manually choose your video format from the scroll down list.



Supported Video Signal Standard

Every input channel is independent and SMPTE 259M-C and 292M (SD or HD SDI) compliant.

- HD formats as per SMPTE 274M and 296M
- SD formats as per ITU-R BT.601-5 part A
- Dual Link support as per SMPTE 372M

3.3.2.3.6 COOLUX DUAL DVI CAPTURE CARD

Please note:

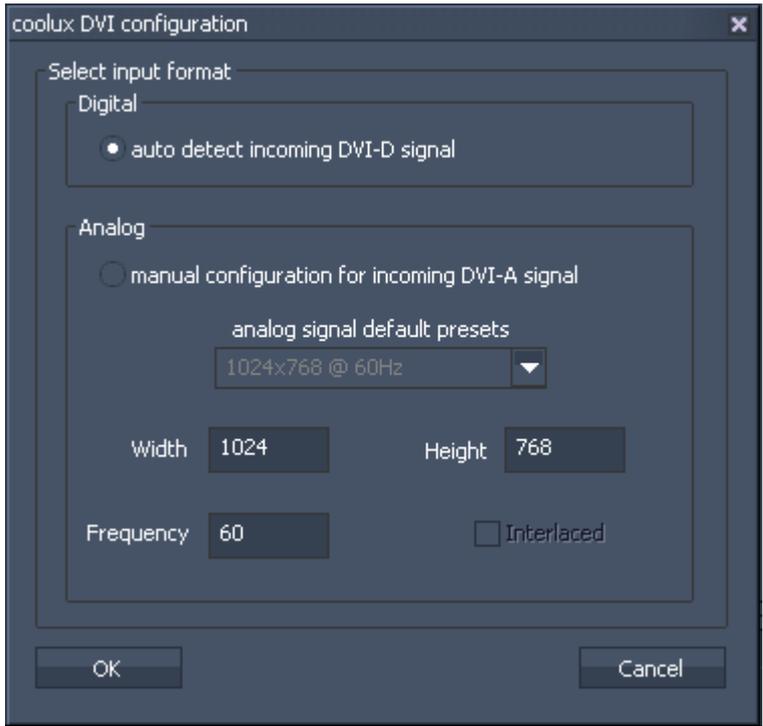
The coolux Dual DVI Capture Card currently supports from now on DVI-D (DVI Digital) as well as DVI-A (DVI Analog).



Configuration

Please note:
Make sure to always use the up-to-date driver from our homepage. Visit our user forum www.coolux.de/kb, you will find all input card drivers under Downloads - Drivers - Input Card drivers. A short registration is required.

To configure the coolux Dual DVI Capture Card, please click on [Configure Live Inputs] and choose your coolux Dual DVI Capture Card from the live input list (Client Mode) or mark your Input Device in the Project Tab and click on [Configure] in the Inspector Tab (Master Mode).



Select “auto detect incoming DVI-D signal” when capturing a digital DVI signal. Here you do not have to define the signals resolution.

When capturing an analog DVI signal, please check the option “manual configuration for incoming DVI-A signal” and choose the correct signal type from the dropdown list or type in the resolution and frequency in the textboxes below.

Confirm your configuration by pressing [OK].

3.3.2.4 OUTPUT SETTINGS

3.3.2.4.1 ATI CARDS

The ATI graphics card allows several output configurations based on the alignments you make in the display settings.

Pandoras Box Servers are equipped with the most recent ATI cards. ATI supplies the Catalyst Control Center for detailed display setup.



To configure the graphics card's outputs, please setup your display configuration and resolution in the display manager.

In case that you have a system with an earlier card than the ATI X1800, please contact coolux for an upgrade or hardware trade-in of the system.

Pandoras Box Server Output Resolutions with ATI X1800 / X1900 Cards

SingleOutput DVI / RGBHV

640x480	VGA
---------	-----

DualOutput DVI / RGBHV

1280x480	2x VGA
----------	--------

800x600	SVGA	1600x600	2x SVGA
1024x768	XGA	2048x768	2x XGA
1280x720	HD 720p	2560x1024	2x SXGA
1280x1024	SXGA	3200x1200	2x UXGA
1400x1050	SXGA+		
1600x1200	UXGA		
1920x1080	HD 1080p		
2048x1536	SUXGA		

Refresh Rates 50*, 60 or 75hz
 *50hz Modes can be set via the EDID of the attached display.

Please note: not all displays allow specific EDID settings, please use an EDID manager or a comparable device to set custom frequencies.
 S-Video (Pal/Ntsc) – Output thru the onboard S-Video and Composite connector

Please note: when using display devices that support EDID (Extended display identification data) via DVI, please reboot the Server in order to get the EDID information and settings in the Catalyst Control Center
 After changing these settings, please restart the Pandoras Box Server application to apply the changed settings of the graphics card.

SINGLE OUTPUT MODE

Once your system is connected to a single display, it is by default set to single output mode. If you want to add or change the display configuration, please shut down all Pandoras Box applications before making any changes.

DUAL OUTPUT MODE



When a new display is connected to the graphics card, it will be shown in the “Attached displays currently disabled” section.

Right-Click on the disabled display and choose “Stretch Main horizontally onto digital panel”



Once the display settings are changed, you will have to confirm these changes, otherwise the graphics card will reset to the previous settings.



Once confirmed, you may adjust the overall desktop area resolution, colour quality and refresh rate.



Please note: The driver allows only specific resolutions in dual output mode.

SINGLE FULLSCREEN MODE

If you want to use Pandoras Box in single fullscreen mode in order to display the user interface on the secondary monitor, please set the secondary output to "Extend Main horizontally onto digital panel"



When using the extended display mode, Pandoras Box will only be rendering on the primary output, while the user interface can be operated on the secondary output.

CLONE MODE

If both outputs should be set up to always emit the same content, the output can be set up to be cloned. Simply choose the right click option “Clone Main with digital panel”



3.3.2.4.2 NVIDIA CARDS

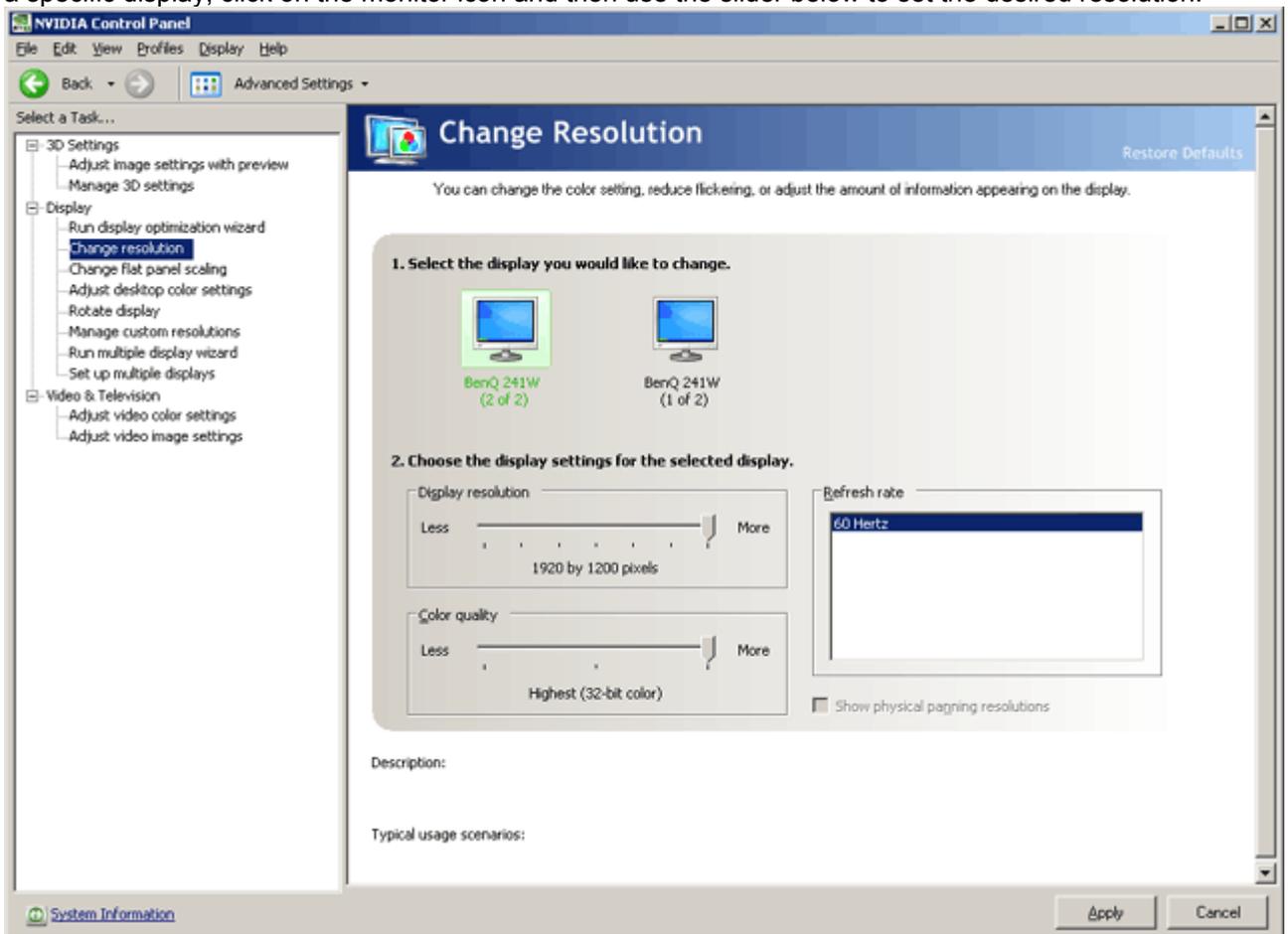
All Pandoras Box Servers equipped with Nvidia Cards will be able to open the Nvidia Control Panel via the output button of the onscreen menu to manually set resolutions and display settings.

PLEASE NOTE:

DO NOT DISCONNECT ANY VGA OR DVI DISPLAY DURING RUNTIME. WHEN CHANGING DISPLAY CABLES, ALWAYS SHUT DOWN THE SYSTEM FIRST!

To access the common resolution settings you may also use the LCD Menu system on the front panel of the Pandoras Box Server.

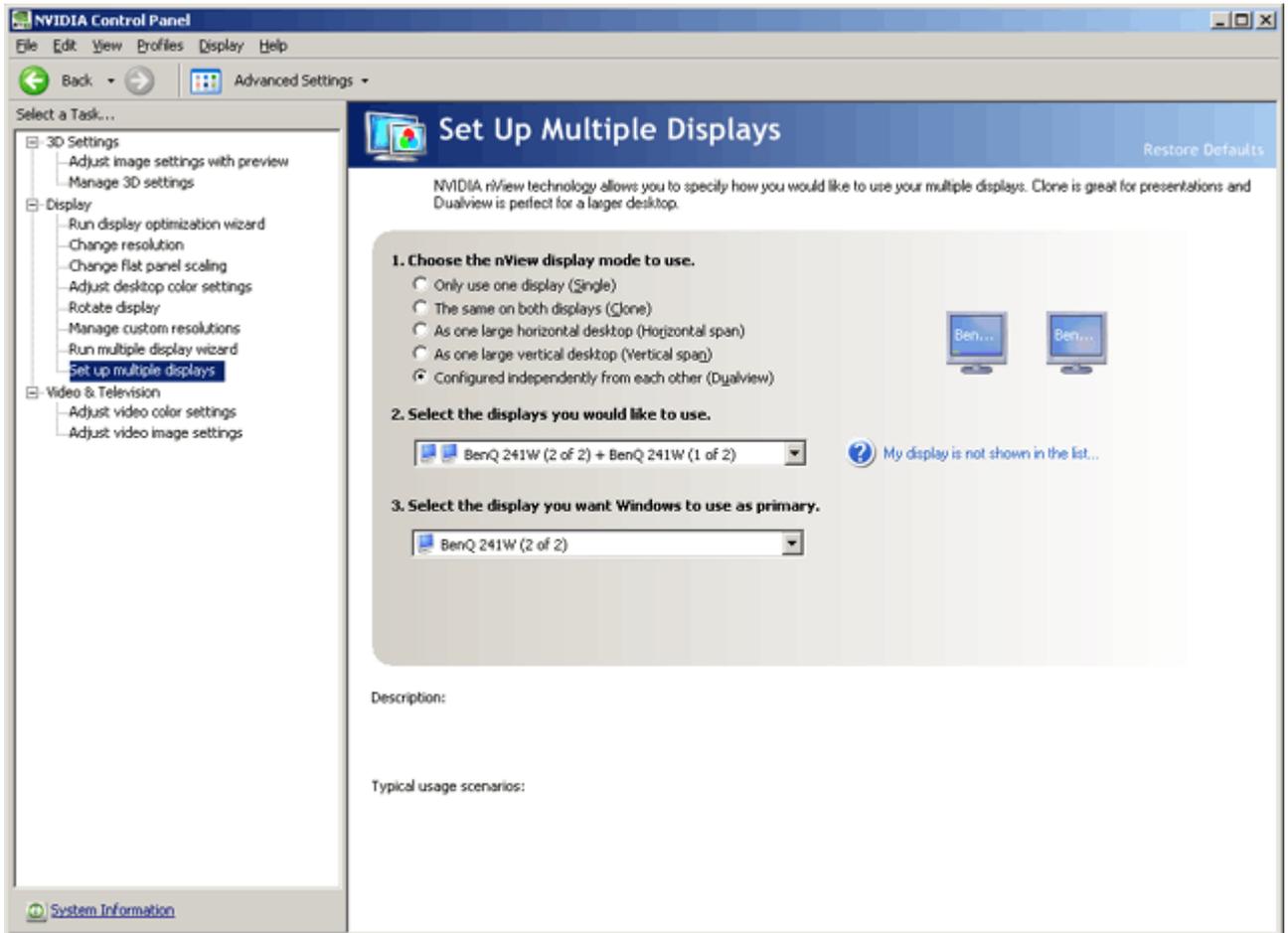
In the Nvidia Control panel you may choose from any of the reported display resolutions by selecting the "Change Resolution" menu in task tree on the left of the control panel. To change the resolution of a specific display, click on the monitor icon and then use the slider below to set the desired resolution.



Press "Apply" or "Cancel" to proceed.

If you wish to change your display setup for multiple monitors, it is recommended for best video rendering and playback performance to always use the Dualview mode with Nvidia cards.

This mode will allow you to set up any supported resolution by your connected display.



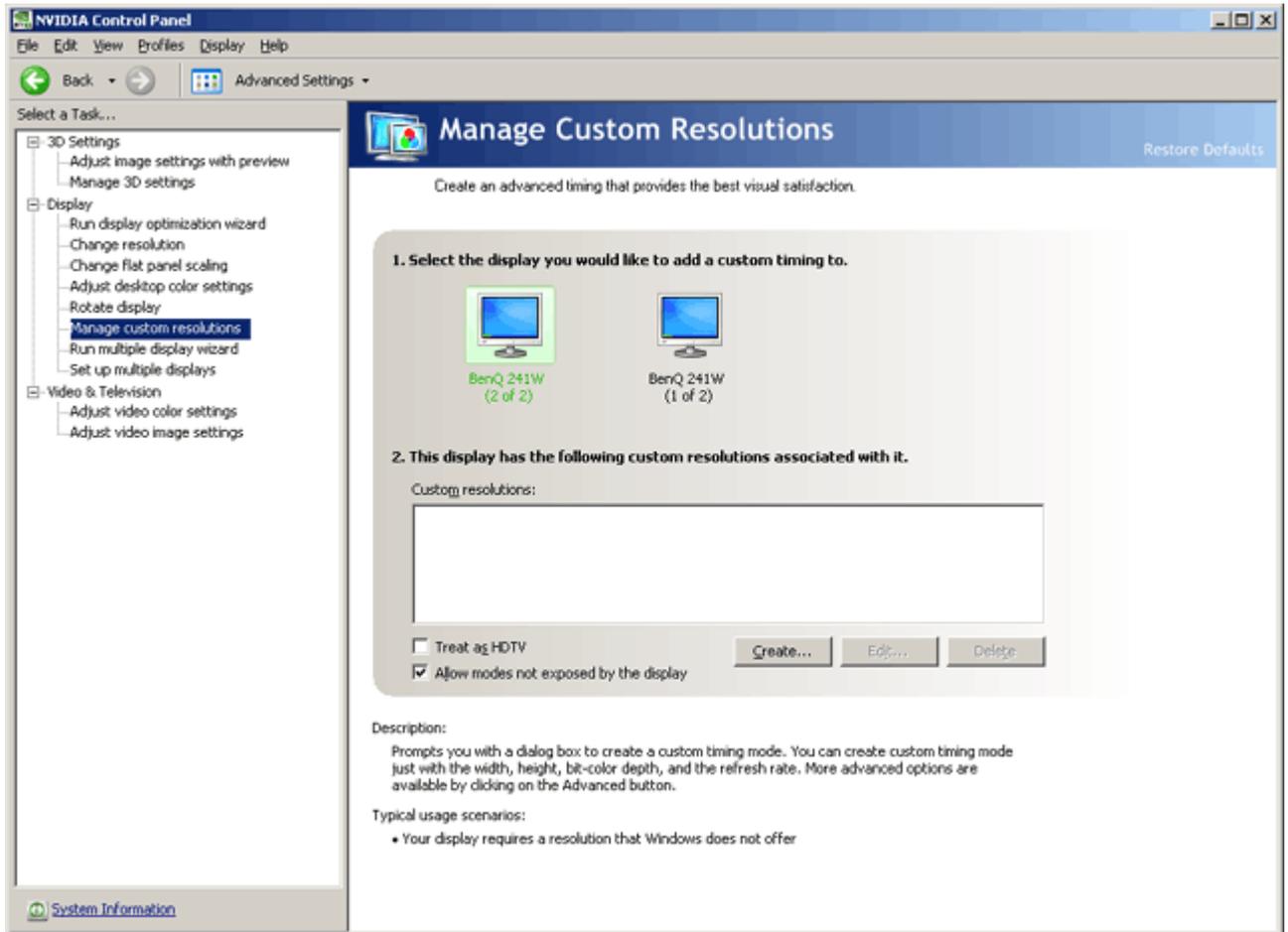
Please note that with the current V4 version of Pandoras Box, Dualview is only supported if the same resolution and frequency is used by both outputs.

If the desired resolution is not listed in the change resolution menu, you may check the checkbox "Allow modes not exposed by the display" in the "Manage Custom resolutions" menu.

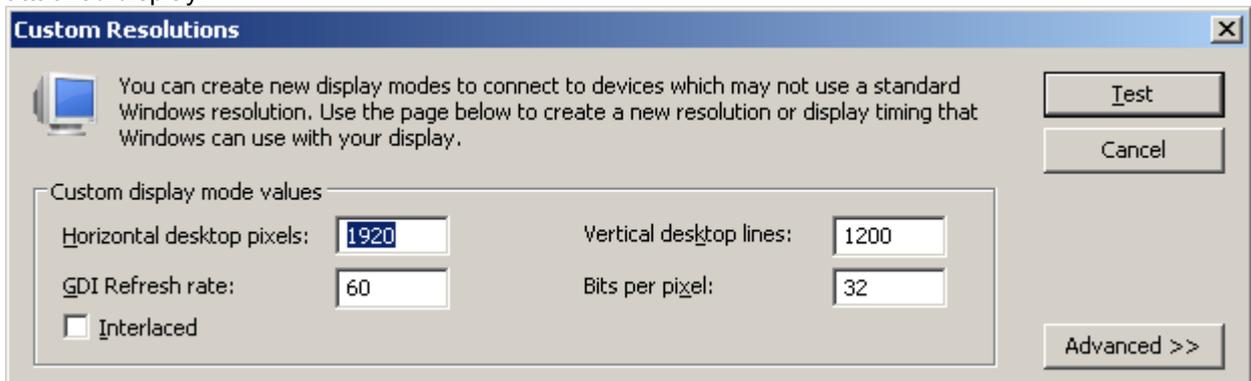
You may also use the custom resolutions menu to set up custom timings and refresh rates that are supported by your display.

Please be aware that changing your graphics card to unsupported resolutions and frequencies might damage your display and graphics card.

coolux can not be held liable for any damages that may occur from these custom setups.



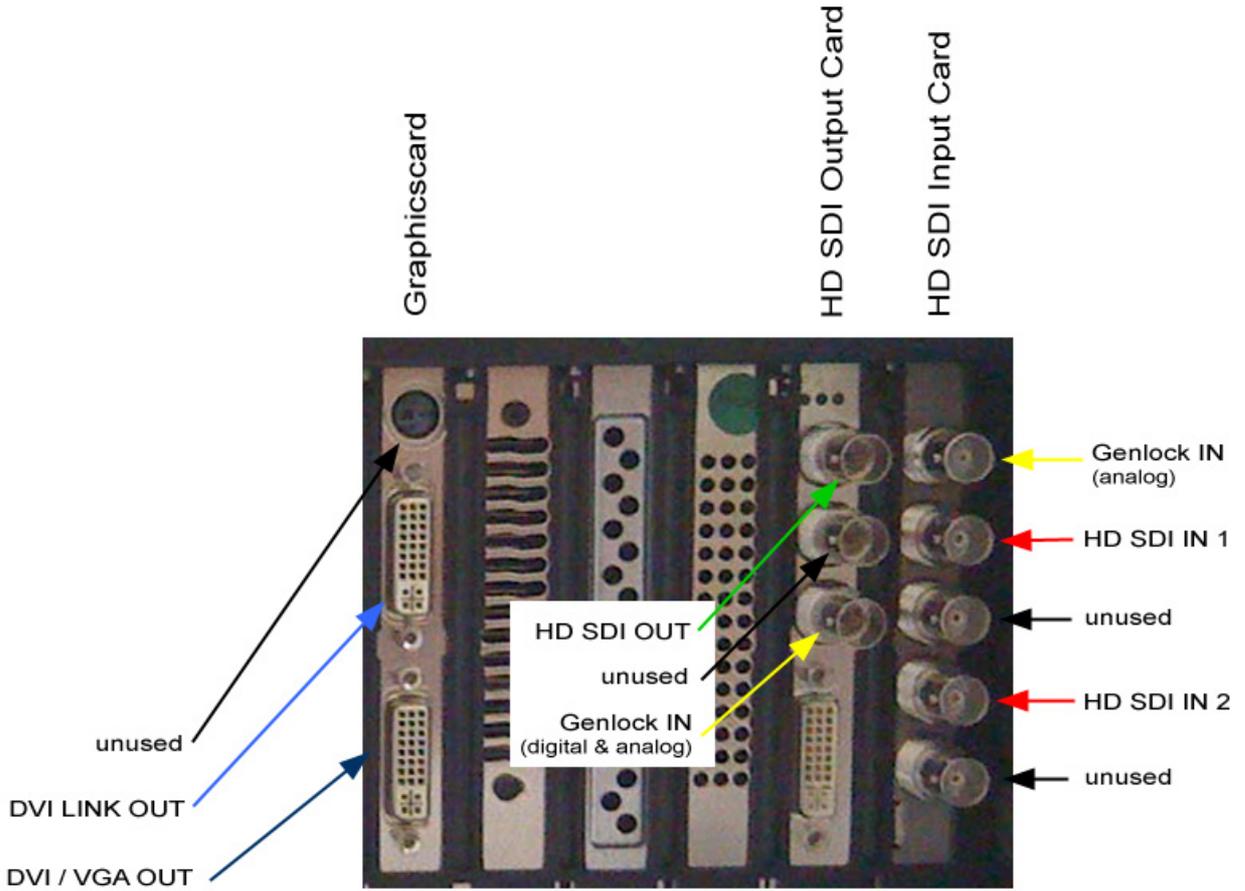
Once you click "create..." you may enter the desired display timings and test the new mode with your attached display.



For more detailed timing settings please use the "Advanced>>" menu.

3.3.2.4.3 HD ENGINE

OVERVIEW REAR SIDE



STANDARD ACCESSORY



QUICK SETUP

1. Connect DVI LINK OUT with DVI LINK IN using the included short DVI cable
2. Connect HD-VGA monitor to DVI/VGA OUT
3. Connect HD-SDI-OUT to the switcher or display
4. Connect Genlock to the Output Card
5. If needed connect Genlock to the Inputcard
!! The input card only supports analog Genlock !!
6. Connect keyboard and mouse
7. Connect network to NIC1
8. Connect power
9. Start the server

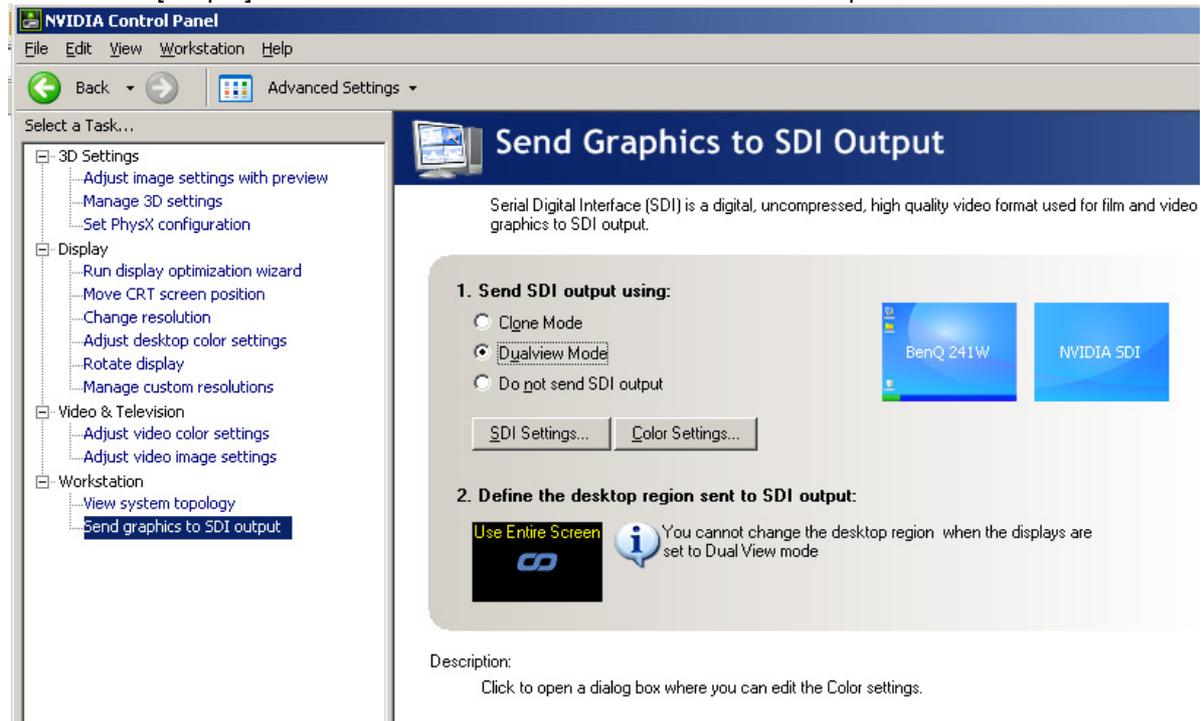


Your screen should look similar to this.

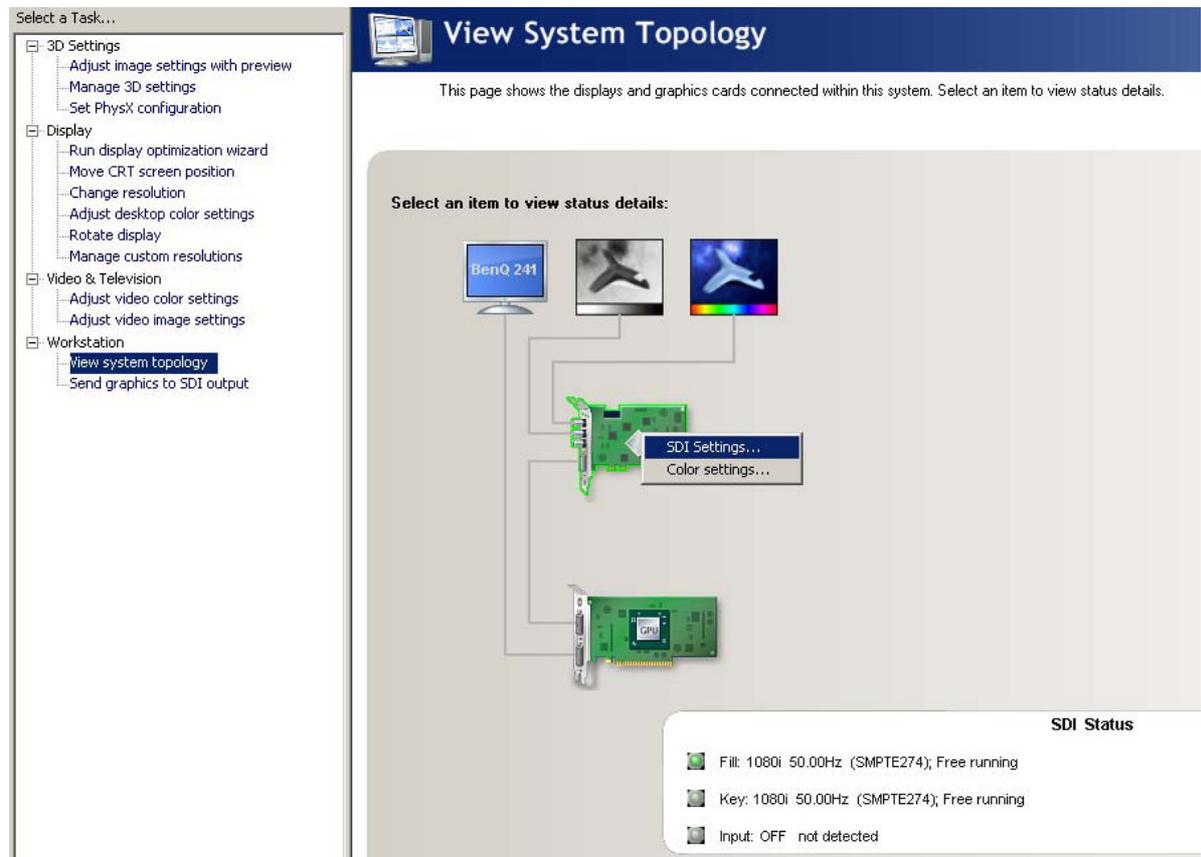


SDI OUTPUT AND GENLOCK SETUP

Click on the [Output] Button on the left and the NVIDIA Control Panel opens.



Activate the SDI Output under 'Workstation / Send graphics to SDI Output' and put it into Dualview Mode.



SDI Settings can be configured under 'Workstation/View system topology'.

Don't forget to APPLY changes!

Important Side Notes:

The resolution of the SDI output can not be set up on the Servers LCD Display

The DVI LINK cable has to be installed from the upper Output of the graphicscard to the DVI IN of the SDI Card

The SDI Output can only be configured in dualview.

The SDI Output in dualview is always the secondary

In dualview the resolution of both analogue monitor and SDI have to be the same

The regular monitor should be analog, with the current NVIDIA driver we are not able to create DVI custom modes.

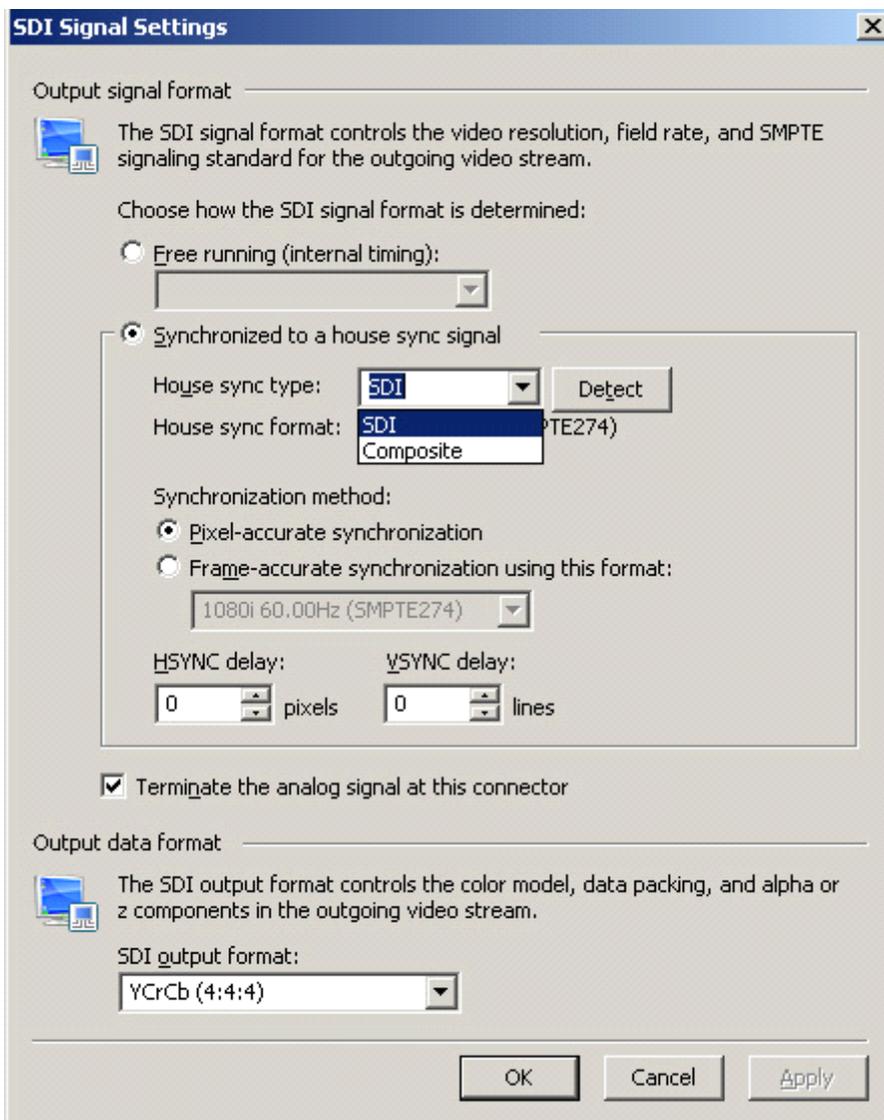
When you sync the output to genlock the graphicscard determines the SDI Mode on its own and configures it

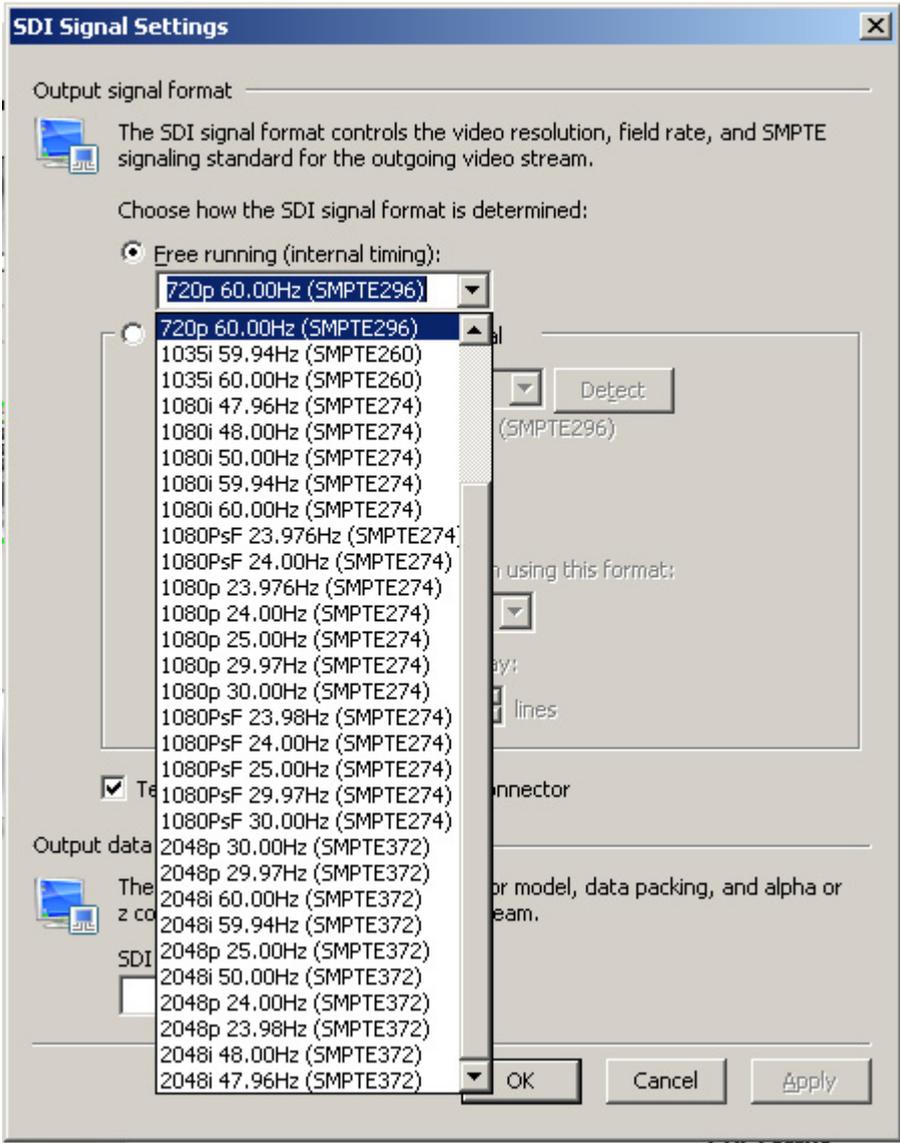
We currently do not support a KEY channel

If you do not need a preview or local monitor, you can run the system with just the SDI Output attached. In order to do so Power OFF the Server, disconnect the VGA/DVI monitor, power the server back on. You will not be able to change the SDI Settings in that Mode.

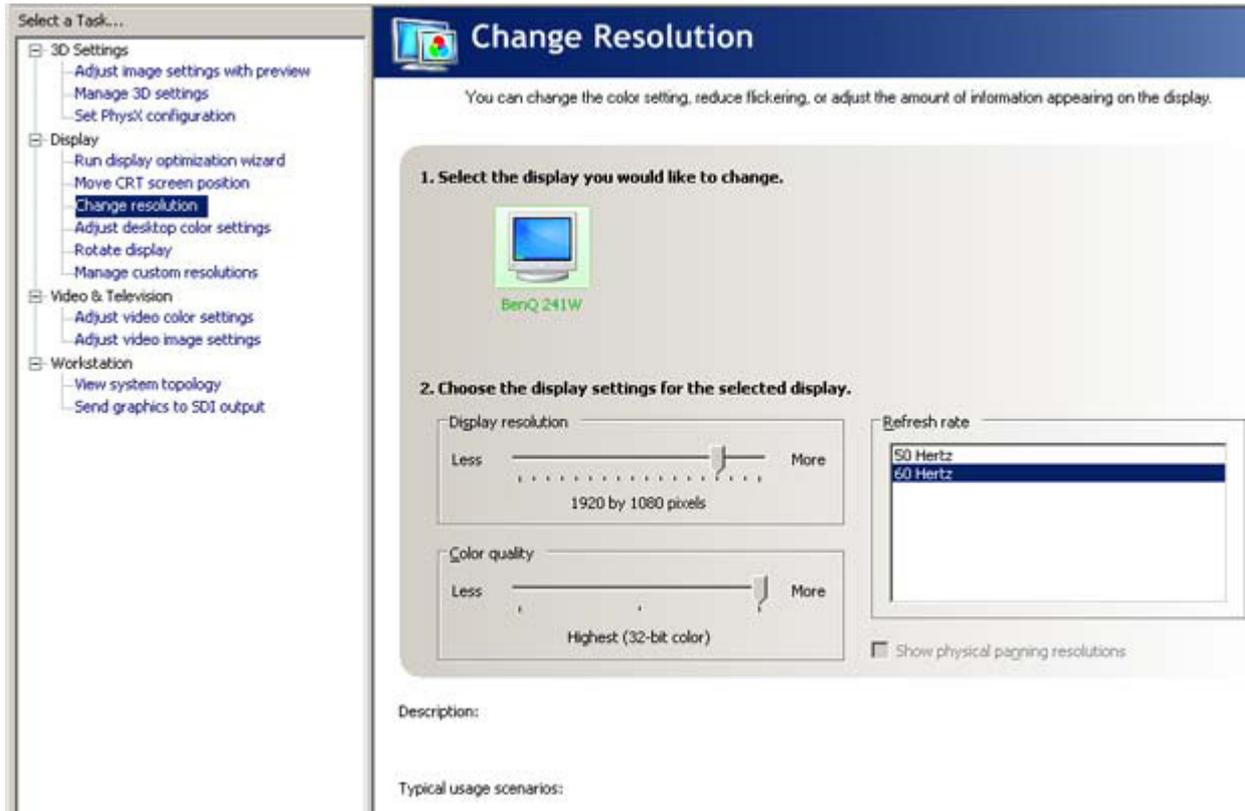
In order to use the Engine as a Dual DVI or Dual VGA Server you need to contact coolux for further instructions.

You can either have it locked to another SDI or Analog Sync or let it run free in whatever mode you like





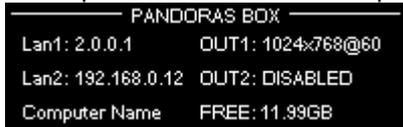
Change the output resolution of your VGA monitor to the same size and frequency as your SDI Output.



3.3.2.5 LCD MENU

STATUS DISPLAY

The top level menu of the front panel LCD display is the status display.



The status displays indicates:

The units IP address of the “Lan” adapter Output1 Resolution

The units IP address of the “Lan2” adapter Output2 Resolution

The units computer name Free hard disc space

By pressing the encoder once you will enter the main menu.

MAIN MENU

From the main menu you may access several submenus: Use the encoder to navigate through the menu entries and press the encoder to enter each of the sub menus.



LAN1 & LAN2 - NETWORK MENU

The network menu allows you to quickly change the unit's IP address and subnet mask settings as well as the DHCP enabled-setting of the unit.



Use the encoder to navigate through the network menu and turn the encoder to set the individual settings.

Please note that applying changes to the network setting may take several seconds until the unit is ready to proceed.

Press CANCEL to return to the main menu without changes.

OUTPUT MENU

The output menu gives you a direct access to the available default resolutions.



Use the encoder to navigate and choose from the list of display modes.

To enable Output2 please make sure that the check box next to Output2 is checked in order to setup both outputs.

Please note: The current version of Pandoras Box Server supports only matching resolutions on both outputs.

For more advanced resolution and refresh rate setups please use the onscreen menu to open the Output Nvidia Control Panel window.

Press CANCEL to return to the main menu without changes.

PATTERN MENU

When working offline (i.e. neither Pandoras Box Master or Client is running) you may assign test-patterns to the outputs.



Press MENU to return to the main menu, the last selected pattern will stay active until it is changed or rebooted.

PLAYBACK MENU

The functions of the playback menu are enabled when Pandoras Box is in master mode in order to control the timeline. When working in master mode, the playback buttons are enabled as well.



- Press PLAY to run the timeline.
- Press STOP to reset the timeline to 00:00:00:00
- Press LAST to jump to the last cue available
- Press NEXT to jump to the next cue available
- Edit GOTO TIME lets you enter a specific timecode to jump to after you entered all value in hh:mm:ss:ff format
- Edit GOTO CUE lets you enter a specific cue number to jump to.
- Press MENU to return to the main menu.

MODE MENU

The mode menu defines which version is loaded for the onscreen menu buttons. It also determines which master or client mode to choose if multiple revisions are installed on the unit.



In the top scroll list you may choose one of the installed revisions. Choose the mode you want to start by clicking on either master or client. To start a chosen mode, select START. To close a running master or client, choose CLOSE. Press MENU to return to the main menu.

DISPLAY MENU

The display menu lets you setup both brightness and contrast of the LCD display.



Press MENU to return to the main menu

SHUTDOWN MENU

The Shutdown Menu lets you either shutdown or reboot the unit.



Press MENU to return to the main menu

STATUS MENU

Press STATUS in the main menu to return to the top level status menu



3.3.2.6 ONSCREEN MENU



The onscreen menu enables you to control and access most common tasks and applications from the onscreen button menu.



MASTER & CLIENT

Depending on the mode set up in the mode menu of the LCD display, you may start Pandoras Box either in MASTER or CLIENT mode.

WARP

Press WARP to launch Pandoras Box Warper.

BROWSER

Press BROWSER to open the Windows Explorer.

OUTPUT

Press OUTPUT to open the Nvidia Control Panel for advanced graphics card and output configurations.

NETWORK

Press NETWORK to open the network dialog to set individual IP addresses for each "Lan" adapter. Please note: the status menu of the LCD display shows only the IP address for the "Lan" adapter.

SERVICE

Press SERVICE to launch the service menu, including the commands TASKMANAGER, RAID UTILITY, MODE and RESET MENU.



Inside the service menu you have the following options:

- TASK MANAGER

The task manager provides detailed information about computer performance and running applications, processes and CPU usage, commit charge and memory information, network activity and statistics, logged-in users and system services

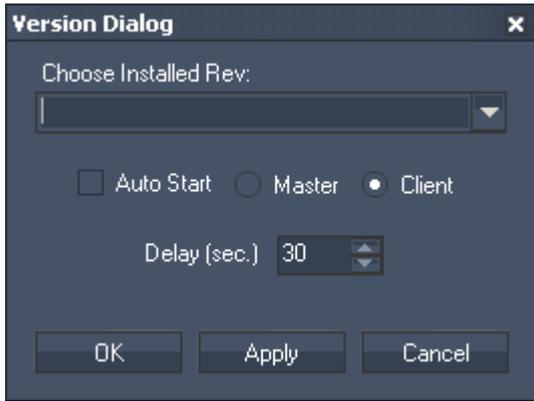
- RAID UTILITY

This tool allows collecting information about the server's raid system and gives the possibility to manage it.

Please note: Do not touch the raid system settings unless you are well skilled in doing this. If there are hard drive / raid problems, please contact support@coolux.de or your local distributor for support!

- MODE

Press MODE and the version dialog opens.



Choose one of your installed PB versions within the drop down list. The MASTER and CLIENT buttons then will refer to this choice.

Checking the Auto Start option with Master or Client will automatically launch the selected PB revision after the Onscreen Menu started. Set up the desired delay by entering the amount of time in seconds.

- RESET MENU

Press RESET MENU to reboot the LCD Display and the onscreen menu. This is important to refresh the current state to the menu when settings were changed directly under Windows.

VNC REMOTE

Press VNC REMOTE to launch the VNC Remote application. It enables you to scan the network for PB devices running the onscreen menu Rev. 32 or higher and to remote-control them.

HELP

Press HELP to launch the Pandoras Box Helpfile.

TASKBAR ON

Press TASKBAR ON / OFF to show or hide the Windows taskbar.

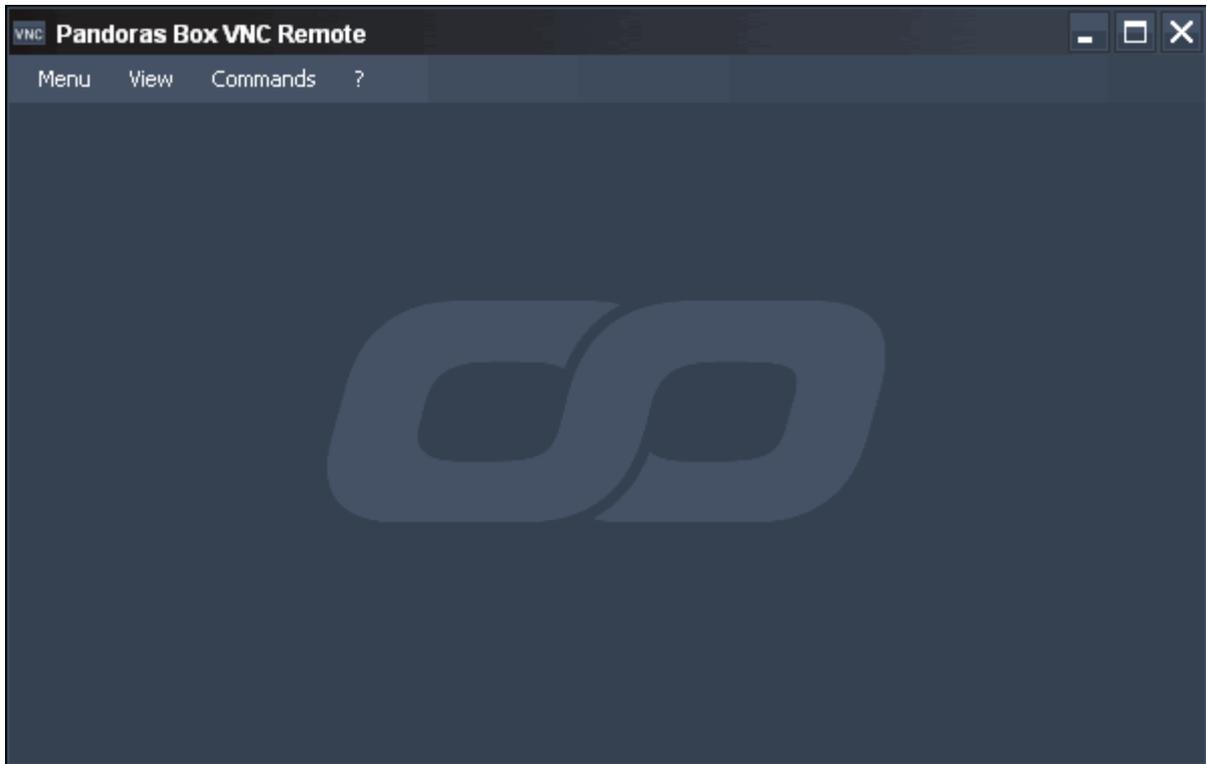
SHUT DOWN

Press SHUT DOWN to power off the server.

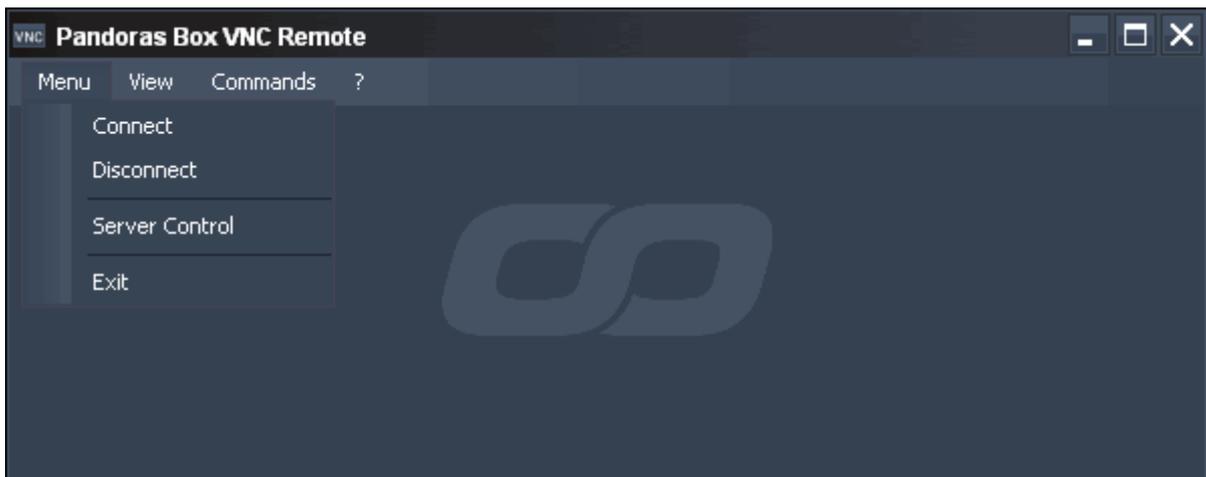
Below the buttons the system's IP addresses and the onscreen Rev. are displayed.

3.3.2.7 PANDORAS BOX VNC REMOTE

The PB VNC Remote application lets you scan the network for PB devices and to remote-control them.



Pressing MENU in the menu bar allows you to:



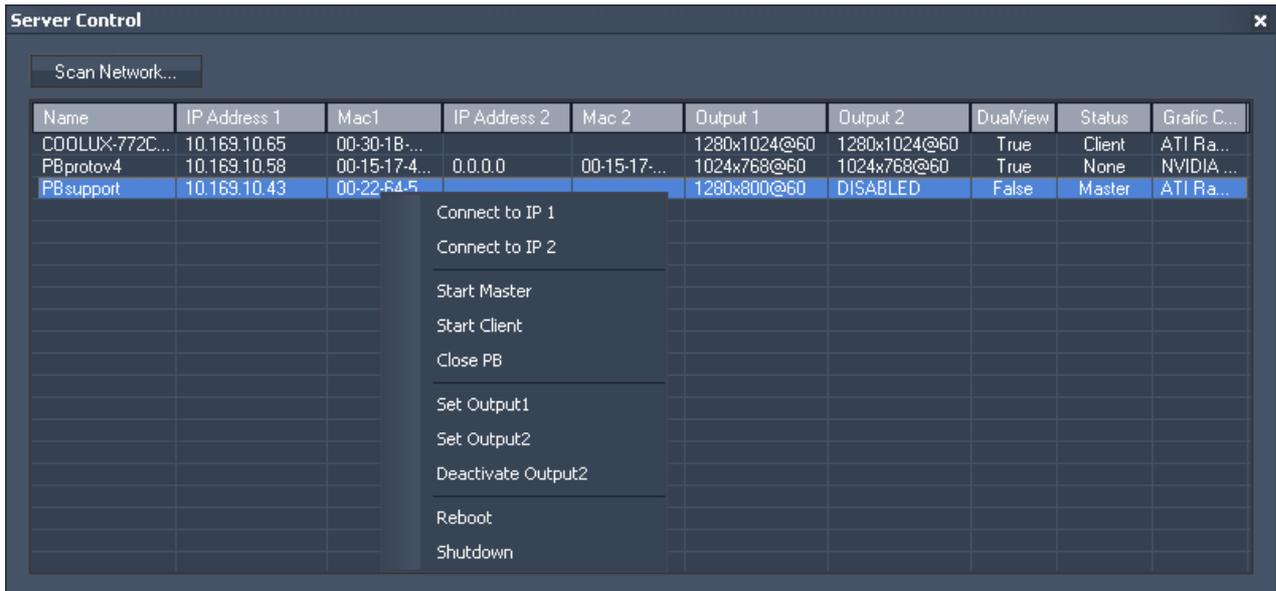
CONNECT to a VNC Server

Press SCAN NETWORK and you will get a list of all PB devices running the Onscreen Menu Rev. 32 or higher.

The list contains information about:

- the server's name
- IP and Mac Address 1 (and 2 if existing)
- the resolution of Output 1 and 2
- the graphic card's desktop setup
- the status of running PB software (Master, Client or None)
- the server's graphics card

Selecting one of the servers and rightclicking lets you control this device.



You can either connect to IP 1 or IP 2, start the PB Master or Client or close the PB application. You may set different output resolutions for Output 1 and 2. Just choose the supported output resolution from the drop down list.



You may deactivate Output 2. Please note: Only Nvidia graphic cards are supported.

The Reboot and Shutdown commands are also available.

EXIT

Close the VNC Remote Application by pressing EXIT.

Pressing VIEW in the menu bar allows you to:



VIEWER ONLY

If this option is checked, the VNC Remote tool works as viewer only. You will not be able to manage the connected server.

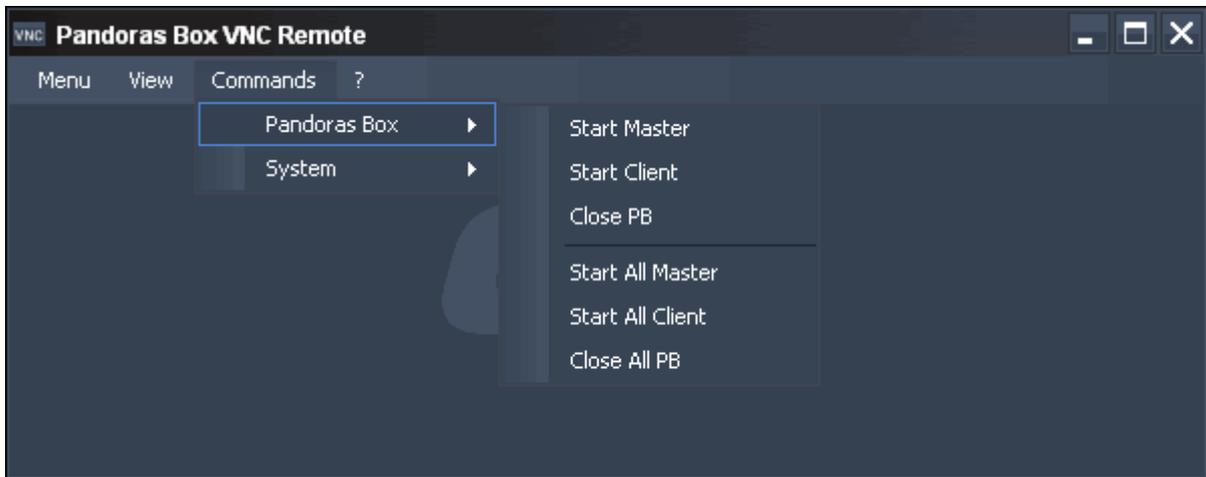
AUTO SCALE

This option is checked by default, it will automatically scale the viewed desktop into the VNC Remote window.

Without Auto Scale you will get a 1:1 resolution.

Pressing Commands in the menu bar allows you to:

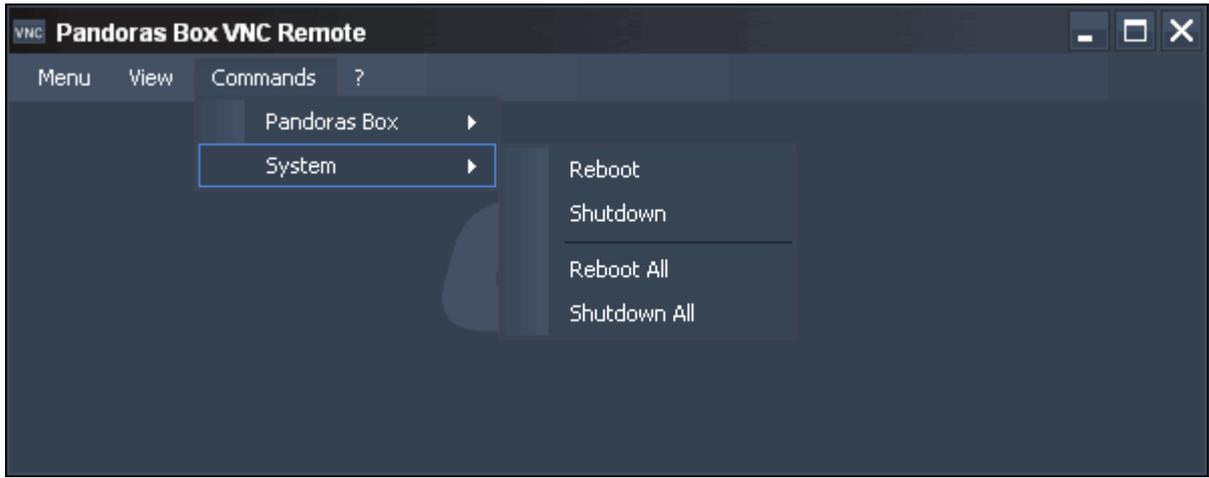
- control the Pandoras Box application:



Start Master, Start Client or Close PB on your local machine.

Start All Masters, All Clients or Close All PB on all machines in the network running the onscreen menu Rev. 32 or higher.

- control the system:



Reboot or Shutdown the local machine.
Reboot or Shutdown All machines in the network running the onscreen menu Rev. 32 or higher.

3.3.3 PANDORAS BOX PLAYER

The Pandoras Box Player offers multiple image layers. Two types of layers are available: Graphic- and Video Layers.
 The graphic layers may render / display only static images or still frames of video sequences.
 The video layers allow full motion video playback in various resolutions.

Depending on the base unit, you may have the following amounts of layers.
 Pandoras Box Player STD 4 Graphic + 2 Video-Layers
 Pandoras Box Player PRO 8 Graphic + 4 Video-Layers
 Every Player system is able to control one individual output.

Therefore 1 cameras / output control is available.

3.3.3.1 LAYER CONTROL

As 2D compositing tool, Pandoras Box Player renders all layers in an infinite 2D vector space.

Every layer is to be considered as a vector shape, so that two-dimensional images and videos are played back on flat planar vector surfaces.

This technique enables you to real-time scaling rotation and manipulation of the content.

3.3.3.1.1 INTENSITY

The opacity sets the transparency & volume of each layer.
 Opacity 0% fully transparent / sound off
 Opacity 100% fully visible / sound 1:1 level
 The opacity control allows smooth transitions for every layer.

3.3.3.1.2 POSITION ROTATION SCALE

POSITION

Each layer can be positioned in XYZ individually.
 Each position parameter is 16bit for pixel accurate positioning of layers.
 X Position 0% max. Image offset left
 X Position 50% Image centered
 X Position 100% max. Image offset right
 Y Position 0% max. Image offset bottom
 Y Position 50% Image centered
 Y Position 100% max. Image offset top

ROTATION

Each layer can be rotated in XYZ individually. For each axis you have one 16bit channel to control both, index and continuous rotation.

Index Rotation Z

-360 degrees CCW 25% to
 0 degrees 50% ,
 +360 degrees CW 50% to 75%

Continuous Rotation Z

CCW fast 0%
 CCW slow/stop 25%
 CW slow/stop 75%
 CW fast 100%

Please Note: All rotation channels are 16bit and the default value is 32768.

SCALE

Image scaling allows for setting either individual aspect ratios or object sizes individually for each axis. When using the scaling on a layer, the assigned video or still image is resized automatically to the scale of the object. Scaling can also be used to zoom into a layer while the pixels are interpolated to give a smooth result.

XY Scale 0% min. Scale
 XY Scale 50% 1:1 Scale
 XY Scale 100% max. Scale

Please note: All scaling channels are 16bit and the default value is 32768.

3.3.3.1.3 MEDIA SELECTION & CONTROL

Each layer has individual control of its object and media selection as well as playback control for video and audio.

Please note: The speed and playback behaviour varies, depending on the used codec.

Some video codecs may not support different playback speeds and some codecs may not be suitable for seamless looping.

Optimal playback can be achieved if you use mpg1, mpg2 files or Microsoft DV avi files.

MEDIA SELECTION

To assign a media resource to a layer, drag and drop the resource from the project tab onto the designated layer, or highlight the target layer by left-clicking on it and use the right-click command on the resource in the project tab “assign to active device”.

To remove the resource of the layer, right-click in the layer tree on the object parameter and choose “reset”.

For DMX control depending on the ID assignment in the Pandoras Box Player user interface, each layer can access 255 folder and 255 file ID’s of individual media files as well as live inputs.

Media file selection set to 0% (000dec.) selects “no file”

MEDIA CONTROL

The media control channel allows easy playback-control for start, stop and pause as well as speed control.

The media control is divided in two modes: play once and play loop.

DMX values for transport controls are:

Play Once Mode	
0% (000dec.)	Stop/First Frame
0% (001dec.) thru 25% (063dec.)	slow > normal playback once
25% (064dec.)	Play once
25% (065dec.) thru 50% (127dec.)	normal > fast play once
Play Loop Mode	
50% (128dec.)	Pause/Actual Frame
50% (129dec.) thru 75% (191dec.)	slow > normal playback loop
75% (192dec.)	Play loop
75% (193dec.) thru 100% (254dec.)	normal > fast play loop
100%(255dec.)	Stop/Last Frame

OBJECT SELECTION

To assign a vector object to a layer, drag and drop the resource from the project tab onto the designated layer, or highlight the target layer by left-clicking on it and use the right-click command on the resource in the project tab “assign to active device”.

To remove the resource of the layer, right-click in the layer tree on the object parameter and choose “reset”.

For DMX control depending on the ID assignment in the Pandoras Box Player user interface, each layer can access 255 folder and 255 file ID's of individual object files.
 Object file selection set to 0% (000dec.) selects "no file"

3.3.3.1.4 COLOUR FX - PB PLAYER STD

The colourmixing channels are responsible for colourmixing for each layer based on the selected colourFX.

- A= Additive
- M= Multiplied
- I / INV= Inverted
- RGB = Red, Green, Blue
- CMY = Cyan, Magenta, Yellow
- BW = Black & White

ColourFX 000 STD Original Texture – no colour mixing applied

ColourFX 001 Multiply_CMY
 C-MIX1: Cyan
 C-MIX2: Magenta
 C-MIX3: Yellow
 CMY mulitplied Colourmix

ColourFX 002 MultiplyINV_CMY
 C-MIX1: Cyan
 C-MIX2: Magenta
 C-MIX3: Yellow
 CMY mulitplied Colourmix inverted

ColourFX 003 Multiply_RGB
 C-MIX1: Red
 C-MIX2: Green
 C-MIX3: Blue
 RGB mulitplied Colourmix

ColourFX 004 MultiplyINV_RGB
 C-MIX1: Red
 C-MIX2: Green
 C-MIX3: Blue
 RGB mulitplied Colourmix inverted

ColourFX 005 Multiply2x_RGB
 C-MIX1: Red
 C-MIX2: Green
 C-MIX3: Blue
 RGB mulitplied Colourmix x2

ColourFX 006 Multiply2xINV_RGB
 C-MIX1: Red
 C-MIX2: Green
 C-MIX3: Blue
 RGB mulitplied Colourmix x2 and inverted

ColourFX 007 Multiply4x_RGB
 C-MIX1: Red
 C-MIX2: Green
 C-MIX3: Blue
 RGB mulitplied Colourmix x4

ColourFX 008 Multiply4xINV_RGB
 C-MIX1: Red

C-MIX2: Green
C-MIX3: Blue
RGB multiplied Colourmix x4 and inverted

ColourFX 009 Add
C-MIX1: Red
C-MIX2: Green
C-MIX3: Blue
RGB additive colour mixing

ColourFX 010 AddINV
C-MIX1: Red
C-MIX2: Green
C-MIX3: Blue
RGB additive colour mixing inverted

ColourFX 011 ColorBW_M
C-MIX1: Red
C-MIX2: Green
C-MIX3: Blue
Black&White and multiplied colour mixing

ColourFX 012 ColorBW_MI
C-MIX1: Red
C-MIX2: Green
C-MIX3: Blue
Black&White, multiplied colour mixing inverted

ColourFX 013 RGB ColourKeying
C-MIX1: Red
C-MIX2: Green
C-MIX3: Blue
Colourkeying based on Colourmixing

ColourFX 014 RGB ColourKeying INV
C-MIX1: Red
C-MIX2: Green
C-MIX3: Blue
Inverted Colourkeying based on Colourmixing

ColourFX 015 Black Keying
C-MIX1: Red
C-MIX2: Green
C-MIX3: Blue
Black Level Keying
MediaPlayer STD ColourFX List

ColourFX 016 Black Keying INV
C-MIX1: Red
C-MIX2: Green
C-MIX3: Blue
Inverted Black Level Keying

ColourFX 017 White Keying
C-MIX1: Red
C-MIX2: Green
C-MIX3: Blue
White Level Keying

ColourFX 018 White Keying INV

C-MIX1: Red
C-MIX2: Green
C-MIX3: Blue
Inverted White Level Keying

ColourFX 019 Mask
C-MIX1: Softness
C-MIX2: Size
C-MIX3: -
Adjustable rectangular Image Mask

ColourFX 020 Iris
C-MIX1: Aspect Ratio
C-MIX2: Size
C-MIX3: Softness
Adjustable Iris effect

ColourFX 021 Blur
C-MIX1: Amount
C-MIX2: Brightness
C-MIX3: -
Adjustable Image Blur

3.3.3.1.5 COLOUR FX - PB PLAYER PRO

The colourmixing channels are responsible for colourmixing for each layer based on the selected colourFX.

A= Additive

M= Multiplied

I / INV= Inverted

RGB = Red, Green, Blue

CMY = Cyan, Magenta, Yellow

BW = Black & White

ColourFX 000 STD Original Texture – no colour mixing applied

ColourFX 001 Multiply_CMY

C-MIX1: Cyan

C-MIX2: Magenta

C-MIX3: Yellow

CMY mulitplied Colourmix

ColourFX 002 MultiplyINV_CMY

C-MIX1: Cyan

C-MIX2: Magenta

C-MIX3: Yellow

CMY mulitplied Colourmix inverted

ColourFX 003 Multiply_RGB

C-MIX1: Red

C-MIX2: Green

C-MIX3: Blue

RGB mulitplied Colourmix

ColourFX 004 MultiplyINV_RGB

C-MIX1: Red

C-MIX2: Green

C-MIX3: Blue

RGB mulitplied Colourmix inverted

ColourFX 005 Multiply2x_RGB

C-MIX1: Red

C-MIX2: Green

C-MIX3: Blue

RGB mulitplied Colourmix x2

ColourFX 006 Multiply2xINV_RGB

C-MIX1: Red

C-MIX2: Green

C-MIX3: Blue

RGB mulitplied Colourmix x2 and inverted

ColourFX 007 Multiply4x_RGB

C-MIX1: Red

C-MIX2: Green

C-MIX3: Blue

RGB mulitplied Colourmix x4

ColourFX 008 Multiply4xINV_RGB

C-MIX1: Red

C-MIX2: Green

C-MIX3: Blue

RGB mulitplied Colourmix x4 and inverted

ColourFX 009 Add

C-MIX1: Red

C-MIX2: Green

C-MIX3: Blue

RGB additive colour mixing

ColourFX 010 AddINV

C-MIX1: Red

C-MIX2: Green

C-MIX3: Blue

RGB additive colour mixing inverted

ColourFX 011 ColorBW_M

C-MIX1: Red

C-MIX2: Green

C-MIX3: Blue

Black&White and multiplied colour mixing

ColourFX 012 ColorBW_MI

C-MIX1: Red

C-MIX2: Green

C-MIX3: Blue

Black&White, multiplied colour mixing inverted

ColourFX 013 RGB ColourKeying

C-MIX1: Red

C-MIX2: Green

C-MIX3: Blue

Colourkeying based on Colourmixing

ColourFX 014 RGB ColourKeying INV

C-MIX1: Red

C-MIX2: Green

C-MIX3: Blue

Inverted Colourkeying based on Colourmixing

ColourFX 015 Black Keying

C-MIX1: Red

C-MIX2: Green

C-MIX3: Blue

Black Level Keying

MediaPlayer PRO ColourFX List

ColourFX 016 Black Keying INV

C-MIX1: Red

C-MIX2: Green

C-MIX3: Blue

Inverted Black Level Keying

ColourFX 017 White Keying

C-MIX1: Red

C-MIX2: Green

C-MIX3: Blue

White Level Keying

ColourFX 018 White Keying INV

C-MIX1: Red

C-MIX2: Green

C-MIX3: Blue

Inverted White Level Keying

ColourFX 019 Mask

C-MIX1: Softness

C-MIX2: Size

C-MIX3: -

Adjustable rectangular Image Mask

ColourFX 020 Iris

C-MIX1: Aspect Ratio

C-MIX2: Size

C-MIX3: Softness

Adjustable Iris effect

ColourFX 021 Blur

C-MIX1: Amount

C-MIX2: Brightness

C-MIX3: -

Adjustable Image Blur

3.3.3.1.6 VIDEO FX - PB PLAYER STD

VideoFX 000 STD No VideoFX applied – all VideoFX switched off

VideoFX 001 Contrast
FX1: Amount
Contrast Control

VideoFX 002 Brightness
FX1: Amount
Brightness control

VideoFX 003 Mask Black
FX1: Amount
Alpha Mask based on Blacklevel

VideoFX 004 Mask Black INV
FX1: Amount
Inverted Alpha Mask based on Blacklevel

VideoFX 005 ColourCycle1
FX1: Speed
RGB Auto-fade cycle, via full colours.

VideoFX 006 ColourCycle2
FX1: Speed
RGB Auto-fade cycle, full colours.

VideoFX 007 ColourCycle3
FX1: Speed
RGB auto-fade cycle.

VideoFX 008 Mask
FX1: Size
Rectangular Mask.

VideoFX 009 Iris
FX1: Size
Soft Iris

VideoFX 010 Blur
FX1: Amount
Image Blur

VideoFX 011 WhiteFlash
FX1: Speed
Fades colours to white

VideoFX 012 BlackFade
FX1: Speed
Fades colours to black

VideoFX 013 StrobeAlpha
FX1: Speed
Fades image to transparent.

VideoFX 014 CropBlackX
FX1: AMOUNT
Left and Right Black Border Cropping.

VideoFX 015 CropBlackY
FX1: Speed
Top and Bottom Border Cropping.

VideoFX 016 StretchTexX
FX1: Speed
Horizontal image stretching

VideoFX 017 StretchTexY
FX1: Speed
Vertical image stretching

VideoFX 018 ScrollX
FX1: Speed
Horizontal image scrolling

VideoFX 019 ScrollY
FX1: Speed
Vertical image scrolling

VideoFX 020 ZoomSinus
FX1: Speed
Auto image zoom

VideoFX 021 ZoomOut
FX1: Speed
Auto image zoom and fade

VideoFX 022 ZoomIn
FX1: Speed
Auto image zoom and fade

VideoFX 023 XYScale
FX1: Speed
Auto image scale

VideoFX 024 XYPostion
FX1: Speed
Auto image circular move

VideoFX 025 XYRotation
FX1: Speed
Auto image rotation

VideoFX 026 Tiling
FX1: Speed
Auto image tiling

VideoFX 027 Zoom Texture
FX1: Speed
Auto image zoom in out bounce

VideoFX 028 Deint1
FX1: -
De-Interlacing top field.

VideoFX 029 Deint2
 FX1: -
 De-Interlacing bottom field.

3.3.3.1.7 VIDEO FX - PB PLAYER PRO

VideoFX 000 STD No VideoFX applied – all VideoFX switched off

VideoFX 001 Contrast
 FX1: Amount
 Contrast Control

VideoFX 002 Brightness
 FX1: Amount
 Brightness control

VideoFX 003 Mask Black
 FX1: Amount
 Alpha Mask based on Blacklevel

VideoFX 004 Mask Black INV
 FX1: Amount
 Inverted Alpha Mask based on Blacklevel

VideoFX 005 RGB2GBR_M
 FX1: Amount
 Colourchannel Shift

VideoFX 006 RGB2GBR_MI
 FX1: Amount
 Colourchannel Shift

VideoFX 007 RGB2GRB_M
 FX1: Amount
 Colourchannel Shift

VideoFX 008 RGB2GRB_MI
 FX1: Amount
 Colourchannel Shift

VideoFX 009 RGB2BRG_M
 FX1: Amount
 Colourchannel Shift

VideoFX 010 RGB2BRG_MI
 FX1: Amount
 Colourchannel Shift

VideoFX 011 RGB2BGR_M
 FX1: Amount
 Colourchannel Shift
 MediaPlayer PRO VideoFX List

VideoFX 012 RGB2BGR_MI
 FX1: Amount
 Colourchannel Shift

VideoFX 013 ColourCycle1
FX1: Speed
RGB Auto-fade cycle, via full colours.

VideoFX 014 ColourCycle2
FX1: Speed
RGB Auto-fade cycle, full colours.

VideoFX 015 ColourCycle3
FX1: Speed
RGB auto-fade cycle.

VideoFX 016 Mask
FX1: Size
Rectangular Mask.

VideoFX 017 Iris
FX1: Size
Soft Iris

VideoFX 018 Blur
FX1: Amount
Image Blur

VideoFX 019 WhiteFlash
FX1: Speed
Fades colours to white

VideoFX 020 BlackFade
FX1: Speed
Fades colours to black

VideoFX 021 StrobeAlpha
FX1: Speed
Fades image to transparent.

VideoFX 022 CropBlackX
FX1: AMOUNT
Left and Right Black Border Cropping.

VideoFX 023 CropBlackY
FX1: Speed
Top and Bottom Border Cropping.

VideoFX 024 CropWhiteX
FX1: AMOUNT
Left and Right Border Cropping.

VideoFX 025 CropWhiteY
FX1: Speed
Top and Bottom Border Cropping.

VideoFX 026 CropAlphaX
FX1: AMOUNT
Left and Right Border Cropping.

VideoFX 027 CropAlphaY
FX1: Speed
Top and Bottom Border Cropping.

VideoFX 028 CropBlackXY
FX1: AMOUNT
Left and Right Black Border Cropping.

VideoFX 029 CropALphaXY
FX1: Speed
Top and Bottom Border Cropping.

VideoFX 030 CropWhiteXY
FX1: AMOUNT
Left and Right Black Border Cropping.

VideoFX 031 Alpha Bar X
FX1: Speed
Soft Moving Alpha Bars

VideoFX 032 Alpha Bar Y
FX1: Speed
Soft Moving Alpha Bars

VideoFX 033 AlphaDiagonalWipe1
FX1: Speed
Moving Alpha Wipe

VideoFX 034 AlphaDiagonalWipe2
FX1: Speed
Moving Alpha Wipe

VideoFX 035 AlphaCenterOut
FX1: Speed
Moving Alpha Wipe

VideoFX 036 AlphaCenterOutINV
FX1: Speed
Moving Alpha Wipe

VideoFX 037 AlphaWipe Right
FX1: Speed
Moving Alpha Wipe

VideoFX 038 AlphaWipe Up
FX1: Speed
Moving Alpha Wipe

VideoFX 039 StretchTexX
FX1: Speed
Horizontal image stretching

VideoFX 040 StretchTexY
FX1: Speed
Vertical image stretching

VideoFX 041 ScrollX
FX1: Speed
Horizontal image scrolling

VideoFX 042 ScrollY

- FX1: Speed
Vertical image scrolling

- VideoFX 043 ZoomSinus
FX1: Speed
Auto image zoom

- VideoFX 044 ZoomOut
FX1: Speed
Auto image zoom and fade

- VideoFX 045 ZoomIn
FX1: Speed
Auto image zoom and fade

- VideoFX 046 XYScale
FX1: Speed
Auto image scale

- VideoFX 047 XYPostion
FX1: Speed
Auto image circular move

- VideoFX 048 XYRotation
FX1: Speed
Auto image rotation

- VideoFX 049 Tiling
FX1: Speed
Auto image tiling

- VideoFX 050 Zoom Texture
FX1: Speed
Auto image zoom in out bounce

VideoFX 051 Swirl Rotate Texture
FX1: Speed
Auto image swirl bounce

VideoFX 052 Deint1
FX1: -
De-Interlacing top field.

VideoFX 053 Deint2
FX1: -
De-Interlacing bottom field.

3.3.3.2 CAMERA CONTROL

The camera is the device that controls the overall output of the Pandoras Box Player.

The camera allows you to set up the keystone correction as well as Softedge parameters.

3.3.3.2.1 OUTPUT SETUP

MASTER LEVEL

The level sets the overall output brightness level as well as the overall audio level.

Level 0% black, no output / no sound
Level 100% full brightness / 1:1 sound level

Z ROTATION

Use this parameter to change the orientation of your display by rotating the entire output.

CAMERA X&Y OFFSET

The camera x&y offset allows to position the center of the cameras perspective. This is especially used when one perspective view needs to be shared across several outputs. For example, if you have 4 screens set up next to each other, you would offset each screen in the way that you can move your layers with the XY position smoothly across all outputs.

OBJECT SELECTION

The camera allows selecting the same object as layers do; the big difference is that the overall rendering will now be displayed on the selected object depending on its texture mapping. You may consider the use of an object with the camera as an image filter that is applied to the overall rendering of each individual output.

This feature may be used as visual effect or to select specific objects that allow keystone correction on any curved or non planar screen.

To create a keystone object, we recommend creating it with 3D Studio Max or its freeware version GMAX in fullscreen while Pandoras Box is off.

Once you have set up the object according to your screen, you can export it to Pandoras Box and use it for each camera individually.

Please note: Creating this kind of object, the mapping coordinates need to be distorted in 3D Studio Max or GMAX in the way that a grid would look correct on your projection screen.

3.3.3.2.2 KEYSTONE

The keystone function of the Pandoras Box Player is a powerful feature for planar projection. Please make sure to set the object selection to zero to activate the keystone channels for the output.

The keystone device is designed in the way that it can be operated as standard beam shapers.

Each output edge can be moved in or out and rotated according to the projection surface.

Once you have set up each edge, you might compensate for the linearity distortion with the x&y keystone parameters. To do this, use a raster grid test pattern on a layer and reset the image center with the x&y channels.

3.3.3.2.3 SOFTEDGE BLENDING

Pandoras Box Player features a four sided image blending for any output configuration. Softedge allows smooth image blending of multiple projectors with multiple Pandoras Box Players.

Softedge projection has been a difficult task to fulfil with traditional video technology in the past. Pandoras Box Player offers an easy solution to create Softedge projections with two or more projectors.

OVERLAP

Traditionally, the overlap was important information for anybody who wanted to create images for Softedge projection. The amount can still be important depending on the setup of your Softedge.

The overlapping area is that part of the projection, where the projected images of two projectors share the same image information to create a smooth image-blending from one projector to the other. Due to the physical setup of the projectors, their light output and contrast, the overlapping has to be adjusted carefully to match a seamless image.

Pandoras Box Player Softedge upgrade allows a variable overlap between 0% and 25% off each image edge.

Each edge (left/right, top/bottom) has its own Softedge gradient with an individual gradient curve control for the light falloff of the projector.

CREATING CONTENT FOR SOFTEEDGE PROJECTIONS

Overlapping Content vs. Stretched Content

For an optimum image quality, the best way in general is to create two parts of an image: a left part for the left projector and a right part for the right projector.

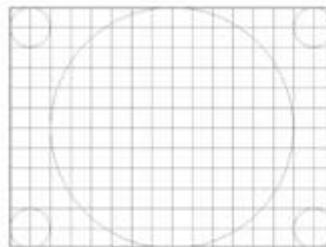
But if you would like to move a layer across the two projectors you will need to stretch the content and use the same image for both projectors and match them by x&y positioning on top of each other.

It is also possible to use both methods in the same show.

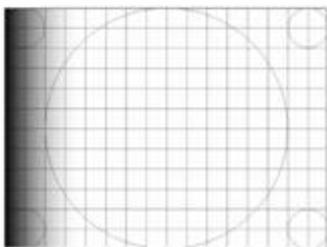
SOFTEEDGE SETUP

After setting up the projectors properly (matching the raster, size and keystone) the adjacent edges need to be blend together.

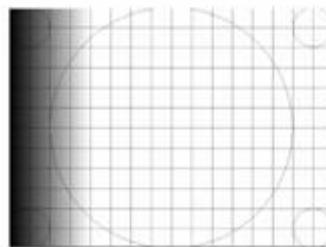
The best way to do that is by using a test-pattern with text and to position it precisely on top of each other. Now you may bring the Softedges in and adjust the curves until there is no more hotspot area.



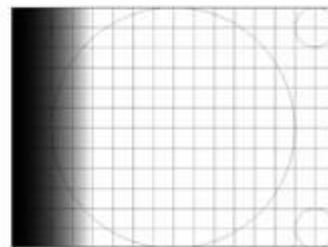
Softedge Default



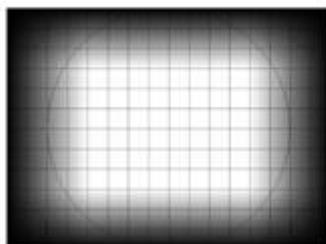
Softedge Left Curve out



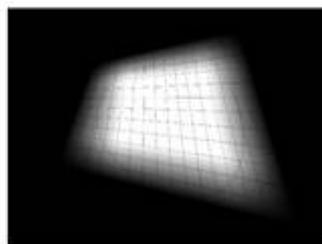
Softedge Left in



Softedge Left Curve out



All Softedges in



Keystone with Softedge

Please note: Softedge is always on top of all layers and will be adjusted automatically according to the keystone settings.

3.3.4 MATRIX OPTION

The Matrix option lets you use Pandoras Box to output the pixels RGB colour-information over Ethernet via ArtNet. Although there are no limitations of DMX Artnet universes, most common network components will not allow you to process more than 16 DMX lines smoothly.

There are certain network switches like the ones from ELC that will support more DMX lines and a dedicated ArtNet routing. If you need more information concerning these devices please contact your local ELC Dealer.

Check "[Activate Matrix](#)" in camera 1 of your Pandoras Box Server or Player to give out the RGB colour information additionally to the normal video output. When using the Matrix you will need to create a pixelpatch.csv file.

Although this kind of comma-separated files can be created in Microsoft Excel or Notepad, you may want to use the Matrix Patcher application to create your custom PixelPatch file.

The Matrix Patcher lets you define the entire pixel workspace that you want to use and patch.

You can create individual DMX lamp-types and use them as templates for your custom matrix design.

You can use RGB or CMY mixing devices as well as moving lights with pre and post DMX offsets to make sure you patch only the colourmix channels.

Please have a look at the [Matrix Patcher](#) for further information.

3.3.5 SERIAL LINK DEVICE

DEFINITION

The Serial Link is a general purpose interface box that converts 4 serial communication ports and 24 GPI (General Purpose Interface) inputs and outputs to 100/10baseT Ethernet. The serial ports can be configured in the field to appear as EIA/TIA RS-232E and CCITT V.28 or as EIA/TIA RS-422A, RS-423 and Federal Standards 1020 & 1030 ports. Additionally, the port direction can be configured as DTE or DCE on each port independently.

The Serial Link communicates over standard TCP/IP which allows it to be used with any host computer running any operating system that uses TCP/IP protocol. The Serial Link can also be connected to other Serial Links to allow longer runs than traditional serial and GPI cables. Since the Serial Link uses TCP/IP, traffic can be routed over internal LANs, wireless LANs, MANs, WANs and even over the public Internet.

Most configurations can be accomplished through a web page server built into the Serial Link. Items such as port speed, parity, IP address, remote IP address and TCP port are set using a standard web browser. Settings are stored in nonvolatile memory.

Typically, the Serial Link functions as a Server, passively waiting for Client devices to connect to it.

The device can be a computer or another Serial Link configured as a client. When the Serial Link is configured as a Client, it will actively attempt to connect to the Server Serial Link. Once this is accomplished, the Serial Link will either pass data received in the serial or GPI ports to the remote Serial Link. If there is no data received in the Serial Link, the Serial Link will not send any TCP packets.

In addition, the Serial Link can operate as a GPI to Serial Converter or GPI to Ethernet Converter. In these modes, the Serial Link will convert GPI input triggers to deck commands.

SERIAL LINK SETUP

The serial control will give you access and control to most routing switchers, projectors, shutters or other device parameters that are remote controllable via the common RS 232 and 422 serial protocols.

In order to control external serial devices over RS 232 or RS 422 you will need to add a serial link device to the device tree. Any serial ASCII or hex string can be stored and copied to any point in the timeline and be recalled at any time the timecursor hits the stored serial key. Once you set the first key you can assign the IP address and port ID in the keys properties as well as the ASCII or hex command for that key.

You will need a serial link device to receive and output serial commands. See further instructions in the serial link manual for port setting baudrates and parity settings.

Please find below the .clib code for the basic Serial Link device

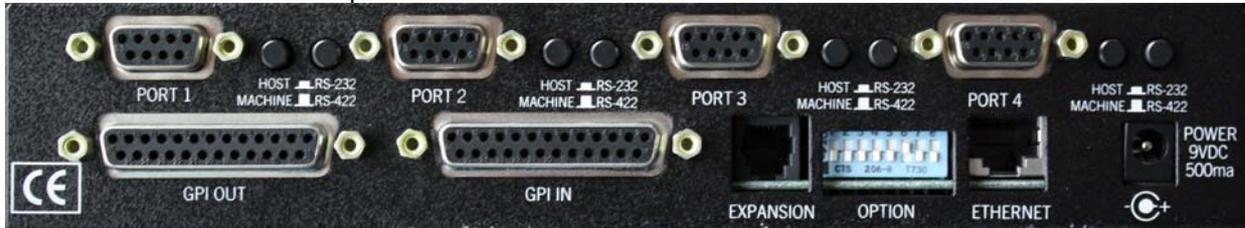
```
<?xml encoding="yes" ?>
<descripDevice type="fixtureSerial" artNetIndexScope="1">
```

```
<descripModule type="paramSerial" name="Com" default="0" artNetIndexOff="0" />  
</descripDevice>
```

Connections

The Serial Link connections are straightforward:

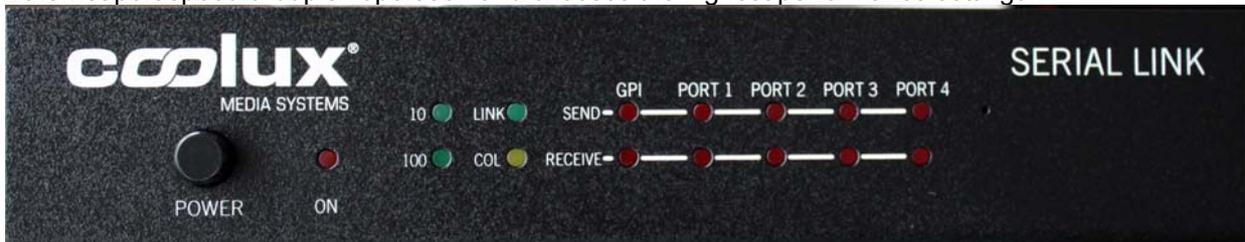
1. Plug the power supply into the Serial Link.
2. Plug a network cable into the Ethernet jack.
3. Connect serial cables into ports 1-4.



The rear side

ETHERNET

This Serial Link port is just like an Ethernet port on a computer, to connect it to a hub, switch or router, use a straight through cable. To connect it to another Serial Link or computer, use a crossover cable. The Serial Link supports IEEE 802.3u clause 28 Auto-Negotiation which automatically senses the Ethernet port speed & duplex operation and chooses the highest performance settings.



The front panel

Four LEDs on the front panel indicate various operating conditions of the Ethernet port.

These LEDs are:

- Link
- 100BaseT activity
- 10BaseT activity
- Collision

CONFIGURATION

Operating Modes

The Serial Link has five distinct modes of operation that are set by the rear panel DIP switches. The DIP switches are read only at power on so the Serial Link must be power cycled for the changes to take effect.

S	S	S	
W	W	W	
8	7	5	
On	X	Off	Access web page at 192.168.254.102
Off	Off	Off	Serial Link is server at address specified on next page
Off	On	Off	Serial Link is client at address specified on next page
Off	On	On	Serial Link performs GPI to serial conversion
Off	Off	On	Serial Link performs GPI to Ethernet conversion
X = Don't care			

Configuration Mode

On the Configuration Web page, various settings such as port rate and parity, IP addresses and ports, and password can be modified.

Note: The Serial Link will not send Serial/GPI messages when the Serial Link is set to configuration mode.

To access the Configuration Web Page of the Serial Link Device, please set SW8 and SW6 to ON and all others to OFF. The PC Firewall and an Antivirus system have to be turned off!

This page is accessed by setting SW8 to the 'On' position and typing <http://192.168.254.102> into your web browser (use Internet Explorer, Safari and Firefox do not work). During this time, the normal operation of the Serial Link is suspended.

Note: The configuration web page is always set to 192.168.254.102 regardless of the state of the DIP switches.

Note: In the configuration mode, the subnet mask is set to 255.255.255.0. This means that the Serial Link will only see traffic from computers with an IP address of 192.168.254.nnn. You will need to change your computers IP address to 192.168.254.nnn where nnn = any number except 0, 102 and 255. This will allow your computer to access the configuration page of the Serial Link.

Make any changes that are necessary for your system and click on SUBMIT. These changes are stored in non-volatile memory and are loaded at power up.

Default settings: Timeout = 100ms and max buff size = 255.

A Page with a Pink background should now be loaded into Internet Explorer to tell you to power cycle the unit, but first:

- Switch DIP8 to OFF position.
- Wait approx 10 – 15 sec !
- Now power cycle the Serial Link!

To verify the Settings:

- Power Off Serial Link
- Set DIP 8 to ON again
- Power Cycle the Serial Link
- Launch internet explorer and make sure to empty the browser cache by clicking on Safety -> Delete Browsing History... -> check all checkboxes and click on the delete button
- Now type in 192.168.254.102 in the address field of Internet Explorer.

To use Serial Link with a custom IP address please make sure to set DIP 1,2,3 to ON and 8 to OFF

DIP 6 should always remain in the ON position as this is disables the internal password protection that is currently not used.

Untitled Document - Microsoft Internet Explorer

File Edit View Favorites Tools Help



Primary Setup information

. . . (Device IP Address)
 . . . (Subnet Mask)
 . . . (Gateway Address)
 (Port Number)

Client Mode Only Information

. . . (Destination IP Address)
 (Destination Port Number)

Password Protection

(Password) (DIP Switch #6 must be OFF (Down) to Enable)

Serial Port Setup Parameters

	Serial 1	Serial 2	Serial 3	Serial 4
Baud Rate	<input type="text" value="38,400"/>	<input type="text" value="38,400"/>	<input type="text" value="38,400"/>	<input type="text" value="38,400"/>
Parity	<input checked="" type="radio"/> On <input type="radio"/> Off			
Parity Type	<input checked="" type="radio"/> Odd <input type="radio"/> Even			

Serial Time Out (In MilliSeconds) Max Buff Size (255 Bytes Max)

Internet

Image: Configuration Web Page

Operational Settings

Device IP Address:

IP address of this Serial Link when SW1, SW2 and SW3=On.

Subnet Mask:

The mask is a binary pattern that is matched up with the IP address to turn part of the host ID address field into a field for subnets.

Gateway Address:

IP address of gateway router which connects to other networks.

Port Number:

TCP port of this Serial Link when SW1, SW2 and SW3=On.

Destination IP Address:

IP address of remote Serial Link when SW1, SW2 and SW3=On. This is used when Serial Link is configured as a client (SW7=On).

Destination Port Number:

TCP port of remote Serial Link when SW1, SW2 and SW3=On. This is used when Serial Link is configured as a client (SW7=On).

Password:

Eight character alphanumeric password that is embedded in the Ethernet packet that prevents unauthorized Serial Links from passing unintended packets. Both Serial Links must have the same password and have password protection turned on (SW6=Off) for this feature to work.

Baud Rate:

Sets the port speed of the individual serial ports.

Parity and Parity Type:

Enables or disables parity and sets parity type of the serial ports.

Serial Time Out:

Sets the time that the Serial Link will wait for data from the serial ports.

Max Buff Size:

Sets the maximum buffer size of the serial ports.

Serial Link IP Address:

The IP address of the Serial Link can be set by the rear panel DIP switches or by the internal web page. As above, the DIP switches are read only at power on so the Serial Link must be power cycled for the changes to take effect.

Here is a table of how IP address and the TCP port are set with the DIP switches in Serial Link Server and Serial Link Client modes.

SW3	SW2	SW1	SW7	Mode	IP Address
Off	Off	Off	Off	Server	192.168.254.102
Off	Off	On	Off	Client	192.168.254.103
Off	Off	On	Off	Server	192.168.254.104
Off	Off	On	On	Client	192.168.254.105
Off	On	Off	Off	Server	192.168.254.106
Off	On	Off	On	Client	192.168.254.107
Off	On	On	Off	Server	10.0.0.128
Off	On	On	On	Client	10.0.0.129
On	Off	Off	Off	Server	10.0.0.130
On	Off	Off	On	Client	10.0.0.131

On	Off	On	Off	Server	10.0.0.132
On	Off	On	On	Client	10.0.0.133
On	On	Off	Off	Server	172.16.0.128
On	On	Off	On	Client	172.16.0.129
On	On	On	Off	Server	Set by user
On	On	On	On	Client	Set by user

IP Address Configuration for Serial Link Server and Serial Link Client modes

Electrical Connections

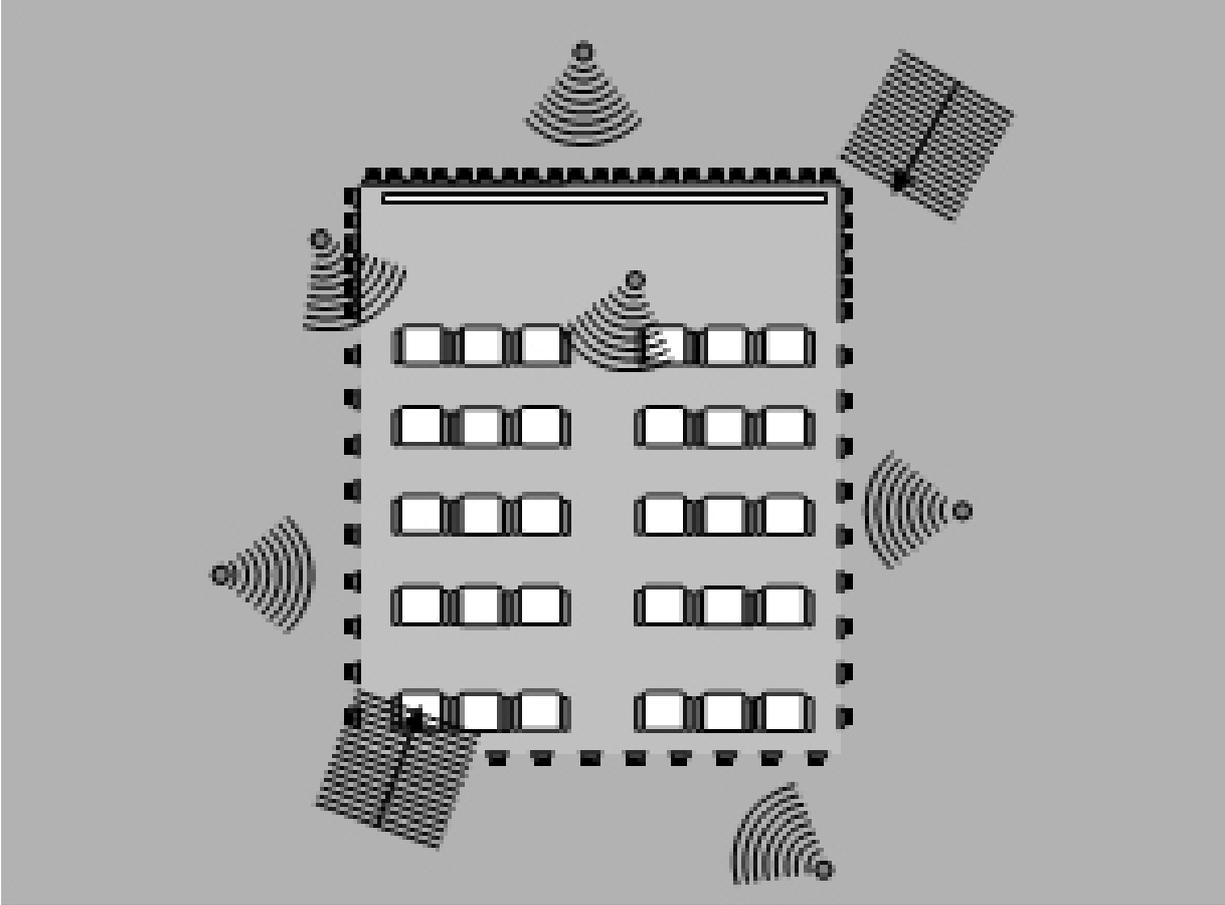
Power

The Serial Link requires a 9 volt DC supply capable of delivering at least 500 milliamps. The unit comes with a power supply appropriate for the country in which the unit was sold. If you need a power supply specific to your location, please contact your local distributor or coolux.

Warning: Using a power supply other than the units specified in the above table can result in damage to the Serial Link and/or other equipment which is not covered by the coolux warranty.

3.3.6 SONIC EMOTION

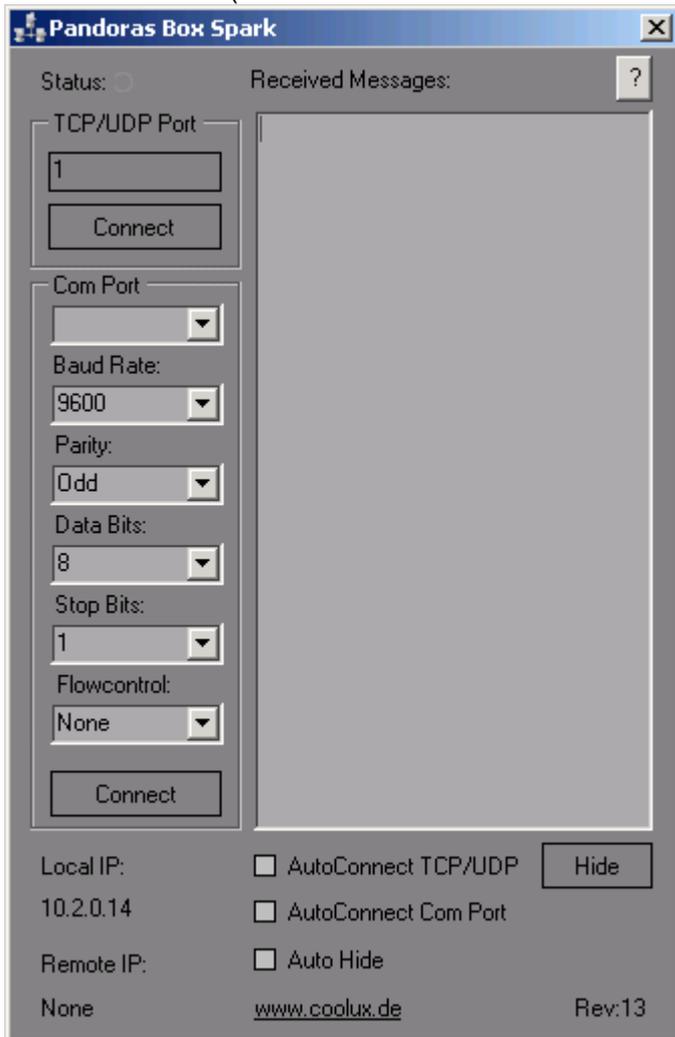
MULTI-CHANNEL AUDIO



The optional multichannel audio plug-in integrates up to 16 channels of synchronized audio. When using the Sonic Emotion stereo audio device please use only: Mono wav files at 48kHz, 16 bit. With the Sonic Emotion 16CH device, mono wave files with 48 kHz, 16 bit can be uploaded and synchronized to the Pandoras Box Timeline Playback. The audio can be interfaced with audio processors of our partner Sonic Emotion (www.sonicemotion.com) that provide spatial placing through their patented Wave Field Synthesis.

3.3.7 SPARK

for WINDOWS XP (Microsoft .Net 2 Runtime must be installed)



PB Spark is designed to be connected to any Pandoras Box timeline as a Serial Link TCP IP device. PB Spark can be used for remote controlling applications, mouse and keyboard actions as well as displaying full-screen video playback and webpage presentations among many other usefull remote control features.

Pandoras Box Spark is available from the coolux website as freeware download www.coolux.de . To get started, install PB Spark on the desired PC that you want to control (Spark can be accessed also on the same machine that runs Pandoras Box)

Important Notice: Please switch off any firewall on all connected systems before using this application!

PB SPARK SETUP

Launch PB Spark.

Since PB Spark acts as a TCP IP server that will wait for a Pandoras Box connection you will need to specify the TCP/IP port that Spark should use to listen to incomming commands.

Set the TCP/IP port (any number between 1 and 9999) you want to listen to in PB Spark.

To start the TCP/IP server click "connect", PB Spark will now wait for a connection to be established.

PANDORAS BOX SETUP

Go to Pandoras Box Manager or Server/Player Standalone Software.

First add a Serial Link device from the Device Tab to the Device Control Tree.

Open the tree icon and click on the Serial Link Device to view its properties in the Inspector Tab.

Uncheck the checkbox "Use Serial Link Header" as this option is only for use with Serial Link devices. Enter the IP address of the computer that PB Spark is running on as well as the Port number entered in PB Spark.

Click on "Apply IP and Port".

Tip: PB Spark displays its local IP address in the bottom left corner.

The red "!" in the device tree should disappear once the connection is established and the connection icon in PB SPARK should turn to green.

Now you may start implementing commands as keys in the timeline for the COM parameter.

Spark will give you the following TCP messages as feedback:

on success (SparkProc,"Original Message",Processed)

on fail (SparkProc,"Original Message",ProcessError)

on syntax error (SparkProc,"Original Message",SyntaxError)

COMMAND LIST

The following commands are all in ascii format and need to be put in parentheses ()

Remote control features offer by PB Spark:

[PB REMOTE SERVER CONTROL](#)

[COMPORT ASCII COMMUNICATION](#)

[SYSTEM COMMANDS](#)

[WEBBROWSER \(Fullscreen\)](#)

[SOUND COMMANDS](#)

[VIDEO PLAYER \(Fullscreen\)](#)

[APPLICATION COMMANDS](#)

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[PB AUTOMATION REMOTE CONTROL](#)

COMMAND DESCRIPTION
PB REMOTE SERVER CONTROLS

compatible with Pandoras Box Menu Rev7 and later

(PBShutdownAll) - Shuts down All Pandoras Box Servers on the network

(PBRebootAll) - Reboots All Pandoras Box Servers on the network

(PBShutdown,IP Address) - Shutdown Pandoras Box Server by IP Address

(PBReboot,IP Address) - Reboot Pandoras Box Server by IP Address

(PBStartMaster,IP Address) - Start Pandoras Box Server / Master by IP Address

(PBStartClient,IP Address) - Start Pandoras Box Client by IP Address

(PBClose,IP Address) - Close Pandoras Box Server / Master or Client by IP Address

UDP Sender allows sending broadcast ASCII messages

UDPSend,Port,Message

COMPORT ASCII COMMUNICATION

(Serial,Settings,"Portname","Baudrate","Parity","Databits","Stopbits","Flowcontrol")

ex: (Serial,Settings,Com12,9600,None,8,1,None)

Valid Parameters:

Portname: Com1 - Com 255

Baudrate: 110 / 300 / 1200 / 2400 / 4800 / 9600 / 19200 / 38400 / 57600 / 115200 / 230400 / 460800 / 921600

Parity: "Even" / "Odd" / "None" / "Mark" / "Space"

Databits: 5 / 6 / 7 / 8

Stopbits: 1 / 1.5 / 2

Flowcontrol: "None" / "Xon/Xoff"

(Serial,Connect,"Portname")

(Serial,Send,"Message")

(Serial,SendHex,"Message")

example: (Serial,SendHex,41 42 43)

This hex values should send ABC as hex

(Serial,Disconnect)

SYSTEM COMMANDS

(System,Logoff) - logoff current user

(System,Shutdown) - shut down the system

(System,Reboot) - reboot the system

WEBBROWSER (Fullscreen)

(Browser,Open) - starts webbrowser

(Browser,Go,www.coolux.de) - navigate in an open webbrowser to www.coolux.de

(Browser,Close)

SOUND COMMANDS

(Sound,Play,C:\myaudio.wav) - plays the file myaudio.wav located in C:\

(Sound,Volume,50) - sets system volume to 50%, valid range is 0 to 100%

(Sound,Mute,On) - disables the system sound output

(Sound,Mute,Off) - enables the system sound output

VIDEO PLAYER (Fullscreen)

(Video,Load,C:\myvideo.avi) - open & loads video player with myvideo.avi located in C:\ - to play video use (Video,Play)

(Video,Playfile,C:\myvideo.avi) - open & plays video player with myvideo.avi located in C:\

(Video,Play) - plays video from current position

(Video,Pause) - pause video at current position

(Video,Stop) - stop video show

(Video,Close) - close video player

APPLICATION COMMANDS

(Application,Start,C:\notepad.exe) - starts C:\notepad.exe
 (Application,StartFile,C:\notepad.exe,C:\mytext.txt) - starts notepad with mytext.txt
 (Application,FileOpen,C:\myvideo.avi) - opens file with registered application, in this case windows media player
 (Application,Stop,notepad.exe) - based on the process name in the windows taskmanager the specified process will be terminated

KEYBOARD EVENTS

(Keycode,A) - will generate a keystroke for the letter "A"
 Access special Keys:
 use "~" to send "Enter"

The keys argument can specify any single key or any key combined with ALT, CTRL, or SHIFT (or any combination of those keys). Each key is represented by one or more characters, such as a for the character "a", or {ENTER} for the ENTER key.

To combine a key with SHIFT, precede the key code with + (plus sign).
 To combine a key with CTRL, precede the key code with ^ (caret).
 To combine a key with ALT, precede the key code with % (percent sign).
 To specify repeating keys, use the form {key number}. You must put a space between key and number. For example, {LEFT 42} means "press the LEFT ARROW key 42 times"; {h 10} means "press 'h' 10 times."

The following table lists the codes that can be used to specify characters that are not displayed when you press the corresponding key (such as ENTER or TAB).

BACKSPACE {BACKSPACE} or {BS}, BREAK {BREAK}, CAPS LOCK {CAPSLOCK}, CLEAR {CLEAR}, DELETE {DELETE} or {DEL}, DOWN ARROW {DOWN}, END {END}, ENTER (numeric keypad) {ENTER}, ENTER ~, ESC {ESCAPE} or {ESC}, HELP {HELP}, HOME {HOME}, INS {INSERT}, LEFT ARROW {LEFT}, NUM LOCK {NUMLOCK}, PAGE DOWN {PGDN}, PAGE UP {PGUP}, RETURN {RETURN}, RIGHT ARROW {RIGHT}, SCROLL LOCK {SCROLLLOCK}, TAB {TAB}, UP ARROW {UP}, F1 through F15 {F1} through {F15}.

MOUSE EVENTS

Screen coordinates are handled as percentage of primary screen
 x coordinate is 0 to 100.00 left to right
 y coordinate is 0 to 100.00 bottom to top
 (Mouse,Move,x as Percent,y as Percent) will move the mouse to xy screen coordiante
 (Mouse,LeftClick, x as Percent, y as Percent) will perform a left click at specific screen coordinate
 (Mouse,RightClick,x as Percent, y as Percent) will perform a right click at specific screen coordinate
 (Mouse,MiddleClick, x as Percent, y as Percent) will perform a mouse middle click at specific screen coordinate
 (Mouse,LeftClick) will perform a left click at current screen coordinate
 (Mouse,RightClick) will perform a right click at current screen coordinate
 (Mouse,MiddleClick) will perform a mouse middle click at current screen coordinate

DESKTOP FADE TO BLACK -BETA

(FadeToBlack,Out,1.5) fades out to black in 1.5 sec (timing may not be 100% accurate, based on systems performance)
 (FadeToBlack,In,4.7) fades in from black in 4.7 sec (timing may not be 100% accurate, based on systems performance)

WAKE ON LAN

(WakeOnLan,Macaddress) - wakes up a target computer with its matching MacAddress
 Make sure the Ethernet Card accepts WakeOnLan with Magic Packet

PB AUTOMATION REMOTE CONTROL

Please note:

The following commands are only valid for PB Spark Rev. 16 or higher!

Old syntax (up to Spark Rev. 12) is still valid (see [here](#)).

(PBA,Connect,IP_Adress,Domain)

(PBA,Disconnect)

(PBA,DeviceSetParam,SiteID,DeviceID,ParamName,AbsoluteValue)

(PBA,DeviceSetParamRelative,SiteID,DeviceID,ParamName,RelativeValue)

(PBA,DeviceSetMedia,SiteID,DeviceID,FolderID,FileID)

(PBA,DeviceSetMesh,SiteID,DeviceID,FolderID,FileID)

(PBA,ActivateAll)

(PBA,ActivateSite,SiteID)

(PBA,ActivateDevice,SiteID,DeviceID)

(PBA,ActivateParam,SiteID,DeviceID,ParamName)

(PBA,ClearAllActive)

(PBA,ClearActiveSite,SiteID)

(PBA,ClearActiveDevice,SiteID,DeviceID)

(PBA,ClearActiveParam,SiteID,DeviceID,ParamName)

(PBA,ResetAll)

(PBA,ResetSite,SiteID)

(PBA,ResetDevice,SiteID,DeviceID)

(PBA,ResetParam,SiteID,DeviceID,Opacity)

(PBA,SeqSetTimecode,SeqID,Hours,Minutes,Seconds,Frames)

(PBA,SeqGotoCue,SeqID,CueID)

(PBA,SeqNextCue,SeqID)

(PBA,SeqLastCue,SeqID)

(PBA,SeqNextFrame,SeqID)

(PBA,SeqLastFrame,SeqID)

(PBA,SeqSetState,SeqID,State) - States: Play, Pause or Stop

(PBA,SeqStoreActive,SeqID)

(PBA,SeqStoreActiveToTime,SeqID,Hours,Minutes,Seconds,Frames)

(PBA,ResourceSetText,FolderID,FileID,Text)

(PBA,ResourceAdd,Path,SiteID,FolderID,FileID)

(PBA,ResourceSpreadAll)

(PBA,ResourceSpreadMedia,FolderID,FileID)

(PBA,ResourceSpreadMesh,FolderID,FileID)

(PBA,ResourceSetFrameBlending,FolderID,FileID,State) - State: True or False

(PBA,ResourceSetDeinterlacing,FolderID,FileID,State) - State: 1,2,3,4 - according to De-Interlace Combobox in PB File Inspector

(PBA,ResourceSetAnisotropicFiltering,FolderID,FileID,State) - State: True or False

(PBA,ResourceSetUnderscan,FolderID,FileID,State) - State: True or False

(PBA,ResourceSetMpegColourSpace,FolderID,FileID,State) - State: True or False

(PBA,ResourceSetAlphaChannel,FolderID,FileID,State) - State: True or False

(PBA,ResourceRemoveInconsistent)

(PBA,ResourceRemoveMedia,FolderID,FileID)

(PBA,ResourceRemoveMesh,FolderID,FileID)

(PBA,ToggleFullScreen,SiteID)

OLD SYNTAX FOR PB AUTOMATION REMOTE CONTROL (up to Rev. 12):

(PBA,Connect, "IP_Adress", "Domain")

(PBA,Disconnect)

(PBA,SetParam,"NodeID","DeviceID","ParamName","Value")

(PBA,SetMedia,"NodeID","DeviceID","DMX_Folder_ID","DMX_File_ID")

(PBA,SetMesh,"NodeID","DeviceID","DMX_Folder_ID","DMX_File_ID")

(PBA,SetCue,"SeqID","CUE_ID")

(PBA,SetSeq,"SeqID","Mode") - Mode "Play","Pause", "Stop")

(PBA,SetTime,"SeqID",Hours,Minutes,Seconds,Frames)

(PBA,NextFrame,"SeqID")

(PBA,LastFrame,"SeqID")

(PBA,NextCue,"SeqID")

(PBA,LastCue,"SeqID")

(PBA,SeqLevel,"Value")

UDP COMMUNICATION - Send messages to ports

(UDPSend,Port,Message)

PB Server V4 Control

(PBShutdownAll)

(PBRebootAll)

(PBShutdown,IP)

(PBReboot,IP)

(PBStartMaster,IP)

(PBStartClient,IP)

(PBClose,IP)

CHANGELOG

Rev 12

- HTTP Querystring listener built-in.

This means you can use a webbrowser or link to send commands as well ex:

[http://192.168.0.141/?\(Commandstring\)](http://192.168.0.141/?(Commandstring))

- Comport Input Support

- All Inputs TCP/UDP/HTTP/COM can send input messages asynchronously

- multiple commands can be send in one message

Rev7

- UDP Send and Receive Support

- PB Server Network Controls, for application commands and system shutdown

- General Code Cleanup Rev6 - support for broken packets, AMX related fix

- Autoconnect as Start option

- TCP connection close optimization

- PB Spark will always send a null character upon null receive

- Revision ID shown GUI

- New Feature Comport Send Hex-codes

v1.0.0.9

- PBAutomation v4 commands added

v1.0.0.8

- New Feature Application Stop to terminate running programs and processes

v1.0.0.7

- New Feature Remote PB Automation Support

- Help page display

v1.0.0.6

- New Feature Fullscreen video player

- New Feature Com Port ASCII communication

- fixed pending Network Process on closing application

3.4 INPUT / OUTPUT CONTROL

Pandoras Box offers many ways to use various industry standard control protocols.

You may want to remote control lighting or sound or interact with media through contact closures or sensors.

With Pandoras Box Spark, even Windows PC applications can be controlled and triggered at the right cue of the show.

Currently supported protocols are:

TCP/IP, RS232/422, SMPTE, MIDI, MSC, ArtNet, MA-NET, DMX and C1TP.

3.4.1 INPUT PROTOCOLS

Pandoras Box aims to support a wide range of various input control sources. Since Pandoras Box can be used in many different configurations and applications, you may choose from several available control protocols to remote control or interact with the system.

3.4.1.1 DMX TABLES

All Pandoras Box Products are designed to fully controlled via DMX or Artnet from any DMX Lighting Controller.

In this section you will find all necessary information about the individual DMX fixture libraries for Layers, Cameras and Sequences.

Please note that there are different libraries for Server and Player Products.

3.4.1.1.1 DMX TABLE SEQUENCE CONTROL

Cha.	Feature	Description	Value Dec.	Default Value Dec.
1	Level	Level Control 0-100%	0-255	255
2	Transport Control	Pause	0	0
		Play	128	
		Stop	255	
3	Cue	No Cue	0	0
		Selects Cue by ID	1-255	
4	Frame	Sets Nowpointer to Frame Position	0-65535	0
5	Frame Fine	No File selected – nothing is rendered		

3.4.1.1.2 DMX TABLE PB SERVER

Video Layer Device

Cha.	Feature	Description	Value Dec.	Default Value Dec.		
1	Dimmer Transparency Volume	Transparent, Sound off	0	0		
		Fades Transparency and Sound level	1-254			
		Full visibility and Sound on	255			
2	Dimmer Type	Cross Fade	0	0		
		Selection of video wipes	1-230			
3	X Position Coarse	max layer left offset	0	32768		
		Layer max left to center position	1-32767			
		Center position	32768			
4	X Position Fine	Layer center to max. right position	32769-65534	32768		
		max right position	65535			
		max layer bottom offset	0			
5	Y Position Coarse	Layer max bottom to center position	1-32767	32768		
		Center position	32768			
6	Y Position Fine	Layer center to max. top position	32769-65534	32768		
		max top position	65535			
		max layer far offset	0			
7	Z Position Coarse	Layer max far to center position	1-32767	32768		
		Center position	32768			
8	Z Position Fine	Layer center to max. near position	32769-65534	32768		
		max near position	65535			
		max CCW cont. rotation	0			
9	X Rotation Coarse	CCW cont. rotation slow to fast	1-16317	32768		
		Stop cont. rotation	16318			
		-720° to 0° index rotation	16447-32768			
		0° index	32768			
		10	X Rotation Fine		0° to +720° index rotation	32769-49088
					Stop cont. rotation	49217
CW rotation slow to fast	49218-65534					
		max CW rotation	65535			

Cha.	Feature	Description	Value Dec.	Default Value Dec.
11	Y Rotation coarse	max CCW cont. rotation	0	32768
		CCW cont. rotation slow to fast	1-16317	
		Stop cont. rotation	16318	
		-720° to 0° index rotation	16447-32768	
		0° index	32768	
		12	Y Rotation fine	
Stop cont. rotation	49217			
CW rotation slow to fast	49218-65534			
max CW rotation	65535			
				max CCW cont. rotation
		CCW cont. rotation slow to fast	1-16317	
		Stop cont. rotation	16318	

13	Z Rotation coarse	-720° to 0° index rotation	16447-32768	32768
		0° index	32768	
14	Z Rotation fine	0° to +720° index rotation	32769-49088	
		Stop cont. rotation	49217	
		CW rotation slow to fast	49218-65534	
		max CW rotation	65535	
15	X Scale coarse	min layer scale	0	32768
		Layer min to 1:1 scale	1-32767	
16	X Scale fine	1 :1 scale	32768	
		Layer 1:1 to max scale	32769-65534	
		max scale	65535	
17	Y Scale coarse	min layer scale	0	32768
		Layer min to 1:1 scale	1-32767	
18	Y Scale fine	1 :1 scale	32768	
		Layer 1:1 to max scale	32769-65534	
		max scale	65535	
19	Z Scale coarse	min layer scale	0	32768
		Layer min to 1:1 scale	1-32767	
20	Z Scale fine	1 :1 scale	32768	
		Layer 1:1 to max scale	32769-65534	
		max scale	65535	

Cha.	Feature	Description	Value Dec.	Default Value Dec.
21	Object Folder	Selects Object Folder ID	0-255	0
22	Object File	No Object selected– nothing is rendered	0	1
		Selects Object File ID	1-255	
23	Media Folder	Selects Media Folder ID	0-255	0
24	Media File	No File selected – nothing is rendered	0	0
		Select Media File ID	1-255	
25	Media Control	first frame	0	192
		Slow to 1:1 play once	1-63	
		Play once 1:1 speed	64	
		1:1 to fast play once	65-127	
		Pause	128	
		Slow to 1:1 play loop	129-191	
		Play loop 1:1	192	
		1:1 to fast play loop	192-254	
last frame	255			
26	Media Inpoint Coarse	Selects Inpoint based on Percentage between First and Last Frame	0-65535	0
27	Media Inpoint Fine			
28	Media Outpoint Coarse	Selects Outpoint based on Percentage between First and Last Frame	0-65535	65535
29	Media Outpoint Fine			
30	Colour Mix 1	Changes Colour, Based on selected ColourFX, Default Red	0-255	128
31	Colour Mix 2	Changes Colour, Based on selected ColourFX, Default Green	0-255	128
32	Colour Mix 3	Changes Colour, Based on selected	0-255	128

		ColourFX, Default Blue		
33	ColourFX	No colour FX – Colourmix disabled	0	0
		Selects ColourFX	1-255	
34	VideoFX1	Parameter changes upon selected VideoFX	0-255	128
35	VideoFX2	Parameter changes upon selected VideoFX	0-255	128
36	VideoFX3	Parameter changes upon selected VideoFX	0-255	128
37	VideoFX	No VideoFX – VideoFX disabled	0	0
		Selects VideoFX	1-255	

Graphic Layer Device

Cha.	Feature	Description	Value Dec.	Default Value Dec.
1	Dimmer Transparency Volume	Transparent, Sound off	0	0
		Fades Transparency and Sound level	1-254	
		Full Visibility and Sound on	255	
2	TransitionFX	Cross Fade	0	0
		Selection of video wipes	1-230	
3	X Position Coarse	max layer left offset	0	32768
		Layer max left to center position	1-32767	
4	X Position Fine	Center position	32768	
		Layer center to max. right position	32769-65534	
		max right position	65535	
5	Y Position Coarse	max layer bottom offset	0	32768
		Layer max bottom to center position	1-32767	
6	Y Position Fine	Center position	32768	
		Layer center to max. top position	32769-65534	
		max top position	65535	
7	Z Position Coarse	max layer far offset	0	32768
		Layer max far to center position	1-32767	
8	Z Position Fine	Center position	32768	
		Layer center to max. near position	32769-65534	
		max near position	65535	
9	X Rotation Coarse	max CCW cont. rotation	0	32768
		CCW cont. rotation slow to fast	1-16317	
		Stop cont. rotation	16318	
		-360° to 0° index rotation	16447-32768	
10	X Rotation Fine	0° index	32768	
		0° to +360° index rotation	32769-49088	
		Stop cont. rotation	49217	
		CW rotation slow to fast	49218-65534	
		max CW rotation	65535	

Cha.	Feature	Description	Value Dec.	Default Value Dec.
11	Y Rotation coarse	max CCW cont. rotation	0	32768
		CCW cont. rotation slow to fast	1-16317	
		Stop cont. rotation	16318	
		-360° to 0° index rotation	16447-32768	
		0° index	32768	

12	Y Rotation fine	0° to +360° index rotation	32769-49088	32768
		Stop cont. rotation	49217	
		CW rotation slow to fast	49218-65534	
		max CW rotation	65535	
13	Z Rotation coarse	max CCW cont. rotation	0	
		CCW cont. rotation slow to fast	1-16317	
		Stop cont. rotation	16318	
		-360° to 0° index rotation	16447-32768	
14	Z Rotation fine	0° index	32768	
		0° to +360° index rotation	32769-49088	
		Stop cont. rotation	49217	
		CW rotation slow to fast	49218-65534	
15	X Scale coarse	min layer scale	0	32768
		Layer min to 1:1 scale	1-32767	
		1 :1 scale	32768	
		Layer 1:1 to max scale	32769-65534	
16	X Scale fine	max scale	65535	
		min layer scale	0	32768
		Layer min to 1:1 scale	1-32767	
		1 :1 scale	32768	
17	Y Scale coarse	Layer 1:1 to max scale	32769-65534	
		max scale	65535	
		min layer scale	0	32768
		Layer min to 1:1 scale	1-32767	
1 :1 scale	32768			
18	Y Scale fine	Layer 1:1 to max scale	32769-65534	
		max scale	65535	
		min layer scale	0	32768
		Layer min to 1:1 scale	1-32767	
1 :1 scale	32768			
19	Z Scale coarse	Layer 1:1 to max scale	32769-65534	
		max scale	65535	
		min layer scale	0	32768
		Layer min to 1:1 scale	1-32767	
1 :1 scale	32768			
20	Z Scale fine	Layer 1:1 to max scale	32769-65534	
		max scale	65535	

Cha.	Feature	Description	Value Dec.	Default Value Dec.
21	Object Folder	Selects Object Folder ID	0-255	0
22	Object File	No Object selected– nothing is rendered	0	1
		Selects Object File ID	1-255	
23	Media Folder	Selects Media Folder ID	0-255	0
24	Media File	No File selected – nothing is rendered	0	0
		Select Media File ID	1-255	
25	Media Frame Coarse	Selects Inpoint based on Percentage between First and Last Frame	0-65535	0
26	Media Frame Fine			
27	Colour Mix 1	Changes Colour, Based on selected ColourFX, Default Red	0-255	128
28	Colour Mix 2	Changes Colour, Based on selected ColourFX, Default Green	0-255	128
29	Colour Mix 3	Changes Colour, Based on selected ColourFX, Default Blue	0-255	128
30	ColourFX	No colour FX – Colourmix disabled	0	0
		Selects ColourFX	1-255	
31	VideoFX1	Parameter changes upon selected VideoFX	0-255	128

32	VideoFX2	Parameter changes upon selected VideoFX	0-255	128
33	VideoFX3	Parameter changes upon selected VideoFX	0-255	128
34	VideoFX	No VideoFX – VideoFX disabled	0	0
		Selects VideoFX	1-255	

Camera Device

Cha.	Feature	Description	Value Dec.	Default Value Dec.
1	Dimmer / Level	Black output	0	0
		Fades from black to full output	1-254	
		Full output	255	
2	X Axis Coarse	min	0	32768
		min to center	1-32767	
		center position	32768	
3	X Axis Fine	center to max	32769-65534	
		max	65535	
		min	0	
4	Y Axis Coarse	min to center	1-32767	32768
		center position	32768	
		center to max	32769-65534	
5	Y Axis Fine	max	65535	
		min	0	
		min to center	1-32767	
6	Z Axis Coarse	center position	32768	32768
		center to max	32769-65534	
		max	65535	
7	Z Axis Fine	min	0	
		min to center	1-32767	
		center position	32768	
8	Z Rot. Coarse	center to max	32769-65534	32768
		max	65535	
		min	0	
9	Z Rot. Fine	min to center	1-32767	
		center position	32768	
		center to max	32769-65534	
10	Perspective X Offset Coarse	max	65535	32768
		min left position	0	
		min to center	1-32767	
11	Perspective X Offset Fine	center position	32768	
		center to max right position	32769-65534	
		max right position	65535	
12	Perspective Y Offset Coarse	min bottom position	0	32768
		min to center	1-32767	
		center position	32768	
13	Perspective Y Offset Fine	center to max top position	32769-65534	
		max top position	65535	
		min	0	
14	Mode	Selects Camera viewing mode	0-255	0
15	Object Folder	Selects Object Folder ID	0-255	0
16	Object File	No Object selected– Keystone Plane selected	0	0
		Selects Object File ID	1-255	

Cha.	Feature	Description	Value Dec.	Default Value Dec.
17	Keystone Left	min out	0	32768
18	16bit	1:1	32768	

		max in	65535	
19	Keystone Left Rotation 16bit	CCW max	0	32768
20		1:1	32768	
		CW max	65535	
21	Keystone Right 16bit	min out	0	32768
22		1:1	32768	
		max in	65535	
23	Keystone Right Rotation 16bit	CCW max	0	32768
24		1:1	32768	
		CW max	65535	
25	Keystone Top 16bit	min out	0	32768
26		1:1	32768	
		max in	65535	
27	Keystone Top Rotation 16bit	CCW max	0	32768
28		1:1	32768	
		CW max	65535	
29	Keystone Bottom 16bit	min out	0	32768
30		1:1	32768	
		max in	65535	
31	Keystone Bottom Rotation 16bit	CCW max	0	32768
32		1:1	32768	
		CW max	65535	
33	Keystone Linearity X 16bit	max left	0	32768
34		Center	32768	
		max right	65535	
35	Keystone Linearity Y 16bit	max top	0	32768
36		center	32768	
		max bottom	65535	

Cha.	Feature	Description	Value Dec.	Default Value Dec.
37	Softedge Left	No Softedge	0	0
		0 to 25% Softedge	1-255	
38	Softedge Left Curve	min curve	0	128
		1:1 Linear Curve	128	
		max curve	255	
39	Softedge Right	No Softedge	0	0
		0 to 25% Softedge	128	
40	Softedge Right Curve	min curve	0	128
		1:1 Linear Curve	128	
		max curve	255	
41	Softedge Top	No Softedge	0	0
		0 to 25% Softedge	128	
42	Softedge Top Curve	min curve	0	128
		1:1 Linear Curve	128	
		max curve	255	
43	Softedge Bottom	No Softedge	0	0
		0 to 25% Softedge	128	
44	Softedge Bottom Curve	min curve	0	128
		1:1 Linear Curve	128	
		max curve	255	

3.4.1.1.3 DMX TABLES PB PLAYER STD

Video Layer Device

Cha.	Feature	Description	Value Dec.	Default Value Dec.
1	Dimmer Transparency Volume	Transparent, Sound off	0	0
		Fades Transparency and Sound level	1-254	
		Full visibility and Sound on	255	
2	X Position Coarse	max layer left offset	0	32768
		Layer max left to center position	1-32767	
3	X Position Fine	Center position	32768	
		Layer center to max. right position	32769-65534	
		max right position	65535	
4	Y Position Coarse	max layer bottom offset	0	32768
		Layer max bottom to center position	1-32767	
5	Y Position Fine	Center position	32768	
		Layer center to max. top position	32769-65534	
		max top position	65535	
6	Z Rotation coarse	max CCW cont. rotation	0	32768
		CCW cont. rotation slow to fast	1-16317	
		Stop cont. rotation	16318	
		-720° to 0° index rotation	16447-32768	
7	Z Rotation fine	0° index	32768	
		0° to +720° index rotation	32769-49088	
		Stop cont. rotation	49217	
		CW rotation slow to fast	49218-65534	
		max CW rotation	65535	
8	X Scale coarse	min layer scale	0	32768
		Layer min to 1:1 scale	1-32767	
9	X Scale fine	1 :1 scale	32768	
		Layer 1:1 to max scale	32769-65534	
		max scale	65535	
10	Y Scale coarse	min layer scale	0	32768
		Layer min to 1:1 scale	1-32767	
11	Y Scale fine	1 :1 scale	32768	
		Layer 1:1 to max scale	32769-65534	
		max scale	65535	
12	Shape Folder	Selects Shape Folder ID	0-255	0
13	Shape File	No Shape selected– nothing is rendered	0	1
		Selects Object File ID	1-255	
Cha.	Feature	Description	Value Dec.	Default Value Dec.
14	Media Folder	Selects Media Folder ID	0-255	0
15	Media File	No File selected – nothing is rendered	0	0
		Select Media File ID	1-255	
16	Media Control	first frame	0	192
		Slow to 1:1 play once	1-63	
		Play once 1:1 speed	64	
		1:1 to fast play once	65-127	
		Pause	128	

		Slow to 1:1 play loop	129-191	
		Play loop 1:1	192	
		1:1 to fast play loop	192-254	
		last frame	255	
17	Colour Mix 1	Changes Colour, Based on selected ColourFX, Default Red	0-255	128
18	Colour Mix 2	Changes Colour, Based on selected ColourFX, Default Green	0-255	128
19	Colour Mix 3	Changes Colour, Based on selected ColourFX, Default Blue	0-255	128
20	ColourFX	No colour FX – Colourmix disabled	0	0
		Selects ColourFX	1-255	
21	FX1	Parameter changes upon selected FX	0-255	128
22	VideoFX	No VideoFX – VideoFX disabled	0	0
		Selects VideoFX	1-255	

Graphic Layer Player STD

Cha.	Feature	Description	Value Dec.	Default Value Dec.
1	Dimmer Transparency Volume	Transparent, Sound off	0	0
		Fades Transparency and Sound level	1-254	
		Full visibility and Sound on	255	
2	X Position Coarse	max layer left offset	0	32768
		Layer max left to center position	1-32767	
		Center position	32768	
3	X Position Fine	Layer center to max. right position	32769-65534	32768
		max right position	65535	
4	Y Position Coarse	max layer bottom offset	0	32768
		Layer max bottom to center position	1-32767	
		Center position	32768	
5	Y Position Fine	Layer center to max. top position	32769-65534	32768
		max top position	65535	
Cha.	Feature	Description	Value Dec.	Default Value Dec.
6	Z Rotation coarse	max CCW cont. rotation	0	32768
		CCW cont. rotation slow to fast	1-16317	
		Stop cont. rotation	16318	
7	Z Rotation fine	-720° to 0° index rotation	16447-32768	32768
		0° index	32768	
		0° to +720° index rotation	32769-49088	
		Stop cont. rotation	49217	
		CW rotation slow to fast	49218-65534	
		max CW rotation	65535	
8	X Scale coarse	min layer scale	0	32768
		Layer min to 1:1 scale	1-32767	
		1 :1 scale	32768	
9	X Scale fine	Layer 1:1 to max scale	32769-65534	32768
		max scale	65535	
10	Y Scale coarse	min layer scale	0	32768
		Layer min to 1:1 scale	1-32767	
		1 :1 scale	32768	
11	Y Scale	Layer 1:1 to max scale	32769-	

	fine		65534	
		max scale	65535	
12	Shape Folder	Selects Shape Folder ID	0-255	0
13	Shape File	No Shape selected– nothing is rendered	0	1
		Selects Object File ID	1-255	
14	Media Folder	Selects Media Folder ID	0-255	0
15	Media File	No File selected – nothing is rendered	0	0
		Select Media File ID	1-255	
16	Colour Mix 1	Changes Colour, Based on selected	0-255	128
		ColourFX, Default Red		
17	Colour Mix 2	Changes Colour, Based on selected	0-255	128
		ColourFX, Default Green		
18	Colour Mix 3	Changes Colour, Based on selected	0-255	128
		ColourFX, Default Blue		
19	ColourFX	No colour FX – Colourmix disabled	0	0
		Selects ColourFX	1-255	
20	FX1	Parameter changes upon selected FX	0-255	128
21	VideoFX	No VideoFX – VideoFX disabled	0	0
		Selects VideoFX	1-255	

Camera Player STD

Cha.	Feature	Description	Value Dec.	Default Value Dec.
1	Dimmer / Level	Black output	0	0
		Fades from black to full output	1-254	
		Full output	255	
2	Z Rot. Coarse	min	0	32768
		min to center	1-32767	
		center position	32768	
3	Z Rot. Fine	center to max	32769-65534	
		max	65535	
4	Perspective X Offset Coarse	min left position	0	32768
		min to center	1-32767	
		Center position	32768	
5	Perspective X Offset Fine	center to max right position	32769-65534	
		max right position	65535	
6	Perspective Y Offset Coarse	min bottom position	0	32768
		min to center	1-32767	
		center position	32768	
7	Perspective Y Offset Fine	center to max top position	32769-65534	
		max top position	65535	
8	Object Folder	Selects Object Folder ID	0-255	0
9	Object File	No Object selected– Keystone Plane selected	0	0
		Selects Object File ID	1-255	
Cha.	Feature	Description	Value Dec.	Default Value Dec.
10	Softedge Left	No Softedge	0	0
		0 to 25% Softedge	1-255	
11	Softedge Left Curve	min curve	0	128
		1:1 Linear Curve	128	
		max curve	255	
12	Softedge Right	No Softedge	0	0
		0 to 25% Softedge	128	
13	Softedge Right	min curve	0	

	Curve	1:1 Linear Curve	128	128
		max curve	255	
14	Softedge Top	No Softedge	0	0
		0 to 25% Softedge	128	
15	Softedge Top Curve	min curve	0	
		1:1 Linear Curve	128	128
		max curve	255	
16	Softedge Bottom	No Softedge	0	0
		0 to 25% Softedge	128	
17	Softedge Bottom Curve	min curve	0	
		1:1 Linear Curve	128	128
		max curve	255	

3.4.1.1.4 DMX TABLES PB PLAYER PRO

Video Layer Device

Cha.	Feature	Description	Value Dec.	Default Value Dec.
1	Dimmer Transparency Volume	Transparent, Sound off	0	0
		Fades Transparency and Sound level	1-254	
		Full visibility and Sound on	255	
2	X Position Coarse	max layer left offset	0	32768
		Layer max left to center position	1-32767	
3	X Position Fine	Center position	32768	
		Layer center to max. right position	32769-65534	
		max right position	65535	
4	Y Position Coarse	max layer bottom offset	0	32768
		Layer max bottom to center position	1-32767	
5	Y Position Fine	Center position	32768	
		Layer center to max. top position	32769-65534	
		max top position	65535	
6	Z Rotation coarse	max CCW cont. rotation	0	32768
		CCW cont. rotation slow to fast	1-16317	
		Stop cont. rotation	16318	
		-720° to 0° index rotation	16447-32768	
7	Z Rotation fine	0° index	32768	
		0° to +720° index rotation	32769-49088	
		Stop cont. rotation	49217	
		CW rotation slow to fast	49218-65534	
		max CW rotation	65535	
8	X Scale coarse	min layer scale	0	32768
		Layer min to 1:1 scale	1-32767	
9	X Scale fine	1 :1 scale	32768	
		Layer 1:1 to max scale	32769-65534	
		max scale	65535	
10	Y Scale coarse	min layer scale	0	32768
		Layer min to 1:1 scale	1-32767	
11	Y Scale fine	1 :1 scale	32768	
		Layer 1:1 to max scale	32769-65534	
		max scale	65535	
12	Shape Folder	Selects Shape Folder ID	0-255	0
13	Shape File	No Shape selected– nothing is rendered	0	1
		Selects Object File ID	1-255	
Cha.	Feature	Description	Value Dec.	Default Value Dec.
14	Media Folder	Selects Media Folder ID	0-255	0
15	Media File	No File selected – nothing is rendered	0	0
		Select Media File ID	1-255	
		first frame	0	
		Slow to 1:1 play once	1-63	
		Play once 1:1 speed	64	
		1:1 to fast play once	65-127	

16	Media Control	Pause	128	192
		Slow to 1:1 play loop	129-191	
		Play loop 1:1	192	
		1:1 to fast play loop	192-254	
		last frame	255	
17	Colour Mix 1	Changes Colour, Based on selected ColourFX, Default Red	0-255	128
18	Colour Mix 2	Changes Colour, Based on selected ColourFX, Default Green	0-255	128
19	Colour Mix 3	Changes Colour, Based on selected ColourFX, Default Blue	0-255	128
20	ColourFX	No colour FX – Colourmix disabled	0	0
		Selects ColourFX	1-255	
21	FX1	Parameter changes upon selected FX	0-255	128
22	VideoFX	No VideoFX – VideoFX disabled	0	0
		Selects VideoFX	1-255	

Grafic Layer Device Player PRO

Cha.	Feature	Description	Value Dec.	Default Value Dec.
1	Dimmer Transparency Volume	Transparent, Sound off	0	0
		Fades Transparency and Sound level	1-254	
		Full visibility and Sound on	255	
2	X Position Coarse	max layer left offset	0	32768
		Layer max left to center position	1-32767	
3	X Position Fine	Center position	32768	
		Layer center to max. right position	32769-65534	
		max right position	65535	
4	Y Position Coarse	max layer bottom offset	0	32768
		Layer max bottom to center position	1-32767	
5	Y Position Fine	Center position	32768	
		Layer center to max. top position	32769-65534	
		max top position	65535	
Cha.	Feature	Description	Value Dec.	Default Value Dec.
6	Z Rotation coarse	max CCW cont. rotation	0	32768
		CCW cont. rotation slow to fast	1-16317	
		Stop cont. rotation	16318	
		-720° to 0° index rotation	16447-32768	
7	Z Rotation fine	0° index	32768	
		0° to +720° index rotation	32769-49088	
		Stop cont. rotation	49217	
		CW rotation slow to fast	49218-65534	
		max CW rotation	65535	
8	X Scale coarse	min layer scale	0	32768
		Layer min to 1:1 scale	1-32767	
9	X Scale fine	1 :1 scale	32768	
		Layer 1:1 to max scale	32769-65534	
		max scale	65535	
10	Y Scale coarse	min layer scale	0	32768
		Layer min to 1:1 scale	1-32767	
		1 :1 scale	32768	

11	Y Scale fine	Layer 1:1 to max scale	32769-65534	
		max scale	65535	
12	Shape Folder	Selects Shape Folder ID	0-255	0
13	Shape File	No Shape selected– nothing is rendered	0	1
		Selects Object File ID	1-255	
14	Media Folder	Selects Media Folder ID	0-255	0
15	Media File	No File selected – nothing is rendered	0	0
		Select Media File ID	1-255	
16	Colour Mix 1	Changes Colour, Based on selected	0-255	128
		ColourFX, Default Red		
17	Colour Mix 2	Changes Colour, Based on selected	0-255	128
		ColourFX, Default Green		
18	Colour Mix 3	Changes Colour, Based on selected	0-255	128
		ColourFX, Default Blue		
19	ColourFX	No colour FX – Colourmix disabled	0	0
		Selects ColourFX	1-255	
20	FX1	Parameter changes upon selected FX	0-255	128
21	VideoFX	No VideoFX – VideoFX disabled	0	0
		Selects VideoFX	1-255	

Camera Device Player PRO

Cha.	Feature	Description	Value Dec.	Default Value Dec.
1	Dimmer / Level	Black output	0	0
		Fades from black to full output	1-254	
		Full output	255	
2	Z Rot. Coarse	min	0	32768
		min to center	1-32767	
		center position	32768	
3	Z Rot. Fine	center to max	32769-65534	
			65535	
		max		
4	Perspective X Offset Coarse	min left position	0	32768
		min to center	1-32767	
		Center position	32768	
5	Perspective X Offset Fine	center to max right position	32769-65534	
			65535	
		max right position		
6	Perspective Y Offset Coarse	min bottom position	0	32768
		min to center	1-32767	
		center position	32768	
7	Perspective Y Offset Fine	center to max top position	32769-65534	
			65535	
		max top position		
8	Object Folder	Selects Object Folder ID	0-255	0
9	Object File	No Object selected– Keystone Plane selected	0	0
		Selects Object File ID	1-255	
Cha.	Feature	Description	Value Dec.	Default Value Dec.
10	Keystone Left 16bit	min out	0	32768
		1:1	32768	
		max in	65535	
12	Keystone Left Rotation 16bit	CCW max	0	32768
		1:1	32768	
		CW max	65535	
14	Keystone Right	min out	0	

15	16bit	1:1	32768	32768
		max in	65535	
16	Keystone Right Rotation 16bit	CCW max	0	32768
17		1:1	32768	
		CW max	65535	
18	Keystone Top 16bit	min out	0	32768
19		1:1	32768	
		max in	65535	
20	Keystone Top Rotation 16bit	CCW max	0	32768
21		1:1	32768	
		CW max	65535	
22	Keystone Bottom 16bit	min out	0	32768
23		1:1	32768	
		max in	65535	
24	Keystone Bottom Rotation 16bit	CCW max	0	32768
25		1:1	32768	
		CW max	65535	
26	Keystone Linearity X 16bit	max left	0	32768
27		Center	32768	
		max right	65535	
28	Keystone Linearity Y 16bit	max top	0	32768
29		center	32768	
		max bottom	65535	
Cha.	Feature	Description	Value Dec.	Default Value Dec.
30	Softedge Left	No Softedge	0	0
		0 to 25% Softedge	1-255	
31	Softedge Left Curve	min curve	0	128
		1:1 Linear Curve	128	
		max curve	255	
32	Softedge Right	No Softedge	0	0
		0 to 25% Softedge	128	
33	Softedge Right Curve	min curve	0	128
		1:1 Linear Curve	128	
		max curve	255	
34	Softedge Top	No Softedge	0	0
		0 to 25% Softedge	128	
35	Softedge Top Curve	min curve	0	128
		1:1 Linear Curve	128	
		max curve	255	
36	Softedge Bottom	No Softedge	0	0
		0 to 25% Softedge	128	
37	Softedge Bottom Curve	min curve	0	128
		1:1 Linear Curve	128	
		max curve	255	

3.4.1.2 DMX INPUT

DMX input can be used in many different ways with Pandoras Box products. Since the entire system is mainly network based, coolux is continuing to integrate all available network-protocols to allow interfacing with modern lighting systems.

DMX input is mainly designed to remote control individual sequences, layers and output settings of your Pandoras Box system.

3.4.1.2.1 MA-NET

To interface with GrandMA lighting consoles, please enable the MA-Net in the [configuration tab](#). Please note that MA-Net supports up to 64 DMX universes in MA-Net Series 1 and up to 256 DMX universes in MA-Net Series 2, that can be patched in the [patch tab](#).

3.4.1.2.2 ART-NET

As one of the most popular Ethernet protocols, ArtNet can be used to control multiple units with multiple DMX universes via a single Ethernet network.

To use ArtNet please connect your lighting system that is ArtNet enabled and make sure that both lighting control and Pandoras Box system are in the same IP address range.

The most common used IP address range for ArtNet setups is 2.xxx.xxx.xxx with a subnet mask of 255.0.0.0 .

To enable ArtNet within a Pandoras Box Master system, please activate the ArtNet Mode in the configuration tab.

To patch any Pandoras Box sequence, layer or camera device, please use the device node patch tab to assign the individual ArtNet settings.

3.4.1.2.3 DMX USB

DMX input via USB is supplied by two products, the Media Connexion and the DMX Link USB interface cable.

Both input interfaces are based on the same USB interface.

If you want to control any Pandoras Box Server or Player via USB, connect any of the above mentioned USB devices to a master system and activate "DMX via USB" in the configuration tab.



DMX Link USB Cable



Media Connexion (Product is discontinued)

Please note: A USB DMX input interface can only be used with a master system, such as a PB Manager, Server or Player. To remote control a client via a USB DMX input interface, please connect the USB DMX interface to your master control unit and patch the desired Pandoras Box device. Please be aware that a single USB DMX interface will allow you to control a maximum of 512 DMX channels.

3.4.1.2.4 DMX LINK 8

The DMX link 8 converts up to 10 DMX universes to Ethernet (ArtNet protocol). Backwards, 8 DMX universes can be converted from ArtNet to DMX.

Furthermore it can be used stand alone as a universal programming digital merger (ex. 2 in 8 out) or splitter (ex. 2 splitters of 1 in to 4 out). Saving the lastly received signal DMX signal in the unit, it also acts as a perfect backup (ex. 4 in 4 out).



FEATURES

- Remote programming and monitoring
- DMX input options like Normal or Backup
- DMX output options like Normal, Merging in HTP/LTP or custom /Priority merging, Merging with channel by channel softpatch
- Remote takeover of fixture parameters
- Visualizer input support like WYSIWYG, ESP, Capture and many others

Please see the [DMX Link 8 Device Manual](#) for further informations.

3.4.1.3 MIDI

The Midi Input protocol supports the following message types:
 Channel Voice Messages
 All Note-On messages are processed.

PRESET CONTROL

The channel is mapped to the Pandoras Box preset tree. Channel 1 = GLOBAL ... Channel 9 = CTRL
 The note calls the equivalent preset. The notes are being processed with a negative offset of 35 to assign the value 1 to the lowest note of a standard midi keyboard

SEQUENCE CONTROL

Channel 10 is used for transport control. Each octave controls one sequence:
 The lowest octave (Offset 35) controls sequence 1, the next octave sequence 2 etc,...

Play, (C)

Pause, (D)

Stop, (E)

Prev Cue + Play, (F)

Prev Cue + Pause (F#)

Next Cue + Play (G)

Next Cue + Pause (G#)

GUI - Configuration Tab
 Midi Device: Choose an installed Midi Device.

ID: ID of MSC Message Mapping

Sequence: Choose the sequence to be controlled via MSC.

Run Midi: Launch MSC and MIDI Input.

3.4.1.4 MSC MIDI SHOW CONTROL

The Midi Show Control input protocol supports System Exclusive messages (SysEx) according to the MSC specification.

MSC SEQUENCE CONTROL

The format of a MSC (Midi Show Control message) is defined as:
 F0h 7Fh <device_ID> 02h <command_format> <command> <data> F7h

(<data> is optional, all others are needed)

<device_ID> determines the ID of the sequence to control.
 This is set up in the MIDI menu in the configuration tab.

<command_format>
 The following command-formats are processed by Pandoras Box:

- 01h Lighting (General Category)
- 30h Video (General Category)
- 40h Projection (General Category)
- 7Fh All-Types

<command>
 The following commands are processed by Pandoras Box:

- 01h GO
- 02h STOP
- 03h RESUME

05h LOAD
 06h SET
 0Ah RESET
 0Bh GO_OFF

<data>

All data must be encoded in ASCII Format.

Multiple data elements must be separated (SET) with 00h.

Separators as dec.(2Eh) are accepted but the next value is not processed.

Example for:

GO to Cue 24:

F0h 7Fh <device_ID> 02h 7Fh 01h 32h 34h F7h (min required format)

also valid:

F0h 7Fh <device_ID> 02h 7Fh 01h 32h 34h 2E 30 30 31 00 F7h (equivalent to cue 24.001 – is processed as Cue 24)

F0h 7Fh <device_ID> 02h 7Fh 01h 32h 34h 2Eh 30h 30h 31h 00h 31h 00h 32h 00h F7h
 (according to the GrandMA format with cue list and cue path – only the first cue is processed)

GO - in conjunction with a cue:

Jump to Cue + Play (the cue will overwrite a previously loaded cue)

GO - without a cue:

a) if the last command was a LOAD cue, the loaded cue will be called.

b) in all other cases the timeline will continue from its actual play position.

STOP

Pause

RESUME:

Play at the actual position of the timeline.

LOAD:

LOAD must be used with a cue. The loaded cue will be processed by the next incoming GO command.

RESET and GO_OFF

Stop

SET

Set allows you to transmit individual device parameters. The message consists of 4 values.

MSC PARAMETER CONTROL

F0h 7Fh <device_ID> 02h <command_format> 06h <data1> 00h <data2> 00h <data3> 00h <data4> 00h F7h

Only data after a 00h-separator will be processed. All decimal values will be ignored.

<data1>: Device ID

<data2>: Layer ID

<data3>: Parameter ID in Pandoras Box

<data4>: Value

Sample message for Device 1, Layer 3, X-Position, new value 26465:

F0h 7Fh <device_ID> 02h 7Fh 06h 31h 00h 33h 00h 38h 00h 32h 36h 34h 36h 35h 00h F7h

List of Pandoras Box Parameter IDs:

None 0

Opacity 1

Mesh 2

Media 3

Inpoint 4

Outpoint 5

Transport 6

TransFx 7

XPos 8

YPos 9
ZPos 10
XRot 11
YRot 12
ZRot 13
XScale 14
YScale 15
ZScale 16
Colour1 17
Colour2 18
Colour3 19
ColourFx 20
Fx1 21
Fx2 22
Fx3 23
VideoFx 24
XAxis 25
YAxis 26
ZAxis 27
Rot 28
XOffset 29
YOffset 30
Mode 31
KSL 32
KSLR 33
KSR 34
KSRR 35
KST 36
KSTR 37
KSB 38
KSBR 39
LinX 40
LinY 41
SEL 42
SELC 43
SER 44
SERC 45
SET 46
SETC 47
SEB 48
SEBC 49
Sonic Emotion device:
BLevelS 50
BLevelR 51
BLevelG 52
BLevelB 53
Volume 54
X 55
Z 56
RoomSize 57
Ambience 58
Diffusion 59

All commands but SET are sequence related controls. The sequence to control must be set in the MIDI configuration tab.

GUI:



Midi Device: Choose an installed Midi Device

ID: ID of MSC Message Mapping

Sequence: Choose the sequence to be controlled via MSC

Run Midi – Launch MSC and MIDI Input

Use Cue Subsection:

As decimal places for cue numbers are not supported in Pandoras Box, you can use the checkbox option "Use Cue Subsection". Doing this will multiply the incoming cue command x1000 (for example: GO to Cue 1.020 will be interpreted as GO to Cue 1020). With this option three decimal places are supported.

3.4.1.5 SERIAL LINK

The optional external SERIAL Link interface provides 4x serial RS 232/422 ports via ethernet. A SERIAL Link port can be used for input as sequence control.

Each port can be connected to a separate sequence to allow multiple input devices to control individual sequences.

Once you have set up and programmed your sequence, you may use a SERIAL Link device to control the playback control of the timeline via RS232 or RS422.

Once the serial connection is set up, the following commands are valid:

(Play)

Sets the sequence state to play

(Pause)

Sets the sequence state to pause

(Stop)

Stops and rewinds the sequence

(CueID)

ID = enter number based on cue ID to jump to that cue directly

Example:

(Cue13), sets the timeline now-pointer to the time of cue 13

See further instructions in the [Serial Link Device Manual](#).

3.4.1.6 SENSOR LINK

The Sensor Link is a unique highspeed sensor interface that is designed to provide input signals from standard industrial encoders, distometers as well as analog potentiometers and contact closures.



3.4.1.6.1 Technical Features

From one unit there can be used simultaneously:

- 2x 12V [industrial encoder](#) inputs with internal or external reset (GPI) with 5-pin M12-Connectors,
- 2x 0-10V [analog inputs](#) and
- 8x GPI [contact closures](#)

Since the SensorLink is based on TCP/IP communication (outputs TCP/IP at variable frequency between 50 and 5000 Hz), multiple units can be used at the same time. The internal sample rate reads incoming data at 7 kHz to allow high resolution encoder inputs to be used for accurate motion sensing.



The front panel shows the Neutrik Ethernet input jack as well as the 4 pin XLR 12V power input.



On the rear side you will find the connection for encoders (E1 & E2, please use 5-pin M12-Connectors, Pin Connections: 1= +Volt, 2=B, 3=0Volt, 4=A, 5= N Index), analog devices (A1 & A2) and contact closures S1 – S8).

RESET

As the unit can be programmed for various encoder step count settings or remote rest indexing a reset button is provided to restore the factory settings of the unit.

STATUS LED

Three status LEDs give feedback information of the current state of the unit.

3.4.1.6.2 Connecting Encoders and Sensors

You may connect the following inputs to the Sensor Link Device:

- [Analog inputs with their own voltage supply of 0-10 Volt,](#)
- [Switch Inputs with or without their own voltage supply of 12 V,](#)
- [Incremental Encoders, using 5-pin M12-Connectors,](#)

Please never connect Pin 12 and Pin 1 as this could cause a short circuit!

DO NOT SHORT PINS 1 & 12

Pin 12 = +12v Pin 1 = Ground



3.4.1.6.2.1 Analog Inputs A1 and A2

Connect – to Ground and the gate input to A1 or A2. The sensor link will read out a voltage range of 0-10 Volt and will transfer this range in 512 steps.

Please make sure that you are using the same grounding in order not to get any potential equalization!

3.4.1.6.2.2 Switch Inputs S1 – S8

It is recommend to use potential-free relay contacts as triggers. Connect these to 12V and to one of the Switch Inputs S1-S8.

If you are using triggers with their own voltage supply (11-13 V) connect – to Ground and the gate input to one of the Switch Inputs S1-S8. Please make sure that you are using the same grounding in order not to get any potential equalization!

3.4.1.6.2.3 Encoder Inputs E1 and E2

You may connect incremental Encoders to input E1 or E2, using 5-pin M12-Connectors.

Pin assignment female connector:

Pin 1 = positive power supply, +12V or +24 V



Pin 2 = Pulse signal B

Pin 3 = negative power supply, Ground

Pin 4 = Pulse signal A

Pin 5 = Pulse signal N, Reset

Guideline for choosing the right Encoder:

In order to specify the right encoder for your application, a couple of parameters need to be determined first.

- What kind of encoder should it be? Hollow Shaft Encoder or Shaft Encoder

- The diameter of the axis where the encoder should be mounted to

- Minimal and maximal speed of the axis. Measured in rotations per second

In general you might say: the more steps the encoder has, the better is the result, BUT it is important to know that the coolux Sensor Link is limited to a maximum of 7000 steps per second.

If the encoder turns faster and generates more steps per second, the Sensor Link will lose track of the absolute step count of the encoder. This can lead to drifting and wrong values, if the Sensor Link is being used for accurate Screen Tracking.

To avoid this, it is recommended to specify an encoder that will run at a maximum amount of 6000 steps per second.

!!! Please be aware that 6000 steps are not equal to rotation per second or Pulses per Revolution!!! Due to the output circuit data of the encoder (which is a HTL) there are four shoulders for one circuit.

That means for example: An encoder with 1500 PPR (Pulses per Revolution) generates 6000 steps per second at one full rotation per second. (4x1500 PPR = 6.000 steps/sec.)

To choose the right encoder for your application you will also need to take into consideration the following:

Is there any further gear mounted on the device which is turning?

Is the shaft, where the rotation is coming from, bigger than the axis of the encoder?

This is why you need to know the environment of where the encoder is going to be used as well as how many rotations per second the axis of the encoder will be turning.

Sensor Link has been tested with Wachendorff Encoders (www.wachendorff.com).

You may get similar encoders from other manufacturers as well, but the naming of the different signals and product specifications may vary.

Here is an example of how to determine the right product code for a Wachendorff encoder suitable for Sensor Link.

Please Note:

All the encoders are custom-built. These are not stock items!

Example encoder: **WDG40S 360 ABN H24 SB5**

WDG40S - is the type of the encoder – here it means that it's a shaft encoder.

360 - is equal to 360 PPR (Pulses per Revolution)

ABN - is the channel type

H24 - determines an HTL Output circuit

SB5 - determines the connector type, for Sensor Link a 5-Pin, M12-sensor Connector

Although encoders can be ordered with a fixed mounted cable, this is not recommended for service flexibility.

The connection cable between encoder and Sensor Link is available in various lengths.

Below graphic shows an example from Wachendorff:

Ordering information: Please see our general technical data at: www.wachendorff-automation.com/gtd

Output circuit:				
Resolution PPR	Power supply VDC	Output circuit	Light reserve warning	Order Key
up to 2500	4.75 - 5.5	TTL	-	H05
		TTL, RS422 comp., inverted	-	R05
	10 - 30	HTL	-	H24
		HTL inverted	-	R24

Channels: AB, ABN (up to 2048 PPR)

Pulses per revolution PPR:
 4, 9, 10, 15, 20, 25, 28, 30, 36, 40, 50, 60, 90, 100, 120, 125, 128, 150, 160, 180, 200, 235, 250, 300, 314, 318, 360, 400, 500, 600, 625, 635, 720, 900, 1000, 1024, 1080, 1200, 1250, 1500, 1800, 2000, 2048, 2500.
 Other PPRs on request

Electrical connections:			
Order key	Outgoing	Description	ABN inv.
Cable: (Length 2 m standard)			
K1	radial	shield not connected (IP50)	•
K2	axial	shield not connected	•
L2		shield connected to encoder housing	•
K3	radial	shield not connected	•
L3		shield connected to encoder housing	•
Connector:			
SI5	axial	5-pin, connector	-
SI6	axial	6-pin, connector	-
SI8	axial	8-pin, connector	•
SI12	axial	12-pin, connector	•
S2	axial	7-pin, connector	-
SB4	axial	4-pin, M12-sensor-connector	-
SB5	axial	5-pin, M12-sensor-connector	-
SB8	axial	8-pin, M12-sensor-connector	•
SB12	axial	12-pin, M12-sensor-connector	•

Options:
 Empty = Without option
 ACA = Low-temperature -40 °C up to +80 °C
 AAC = Low-friction bearings
 AAO = Shaft sealed to IP67
 In decimetres = Cable length

Order No.:
 Example: WDG 40S 2500 ABN H24 K2
 Your encoder: WDG 40S 360 ABN H24 SB5

3.4.1.6.3 Sensor Link User Interface

The Sensor Link UI acts as the interpreter of the incoming data from a Sensor Link to a Pandoras Box Master System.

There are two different ways to use the Sensor Link to control the Pandoras Box Master software:

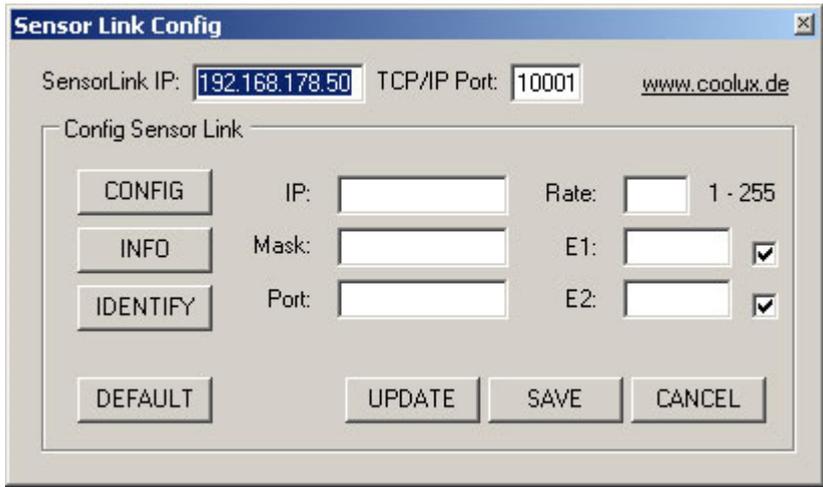
[- Using the Sensor Links Configuration Tool and the Widget Designer PRO \(recommended!\). This allows you to use the Sensor Link's whole functional range.](#)

[- Using the User Interface of the Sensor Link Software that will be delivered with the Sensor Link.](#)

3.4.1.6.3.1 Sensor Link Configuration Tool and Widget Designer PRO

For the best flexibility and to be able using the whole function range to control Pandoras Box we recommend using the Widget Designer as processing tool for the data coming from the Sensor Link.

Please start the Sensor Link Configuration Tool (can be downloaded here: <http://www.coolux.de/kb/phpBB3/viewtopic.php?f=96&t=482>).



To configure the Sensor Link device, please enter the Sensor Link IP address and port and press [CONFIG]. You may now change the IP or Encoder settings if necessary:

SensorLink IP and TCP/IP Port:
Enter here the Sensor Link's IP address and TCP/IP Port.

[CONFIG]:
Press [CONFIG] to switch the unit to configuration mode.

[INFO]:
Press [INFO] to download the current settings from the unit.

[IDENTIFY]
Press [IDENTIFY] to identify the units, the right LEDs will blink for 3 seconds.

Changing the Sensor Links Settings

[DEFAULT]
Press DEFAULT to load the default settings in the settings fields.

- IP:**
Please enter the new IP address that you want to assign to the unit here.
- MASK**
Please enter the new Subnet Mask that you want to assign to the unit here.
- PORT**
Please enter the new TCP/IP Port number that you want to assign to the unit here.
- RATE**

The Rate setting changes the transmission rate, the default of 14 is recommended as this is ~70 Hz refresh cycle in order to be ahead of any displays refresh cycle. Faster rates (<14) are possible but may cause your network or processor to slow down.

E1
Please set the step count of your encoder 1 here. If the encoder provides e.g. 1440 steps, enter 1439 because the counting starts with zero.

E1 Checkbox
If you need to use an external index GPI switch to reset the encoder 1 counter to 0 you may check this box and enable switch S7 to be the index switch.

E2
Please set the step count of your encoder 2 here. If the encoder provides e.g. 1440 steps, enter 1439 because the counting starts with zero.

E2 Checkbox

If you need to use an external index GPI switch to reset the encoder 2 counter to 0 you may check this box and enable switch S8 to be the index switch.

[UPDATE]:

Press [UPDATE] to upload the new settings to the unit.

[SAVE]:

Press [SAVE] to store the new settings in the unit.

[CANCEL]:

You may press [CANCEL] at any time to leave the config mode directly.

No access?

If you can not access the unit anymore, press the blue reset button for 5 seconds during power on.

The unit is set by default to

IP 192.168.178.50

Subnet 255.255.255.0

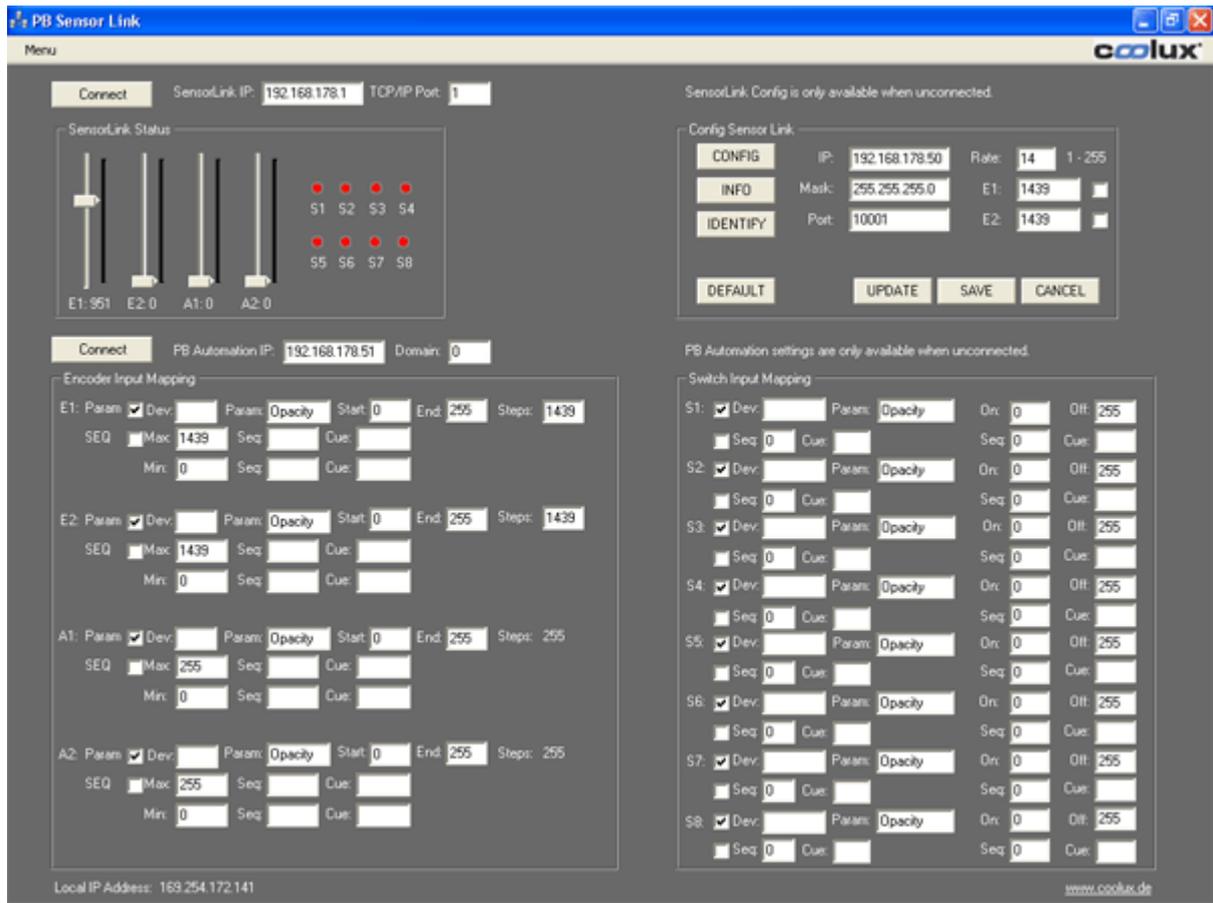
Port 10001

Important:

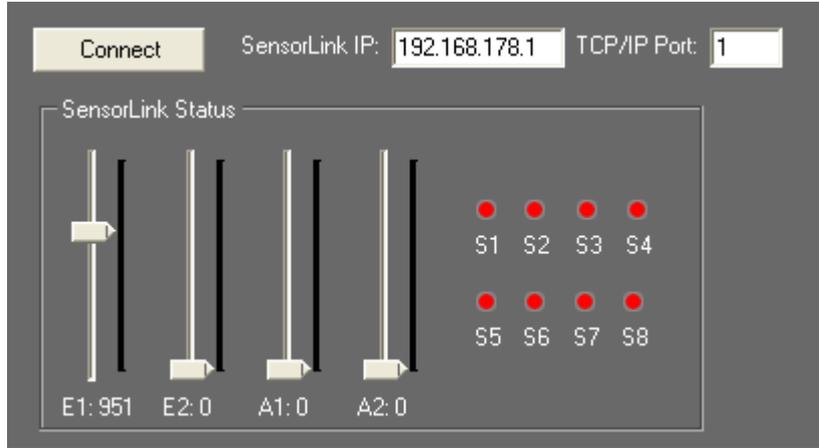
To use the Sensor Link now please powercycle the unit first!

If this setup is done you can start to read out and process the data coming from the Sensor Link Device. To do this create a [Sensor Link Input Node](#) and route the data to any filter or output nodes.

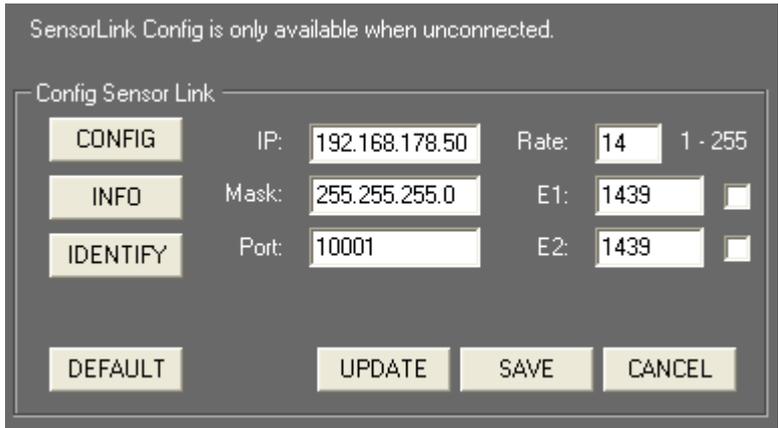
3.4.1.6.3.2 Sensor Link stand-alone Software



To configure the Sensor Link device, please enter the Sensor Link IP address and port in the top left fields, **do not press connect** at this time.



Press [CONFIG] in the ConfigSensor Link box.



[CONFIG]
 When [CONFIG] is pressed the left LED will blink and the Sensor link is switched to config mode.
[INFO]
 Press [INFO] to retrieve the current settings of the Sensor links into the settings fields.
[IDENTIFY]
 Press [IDENTIFY] to identify the units, the right LEDs will blink for 3 seconds.

Changing the Sensor Links Settings

[DEFAULT]
 Press [DEFAULT] to load the default settings in the settings fields.
IP
 Please enter the new IP address that you want to assign to the unit here.
MASK
 Please enter the new Subnet Mask that you want to assign to the unit here.
PORT
 Please enter the new TCP/IP Port number that you want to assign to the unit here.
RATE
 The Rate setting changes the transmission rate, the default of 14 is recommended as this is ~70 Hz refresh cycle in order to be ahead of any displays refresh cycle. Faster rates (<14) are possible but may cause your network or processor to slow down.
E1
 Please set the step count of your encoder 1 here.
E1 Checkbox
 If you need to use an external index GPI switch to reset the encoder 1 counter to 0 you may check this box and enable switch S7 to be the index switch.
E2
 Please set the step count of your encoder 2 here.
E2 Checkbox
 If you need to use an external index GPI switch to reset the encoder 2 counter to 0 you may check this box and enable switch S8 to be the index switch.

UPLOAD a new Configuration to Sensor Link

To upload new settings into the unit, press [UPDATE].

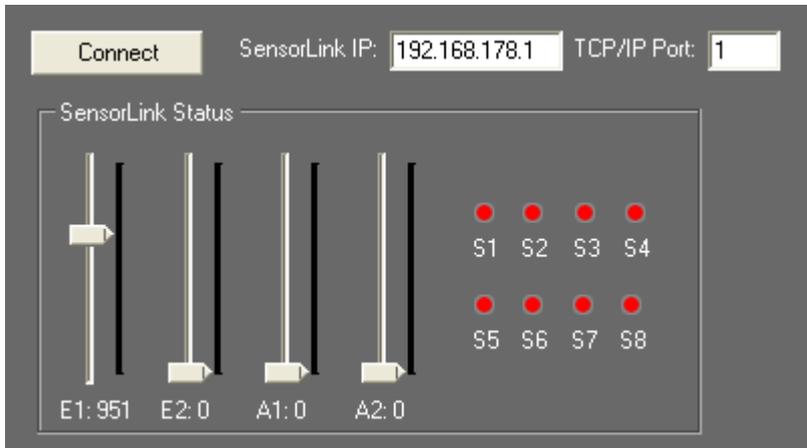
Press [SAVE] to store the new settings into the unit.
 The save process takes several seconds and will reboot the unit.

Once all LEDs light up again the unit exits config mode and is ready to being connected for data transmission.

You may press [CANCEL] at any time to leave the config mode directly.

RUN Mode

Once all settings are stored into the unit, you may connect to the Sensor Link device for data transmission by entering its IP address and port and pressing the [Connect] button.



If you do not know the current IP address, you might want to use the default IP 192.168.178.50 and Port 10001.

Please note that your PC must be in the same IP address range in order to communicate with the Sensor Link Device.

Once connected, you should be able to read the incoming values in the Sensor Link Status box. To check the switches, you may want to connect the 12V pin with any of the switch pins, the switch status S1-8 will turn green once the contact is closed.

Please do not short circuit the 12V (left most pin) with the ground pin (right most pin), this might damage the unit.

Triggering Pandoras Box from Sensor Link

In order to communicate with Pandoras Box, you need to define the function of the incoming data via Sensor Link.

For each Encoder and each switch you may choose between parameter and sequence trigger mode. Use the checkboxes to set each input up for the according mode.

Encoder and Analog Inputs

Connect PB Automation IP: Domain:

Encoder Input Mapping

E1: Param Dev: Param: Start: End: Steps:
 SEQ Max: Seq: Cue:
 Min: Seq: Cue:

E2: Param Dev: Param: Start: End: Steps:
 SEQ Max: Seq: Cue:
 Min: Seq: Cue:

A1: Param Dev: Param: Start: End: Steps:
 SEQ Max: Seq: Cue:
 Min: Seq: Cue:

A2: Param Dev: Param: Start: End: Steps:
 SEQ Max: Seq: Cue:
 Min: Seq: Cue:

Parameter Mode:

In Parameter Mode you may enter one or multiple devices to be linked to the incoming values.

Device Selection

To enter a single device like Server1 Layer 4 enter in the Dev field: "1,4".

To enter multiple devices, leave a space between each device like: "1,4 2,4 3,4" this setting will route all incoming data to layer 4 of machine one, two and three.

Parameter Setup

Please enter here the desired parameter name that you want to link to, like "Opacity" or "X Pos".

Start and End values

Please enter here the start and end value range that you want to map your incoming data to.

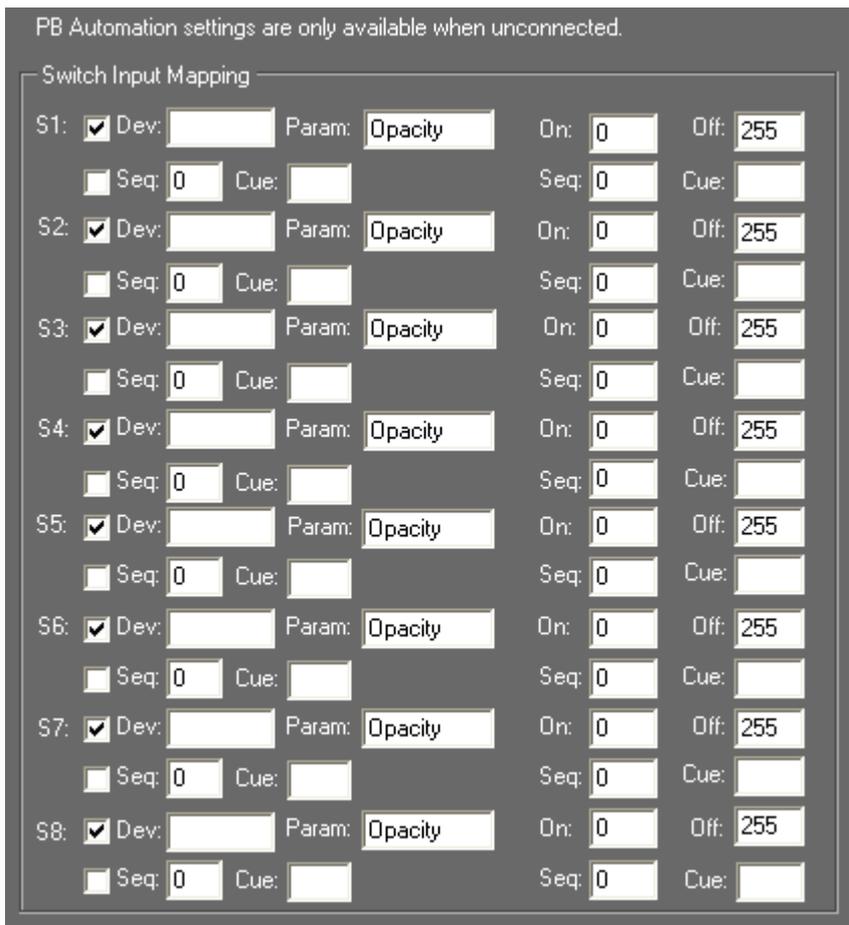
Steps

Please enter the amount of steps of your connected device (for encoders only). While the Encoder Step count is determined by the hardware connected to the Sensor Link, any analog input device can be read between 0-10V with a step count of 0-255.

Sequence Mode:

In sequence mode you may enter the desired sequence and cue to be triggered above or below the incoming min. and max. values of the connected Encoder or analog input device.

Switch Inputs



Switch inputs are handled similar to encoder inputs, besides the fact that you can setup only an on and off value in parameter mode. In sequence mode you may choose a sequence and cue separate for the on and off state of the switch.

Sensor Link Data Transmission to **Pandoras** Box

In order to connect to a Pandoras Box Master System your PC must be in the same IP address range and you will need to enter the Masters IP and Pandoras Box domain in the according setting fields and connect to Pandoras Box.



Please be aware that once the connection to **Pandoras** Box is enabled the Sensor Link user interface will **pause** all interface updates of faders and switch states for optimum live performance.

Resetting the Unit

To reset the Sensor Link, please press the reset button on the rear side of the unit and hold it for 5 sec while power-cycling:
 Power off the Serial, press the reset button, power it on again and hold the button for 5 sec pressed.

When the unit is reset the following settings will be set:
 IP: 192.168.178.50
 Subnet-Mask: 255.255.255.0

Port: 10001

Troubleshooting:

Problem: The incoming data comes in slowly and does not update fast enough.

Solution: Press cancel to exit config mode and reconnect to the Sensor Link unit or power-cycle the unit to exit config mode as well.

Problem: You caused a short circuit because of connecting Pin 12 (+12V) and Pin 1 (Ground).

Solution: There is an internal fuse inside the Sensor Link that has to be replaced. Please contact support@coolux.de

3.4.1.7 SMPTE INPUT

All Pandoras Box Manager, Server or Player products with timelines can send and receive LTC SMPTE via the USB SMPTE Link interface.



To connect the SMPTE Link please refer to [configuration tab](#).

Go to [Sequence Inspector](#) to set up send or receive mode.

The SMPTE Link Interface provides balanced signal transmission:

Pin1: ground

Pin2: signal

Pin3: signal

It does not matter which signal is +/-.

3.4.1.8 TCP/IP

If you need to interface with Pandoras Box via Ethernet, TCP/IP communication is there to enable you to remote control sequences and cues.

For external control you may create a TCP/IP server connection for each sequence that uses TCP/IP Port 23.

The packet data is formatted as follows:

FFh 00h 00h nn <data>

nn defines the virtual com port 00h, 01h, 02h or 03h that can be set in the serial device in Pandoras Box Manager, for direct IP communication without a Serial Link interface you may ignore these virtual port values.

Once the connection is set up, the following commands are valid:

(Play)

Sets the sequence state to play

(Pause)

Sets the sequence state to pause

(Stop)

Stops and rewinds the sequence

(CueID)

ID = enter number based on cue ID to jump to that cue directly

Example:

(Cue13) sets the timeline nowpointer to the time of cue 13.

3.4.1.9 UDP - PB AUTOMATION

For custom remote control application, PB Automation uses a UDP based ethernet protocol to allow you both sequence and device input control to all available devices within your project.

For more information about the integration and use of the PB Automation SDK please refer to the [SDK description](#).

3.4.2 OUTPUT PROTOCOLS

Pandoras Box showcontrol communication architecture allows various devices to be controlled via several industry standard protocols.

3.4.2.1 DMX OUTPUT

All Pandoras Box systems ship with an extensive library of DMX devices. You may access all built-in DMX devices from the device type library in the device type tab. Simply drag and drop the desired library into the device tree. Patch them by clicking on the patch tab and then by selecting the node that you want to patch. The DMX output patch is based on Artnet Subnet and Universe ID. You will need an optional DMX Link breakout box to output to DMX. Please make sure that all DMX ports are set up, according to your patch in your project file.

Please note:
 Until a key has been stored in a timeline, the DMX data will not be sent constantly. Only changes to DMX values will be sent over Art-Net. Resetting a DMX node will send all values at once.

Custom DMX Device Creation

A custom DMX library file can be created as a text file with Wordpad. The file needs an extension called ".clib" and needs to be stored in the installation folder of the Master under: "data\types\DMX Fixtures"

Please find here an example of a DMX .clib file for a Martin MAC500:

```
<?xml encoding="yes" ?>
<descripDevice type="fixtureDmx" artNetIndexScope="16">
  <descripModule type="param8bit" name="STROBE" default="34" artNetIndexOff="0" />
  <descripModule type="param8bit" name="DIM" default="0" artNetIndexOff="1" />
  <descripModule type="param8bit" name="COLOR1" default="0" artNetIndexOff="2" />
  <descripModule type="param8bit" name="COLOR2" default="0" artNetIndexOff="3" />
  <descripModule type="param8bit" name="GOBO1" default="0" artNetIndexOff="4" />
  <descripModule type="param8bit" name="GOBO1 ROT" default="0" artNetIndexOff="5" />
  <descripModule type="param8bit" name="GOBO2" default="0" artNetIndexOff="6" />
  <descripModule type="param8bit" name="FOCUS" default="50" artNetIndexOff="7" />
  <descripModule type="param8bit" name="IRIS" default="0" artNetIndexOff="8" />
  <descripModule type="param8bit" name="PRISMA1" default="0" artNetIndexOff="9" />
  <descripModule type="param16bit" name="PAN" default="32768" artNetIndexOff="10" />
  <descripModule type="param16bit" name="TILT" default="32768" artNetIndexOff="12" />
  <descripModule type="param8bit" name="SPEED1" default="0" artNetIndexOff="14" />
  <descripModule type="param8bit" name="SPEED2" default="0" artNetIndexOff="15" />
</descripDevice>
```

As you can see, the first line gives the general description of the device and the overall DMX channel count "artNetIndexScope=". The following lines describe each DMX channel of the fixture by a zero based offset of the DMX channel count at the end of each line by "artNetIndexOff=". # You may also choose the type of parameters "param8bit" or "param16bit" as well as setting the descriptive name and reset and default value.

3.4.2.2 DMX LINK 8

The DMX link 8 converts up to 10 DMX universes to Ethernet (ArtNet protocol). Backwards, 8 DMX universes can be converted from ArtNet to DMX.

Furthermore it can be used stand alone as a universal programming digital merger (ex. 2 in 8 out) or splitter (ex. 2 splitters of 1 in to 4 out). Saving the lastly received signal DMX signal in the unit, it also acts as a perfect backup (ex. 4 in 4 out).



FEATURES

- Remote programming and monitoring
- DMX input options like Normal or Backup
- DMX output options like Normal, Merging in HTP/LTP or custom /Priority merging, Merging with channel by channel softpatch
- Remote takeover of fixture parameters
- Visualizer input support like WYSIWYG, ESP, Capture and many others

Please see the [DMX Link 8 Device Manual](#) for further information.

3.4.2.3 SERIAL LINK

The serial control will give you access and control to most routing switchers, projectors, shutters or other device parameters that are remote controllable via the common RS 232 and 422 serial protocols.

In order to control external serial devices over RS 232 or RS 422 you will need to add a serial link device to the device tree. Any serial ASCII or hex string can be stored and copied to any point in the timeline. It can be recalled at any time the timecursor hits the stored serial key. Once you set the first key you can assign the IP address and port ID in the keys properties as well as the ASCII or hex command for that key.

You will need a serial link device to receive and output serial commands.

See further instructions in the [Serial Link Device Manual](#).

3.4.2.4 SPARK

for WINDOWS XP (Microsoft .Net 2 Runtime must be installed)

Spark offers you various remote control over external applications as well as standalone Windows XP PCs.

Spark is designed to be connected to any Pandoras Box timeline as a Serial Link TCP IP device.

Spark can be used for remote controlling applications, mouse and keyboard actions as well as displaying full-screen video playback and webpage presentations among many other useful remote control features.

Pandoras Box Spark is available from the coolux website as freeware download www.coolux.de . To get started, install Spark on the desired PC that you want to control (Spark can be accessed also on the same machine that runs Pandoras Box)

COMMAND LIST

See here an overview of remote control features offered by Spark:

COMPORT ASCII COMMUNICATION
SYSTEM COMMANDS - Shutdown & Reboot
WEBBROWSER (Fullscreen)
SOUND COMMANDS
VIDEO PLAYER (Fullscreen)
APPLICATION COMMANDS
KEYBOARD EVENTS
MOUSE EVENTS
DESKTOP FADE TO BLACK -BETA
WAKE ON LAN
PB AUTOMATION REMOTE CONTROL

Please see [Spark](#) for detailed information.

3.4.2.5 SMPTE OUTPUT

All Pandoras Box Manager, Server or Player products with timelines can send and receive LTC SMPTE via the USB SMPTE Link interface.



To connect the SMPTE Link please refer to [configuration tab](#).
Go to [Sequence Inspector](#) to set up send or receive mode.

The SMPTE Link Interface provides balanced signal transmission:

Pin1: ground
Pin2: signal
Pin3: signal

It does not matter which signal is +/-.

3.4.2.6 TCP/IP

For TCP/IP output you may use the Serial Link device which can be found in the device type library in the device type tab.

Since the Serial Link device uses a direct TCP/IP communication, you will need to switch off 'Use Serial Link header' in the inspector tab if you want to send TCP/IP packets to a projector or any TCP/IP device.

Please note:

To ensure a communication, please check the TCP/IP port settings in the Serial Link device inspector. Otherwise the Serial Link TCP/IP device cannot connect to an external TCP/IP server.

3.5 NETWORK & SYNCHRONIZATION

Pandoras Box Systems rely on a dedicated network architecture that enables fast filesharing and management as well as a proprietary frame adaptive network video-synchronization.

3.5.1 NETWORK SETUP

To run Pandoras Box Server over Ethernet, the IP setup of your system is essential. The coolux **MediaNet** allows you to link any Pandoras Box product together via MediaNet (this feature is disabled in standalone mode). The MediaNet takes care of the synchronization of the units and allows you to remote control and share files via Ethernet within the Pandoras Box software.

Art-Net is available as an open industry standard DMX protocol via Ethernet. It allows transporting multiple DMX universes on a single Ethernet link. Therefore the protocol offers subnets and IDs that a DMX universe can be assigned to. If your controller does not support Art-Net natively, you might use an Art-Net converter, which converts standard DMX signals into Art-Net. They are available i.e. from Artistic Licence or ELC.

Since Art-Net is sending UDP packets, this may slow down regular computer networks for office use. It could also interfere with ongoing downloads that may result in dropping DMX frames that will cause image jittering.

So please make sure that Art-Net runs on a separate network that is not connected to "normal" computer network or internet.

SYNCHRONIZATION

The way Pandoras Box synchronizes all control data for vector calculations as well as for video playback has been optimized, so that you simply have to set up a project that contains all connected units in the network.

Therefore one unit acts as a Master while all other units connected to it become Clients. A Client is fully independent. The unit gets its resource and control data from the Master system only. In the project you may define which resources should be assigned to which Client. At the same token, the Master system will automatically take care of the full synchronization of all motion and video-only data. Even if you encounter a performance drop on one of the machines, it will catch up once the necessary resources are available.

IP CONFIGURATION

For a proper network communication and bandwidth, we strictly recommend setting up standalone local area networks.

To receive MediaNet or Art-Net with your Pandoras Box Server, any firewall needs to be switched off! By factory default the internal Windows firewall is switched off! When building up the network-link you may either use straight peer-to-peer connection with a crosslink cable or use regular network cables in conjunction with an Ethernet hub or switch.

Please note:

Some switchers and routers include filtering or even a firewall that won't let MediaNet or Art-Net data through.

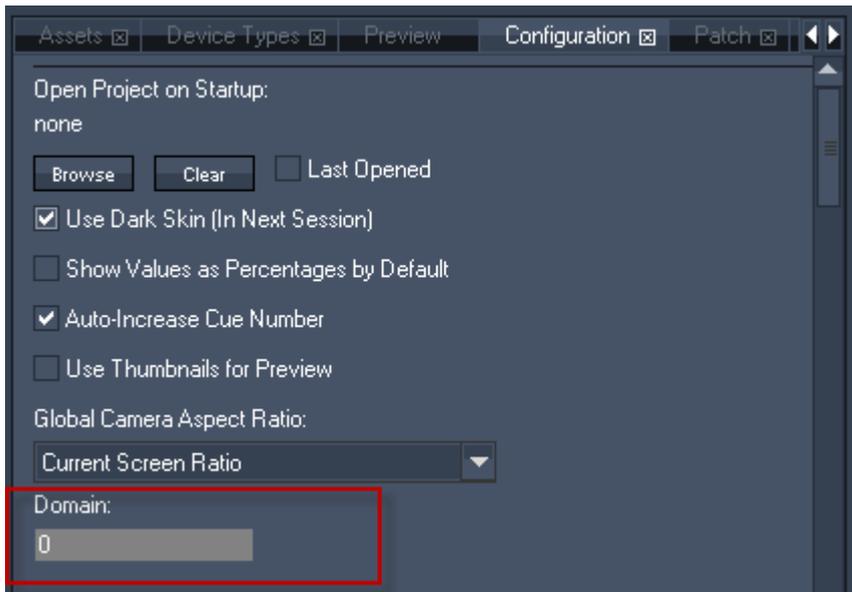
The IP address of your Pandoras Box Server needs to be set in the range of 2.xxx.xxx.xxx with the submask 255.0.0.0 .



The IP address can be changed in the properties of the network connection. You may also use Art-Net with a DHCP server that sets all IP in the same 2.xxx.xxx.xxx address range.

3.5.2 MASTER / CLIENT REMOTE SETUP

To link multiple Pandoras Box playback systems via network, the system needs to be set up in a Master/Client configuration. You can run one Pandoras Box Server as a Master and start the Pandoras Box Client on all other machines that you want to link together. There will be only one single project that you create on the Master which will hold all information about the resource media files used on the network. It is important to know that each Master and Client needs to have a dedicated IP address in the 2.xxx.xxx.xxx range with a subnetmask 255.0.0.0. Any Master/Client setup relies on a unique domain ID which is the network session that all units share via Ethernet. In case that you do not have any connectivity please check first if all clients as well as the master have the same domain ID. The domain can be set in the configuration tab in the Master.



When the systems are set up in Master/Client Mode, all control parameters are automatically sent via MediaNet.

MediaNet takes care of the clock-synchronization of all machines within the project and sends all incoming control-data like DMX or Art-Net in sync to the Clients.

Please note:

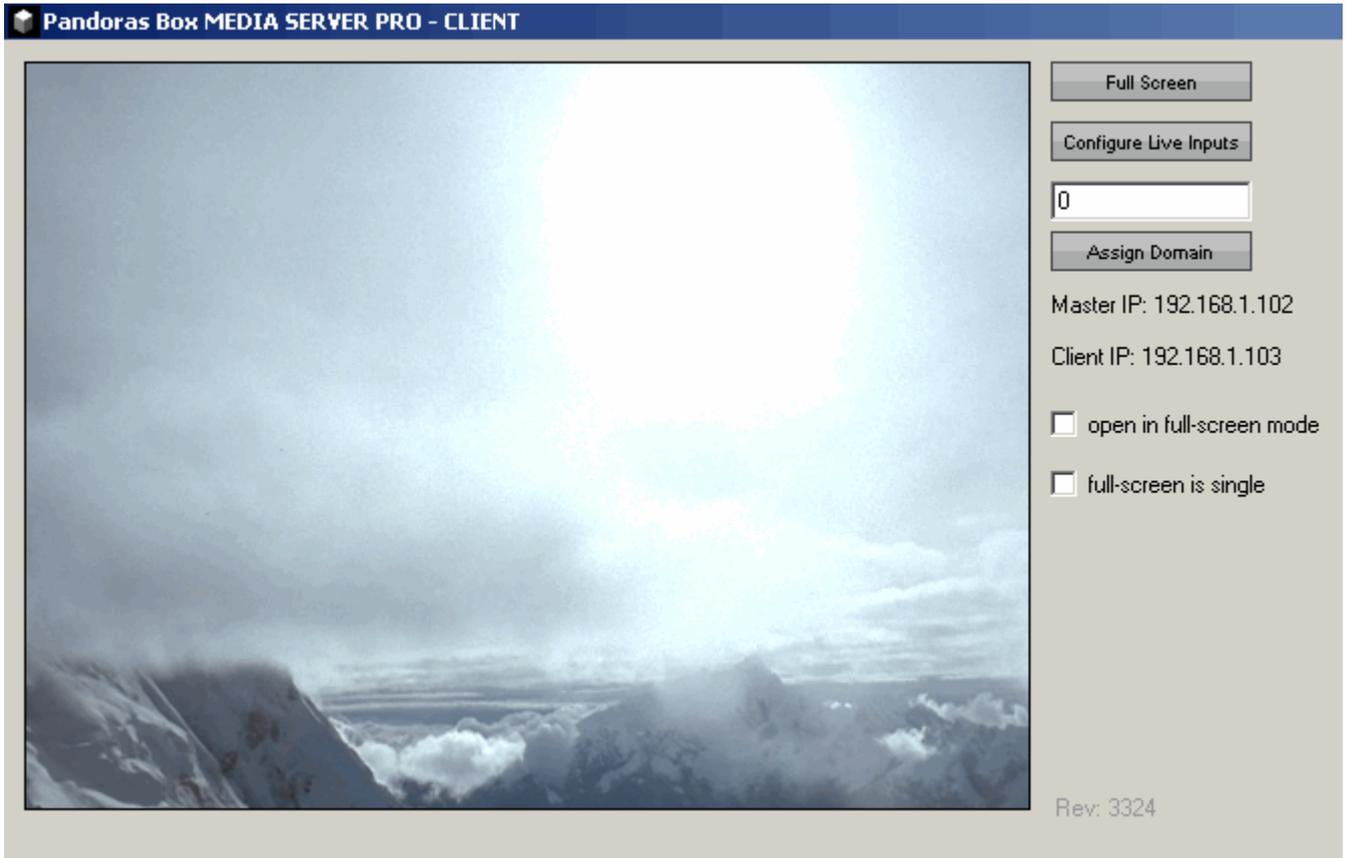
When working in Master/Client Mode, all connected units must be of the same software revision.

Please check the Rev. No. in the bottom right corner of the Master and the main window of the Client.

Important video synchronization and encoding information:

In order to playback videos across multiple systems in sync, the video files must be encoded without audio. For best performance we recommend to encode **MPEG2 Elementary Video Files Only!**

Once you start the Pandoras Box Client, you will see the domain entry on the main screen.



A client does not necessarily need to be another server. Any other Pandoras Box Playback System can be connected as a Client to a Master-System.

After the domain is set up, you should see all the Clients in the asset browser of the Master and the Clients should display their Masters IP instead of “not connected”.

To assign a Client to the Master-Project, take the units by clicking on the root node in the asset browser and dragging it into the device tree tab.

Now the Client is in the project and files can be transferred across the network.

To share all file resources, you simply use the ‘spread’ or ‘spread all’ resources button in the inspector tab of the files and folders.

Please note:

When re-starting the project on the Master with unconnected Clients, they will show up with a red“!”. Once the Clients are started, they will automatically reconnect to the master and load their files.

If you want to assign a client that is not connected to the network yet, you can also choose the Pandoras Box Client type from the device types tab and drag it into the project from there. Once the unit will be present on the network, make sure that you set the correct IP address in the Clients properties in order to be connected to the Master.

3.5.3 VIDEO SYNCHRONISATION

Pandoras Box Systems offer a network based automatic frame adaptive video synchronization. No matter the input protocol, once a Master/Client setup is set up, all control data that is sent across the network via Pandoras Box MediaNet will be processed in sync on all connected Client machines. A few words about video synchronization and timecode sync:

In order to deliver a frame accurate synchronization all connected Client systems synchronize themselves with the Master at any time.

This means that - independent from running sequences videos that are played back in play loop - freewheel mode will stay in sync with each other.

This is also important for external input protocols that do not provide a synchronization method like DMX, GPI or many others.

The remote input protocol commands are collected as a series of commands on the Master unit and then processed in sync to the Master's time clock for each configuration.

It also very important, when video synchronization should be used, that all videos are used as elementary video files only, otherwise the embedded audio will disconnect the video sync and sync to the audio only.

This is important for content production and encoding: If you want to playback audio files in sync to an entire network system, the audio files must be played back through the sonic emotion audio device built into every Master system.

The sonic emotion real-time audio player and time synchronizer ensures that all audio files that are played back through dedicated audio track will stay in sync with the Masters time clock.

4 PB AUTOMATION SDK

PB Automation is a software development kit (SDK) for 3rd party integration. PB Automation can be easily implemented in Microsoft Powerpoint, Excel or Access macros.

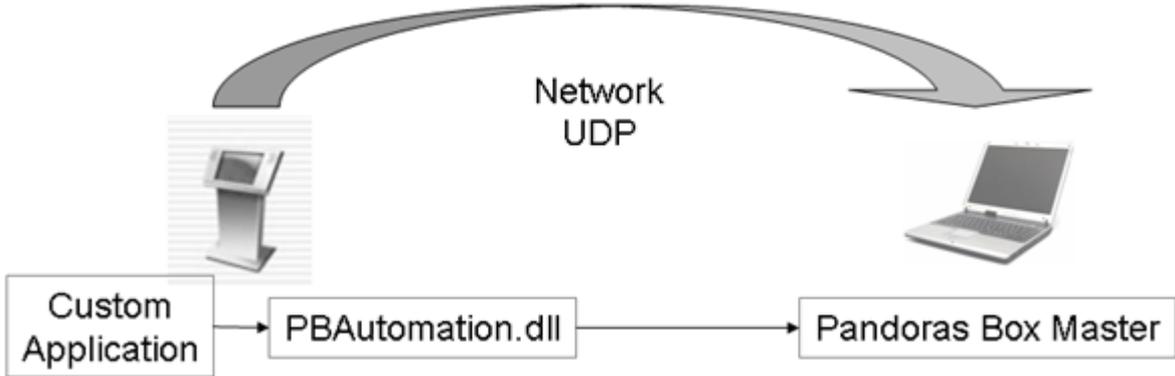
The SDK provides direct access to all sequence controls as well as all device parameters, effects and presets. An unlimited amount of PB Automation clients can be created to talk to multiple Pandoras Box control systems.

With PB Automation custom integration with 3rd party software can quickly be realized with common programming languages such as Visual Basic scripts as well C# and C++.

coolux offers individual training and custom applications on demand. For more information about the integration and use of the PB Automation SDK please refer to the following pages: [Overview](#), [Functions](#) and [Sample Code](#).

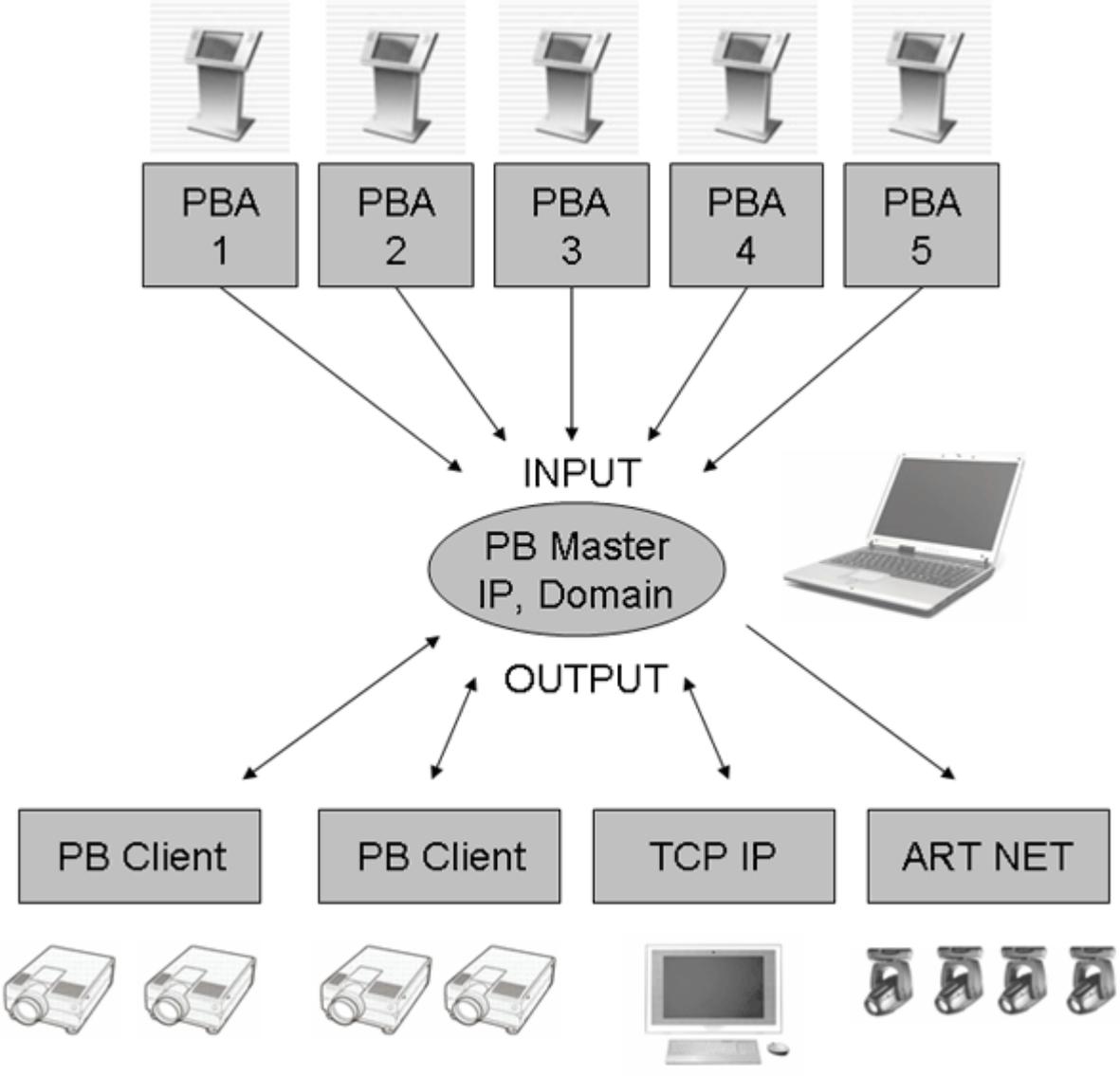
4.1 OVERVIEW

Pandoras Box Automation is a software API for remote control applications. PB Automation is provided as a .dll file that lets you communicate via any C#, VB or most other programming languages with a Pandoras Box Master system. The communication is based on UDP so that a remote application can co-exist on the same computer as Pandoras Box or access features of Pandoras Box via ethernet from any computer in the network.

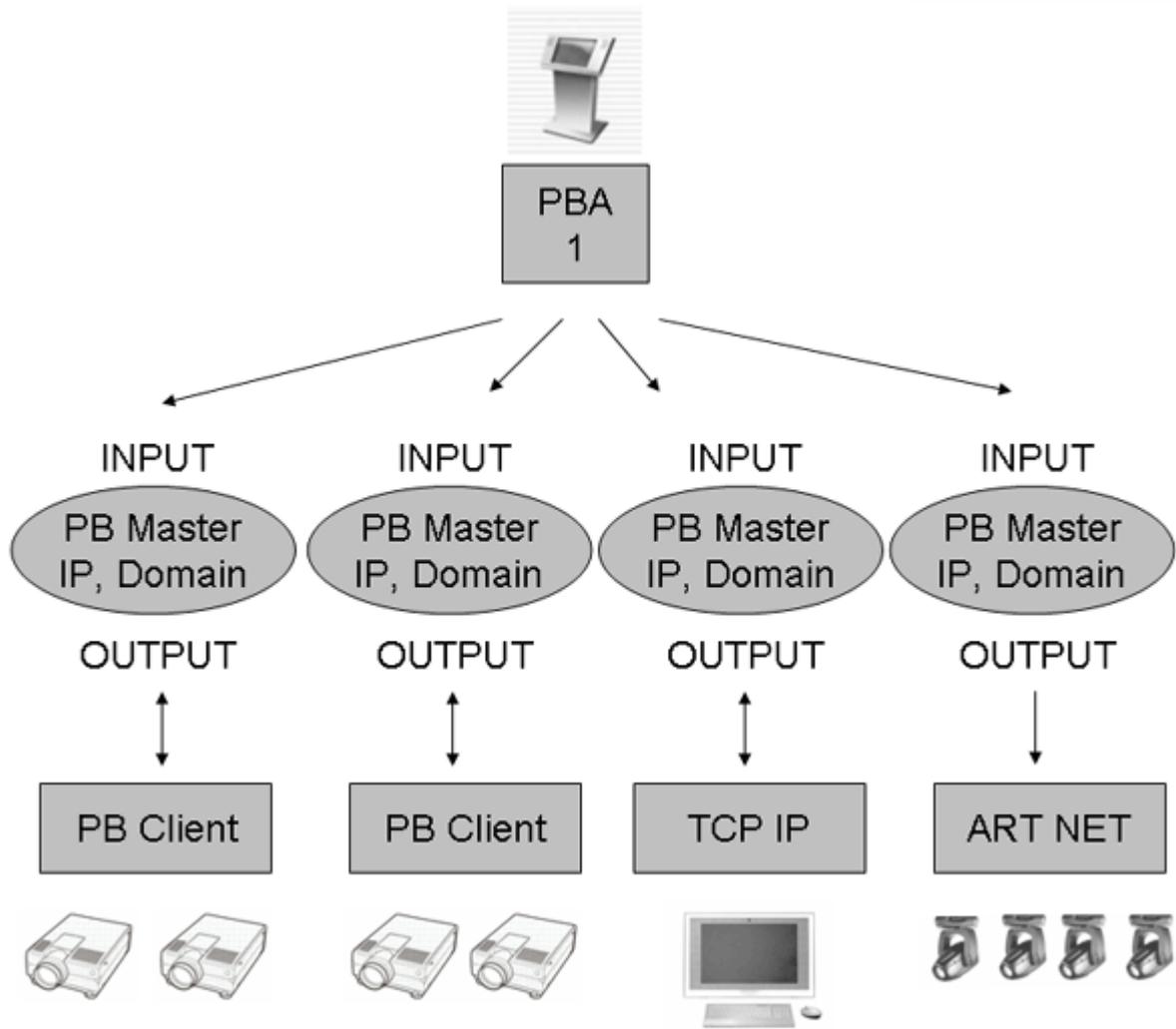


Via PB Automation you may access any device parameter value as well as full sequence control. This way almost any control scenario can be accessed from an outside application. Imagine you want to use multiple touchscreen interfaces for clients to interact with a programmed show. With PB automation you could launch several instances of the same application and talk to the same Pandoras Box system at the same time. Due to the UDP communication, multiple units talk in LTP mode (latest takes precedence) to one or multiple Pandoras Box Master units in the same network. PB Automation is free to use on as many PCs as your project requires to remote control Pandoras Box.

EX1: Multiple PB Automation Applications control a single Pandoras Box Master



EX2: A Single PB Automation Application controls multiple Pandoras Box Masters based on IPs and domains



4.2 FUNCTIONS

Sending Commands:

Initialize communication to Pandoras Box Master based on its IP address and domain number.

Use any function in the desired order to set either device or sequence controls.

Terminate the communication if your program ends or if you wish to start a communication to a different Pandoras Box Master.

If you want to communicate with a single Pandoras Box Master system only, you need to initiate the communication only once at the start (i.e. load event) and then close the communication at the end (i.e. closing event) of your application.

Communication, Start and End:

[AutoInitialize \(ByVal IPaddress As String, ByVal domainNumber As Integer\)](#)

[AutoUnInitialize\(\)](#)

Device and Sequence Control:

[AutoSetParam \(ByVal siteNum As Integer, ByVal deviceNum As Integer, ByVal paramName As String, ByVal value As Integer\) As Boolean](#)

AutoSetParamRelative (ByVal siteNum As Integer, ByVal deviceNum As Integer, ByVal ParamName As String, ByVal value As Integer) As Boolean

AutoAssignMesh (ByVal siteNum As Integer, ByVal deviceNum As Integer, ByVal dmxFolderId As Integer, ByVal dmxId As Integer) As Boolean

AutoAssignMedia (ByVal siteNum As Integer, ByVal deviceNum As Integer, ByVal dmxFolderId As Integer, ByVal dmxId As Integer) As Boolean

[AutoActivateAll \(\) As Boolean](#)

[AutoActivateSite \(ByVal siteNum As Integer\) As Boolean](#)

[AutoActivateDevice \(ByVal siteNum As Integer, ByVal deviceNum As Integer\) As Boolean](#)

[AutoActivateParam \(ByVal siteNum As Integer, ByVal deviceNum As Integer, ByVal ParamName As String\) As Boolean](#)

[AutoClearAllActive \(\) As Boolean](#)

[AutoClearActiveSite Lib \(ByVal siteNum As Integer\) As Boolean](#)

[AutoClearActiveDevice \(ByVal siteNum As Integer, ByVal deviceNum As Integer\) As Boolean](#)

[AutoClearActiveParam \(ByVal siteNum As Integer, ByVal deviceNum As Integer, ByVal ParamName As String\) As Boolean](#)

[AutoResetAll \(\) As Boolean](#)

[AutoResetSite \(ByVal siteNum As Integer\) As Boolean](#)

[AutoResetDevice \(ByVal siteNum As Integer, ByVal deviceNum As Integer\) As Boolean](#)

[AutoResetParam \(ByVal siteNum As Integer, ByVal deviceNum As Integer, ByVal ParamName As String\) As Boolean](#)

AutoMoveSequenceToTime (ByVal sequenceNum as Integer, ByVal hours as Integer, ByVal minutes as Integer, ByVal seconds as Integer, ByVal frames as Integer) As Boolean

AutoMoveSequenceToCue (ByVal sequenceNumber As Integer, ByVal cueId As Integer) As Boolean

AutoMoveSequenceToLastNextCue (ByVal sequenceNum As Integer, ByVal isNext As Boolean) As Boolean

AutoMoveSequenceToLastNextFrame (ByVal sequenceNum As Integer, ByVal isNext As Boolean) As Boolean

AutoSetSequenceTransportMode (ByVal sequenceNum As Integer, ByVal modeName As String) As Boolean

AutoSetSequenceTransparency (ByVal sequenceNum As Integer, ByVal transparency As Integer) As Boolean

AutoSetSequenceCuePlayMode (ByVal sequenceNum As Integer, ByVal cueDI As Integer, ByVal

playMode As Integer) As Boolean

AutoSetNextSequenceCuePlayMode (ByVal sequenceNum As Integer, ByVal playMode As Integer) As Boolean

AutoSetIgnoreNextSequenceCue (ByVal sequenceNum As Integer, ByVal dolgnore as Boolean) As Boolean

[AutoStoreActive \(ByVal seqNum As Integer\) As Boolean](#)

[AutoStoreActiveToTime \(ByVal seqNum As Integer, ByVal hours As Integer, ByVal minutes As Integer, ByVal seconds As Integer, ByVal frames As Integer\) As Boolean](#)

[AutoSetContentAtTime \(ByVal siteNum As Integer, deviceNum As Integer, SeqNum As Integer, hours As Integer, minutes As Integer, seconds As Integer, frames As Integer, folderId As Integer, fileId As Integer\) As Boolean](#)

[AutoCreateTextInput \(ByVal folderId As Integer, ByVal fileId As Integer, ByVal Text As String\) As Boolean](#)

[AutoCreateTextInputWide \(ByVal folderId As Integer, ByVal fileId As Integer, ByVal Text As String\) As Boolean](#)

AutoSetText (ByVal folderId As Integer, ByVal fileId As Integer, ByVal Text As String) As Boolean

[AutoSetTextWide Lib "PandorasAutomation.dll" \(ByVal folderId As Integer, ByVal fileId As Integer, ByVal Text As String\) As Boolean](#)

[AutoSetTextTextureSize Lib "PandorasAutomation.dll" \(ByVal dmxFolderID As Integer, ByVal dmxId As Integer,ByVal width As Integer,ByVal height As Integer\) As Boolean](#)

[AutoSetTextProperties \(ByVal dmxFolderID As Integer, ByVal dmxId As Integer,ByVal pFont As Character,ByVal size As Integer, ByVal style As Integer, ByVal alignment As Integer, ByVal colorRed As Integer, ByVal colorGreen As Integer, ByVal colorBlue As Integer\)](#)

[AutoSetTextCenterOnTexture \(ByVal dmxFolderID As Integer, ByVal dmxId As Integer,ByVal centerOnTexture As Boolean\)](#)

AutoAddContent (ByVal FileName As String, ByVal siteNum As Integer, ByVal folderId As Integer, ByVal fileId As Integer) As Boolean

AutoAddContentFromLocalNode (ByVal FileName As String, ByVal siteNum As Integer, ByVal folderId As Integer, ByVal fileId As Integer) As Boolean

[AutoSpreadAll \(\) As Boolean](#)

[AutoSpreadMediaById \(ByVal folderId As Integer, ByVal fileId As Integer\) As Boolean](#)

[AutoSpreadMeshById \(ByVal FolderId As Integer, ByVal fileId As Integer\) As Boolean](#)

[AutoSetMediaFrameBlendingById \(ByVal folderId As Integer, ByVal fileId As Integer, ByVal frameBlended As Boolean\) As Boolean](#)

[AutoSetMediaDeinterlacingById \(ByVal folderId As Integer, ByVal fileId As Integer, ByVal deinterlacer As Integer\) As Boolean](#)

[AutoSetMediaAnisotropicFilteringById \(ByVal folderId As Integer, ByVal fileId As Integer, ByVal](#)

[useFiltering As Boolean\) As Boolean](#)

[AutoSetMediaUnderscanById \(ByVal folderId As Integer, ByVal fileId As Integer, ByVal useUnderscan As Boolean\) As Boolean](#)

[AutoSetMediaMpegColourSpaceById \(ByVal folderId As Integer, ByVal fileId As Integer, ByVal useMpegColourSpace As Boolean\) As Boolean](#)

[AutoSetMediaAlphaChannelById \(ByVal folderId As Integer, ByVal fileId As Integer, ByVal useAlphaChannel As Boolean\) As BooleanAutoRemoveInconsistent \(\) As Boolean](#)

[AutoRemoveMediaById \(ByVal folderId As Integer, ByVal fileId As Integer\) As Boolean](#)

[AutoRemoveMeshById \(ByVal folderId As Integer, ByVal fileId As Integer\) As Boolean](#)

[AutoToggleFullscreen \(ByVal siteNum As Integer\) As Boolean](#)

[AutoChangeFullscreenStateById \(ByVal siteNum As Int, ByVal enterFullscreen As Boolean\) As Boolean](#)

[AutoChangeFullscreenStateByIp \(ByVal plp As Char, ByVal enterFullscreen As Boolean\) As Boolean](#)

[AutoSaveProject \(\) As Boolean](#)

4.2.1 AutoInitialize

AutoInitialize (ByVal IPaddress As String, ByVal domainNumber As Integer)

Visual Basic (Declaration)

```
Public Declare Sub AutoInitialize Lib "PandorasAutomation.dll" (ByVal ipString As String, ByVal domainNumber As Integer)
```

Visual Basic (Usage)

```
AutoInitialize ("2.0.0.1",0)
```

Connects to Pandoras Box Master System on IP Address 2.0.0.1 and Domain 0.

4.2.2 AutoUnInitialize

AutoUnInitialize()

Visual Basic (Declaration)

```
Public Declare Sub AutoUnInitialize Lib "PandorasAutomation.dll" ()
```

Visual Basic (Usage)

```
AutoUnInitialize ()
```

Disconnects from any Pandoras Box Master System.

4.2.3 AutoSetParam

AutoSetParam (ByVal siteNum As Integer, ByVal deviceNum As Integer, ByVal paramName As String, ByVal value As Integer) As Boolean

Visual Basic (Declaration)

```
Public Declare Function AutoSetParam Lib "PandorasAutomation.dll" (ByVal siteNum As Integer, ByVal deviceNum As Integer, ByVal paramName As String, ByVal value As Integer) As Boolean
```

Visual Basic (Usage)

```
AutoSetParam (1,2,X Pos,32900)
```

Sets the X Position of Server 1, Layer 2 to the value 32900.

4.2.4 AutoSetParamRelative

AutoSetParamRelative (ByVal siteNum As Integer, ByVal deviceNum As Integer, ByVal paramName As String, ByVal value As Integer) As Boolean

Visual Basic (Declaration)

```
Public Declare Function AutoSetParamRelative Lib "PandorasAutomation.dll" (ByVal siteNum As Integer, ByVal deviceNum As Integer, ByVal paramName As String, ByVal value As Integer) As Boolean
```

Visual Basic (Usage)

```
AutoSetParam (1,2,Opacity,100)
```

Adds the value 100 to the parameter Opacity of Server 1, Layer 2.

4.2.5 AutoAssignMesh

AutoAssignMesh (ByVal siteNum As Integer, ByVal deviceNum As Integer, ByVal dmxFolderId As Integer, ByVal dmxId As Integer) As Boolean

Visual Basic (Declaration)

```
Public Declare Function AutoAssignMesh Lib "PandorasAutomation.dll" (ByVal siteNum As Integer, ByVal deviceNum As Integer, ByVal dmxFolderId As Integer, ByVal dmxId As Integer) As Boolean
```

Visual Basic (Usage)

```
AutoAssignMesh (1,3,2,4)
```

Assigns the mesh with the File and Folder ID 2,4 to layer 3 of server 1.

4.2.6 AutoAssignMedia

AutoAssignMedia (ByVal siteNum As Integer, ByVal deviceNum As Integer, ByVal dmxFolderId As Integer, ByVal dmxId As Integer) As Boolean

Visual Basic (Declaration)

Public Declare Function AutoAssignMedia Lib "PandorasAutomation.dll" (ByVal siteNum As Integer, ByVal deviceNum As Integer, ByVal dmxFolderId As Integer, ByVal dmxId As Integer) As Boolean

Visual Basic (Usage)

AutoAssignMedia (1,3,2,4)

Assigns the media file with the File and Folder ID 2,4 to layer 3 of server 1.

4.2.7 AutoActivateAll

AutoActivateAll () As Boolean

Visual Basic (Declaration)

Public Declare Function AutoActivateAll Lib "PandorasAutomation.dll" () As Boolean

Visual Basic (Usage)

AutoActivateAll ()

Activates all parameters of all layers of all servers within the Pandoras Box Project.

4.2.8 AutoActivateSite

AutoActivateSite (ByVal siteNum As Integer) As Boolean

Visual Basic (Declaration)

Public Declare Function AutoActivateSite Lib "PandorasAutomation.dll" (ByVal siteNum As Integer) As Boolean

Visual Basic (Usage)

AutoActivateSite (1)

Activates all parameters of all layers of site 1 within the Pandoras Box Project.

4.2.9 AutoActivateDevice

AutoActivateDevice (ByVal siteNum As Integer, ByVal deviceNum As Integer) As Boolean

Visual Basic (Declaration)

Public Declare Function AutoActivateDevice Lib "PandorasAutomation.dll" (ByVal siteNum As Integer, ByVal deviceNum As Integer) As Boolean

Visual Basic (Usage)

AutoActivateDevice (1,3)

Activates all parameters of layer 3 of site 1 within the Pandoras Box Project.

4.2.10 AutoActivateParam

AutoActivateParam (ByVal siteNum As Integer, ByVal deviceNum As Integer, ByVal ParamName As String) As Boolean

Visual Basic (Declaration)

Public Declare Function AutoActivateParam Lib "PandorasAutomation.dll" (ByVal siteNum As Integer, ByVal deviceNum As Integer, ByVal ParamName As String) As Boolean

Visual Basic (Usage)

AutoActivateParam (1,3,X Scale)

Activates the parameters X Scale of layers 3 of site 1 within the Pandoras Box Project.

4.2.11 AutoClearAllActive

AutoClearAllActive () As Boolean

Visual Basic (Declaration)

Public Declare Function AutoClearAllActive Lib "PandorasAutomation.dll" () As Boolean

Visual Basic (Usage)

AutoClearAllActive ()

Clears all active parameters of all layers of all servers within the Pandoras Box Project.

4.2.12 AutoClearActiveSite

AutoClearActiveSite Lib (ByVal siteNum As Integer) As Boolean

Visual Basic (Declaration)

Public Declare Function AutoClearActiveSite Lib "PandorasAutomation.dll" (ByVal siteNum As Integer) As Boolean

Visual Basic (Usage)

AutoClearActiveSite (1)

Clears all active parameters of all layers of site 1 within the Pandoras Box Project.

4.2.13 AutoClearActiveDevice

AutoClearActiveDevice (ByVal siteNum As Integer, ByVal deviceNum As Integer) As Boolean

Visual Basic (Declaration)

Public Declare Function AutoClearActiveDevice Lib "PandorasAutomation.dll" (ByVal siteNum As Integer, ByVal deviceNum As Integer) As Boolean

Visual Basic (Usage)

411

AutoClearActiveDevice (1,3)

Clears all active parameters of layer 3 of site 1 within the Pandoras Box Project.

4.2.14 AutoClearActiveParam

AutoClearActiveParam (ByVal siteNum As Integer, ByVal deviceNum As Integer, ByVal ParamName As String) As Boolean

Visual Basic (Declaration)

Public Declare Function AutoClearActiveParam Lib "PandorasAutomation.dll" (ByVal siteNum As Integer, ByVal deviceNum As Integer, ByVal ParamName As String) As Boolean

Visual Basic (Usage)

AutoClearActiveParam (1,3,X Scale)

Sets a clear active to the parameter X Scale of layer 3 of site 1 within the Pandoras Box Project.

4.2.15 AutoResetAll

AutoResetAll () As Boolean

Visual Basic (Declaration)

Public Declare Function AutoResetAll Lib "PandorasAutomation.dll" () As Boolean

Visual Basic (Usage)

AutoResetAll ()

Resets all parameters of all layers of all servers within the Pandoras Box Project.

4.2.16 AutoResetSite

AutoResetSite (ByVal siteNum As Integer) As Boolean

Visual Basic (Declaration)

Public Declare Function AutoResetSite Lib "PandorasAutomation.dll" (ByVal siteNum As Integer) As Boolean

Visual Basic (Usage)

AutoResetSite (1)

Resets all parameters of all layers of site 1 within the Pandoras Box Project.

4.2.17 AutoResetDevice

AutoResetDevice (ByVal siteNum As Integer, ByVal deviceNum As Integer) As Boolean

Visual Basic (Declaration)

Public Declare Function AutoResetDevice Lib "PandorasAutomation.dll" (ByVal siteNum As Integer, ByVal deviceNum As Integer) As Boolean

Visual Basic (Usage)

AutoResetDevice (1,3)

Resets all parameters of layer 3 of site 1 within the Pandoras Box Project.

4.2.18 AutoResetParam

AutoResetParam (ByVal siteNum As Integer, ByVal deviceNum As Integer, ByVal ParamName As String) As Boolean

Visual Basic (Declaration)

Public Declare Function AutoResetParam Lib "PandorasAutomation.dll" (ByVal siteNum As Integer, ByVal deviceNum As Integer, ByVal ParamName As String) As Boolean

Visual Basic (Usage)

AutoResetParam (1,3,X Scale)

Resets the parameter X Scale of layer 3 of site 1 within the Pandoras Box Project.

4.2.19 AutoMoveSequenceToTime

AutoMoveSequenceToTime (ByVal sequenceNum as Integer, ByVal hours as Integer, ByVal minutes as Integer, ByVal seconds as Integer, ByVal frames as Integer) As Boolean

Visual Basic (Declaration)

Public Declare Function AutoMoveSequenceToTime Lib "PandorasAutomation.dll" (ByVal sequenceNum as Integer, ByVal hours as Integer, ByVal minutes as Integer, ByVal seconds as Integer, ByVal frames as Integer) As Boolean

Visual Basic (Usage)

AutoMoveSequenceToTime (2,00,05,22,12)

Sets sequence 2 to the timecode 00:05:22:12 (hh:mm:ss:ff).

4.2.20 AutoMoveSequenceToCue

AutoMoveSequenceToCue (ByVal sequenceNumber As Integer, ByVal cueId As Integer) As Boolean

Visual Basic (Declaration)

Public Declare Function AutoMoveSequenceToCue Lib "PandorasAutomation.dll" (ByVal

sequenceNumber As Integer, ByVal cueId As Integer) As Boolean

Visual Basic (Usage)

AutoMoveSequenceToCue (2,3)

Sets the nowpointer of sequence 2 to the third cue.

4.2.21 AutoMoveSequenceToLastNextCue

AutoMoveSequenceToLastNextCue (ByVal sequenceNum As Integer, ByVal isNext As Boolean) As Boolean

Visual Basic (Declaration)

Public Declare Function AutoMoveSequenceToLastNextCue Lib "PandorasAutomation.dll" (ByVal sequenceNum As Integer, ByVal isNext As Boolean) As Boolean

Visual Basic (Usage)

AutoMoveSequenceToLastNextCue (1,true)

Sets the nowpointer of sequence 1 to the next cue.

AutoMoveSequenceToLastNextCue (1,false)

Sets the nowpointer of sequence 1 to the previous cue.

4.2.22 AutoMoveSequenceToLastNextFrame

AutoMoveSequenceToLastNextFrame (ByVal sequenceNum As Integer, ByVal isNext As Boolean) As Boolean

Visual Basic (Declaration)

Public Declare Function AutoMoveSequenceToLastNextFrame Lib "PandorasAutomation.dll" (ByVal sequenceNum As Integer, ByVal isNext As Boolean) As Boolean

Visual Basic (Usage)

AutoMoveSequenceToLastNextFrame (2,true)

Sets the nowpointer of sequence 2 to the next frame.

AutoMoveSequenceToLastNextFrame (2,false)

Sets the nowpointer of sequence 2 to the last frame.

4.2.23 AutoSetSequenceTransportMode

AutoSetSequenceTransportMode (ByVal sequenceNum As Integer, ByVal modeName As String) As Boolean

Visual Basic (Declaration)

Public Declare Function AutoSetSequenceTransportMode Lib "PandorasAutomation.dll" (ByVal sequenceNum As Integer, ByVal modeName As String) As Boolean

Visual Basic (Usage)

AutoSetSequenceTransportMode (1,Play)

Sets sequence 1 to Play.

AutoMoveSequenceToLastNextFrame (1,Pause)

Sets sequence 1 to Pause.

AutoMoveSequenceToLastNextFrame (1,Stop)

Sets sequence 1 to Stop.

4.2.24 AutoSetSequenceTransparency

AutoSetSequenceTransparency (ByVal sequenceNum As Integer, ByVal transparency As Integer) As Boolean

Visual Basic (Declaration)

Public Declare Function AutoSetSequenceTransparency Lib "PandorasAutomation.dll" (ByVal sequenceNum As Integer, ByVal transparency As Integer) As Boolean

Visual Basic (Usage)

AutoSetSequenceTransparency (1,0)

Sets sequence 1 to 0 transparency (sequence is faded out).

4.2.25 AutoSetSequenceCuePlayMode

AutoSetSequenceCuePlayMode (ByVal sequenceNum As Integer, ByVal cueDI As Integer, ByVal playMode As Integer) As Boolean

Visual Basic (Declaration)

Public Declare Function AutoSetSequenceCuePlayMode Lib "PandorasAutomation.dll" (ByVal sequenceNum As Integer, ByVal cueDI As Integer, ByVal playMode As Integer) As Boolean

Visual Basic (Usage)

AutoSetSequenceCuePlayMode (1,7,0)

Sets Cue 7 in sequence 1 to the play mode "Play".

Cue Play Modes:

0 = Play

1 = Pause

2 = Stop

3 = Jump

4 = Wait (not implemented in PB Rev. 4254)

4.2.26 AutoSetNextSequenceCuePlayMode

AutoSetNextSequenceCuePlayMode (ByVal sequenceNum As Integer, ByVal playMode As Integer) As Boolean

Visual Basic (Declaration)

```
Public Declare Function AutoSetNextSequenceCuePlayMode Lib "PandorasAutomation.dll" (ByVal sequenceNum As Integer, ByVal playMode As Integer) As Boolean
```

Visual Basic (Usage)

```
AutoSetNextSequenceCuePlayMode (1,0)
```

Sets the next Cue in sequence 1 to the play mode "Play".

Cue Play Modes:

0 = Play

1 = Pause

2 = Stop

3 = Jump

4 = Wait

4.2.27 AutoSetIgnoreNextSequenceCue

AutoSetIgnoreNextSequenceCue (ByVal sequenceNum As Integer, ByVal dolgnore as Boolean) As Boolean

Visual Basic (Declaration)

```
Public Declare Function AutoSetIgnoreNextSequenceCue Lib "PandorasAutomation.dll" (ByVal sequenceNum As Integer, ByVal dolgnore as Boolean) As Boolean
```

Visual Basic (Usage)

```
AutoSetIgnoreNextSequenceCue (1,true)
```

Ignores the next Cue in sequence 1.

4.2.28 AutoStoreActive

AutoStoreActive (ByVal seqNum As Integer) As Boolean

Visual Basic (Declaration)

```
Public Declare Function AutoStoreActive Lib "PandorasAutomation.dll" (ByVal seqNum As Integer) As Boolean
```

Visual Basic (Usage)

```
AutoStoreActive (2)
```

Stores all active parameters in Pandoras Box to sequence 2.

4.2.29 AutoStoreActiveToTime

AutoStoreActiveToTime (ByVal seqNum As Integer, ByVal hours As Integer, ByVal minutes As Integer, ByVal seconds As Integer, ByVal frames As Integer) As Boolean

Visual Basic (Declaration)

Public Declare Function AutoStoreActiveToTime Lib "PandorasAutomation.dll" (ByVal seqNum As Integer, ByVal hours As Integer, ByVal minutes As Integer, ByVal seconds As Integer, ByVal frames As Integer) As Boolean

Visual Basic (Usage)

AutoStoreActiveToTime (2,00,05,22,12)

Stores all active parameters in Pandoras Box to sequence 2 at timecode 00:05:22:12 (hh,mm,ss,ff).

4.2.30 AutoSetContentAtTime

AutoSetContentAtTime (ByVal siteNum As Integer, deviceNum As Integer, SeqNum As Integer, hours As Integer, minutes As Integer, seconds As Integer, frames As Integer, folderId As Integer, fileId As Integer) As Boolean

Visual Basic (Declaration)

Public Declare Function AutoSetContentAtTime Lib "PandorasAutomation.dll" (ByVal siteNum As Integer, deviceNum As Integer, SeqNum As Integer, hours As Integer, minutes As Integer, seconds As Integer, frames As Integer, folderId As Integer, fileId As Integer) As Boolean

Visual Basic (Usage)

AutoSetContentAtTime (1,3,1,00,09,20,00,1,1)

If a clip container exists at timecode 0:09:20:00 in Sequence 1, the content inside this clipcontainer will get exchanged by the content with the Folder and File ID 1,1 and it also will be resynced.

4.2.31 AutoCreateTextInput

AutoCreateTextInput (ByVal folderId As Integer, ByVal fileId As Integer, ByVal Text As String) As Boolean

Visual Basic (Declaration)

Public Declare Function AutoCreateTextInput Lib "PandorasAutomation.dll" (ByVal folderId As Integer, ByVal fileId As Integer, ByVal Text As String) As Boolean

Visual Basic (Usage)

AutoCreateTextInput (1,3,design)

Creates a text asset in PB with the Folder and File ID [1,3] and the text "design".

4.2.32 AutoCreateTextInputWide

AutoCreateTextInputWide (ByVal folderId As Integer, ByVal fileId As Integer, ByVal Text As String) As Boolean

Visual Basic (Declaration)

Public Declare Function AutoCreateTextInputWide Lib "PandorasAutomation.dll" (ByVal folderId As Integer, ByVal fileId As Integer, ByVal Text As String) As Boolean

Visual Basic (Usage)

AutoCreateTextInputWide (1,3,design)

Creates a text asset in PB with the Folder and File ID [1,3] and the text "design". This command enables you to create a text asset in PB in any language format (Unicode).

4.2.33 AutoSetText

AutoSetText (ByVal folderId As Integer, ByVal fileId As Integer, ByVal Text As String) As Boolean
Visual Basic (Declaration)

Public Declare Function AutoSetText Lib "PandorasAutomation.dll" (ByVal folderId As Integer, ByVal fileId As Integer, ByVal Text As String) As Boolean

Visual Basic (Usage)

AutoSetText (2,9,design)

Sets the text of text asset [2,9] in PB to "design".

4.2.34 AutoSetTextWide

AutoSetTextWide (ByVal folderId As Integer, ByVal fileId As Integer, ByVal Text As String) As Boolean
Visual Basic (Declaration)

Public Declare Function AutoSetTextWide Lib "PandorasAutomation.dll" (ByVal folderId As Integer, ByVal fileId As Integer, ByVal Text As String) As Boolean

Visual Basic (Usage)

AutoSetText (2,9,design)

Sets the text of text asset [2,9] in PB to "design". This command enables you to send a text string in any language format (Unicode) to PB.

4.2.35 AutoSetTextTextureSize

AutoSetTextTextureSize (ByVal dmxFolderID As Integer, ByVal dmxId As Integer, ByVal width As Integer, ByVal height As Integer)

Visual Basic (Declaration)

Public Declare Function AutoSetTextTextureSize Lib "PandorasAutomation.dll" (ByVal dmxFolderID As Integer, ByVal dmxId As Integer, ByVal width As Integer, ByVal height As Integer) As Boolean

Visual Basic (Usage)

AutoSetTextTextureSize (1,2,800,600)

Sets the texture size of text asset [1,2] in PB to 800x600 px.

This command is available from PB Rev. 4982 or higher.

4.2.36 AutoSetTextProperties

AutoSetTextProperties (ByVal dmxFolderID As Integer, ByVal dmxId As Integer, ByVal pFont As Character, ByVal size As Integer, ByVal style As Integer, ByVal alignment As Integer, ByVal colorRed As Integer, ByVal colorGreen As Integer, ByVal colorBlue As Integer)

Visual Basic (Declaration)

Public Declare Function AutoSetTextProperties Lib "PandorasAutomation.dll" (ByVal dmxFolderID As Integer, ByVal dmxId As Integer, ByVal pFont As Character, ByVal size As Integer, ByVal style As Integer, ByVal alignment As Integer, ByVal colorRed As Integer, ByVal colorGreen As Integer, ByVal colorBlue As Integer) As Boolean

Visual Basic (Usage)

AutoSetTextProperties (1,2,Times New Roman,24,Bold,Left,255,0,0)

Sets the Text Asset [1,2] in PB to the following properties:

Font: Time New Roman, Font Size: 24, Font Style: Bold, Alignment: Left, Colour: Red.

Style options: Regular, Bold, Italic, BoldItalic, Underline.

Alignment options: Left, Center, Right.

This command is available from PB Rev. 4982 or higher.

4.2.37 AutoSetTextCenterOnTexture

AutoSetTextCenterOnTexture (ByVal dmxFolderID As Integer, ByVal dmxId As Integer, ByVal centerOnTexture As Boolean)

Visual Basic (Declaration)

Public Declare Function AutoSetTextCenterOnTexture Lib "PandorasAutomation.dll" (ByVal dmxFolderID As Integer, ByVal dmxId As Integer, ByVal centerOnTexture As Boolean) As Boolean

Visual Basic (Usage)

AutoSetTextTextureSize (1,2,1)

Centers the text of text asset [1,2] in PB on its texture.

This command is available from PB Rev. 4982 or higher.

AutoSetTextTextureSize (1,2,0)

Removes the center option of the text asset [1,2] in PB.

This command is available from PB Rev. 4982 or higher.

4.2.38 AutoAddContent

AutoAddContent (ByVal FileName As String, ByVal siteNum As Integer, ByVal folderId As Integer, ByVal fileId As Integer) As Boolean

Visual Basic (Declaration)

Public Declare Function AutoAddContent Lib "PandorasAutomation.dll" (ByVal FileName As String, ByVal siteNum As Integer, ByVal folderId As Integer, ByVal fileId As Integer) As Boolean

Visual Basic (Usage)

AutoAddContent (C:\coolux\content Pandora\MediaLoops 1_100\00003 blinkingline loop raw_kiosk.m2v,4,2,33)

Adds the file "00003 blinkingline loop raw_kiosk.m2v" from the specified path from the site 4 as Media File with the Folder and File ID [2,33] to the PB project.

Please note:

If you run PB Manager as master and want to add content from the local site, please make sure that your local is also added to the device tree tab and take its Site ID; or just use the command

[AutoAddContentFromLocalNode](#).

4.2.39 AutoAddContentFromLocalNode

AutoAddContentFromLocalNode (ByVal pFullPath As Char) As Boolean

Visual Basic (Declaration)

```
Public Declare Function AutoAddContentFromLocalNode Lib "PandorasAutomation.dll" (ByVal pFullPath As Char) As Boolean
```

Visual Basic (Usage)

```
AutoAddContentFromLocalNode (C:\coolux\content Pandora\MediaLoops 1_100\00003 blinkingline loop raw_kiosk.m2v)
```

Adds the file "00003 blinkingline loop raw_kiosk.m2v" from the specified path from the local node into the PB project.

4.2.40 AutoSpreadAll

AutoSpreadAll () As Boolean

Visual Basic (Declaration)

```
Public Declare Function AutoAddContent Lib "PandorasAutomation.dll" () As Boolean
```

Visual Basic (Usage)

```
AutoSpreadAll ()
```

Spreads all resources in PB.

4.2.41 AutoSpreadMediaByID

AutoSpreadMediaById (ByVal folderId As Integer, ByVal fileId As Integer) As Boolean

Visual Basic (Declaration)

```
Public Declare Function AutoSpreadMediaById Lib "PandorasAutomation.dll" (ByVal folderId As Integer, ByVal fileId As Integer) As Boolean
```

Visual Basic (Usage)

```
AutoSpreadMediaById (2,10)
```

Spreads the media file with the Folder and File ID [2,10] in PB.

4.2.42 AutoSpreadMeshByID

AutoSpreadMeshById (ByVal folderId As Integer, ByVal fileId As Integer) As Boolean

Visual Basic (Declaration)

```
Public Declare Function AutoSpreadMediaById Lib "PandorasAutomation.dll" (ByVal folderId As Integer, ByVal fileId As Integer) As Boolean
```

Visual Basic (Usage)

```
AutoSpreadMeshById (3,7)
```

Spreads the mesh file with the Folder and File ID [3,7] in PB.

4.2.43 AutoSetMediaFrameBlendingByID

AutoSetMediaFrameBlendingById (ByVal folderId As Integer, ByVal fileId As Integer, ByVal frameBlended As Boolean) As Boolean
Visual Basic (Declaration)
 Public Declare Function AutoSetMediaFrameBlendingById Lib "PandorasAutomation.dll" (ByVal folderId As Integer, ByVal fileId As Integer, ByVal frameBlended As Boolean) As Boolean

Visual Basic (Usage)
 AutoSetMediaFrameBlendingById (2,5,True)

Activates frameblending for the media file with the Folder and File ID [2,5] in PB.

4.2.44 AutoSetMediaDeinterlacingByID

AutoSetMediaDeinterlacingById (ByVal folderId As Integer, ByVal fileId As Integer, ByVal deinterlacer As Integer) As Boolean
Visual Basic (Declaration)
 Public Declare Function AutoSetMediaDeinterlacingById Lib "PandorasAutomation.dll" (ByVal folderId As Integer, ByVal fileId As Integer, ByVal deinterlacer As Integer) As Boolean

Visual Basic (Usage)
 AutoSetMediaDeinterlacingById (2,5,True)
 Activates the deinterlacing mode "fieldblending" for the media file with the Folder and File ID [2,5] in PB.

- Deinterlacing Modes:
 0 = Off
 1 = Top Field
 2 = Bottom Field
 3 = Fieldblending

4.2.45 AutoSetMediaAnisotropicFilteringByID

AutoSetMediaAnisotropicFilteringById (ByVal folderId As Integer, ByVal fileId As Integer, ByVal useFiltering As Boolean) As Boolean
Visual Basic (Declaration)
 Public Declare Function AutoSetMediaAnisotropicFilteringById Lib "PandorasAutomation.dll" (ByVal folderId As Integer, ByVal fileId As Integer, ByVal useFiltering As Boolean) As Boolean

Visual Basic (Usage)
 AutoSetMediaAnisotropicFilteringById (2,5,False)
 Deactivates anisotropic filtering (pixel smoothing for real-time video and image scaling) for the media file with the Folder and File ID [2,5] in PB.

4.2.46 AutoSetMediaUnderscanByID

AutoSetMediaUnderscanById (ByVal folderId As Integer, ByVal fileId As Integer, ByVal useUnderscan As Boolean) As Boolean

Visual Basic (Declaration)

Public Declare Function AutoSetMediaUnderscanById Lib "PandorasAutomation.dll" (ByVal folderId As Integer, ByVal fileId As Integer, ByVal useUnderscan As Boolean) As Boolean

Visual Basic (Usage)

AutoSetMediaUnderscanById (2,5,True)

Enables Underscan for the media file with the Folder and File ID [2,5] in PB.

4.2.47 AutoSetMediaMpegColourSpaceByID

AutoSetMediaMpegColourSpaceById (ByVal folderId As Integer, ByVal fileId As Integer, ByVal useMpegColourSpace As Boolean) As Boolean

Visual Basic (Declaration)

Public Declare Function AutoSetMediaMpegColourSpaceById Lib "PandorasAutomation.dll" (ByVal folderId As Integer, ByVal fileId As Integer, ByVal useMpegColourSpace As Boolean) As Boolean

Visual Basic (Usage)

AutoSetMediaMpegColourSpaceById (2,5,True)

Enables the optimization of MPEG Colorspace for the media file with the Folder and File ID [2,5] in PB.

4.2.48 AutoSetMediaAlphaChannelByID

AutoSetMediaAlphaChannelById (ByVal folderId As Integer, ByVal fileId As Integer, ByVal useAlphaChannel As Boolean) As Boolean

Visual Basic (Declaration)

Public Declare Function AutoSetMediaAlphaChannelById Lib "PandorasAutomation.dll" (ByVal folderId As Integer, ByVal fileId As Integer, ByVal useMpegColourSpace As Boolean) As Boolean

Visual Basic (Usage)

AutoSetMediaAlphaChannelById (2,5,False)

Disables the alpha channel of the media file with the Folder and File ID [2,5] in PB.

Use "true" if movie type supports embedded alpha.

4.2.49 AutoRemoveMediaByID

AutoRemoveMediaById (ByVal folderId As Integer, ByVal fileId As Integer) As Boolean

Visual Basic (Declaration)

Public Declare Function AutoRemoveMediaById Lib "PandorasAutomation.dll" (ByVal folderId As Integer, ByVal fileId As Integer) As Boolean

Visual Basic (Usage)

AutoRemoveMediaById (2,5)

Removes the media file with the Folder and File ID [2,5] from the PB project.

4.2.50 AutoRemoveMeshByID

AutoRemoveMeshById (ByVal folderId As Integer, ByVal fileId As Integer) As Boolean

Visual Basic (Declaration)

Public Declare Function AutoRemoveMeshById Lib "PandorasAutomation.dll" (ByVal folderId As Integer, ByVal fileId As Integer) As Boolean

Visual Basic (Usage)

AutoRemoveMeshById (3,1)

Removes the mesh file with the Folder and File ID [3,1] from the PB project.

4.2.51 AutoToggleFullscreen

AutoToggleFullscreen (ByVal siteNum As Integer) As Boolean

Visual Basic (Declaration)

Public Declare Function AutoToggleFullscreen Lib "PandorasAutomation.dll" (ByVal folderId As Integer, ByVal fileId As Integer) As Boolean

Visual Basic (Usage)

AutoToggleFullscreen (4)

Switches site 4 from preview to fullscreen mode in Pandoras Box project

4.2.52 AutoChangeFullscreenStateByID

AutoChangeFullscreenStateById (ByVal siteNum As Integer, ByVal enterFullscreen as Boolean) As Boolean

Visual Basic (Declaration)

Public Declare Function AutoChangeFullscreenStateById Lib "PandorasAutomation.dll" (ByVal siteNum As Integer, ByVal enterFullscreen as Boolean) As Boolean

Visual Basic (Usage)

AutoChangeFullscreenStateById (4,true)

Forces site 4 into fullscreen mode in Pandoras Box project, no matter if its state was preview or fullscreen mode before.

4.2.53 AutoChangeFullscreenStateByIp

AutoChangeFullscreenStateByIp (ByVal plp As Char, ByVal enterFullscreen as Boolean) As Boolean

Visual Basic (Declaration)

Public Declare Function AutoChangeFullscreenStateByIp Lib "PandorasAutomation.dll" (ByVal plp As Char, ByVal enterFullscreen as Boolean) As Boolean

Visual Basic (Usage)

AutoChangeFullscreenStateByIp (2.0.0.4,true)

Forces the node with the IP address 2.0.0.4 into fullscreen mode in Pandoras Box project, no matter if its state was preview or fullscreen mode before.

4.2.54 AutoSaveProject

AutoSaveProject () As Boolean

Visual Basic (Declaration)

Public Declare Function AutoSaveProject Lib "PandorasAutomation.dll" () As Boolean

Visual Basic (Usage)

AutoSaveProject ()

Saves the current Project opened in Pandoras Box.

4.3 SAMPLE CODE

Since PB Automation may be used in various different contexts, the sample code differs based on the specifics of the used programming language.

For example: Since every Microsoft office product ships with a built-in Visual Basic editor to create custom macros and forms you might be familiar with the use of Microsoft Office 2003 Visual Basic 6 syntax.

Starting from VB 2005/2008 .net and the latest Microsoft Office versions, a newer syntax needs to be used to both implement and use PB Automation.

The easiest way to start off and use PB Automation would be to get a copy of a recent Microsoft Visual Basic edition (currently Visual Basic 2008 express).

These versions are fully functional and provide all features which are needed to use and implement PB Automation. Please read the licence agreement of Microsoft as these trial versions are for non-commercial use only.

To use PB Automation in the context of any application, you must first of all declare the included functions of PBAutomation.dll

The PBAutomation.dll is installed with any Pandoras Box software and can be found in the root folder of the installed version.

The .dll is not dongled, so you may copy it into your resources of your project and use as many copies on as many cpus you need to use for your project and deployment.

Visual Basic 2005 / 2008 Function Declaration

(assuming that the PBAutomation.dll is located in the same folder as your executable file):

Public Declare Sub AutoInitialize Lib "PandorasAutomation.dll" _

(ByVal ipString As String, ByVal domainNumber As Integer)

Public Declare Sub AutoUnInitialize Lib "PandorasAutomation.dll" ()

Public Declare Function AutoSetParam Lib "PandorasAutomation.dll" _

(ByVal siteNum As Integer, ByVal deviceNum As Integer, _
ByVal paramName As String, ByVal value As Integer) As Boolean

Public Declare Function AutoAssignMesh Lib "PandorasAutomation.dll" _

(ByVal siteNum As Integer, ByVal deviceNum As Integer, _
ByVal folderId As Integer, ByVal fileId As Integer) As Boolean

Public Declare Function AutoAssignMedia Lib "PandorasAutomation.dll" _

(ByVal siteNum As Integer, ByVal deviceNum As Integer, _
ByVal folderId As Integer, ByVal fileId As Integer) As Boolean

Public Declare Function AutoSetSequenceTransportMode Lib "PandorasAutomation.dll" _
(ByVal sequenceNumber As Integer, ByVal modeName As String) As Boolean

Public Declare Function AutoMoveSequenceToCue Lib "PandorasAutomation.dll" _
(ByVal sequenceNumber As Integer, ByVal cueId As Integer) As Boolean

Public Declare Function AutoMoveSequenceToTime Lib "PandorasAutomation.dll" _
(ByVal sequenceNum As Integer, ByVal hours As Integer, ByVal minutes As Integer, _
ByVal seconds As Integer, ByVal frames As Integer) As Boolean

Public Declare Function AutoMoveSequenceToLastNextFrame Lib "PandorasAutomation.dll" _
(ByVal sequenceNum As Integer, ByVal isNext As Boolean) As Boolean

Public Declare Function AutoMoveSequenceToLastNextCue Lib "PandorasAutomation.dll" _
(ByVal sequenceNum As Integer, ByVal isNext As Boolean) As Boolean

Public Declare Function AutoSetSequenceTransparency Lib "PandorasAutomation.dll" _
(ByVal seqNum As Integer, ByVal transparency As Integer) As Boolean

'New features from Rev 3148 on

Public Declare Function AutoActivateAll Lib "PandorasAutomation.dll" _
() As Boolean

Public Declare Function AutoActivateSite Lib "PandorasAutomation.dll" _
(ByVal siteNum As Integer) As Boolean

Public Declare Function AutoActivateDevice Lib "PandorasAutomation.dll" _
(ByVal siteNum As Integer, ByVal deviceNum As Integer) As Boolean

Public Declare Function AutoActivateParam Lib "PandorasAutomation.dll" _
(ByVal siteNum As Integer, ByVal deviceNum As Integer, ByVal ParamName As String) As Boolean

Public Declare Function AutoResetAll Lib "PandorasAutomation.dll" _
() As Boolean

Public Declare Function AutoResetSite Lib "PandorasAutomation.dll" _
(ByVal siteNum As Integer) As Boolean

Public Declare Function AutoResetDevice Lib "PandorasAutomation.dll" _
(ByVal siteNum As Integer, ByVal deviceNum As Integer) As Boolean

Public Declare Function AutoResetParam Lib "PandorasAutomation.dll" _
(ByVal siteNum As Integer, ByVal deviceNum As Integer, ByVal ParamName As String) As Boolean

Public Declare Function AutoClearAllActive Lib "PandorasAutomation.dll" () As Boolean

Public Declare Function AutoClearActiveSite Lib "PandorasAutomation.dll" _
(ByVal siteNum As Integer) As Boolean

Public Declare Function AutoClearActiveDevice Lib "PandorasAutomation.dll" _
(ByVal siteNum As Integer, ByVal deviceNum As Integer) As Boolean

Public Declare Function AutoClearActiveParam Lib "PandorasAutomation.dll" _
(ByVal siteNum As Integer, ByVal deviceNum As Integer, ByVal ParamName As String) As Boolean

Public Declare Function AutoToggleFullscreen Lib "PandorasAutomation.dll" _
(ByVal siteNum As Integer) As Boolean

Public Declare Function AutoSetParamRelative Lib "PandorasAutomation.dll" _

(ByVal siteNum As Integer, ByVal deviceNum As Integer, ByVal ParamName As String, _
ByVal value As Integer) As Boolean

Public Declare Function AutoAddContent Lib "PandorasAutomation.dll" _
(ByVal FileName As String, ByVal siteNum As Integer, ByVal folderId As Integer, ByVal fileId As
Integer) As Boolean

Public Declare Function AutoRemoveMediaById Lib "PandorasAutomation.dll" _
(ByVal folderId As Integer, ByVal fileId As Integer) As Boolean

Public Declare Function AutoRemoveMeshById Lib "PandorasAutomation.dll" _
(ByVal folderId As Integer, ByVal fileId As Integer) As Boolean

Public Declare Function AutoSpreadAll Lib "PandorasAutomation.dll" () As Boolean

Public Declare Function AutoSpreadMediaById Lib "PandorasAutomation.dll" _
(ByVal folderId As Integer, ByVal fileId As Integer) As Boolean

Public Declare Function AutoSpreadMeshById Lib "PandorasAutomation.dll" _
(ByVal FolderId As Integer, ByVal fileId As Integer) As Boolean

Public Declare Function AutoRemoveInconsistent Lib "PandorasAutomation.dll" () As Boolean

Public Declare Function AutoStoreActive Lib "PandorasAutomation.dll" _
(ByVal seqNum As Integer) As Boolean

Public Declare Function AutoStoreActiveToTime Lib "PandorasAutomation.dll" _
(ByVal seqNum As Integer, ByVal hours As Integer, ByVal minutes As Integer, _
ByVal seconds As Integer, ByVal frames As Integer) As Boolean

Public Declare Function AutoSetMediaFrameBlendingById Lib "PandorasAutomation.dll" _
(ByVal folderId As Integer, ByVal fileId As Integer, ByVal frameBlended As Boolean) As Boolean

Public Declare Function AutoSetMediaDeinterlacingById Lib "PandorasAutomation.dll" _
(ByVal folderId As Integer, ByVal fileId As Integer, ByVal deinterlacer As Integer) As Boolean

Public Declare Function AutoSetMediaAnisotropicFilteringById Lib "PandorasAutomation.dll" _
(ByVal folderId As Integer, ByVal fileId As Integer, ByVal useFiltering As Boolean) As Boolean

Public Declare Function AutoSetMediaUnderscanById Lib "PandorasAutomation.dll" _
(ByVal folderId As Integer, ByVal fileId As Integer, ByVal useUnderscan As Boolean) As Boolean

Public Declare Function AutoSetMediaMpegColourSpaceById Lib "PandorasAutomation.dll" _
(ByVal folderId As Integer, ByVal fileId As Integer, ByVal useMpegColourSpace As Boolean) As
Boolean

Public Declare Function AutoSetMediaAlphaChannelById Lib "PandorasAutomation.dll" _
(ByVal folderId As Integer, ByVal fileId As Integer, ByVal useAlphaChannel As Boolean) As Boolean

Public Declare Function AutoSetText Lib "PandorasAutomation.dll" _
(ByVal folderId As Integer, ByVal fileId As Integer, ByVal Text As String) As Boolean

'New features from PB v4.5 rev 3688 on

Public Declare Function AutoSetSequenceTimeCodeMode Lib "PandorasAutomation.dll" _
(ByVal seqNum As Integer, ByVal timeCodeMode As Integer) As Boolean

Public Declare Function AutoSetSequenceTimeCodeOffset Lib "PandorasAutomation.dll" _
(ByVal seqNum As Integer, ByVal hours As Integer, ByVal minutes As Integer, ByVal seconds As
Integer, ByVal frames As Integer) As Boolean

Public Declare Function AutoSetSequenceTimeCodeStopAction Lib "PandorasAutomation.dll" _
(ByVal seqNum As Integer, ByVal stopAction As Integer) As Boolean

```

Public Declare Function AutoReloadMediaByld Lib "PandorasAutomation.dll" _
(ByVal dmxFolderId As Integer, ByVal dmxId As Integer) As Boolean
Public Declare Function AutoReloadMeshByld Lib "PandorasAutomation.dll" _
(ByVal dmxFolderId As Integer, ByVal dmxId As Integer) As Boolean
Public Declare Function AutoCreateTextInput Lib "PandorasAutomation.dll" _
(ByVal dmxFolderId As Integer, ByVal dmxId As Integer, ByVal Text As String) As Boolean
Public Declare Function AutoLoadProject Lib "PandorasAutomation.dll" _
(ByVal Path As String, ByVal Name As String, ByVal saveExisting As Boolean) As Boolean
Public Declare Function AutoCloseProject Lib "PandorasAutomation.dll" (ByVal save As Boolean) As
Boolean
Public Declare Function AutoClearSelection Lib "PandorasAutomation.dll" () As Boolean
Public Declare Function AutoSetDeviceAcceptDmxByld Lib "PandorasAutomation.dll" _
(ByVal siteNum As Integer, ByVal deviceNum As Integer, ByVal acceptDmx As Boolean) As Boolean
Public Declare Function AutoSetSiteAcceptDmxByld Lib "PandorasAutomation.dll" _
(ByVal siteNum As Integer, ByVal acceptDmx As Boolean) As Boolean
Public Declare Function AutoSetDeviceDmxAddressByld Lib "PandorasAutomation.dll" _
(ByVal siteNum As Integer, ByVal deviceNum As Integer, ByVal index As Integer, ByVal id1 As
Integer, ByVal id2 As Integer) As Boolean
'New features from PB v4.5 rev 4111 on
Public Declare Function AutoSetSequenceCuePlaymode Lib "PandorasAutomation.dll" _
(ByVal seqNum As Integer, ByVal cueID As Integer, ByVal playMode As Integer) As Boolean
Public Declare Function AutoSetNextSequenceCuePlaymode Lib "PandorasAutomation.dll" _
(ByVal seqNum As Integer, ByVal playMode As Integer) As Boolean
Public Declare Function AutoSetIgnoreNextSequenceCue Lib "PandorasAutomation.dll" _
(ByVal seqNum As Integer, ByVal dolgnore As Boolean) As Boolean

```

'Sample code to use in Sub's for some the above mentioned functions
'Make sure to use Autoinitialize always before calling any other function to establish the
communication
'End every communication with Autouninitialize

'Initialize every communication by Setting IP, Domain
'AutoInitialize ("10.169.10.30", 8674)

'To set Parameter values, first set Device ID then Parameter "Name", Value
'AutoSetParam (1, 1, "Opacity", 64)

'Assign Object to Device ID with Object ID
'AutoAssignMesh (1, 1, 2, 3)

'Assign Media to Device ID with Media ID
'AutoAssignMedia (1, 2, 4, 5)

'Set Seq ID and Playback Status
'AutoSetSequenceTransportMode (1, "Pause")

'Set Seq ID and Cue
'AutoMoveSequenceToCue (1, 1)

'End every communication
'AutoUnInitialize ()

Microsoft Office 2003 VB6 Function Declaration

(assuming that the PBAutomation.dll is located in the same folder as your executable file)

```

Private Declare Sub AutoInitialize Lib _
"PandorasAutomation.dll" _
(ByVal ipString As String, ByVal domainNumber As Long)

```

```

Private Declare Sub AutoUnInitialize Lib _

```

"PandorasAutomation.dll" ()

Private Declare Function AutoSetParam Lib _
"PandorasAutomation.dll" _
(ByVal siteNum As Long, ByVal deviceNum As Long, _
ByVal paramName As String, ByVal value As Long)

Private Declare Function AutoAssignMesh Lib _
"PandorasAutomation.dll" _
(ByVal siteNum As Long, ByVal deviceNum As Long, _
ByVal dmxFolderId As Long, ByVal dmxId As Long)

Private Declare Function AutoAssignMedia Lib _
"PandorasAutomation.dll" _
(ByVal siteNum As Long, ByVal deviceNum As Long, _
ByVal dmxFolderId As Long, ByVal dmxId As Long)

Private Declare Function AutoSetSequenceTransportMode Lib _
"PandorasAutomation.dll" _
(ByVal sequenceNumber As Long, ByVal modeName As String)

Private Declare Function AutoMoveSequenceToCue Lib _
"PandorasAutomation.dll" _
(ByVal sequenceNumber As Long, ByVal cueId As Long)

Private Declare Function AutoMoveSequenceToTime Lib _
"PandorasAutomation.dll" _
(ByVal sequenceNum as Long, ByVal hours as Long, ByVal minutes as Long, ByVal seconds as
Long, ByVal frames as Long)

Private Declare Function AutoMoveSequenceToLastNextFrame Lib _
"PandorasAutomation.dll" _
(ByVal sequenceNum as Long, ByVal isNext as Boolean)

Private Declare Function AutoMoveSequenceToLastNextCue Lib _
"PandorasAutomation.dll" _
(ByVal sequenceNum as Long, ByVal isNext as Boolean)

Private Declare Function AutoSetSequenceTransparency Lib _
"PandorasAutomation.dll" _
(ByVal seqNum as Long, ByVal transparency as Long)

'New features from Rev 3148 on
Public Declare Function AutoActivateAll Lib _
"PandorasAutomation.dll" () As Boolean

Public Declare Function AutoActivateSite Lib _
"PandorasAutomation.dll" _
(ByVal siteNum As Long) As Boolean

Public Declare Function AutoActivateDevice Lib _
"PandorasAutomation.dll" _
(ByVal siteNum As Long, ByVal deviceNum As Long) As Boolean

Public Declare Function AutoActivateParam Lib _
"PandorasAutomation.dll" _
(ByVal siteNum As Long, ByVal deviceNum As Long, ByVal ParamName As String) As Boolean

Public Declare Function AutoResetAll Lib _
"PandorasAutomation.dll" _
() As Boolean

Public Declare Function AutoResetSite Lib _
"PandorasAutomation.dll" _
(ByVal siteNum As Long) As Boolean

Public Declare Function AutoResetDevice Lib _
"PandorasAutomation.dll" _
(ByVal siteNum As Long, ByVal deviceNum As Long) As Boolean

Public Declare Function AutoResetParam _
Lib "PandorasAutomation.dll" _
(ByVal siteNum As Long, ByVal deviceNum As Long, ByVal ParamName As String) As Boolean

Public Declare Function AutoClearAllActive Lib "PandorasAutomation.dll" () As Boolean

Public Declare Function AutoClearActiveSite Lib "PandorasAutomation.dll" _
(ByVal siteNum As Long) As Boolean

Public Declare Function AutoClearActiveDevice Lib "PandorasAutomation.dll" _
(ByVal siteNum As Long, ByVal deviceNum As Long) As Boolean

Public Declare Function AutoClearActiveParam Lib "PandorasAutomation.dll" _
(ByVal siteNum As Long, ByVal deviceNum As Long, ByVal ParamName As String) As Boolean

Public Declare Function AutoToggleFullscreen Lib "PandorasAutomation.dll" _
(ByVal siteNum As Long) As Boolean

Public Declare Function AutoSetParamRelative Lib "PandorasAutomation.dll" _
(ByVal siteNum As Long, ByVal deviceNum As Long, ByVal ParamName As String, _
ByVal value As Long) As Boolean

Public Declare Function AutoAddContent Lib "PandorasAutomation.dll" _
(ByVal FileName As String, ByVal siteNum As Long, ByVal folderId As Long, ByVal fileId As Long) As Boolean

Public Declare Function AutoRemoveMediaById Lib "PandorasAutomation.dll" _
(ByVal folderId As Long, ByVal fileId As Long) As Boolean

Public Declare Function AutoRemoveMeshById Lib "PandorasAutomation.dll" _
(ByVal folderId As Long, ByVal fileId As Long) As Boolean

Public Declare Function AutoSpreadAll Lib "PandorasAutomation.dll" () As Boolean

Public Declare Function AutoSpreadMediaById Lib "PandorasAutomation.dll" _
(ByVal folderId As Long, ByVal fileId As Long) As Boolean

Public Declare Function AutoSpreadMeshById Lib "PandorasAutomation.dll" _
(ByVal FolderId As Long, ByVal fileId As Long) As Boolean

Public Declare Function AutoRemoveInconsistent Lib "PandorasAutomation.dll" () As Boolean

Public Declare Function AutoStoreActive Lib "PandorasAutomation.dll" _
(ByVal seqNum As Long) As Boolean

Public Declare Function AutoStoreActiveToTime Lib "PandorasAutomation.dll" _
(ByVal seqNum As Long, ByVal hours As Long, ByVal minutes As Long, _
ByVal seconds As Long, ByVal frames As Long) As Boolean

Public Declare Function AutoSetMediaFrameBlendingById Lib "PandorasAutomation.dll" _
(ByVal folderId As Long, ByVal fileId As Long, ByVal frameBlended As Boolean) As Boolean

Public Declare Function AutoSetMediaDeinterlacingById Lib "PandorasAutomation.dll" _
 (ByVal folderId As Long, ByVal fileId As Long, ByVal deinterlacer As Long) As Boolean

Public Declare Function AutoSetMediaAnisotropicFilteringById Lib "PandorasAutomation.dll" _
 (ByVal folderId As Long, ByVal fileId As Long, ByVal useFiltering As Boolean) As Boolean

Public Declare Function AutoSetMediaUnderscanById Lib "PandorasAutomation.dll" _
 (ByVal folderId As Long, ByVal fileId As Long, ByVal useUnderscan As Boolean) As Boolean

Public Declare Function AutoSetMediaMpegColourSpaceById Lib "PandorasAutomation.dll" _
 (ByVal folderId As Long, ByVal fileId As Long, ByVal useMpegColourSpace As Boolean) As Boolean

Public Declare Function AutoSetMediaAlphaChannelById Lib "PandorasAutomation.dll" _
 (ByVal folderId As Long, ByVal fileId As Long, ByVal useAlphaChannel As Boolean) As Boolean

Public Declare Function AutoSetText Lib "PandorasAutomation.dll" _
 (ByVal folderId As Long, ByVal fileId As Long, ByVal Text As String) As Boolean
 'New features from PB v4.5 rev 3688 on

Public Declare Function AutoSetSequenceTimeCodeMode Lib "PandorasAutomation.dll" _
 (ByVal seqNum As Long, ByVal timeCodeMode As Long) As Boolean

Public Declare Function AutoSetSequenceTimeCodeOffset Lib "PandorasAutomation.dll" _
 (ByVal seqNum As Long, ByVal hours As Long, ByVal minutes As Long, ByVal seconds As Long,
 ByVal frames As Long) As Boolean

Public Declare Function AutoSetSequenceTimeCodeStopAction Lib "PandorasAutomation.dll" _
 (ByVal seqNum As Long, ByVal stopAction As Long) As Boolean

Public Declare Function AutoReloadMediaById Lib "PandorasAutomation.dll" _
 (ByVal dmxFolderId As Long, ByVal dmxId As Long) As Boolean

Public Declare Function AutoReloadMeshById Lib "PandorasAutomation.dll" _
 (ByVal dmxFolderId As Long, ByVal dmxId As Long) As Boolean

Public Declare Function AutoCreateTextInput Lib "PandorasAutomation.dll" _
 (ByVal dmxFolderId As Long, ByVal dmxId As Long, ByVal Text As String) As Boolean

Public Declare Function AutoLoadProject Lib "PandorasAutomation.dll" _
 (ByVal Path As String, ByVal Name As String, ByVal saveExisting As Boolean) As Boolean

Public Declare Function AutoCloseProject Lib "PandorasAutomation.dll" (ByVal save As Boolean) As
 Boolean

Public Declare Function AutoClearSelection Lib "PandorasAutomation.dll" () As Boolean

Public Declare Function AutoSetDeviceAcceptDmxById Lib "PandorasAutomation.dll" _
 (ByVal siteNum As Long, ByVal deviceNum As Long, ByVal acceptDmx As Boolean) As Boolean

Public Declare Function AutoSetSiteAcceptDmxById Lib "PandorasAutomation.dll" _
 (ByVal siteNum As Long, ByVal acceptDmx As Boolean) As Boolean

Public Declare Function AutoSetDeviceDmxAddressById Lib "PandorasAutomation.dll" _
 (ByVal siteNum As Long, ByVal deviceNum As Long, ByVal index As Long, ByVal id1 As Long, ByVal
 id2 As Integer) As Boolean
 'New features from PB v4.5 rev 4111 on

Public Declare Function AutoSetSequenceCuePlaymode Lib "PandorasAutomation.dll" _
 (ByVal seqNum As Long, ByVal cueID As Integer, ByVal Playmode As Long) As Boolean

Public Declare Function AutoSetNextSequenceCuePlaymode Lib "PandorasAutomation.dll" _
 (ByVal seqNum As Long, ByVal playmode As Long) As Boolean

Public Declare Function AutoSetIgnoreNextSequenceCue Lib "PandorasAutomation.dll" _
 (ByVal seqNum As Long, ByVal dolgnore As Boolean) As Boolean
 'Initialize every communication by Setting IP, Domain
 'AutoInitialize "10.169.10.30", 8674

'To set Parameter values, first set Device ID then Parameter "Name", Value
 'AutoSetParam 1, 1, "Opacity", 64

'Assign Object to Device ID with Object ID
 'AutoAssignMesh 1, 1, 2, 3

'Assign Media to Device ID with Media ID
'AutoAssignMedia 1, 2, 4, 5

'Set Seq ID and Playback Status
'AutoSetSequenceTransportMode 1, "Pause"

'Set Seq ID and Cue
'AutoMoveSequenceToCue 1, 1

'End every communication
'AutoUninitialize'Function Code

5 MATRIX PATCHER

For special applications where LED or lighting fixtures are required to be patched to individual pixels, you will need to use the Matrix Patcher to set up your patch. With the Matrix option activated in Pandoras Box, the output will be rendered to multiple ArtNet universes.

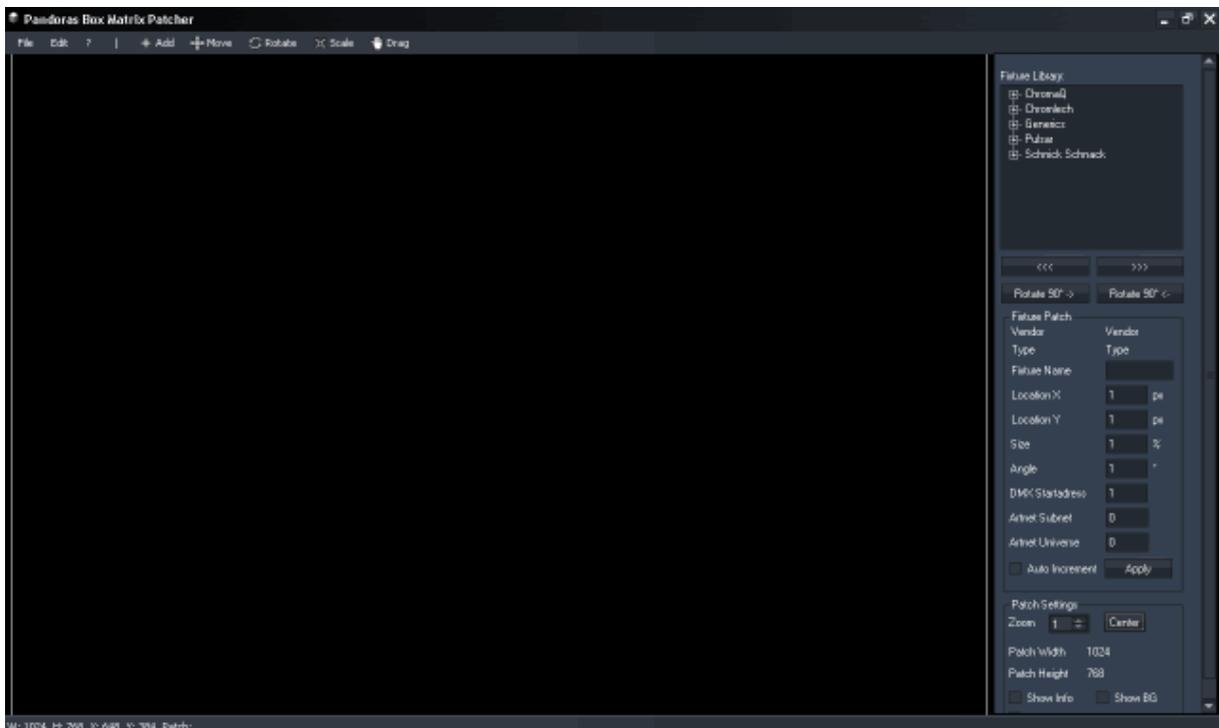
Please see the topics below for working with the Pandoras Box Matrix Patcher:

- [Matrix Patcher Userinterface](#)
- [Fixture Editor](#)
- [Patching Guide](#)

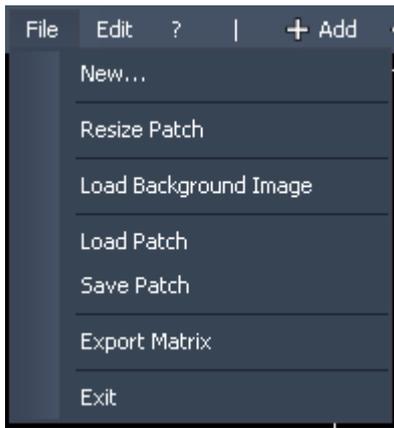
5.1 MATRIX PATCHER USER INTERFACE

The Matrix Patcher User Interface is divided into several sections:

- [File Menu](#), [Edit Menu](#), [Toolbar](#), [Fixture Library](#), [Fixture Navigation Tools](#), [Fixture Patch](#) and [Patch Settings](#).

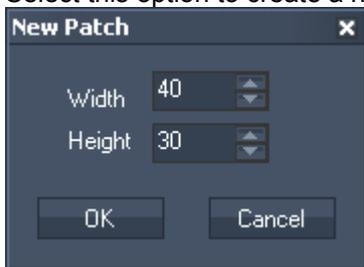


5.1.1 FILE MENU



[New...]

Select this option to create a new Patch. A pop-up dialog will open:



It allows to select the size when creating a new patch. You may change the size anytime later as well via [Resize Patch].

[Resize Patch]:



Choose the new patch size (Width and Height, in px) in the pop-up dialog.

[Load Background Image]:

This option opens a Windows explorer dialog where you may select an image to be loaded as background image in order to simplify creating the patch. To display the image the option [Show BG] in the [Patch Settings](#) has to be enabled!

[Load Patch]:

Lloads a saved Matrix Patcher project file.

[Save Patch]:

Saves the current Matrix Patcher project file.

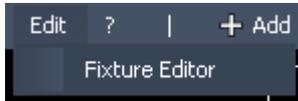
[Export Matrix]:

Exports the current project as matrix file. It can be found in the PB root folder under the name pixelpatch.csv.

Please note: In order to use the Matrix file with a Pandoras Box Server / Player, please make sure that this file is located in the PB Server / PB Player root folder!!

[Exit]:
Quits Pandoras Box Matrix Patcher.

5.1.2 EDIT MENU



From within the Edit Menu you have access to the [Fixture Editor](#) to create or modify your fixtures.

5.1.3 TOOLBAR



[Add]:
To add a new fixture to the patch, select a fixture from the Fixture Library first! Every click inside the patch now will create one fixture of the selected fixture type.

[Move]:
The Move Mode allows to move the fixtures on the patch. Just click on it and move it to the desired position. For accurate positioning you may want to enter the fixtures location in the [Fixture Patch](#).

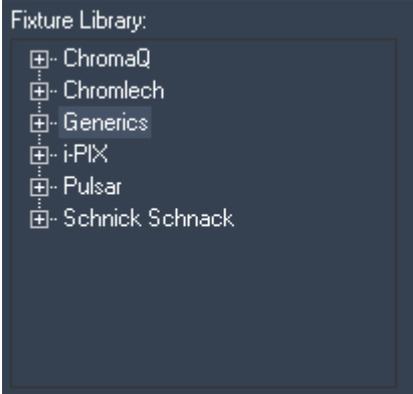
[Rotate]:
The Rotation Mode allows to rotate a fixture on the patch. Select the fixture by clicking on it. Hold the left mouse button pressed while moving the mouse cursor up (=clockwise rotation) or down (=anti-clockwise rotation). To rotate the fixture in an accurate angle you may want to enter the angle value in the [Fixture Patch](#).

To rotate the fixture in 90° steps, you may as well simply use the Buttons [Rotate 90° ->] and [Rotate 90° <-] that you will find under [Fixture Navigation Tools](#).

[Scale]:
The Scaling Mode allows to scale a fixture on the patch. Select the fixture by clicking on it. Hold the left mouse button pressed while moving the mouse cursor left (=decreasing the fixture size) or right (=increasing the fixture size). To scale the fixture to an accurate size you may want to enter the scaling factor value in the [Fixture Patch](#).

[Drag]:
When being in Drag Mode you may move the whole Patch around in order to reach every part of the patch.

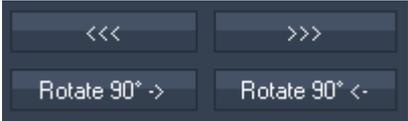
5.1.4 FIXTURE LIBRARY



The Fixture Library contains a stock of common LED-Fixtures, sorted by vendor name. Every Fixture you created with the Fixture Editor will appear here as well.

To add one of the fixtures to the patch, select the fixture and choose [Add] from the toolbar. Then click inside the patch field.

5.1.5 FIXTURE NAVIGATION TOOLS

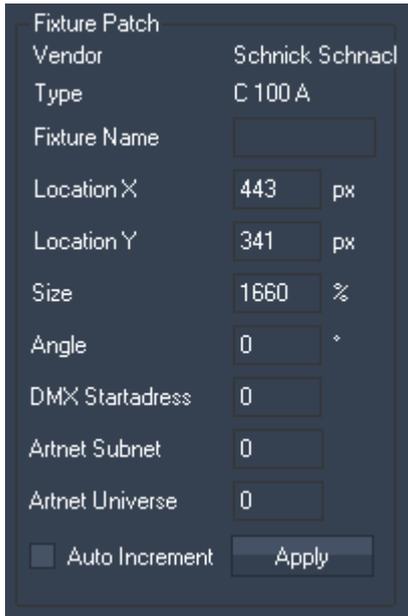


[<<<] / [>>>]:
 These buttons allow you to easily step through the fixtures added in the patch. The selected fixture will turn green and will be loaded into the [Fixture Patch](#) section.

[Rotate 90° ->] / [Rotate 90° <-]:
 To rotate the selected fixture in 90° steps, you may simply use the Buttons [Rotate 90° ->] and [Rotate 90° <-].

5.1.6 FIXTURE PATCH

The Fixture Patch displays information about the type of the selected fixture and allows as well to set up a unique name, its location, size, angle and the DMX addressing.



[Vendor] and [Type]:
See here the Vendor and Type of the currently selected fixture.

[Fixture Name]:
Here you may add a unique name to the currently selected fixture.
Press [Apply] to assign the modification to the fixture.

[Location X /Y]:
See here the selected fixture's location for X and Y (in px, according to your patch size).
The location may be changed by entering new values for X and Y, or by using the Move Mode (see [Toolbar](#)).
Press [Apply] to assign the modification to the fixture.

[Size]:
See here the selected fixture's size (in %). This size may be changed by entering a new value or by using the Scaling Mode (see [Toolbar](#)). Any new fixture added on the patch will be scaled to 500% by default.
Press [Apply] to assign the modification to the fixture.

[Angle]:
See here the selected fixture's angle (in °). To change its angle enter a new value in the text field, use the Rotation Mode (see [Toolbar](#)) or the 90°-Rotation Buttons (see [Fixture Navigation Tools](#)).
Press [Apply] to assign the modification to the fixture.

[DMX Addressing]:
Using the DMX Addressing (including DMX Startaddress, Artnet Subnet and Artnet Universe) you may set up the fixtures in two different ways:

1. on the one hand it allows to modify the addressing of the selected fixture (press [Apply] to assign the modification to the selected fixture).
2. On the other hand you may enter the start address for the fixtures that are going to be added to the patch. Don't press [Apply] in order to use this function! Otherwise the modified DMX addressing is going to be assigned to the currently selected fixture.

One Artnet-Universe contains 512 DMX channels (from 1-512).
One Artnet-Subnet contains 16 Artnet-Universes (from 0-15).
There can be 16 Artnet Subnets (from 0-15).
So in total you may be able to address $512 \times 16 \times 16 = 131072$ DMX channels within one patch.

[Auto Increment]:

Use this function to automatically increment the DMX addressing when adding several fixtures to the patch. If checked, the application will calculate the next free DMX and Artnet Address and patch added fixtures to it.

Example:

You want to add fixtures with a total channel count of 120 channels. You set the addressing to (1,0,0): DMX Startaddress = 1, Artnet Subnet = 0 and Artnet Universe = 0. Auto Increment is checked.

- The 1st fixture gets the Startaddress (1,0,0),
- the 2nd fixture gets the Startaddress (121,0,0),
- the 3rd fixture gets the Startaddress (241,0,0),
- the 4th fixture gets the Startaddress (361,0,0)
- the 5th fixture gets the Startaddress (1,0,1).

The 5th fixture with its 120 channels won't completely fit any more into the Universe 0, so it gets assigned to the next higher Universe.

5.1.7 PATCH SETTINGS



The Patch settings allow you to change the Patch View.

[Zoom]:

You may set a higher zoom factor to zoom into the patch (by default the zoom factor is set to 1).

[Center]:

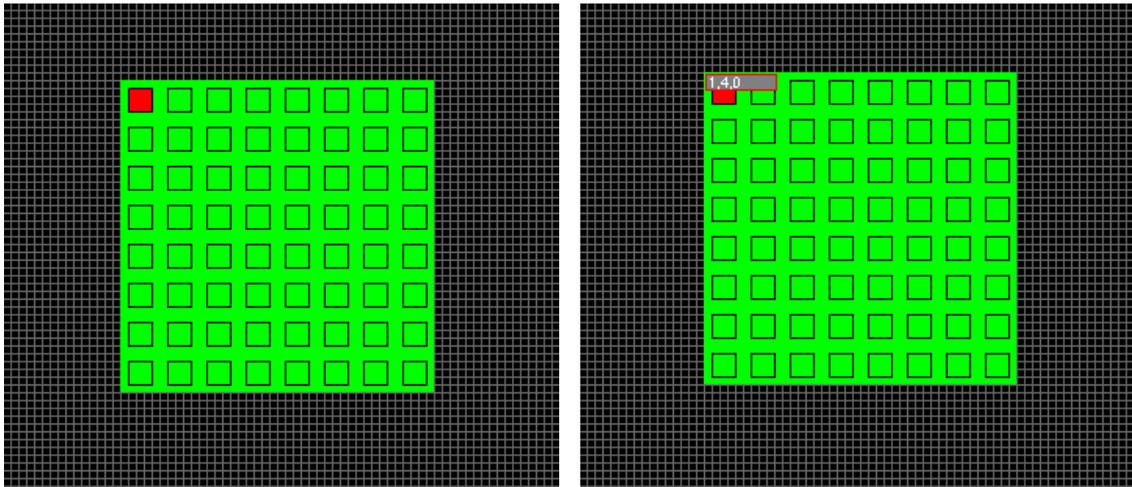
Press [Center] to move the patch's center point into the center of the user interface. This can be helpful after dragging the patch.

[Patch Width & Height]:

The patches size is displayed here.

[Show Info]:

When enabling this option, the DMX Addressing will be shown on the patch for each fixture.



Example: Fixture without DMX Addressing information (left), and fixture with DMX Addressing information (right).

[Show BG]:

A background image (for example a floor plan) may be displayed on the patch, this can be helpful for some patches.

To do so, load a background image (see [File Menu](#)) and enable the option [Show BG].

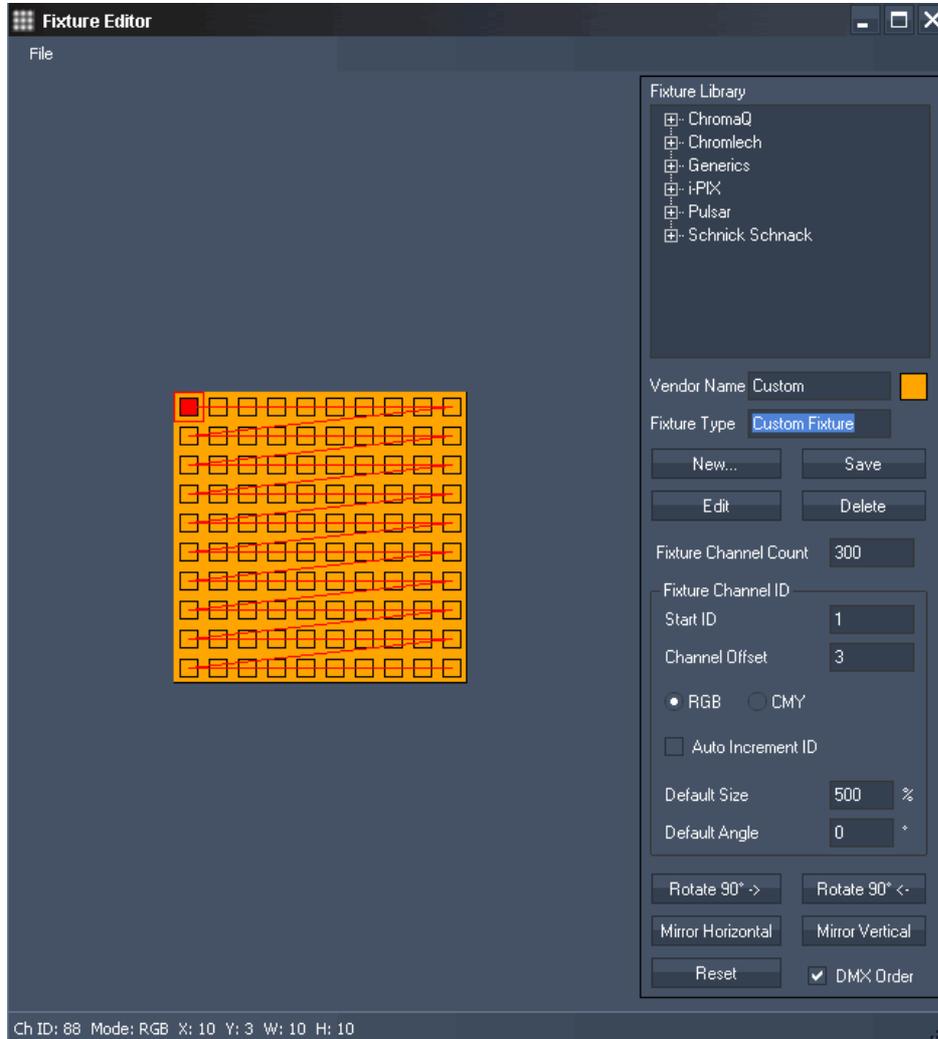
[Show Pixel Grid]:

Uncheck this option if you don't want to see the pixel grid in the patch.

Please note that with some patch sizes and zoom factors the pixel grid can't be displayed.

5.2 FIXTURE EDITOR

The Fixture Editor allows to create and modify fixtures that can be used in the patch. Open the fixture editor via the [Edit Menu](#) from the Main Matrix Patcher User Interface.



The Fixture Editor is divided into the following sections: [File Menu](#), [Fixture Library](#), [Fixture Channel ID](#), and [Fixture Workspace](#).

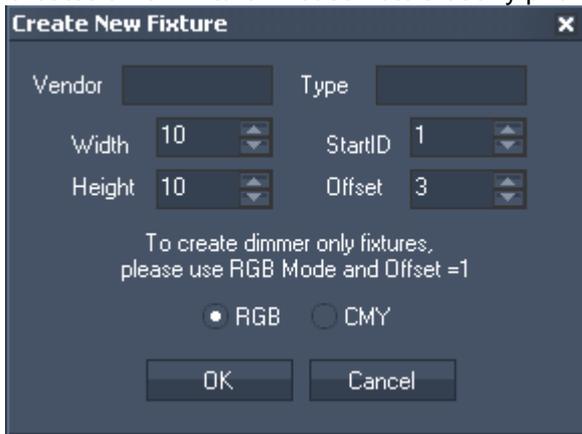
See here a guide of [how to create and edit fixtures](#).

5.2.1 FILE MENU



[New Fixture]

Creates a new fixture. Please note that any prior work won't be saved.



In the pop-up dialog you may enter the Vendor Name, the fixture type, its Width and Height (in px), the Start ID and the Offset. An offset of 3 (by default) will create 3 DMX channels (RGB or CMY) per pixel.

To create dimmer only fixtures, please use RGB Mode and Offset=1.

You may choose as well the colour mode: RGB or CMY, according to your fixture.

[Import Fixture]:

Imports existing fixtures (.mfx) into the library.

[Export Fixture]:

Exports fixtures from the library to be saved for later use (as .mxf-files).

5.2.2 FIXTURE LIBRARY



The Fixture Library contains a stock of common LED-Fixtures, sorted by vendor name. Every Fixture that was created with the Fixture Editor will appear here as well.

This section allows to create a new custom fixture and edit or delete any existing fixture.

[Vendor Name / Fixture Type]:

As soon as a fixture is created or set to be edited, the Fixture’s Vendor Name and Type will be displayed in the text fields.

[Fixture Colour]:

The small coloured box next to the Vendor Name (in the picture above shown in orange) allows to choose the fixture’s background colour. It will open a colour-picker once you click on it

[New...]:

Allows to create a new fixture, see [File Menu](#). Please note that any prior work won’t be saved automatically. The Fixture will be loaded into the Workspace now for further editing.

[Edit]:

To start editing an existing fixture, please select the fixture in the Fixture Library and press [Edit]. The Fixture will be loaded into the Workspace now for further editing.

[Save]:

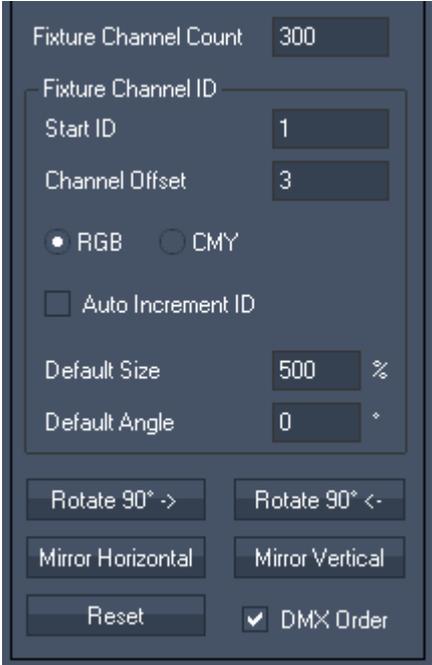
Saves the changes in the fixture under the Vendor Name and Fixture Type currently displayed.

[Delete]:

Deletes the fixture currently selected in the fixture library.

5.2.3 FIXTURE CHANNEL ID

Within the Fixture Channel ID section the DMX Addressing for the selected fixture will be set up.



[Fixture Channel Count]:
 This is the amount of channels the fixture contains. It is calculated by the Fixtures Width and Height multiplied with the Channel Offset.
 For example: The fixture is 4 px wide and 4 px high and has an offset of 3 channels (for RGB): the Fixture Channel Count is $4 \times 4 \times 3 = 48$ channels.
 This Channel Count is used to calculate the startaddress for the next fixture when setting up the patch. In order to create fixtures with unpatched pixels you need to manually modify that number, so that the startaddress for the next added fixture is correct when using auto increase while patching the matrix.

[Start ID]:
 This is the DMX Start Address for the next pixel.

[Channel Offset]:
 Amount of DMX channels per pixel

[RGB / CMY]:
 Defines if the colour values of the pixels will be interpreted as RGB or as CMY.

[Auto Increment ID]:
 When activated the starting channel of the pixels will automatically be incremented according to the chosen offset.

Default [Size]:
 This is the fixture's size when added on the patch. By default it is set to 500%, you may change this size when editing a fixture.

[Default Angle]:
 The default angle refers to the fixture's angle when it will be added on the patch.

[Rotate 90° ->] / [Rotate 90° <-]:
 To rotate the selected fixture in 90° steps, you may simply use the Buttons [Rotate 90° ->] and [Rotate 90° <-].

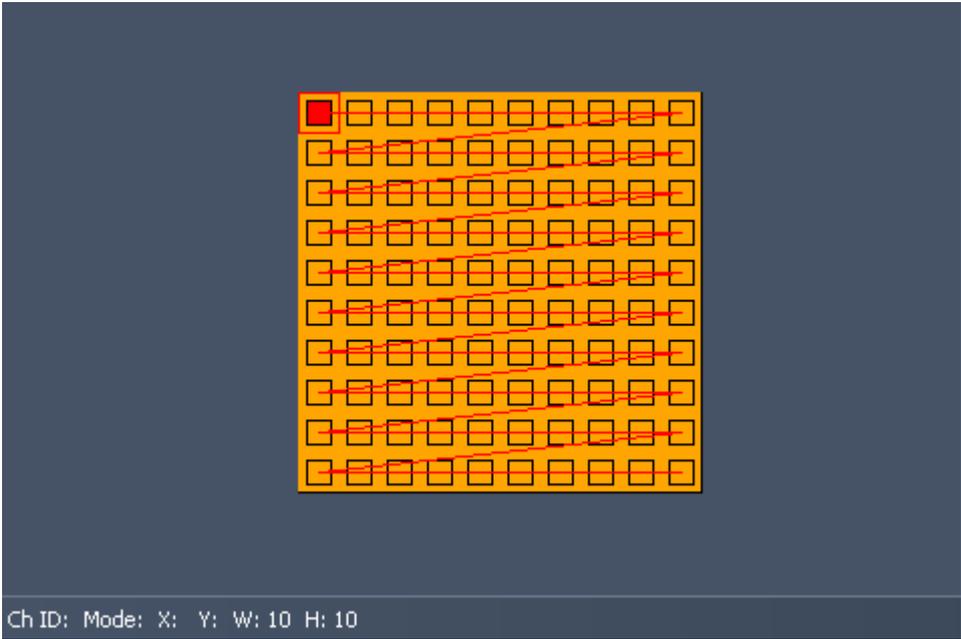
[Mirror Horizontal / Mirror Vertical]:
This allows to mirror the selected fixtures horizontally or vertically.

[Reset]:
Clears the DMX addressing of the currently selected fixture.

[DMX Order]:
When this option is checked, it shows the pixel addressing order in the fixture with a red line. The starting pixel is marked with a red dot.

5.2.4 FIXTURE WORKSPACE

When creating a new fixture or editing an existing one, the fixture will be loaded into the Workspace.



In the workspace you see every pixel a fixture contains. The applied DMX order is shown as red line, the DMX starting pixel is marked as red dot.

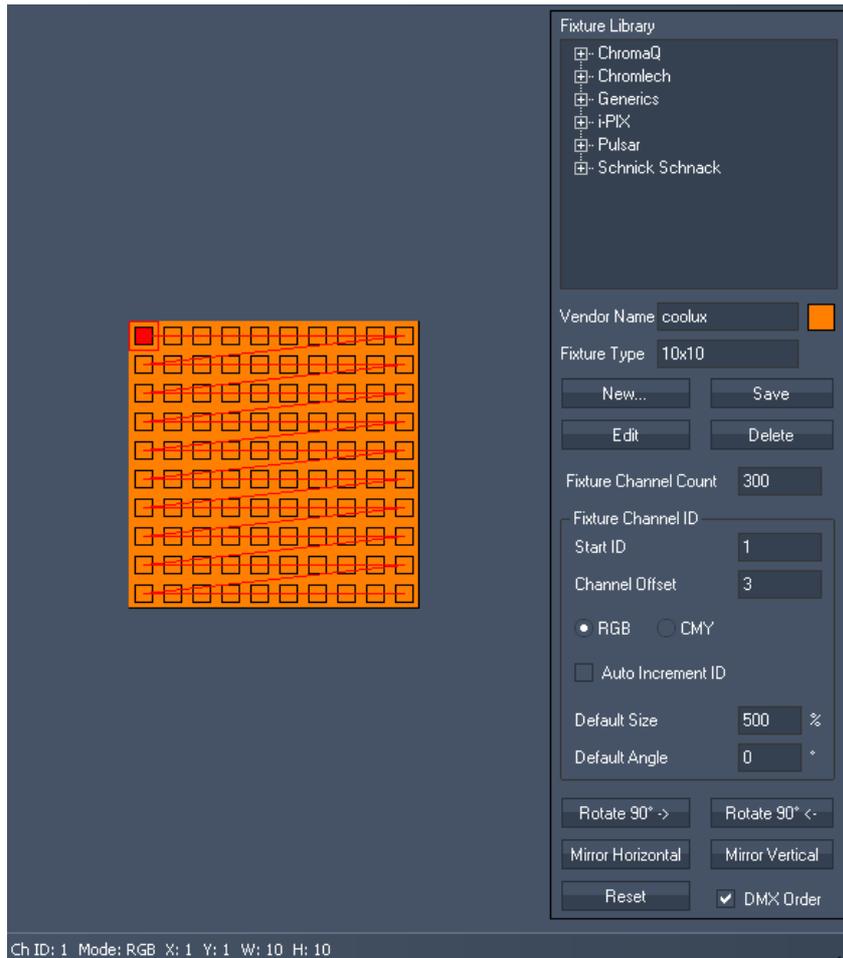
When moving the mouse cursor over the fixture, the line at the bottom displays the information about each pixel: the Channel ID, the colour mode (RGB or CMY), the pixel's position as well as the Fixture's Width and Height.

The fixture's DMX Order may be modified when the fixture is created or when being in Edit-Mode, please see [How To Create And Edit Fixtures](#).

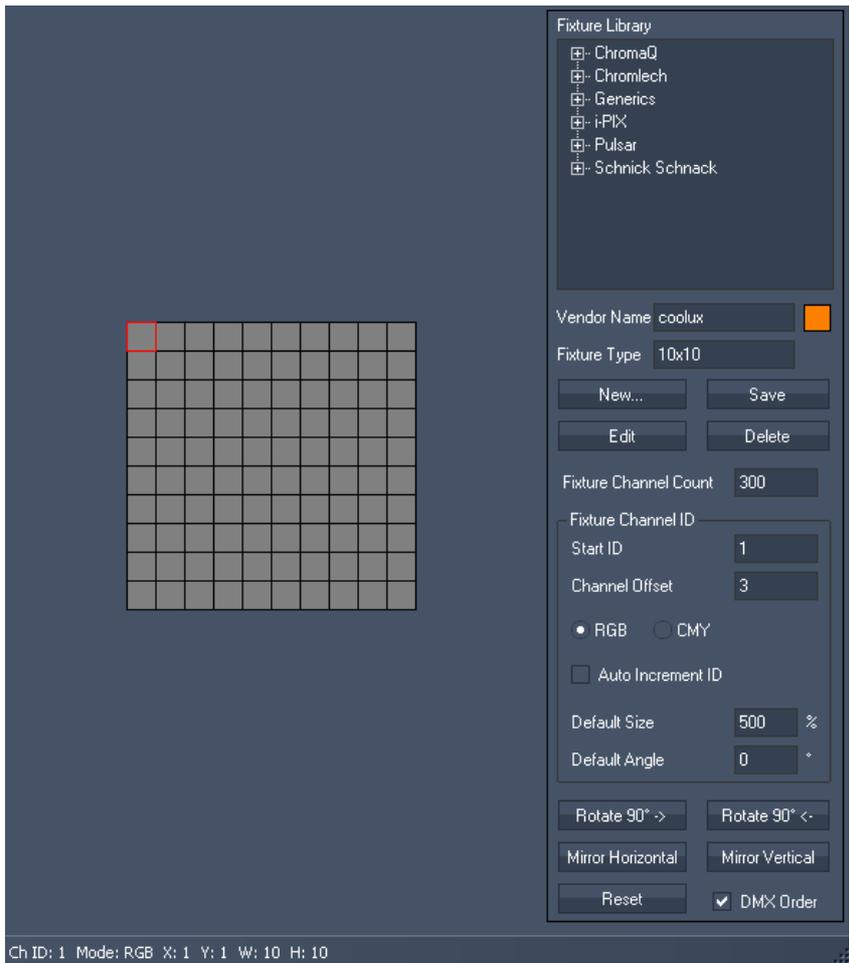
5.2.5 HOW TO CREATE AND EDIT FIXTURES

In the example below a new fixture with the Width=10, Height=10 and the offset=3 was created by pressing [New...]. The default DMX channel order goes from the fixture's top left pixel (the first channel is marked as red dot) over to the right and then starts at the left in the next line and so on. You see this channel order displayed by the small red line.

By mouse-over on any of these point you find the pixel information according to this point at the bottom left: the channel ID, the colour mode, X and Y position and the total width and height of your fixture.



To arrange a new DMX order for your fixture, press [Reset] at the bottom right to clear the channel settings, see next picture.



Now there is no channel order for the fixture. You have two possibilities to apply a custom DMX channel order to the fixture:

- DMX Addressing using the Auto Increment ID Option or
- Manually DMX Addressing.

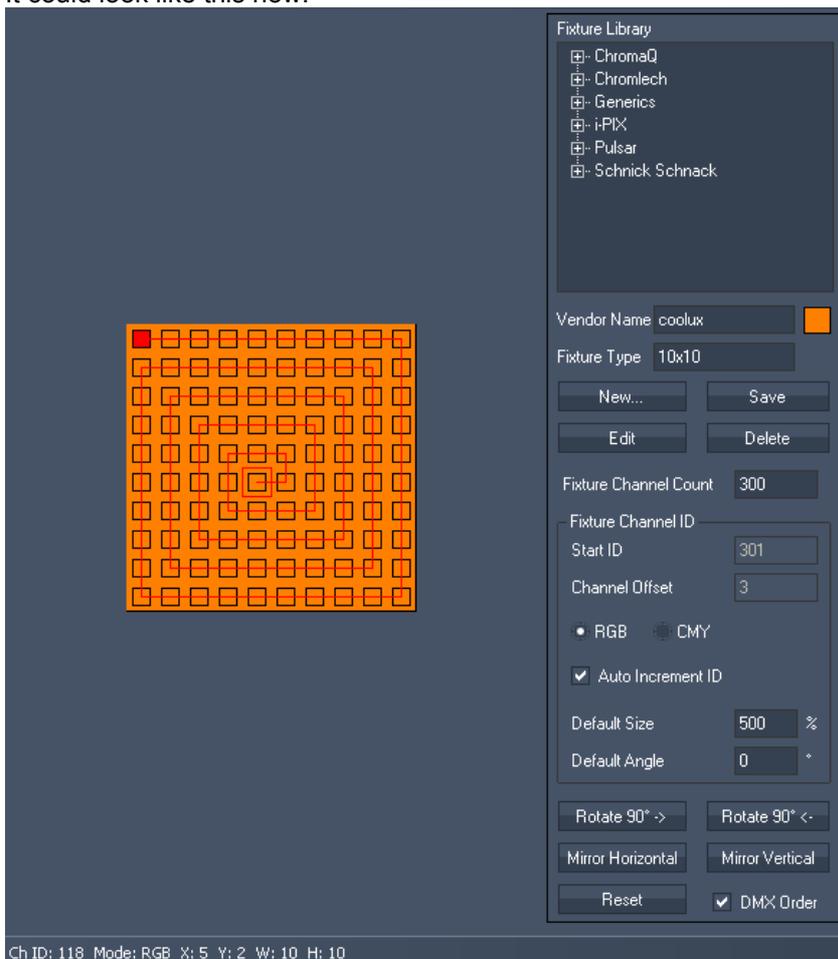
DMX Addressing using the Auto Increment ID option:

To automatically increment all Channel IDs based on the Start ID, check “Auto Increment ID”. The text fields for Start ID and Channel Offset will be greyed out then.

Please be sure that you begin with the right Start ID: While creating a new DMX order and resetting it, the Start ID counts up and does not reset automatically.

Now start drawing the channel order on the fixture with the mouse cursor: Click on the start pixel (it will be shown in full red) and go on in the correct order. Do it click by click or hold down the left mouse button.

If you did a wrong click, re-click on this pixel to remove the addressing again. It could look like this now:



In the Fixture Channel ID section you see that the Start ID was counted up, so that the next pixel you click on would get the startaddress 301.

If you're not confident with the current addressing, the button [Reset] may be pressed again to clear the pixel addressing.

Please note: before re-drawing the pixel addressing check the Start ID to be set back to 1! To do this disable the Auto Increment ID option, enter the Start ID 1 and enable the Auto Increment ID option again.

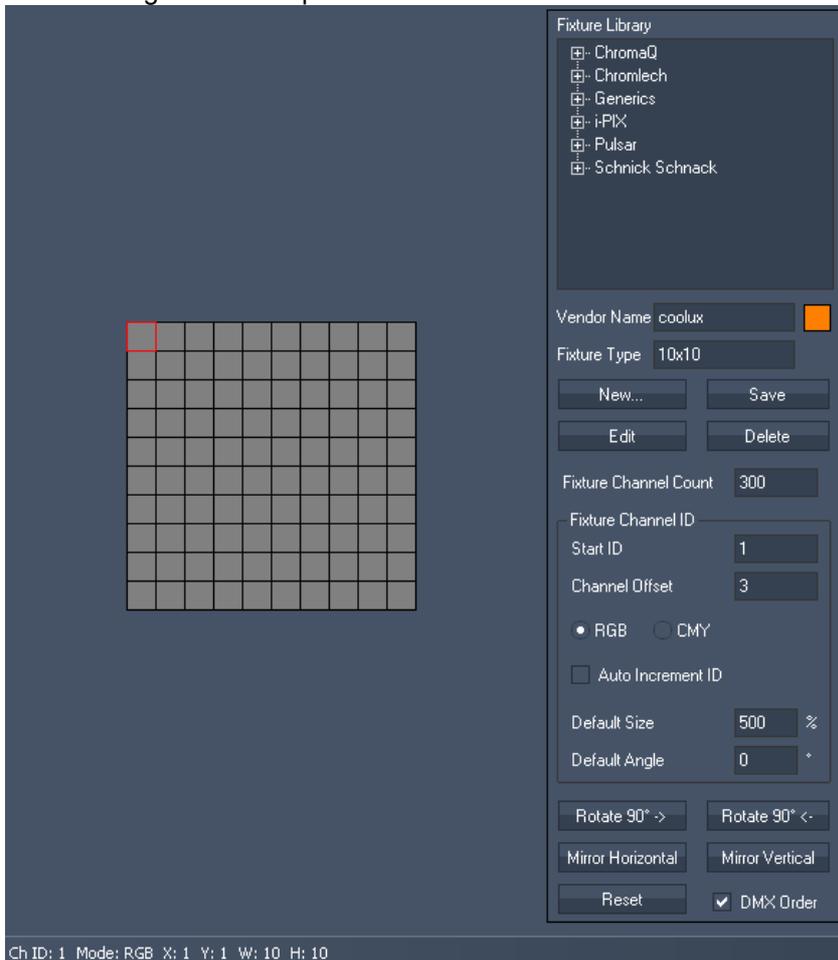
Having finished your new DMX order, if needed, you can rotate the matrix 90° to the left or right or mirror it horizontally or vertically by clicking the corresponding buttons down left.

Very important:
Press [Save] to assign all changes!

Manually DMX Addressing

This way could make sense if you have a fixture that has unpatched pixels.

Let's start again with the plain fixture:



When not using the Auto Increment ID function, enter every pixels Start ID BEFORE you click on it on the fixture!

Example:

The 10x10 px fixture should be addressed so that after every second pixel there a 3 unpatched channels: Pixel (1,1) starts with channel 1, Pixel (1,2) starts with channel 4, Pixel (1,3) starts with channel 10, Pixel (1,4) starts with channel 13, pixel (1,5) starts with channel 19 and so on.

To achieve this DMX order, do this:

- Enter Start ID=1, then click on Pixel (1,1).
- Enter Start ID=4, then click on Pixel (1,2).
- Enter Start ID=10, then click on Pixel (1,3).
- Enter Start ID=13, then click on Pixel (1,4),

...

Having finished your new DMX order, if needed, you can rotate the matrix 90° to the left or right or mirror it horizontally or vertically by clicking the corresponding buttons down left.

Very important:

Press [Save] to assign all changes!

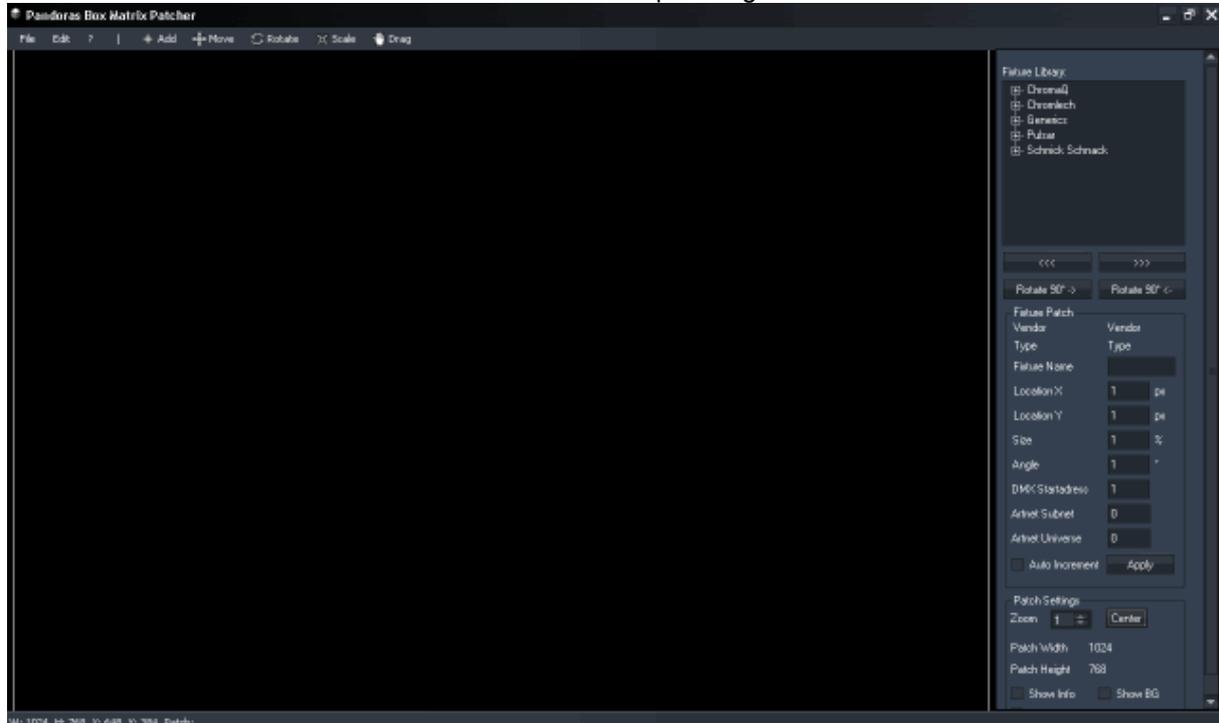
Editing existing Fixtures

If you want to edit an existing fixture, choose it from the fixture-list scroll down menu and press [Edit]. Now you can modify it by acting as if you create a new one. Keeping the old name will result in

overwriting the fixture when saving it. You may type in a different name as well, then it will be saved under this one as a new fixture.

5.3 PATCHING GUIDE

The Pandoras Box Matrix Patcher starts with the main patching window:



The Fixture Library on the top right contains a stock of fixtures by different vendors. If the fixtures you need are not included or if the fixtures need to be modified, you have to create/edit them first using the [Fixture Editor](#). See here a guide of [how to create and edit fixtures](#).

As soon as all fixtures needed are available in the Fixture Library you may start setting up your patch.

Important information about setting up the patch size

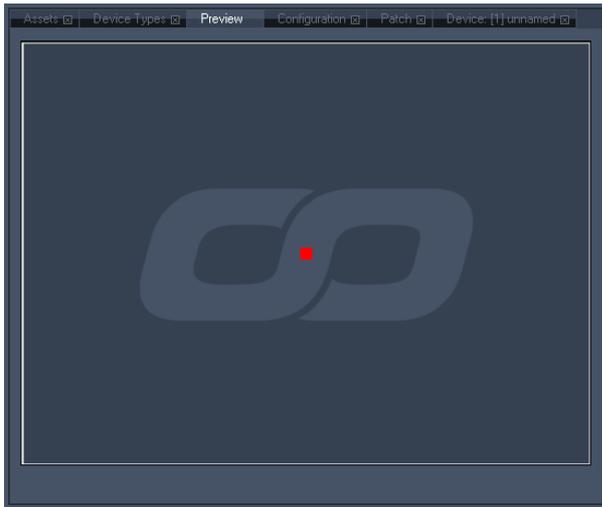
The Matrix Patcher up from Revision 12 should be used with big patch sizes, although you maybe only need a patch that is 10x10 pixels big! The reason for this is that the patch size always refers to the size of the Pandoras Box output that is used for the Matrix.

Example 1:

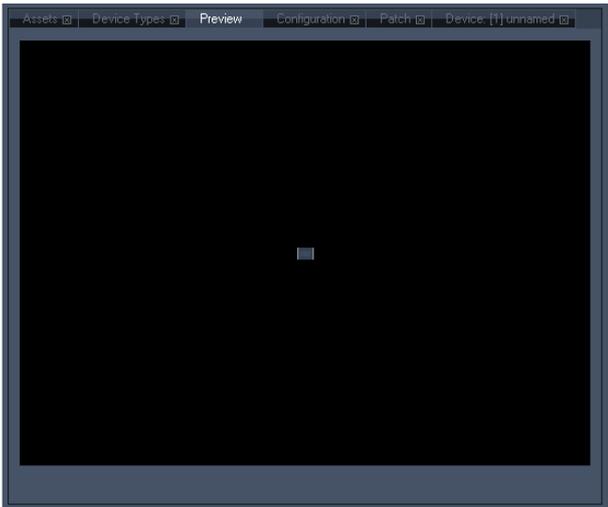
The Pandoras Box output 1 of a PB server should be used to control your LED Panels. The display attached to this output is set up to the resolution 1024x768 px.

The LED Panels where the video content should be displayed on are 20 px wide and 20 px high.

- a) If the patch is only 20x20 px large (according to the amount of pixels of the LED Panels), only a fraction of the whole PB layer size will be used for the Matrix, illustrated by the red square in the picture below. This way the content (in this example the coolux logo) has to be scaled very small to be completely displayed on your devices. And this is quite unhandy.



Left side:
 By default the video content (the coolux logo) covers the whole output (output size: 1024x768 px). A patch with the size 20x20 px would only give out DMX data for the area that is covered by the red square.

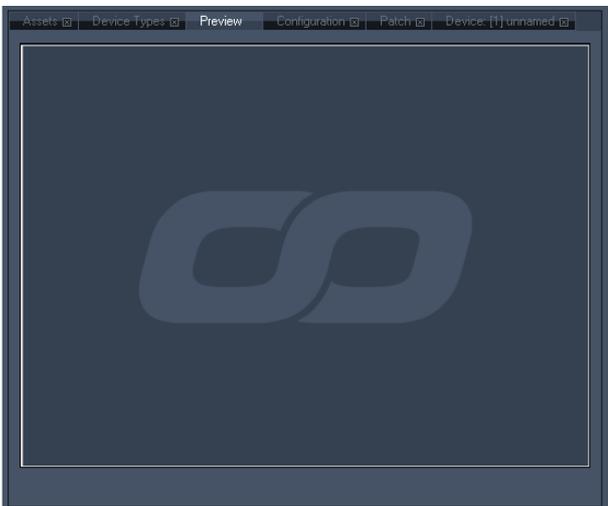


Right side:
 To ensure that the logo will be shown on your LED Panels with its whole height, it has to be scaled down a lot.

- b) A better and more handy workflow inside Pandoras Box is given when the patch gets close to the size of the Pandoras Box Matrix output (PB output= 1024x768 px). You may create a patch now that is 1024x768 px. The fixtures on the patch will be scaled up and arranged so that they form a square (because of the pixel aspect ratio 20:20) covering the whole patch's height. The colour values for one pixel of the patch will now be calculated as average value from a bigger area, not only from one pixel as shown in the example 1a. See picture below.



Left side:
 By default the video content (the coolux logo) covers the whole output (output size: 1024x768 px). The fixtures on the patch with the size 1024x768 px cover nearly the whole output, shown by the red square.



Right side:
 To ensure that the logo will be shown on your LED Panels with its whole height, it has not to be scaled down any more!

Patch Size

In the [Patch Settings](#) the current patch size is displayed. By default the size is set to 1024x768 px. Adjust this patch size to fit your PB Matrix output resolution.

Adding Fixtures

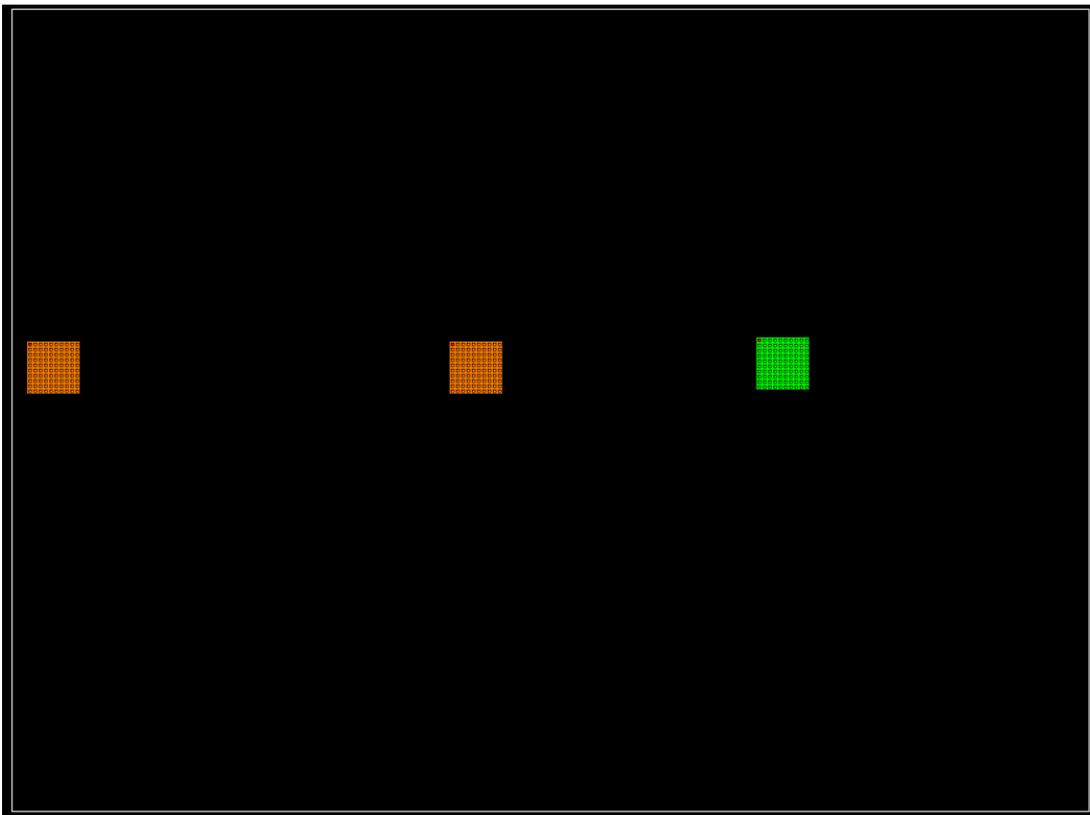
Now that the patch is set up, you need to add one or several fixtures to your patch. Let's assume that you want to place 3 square fixtures (with the size 10x10 px) side by side in a line, covering the whole width of the patch.

Select the fixture in the Fixture Library. If it is not available set it up in the [Fixture Editor](#) first. But before adding the fixtures on the patch, think about how they should be addressed.

Turn over to the [Fixture Patch](#) and enter the DMX Startaddress and the ArtNet Subnet and Universe for the first fixture. Don't press [Apply] as this should be used only when modifying DMX addresses after the fixture is created.

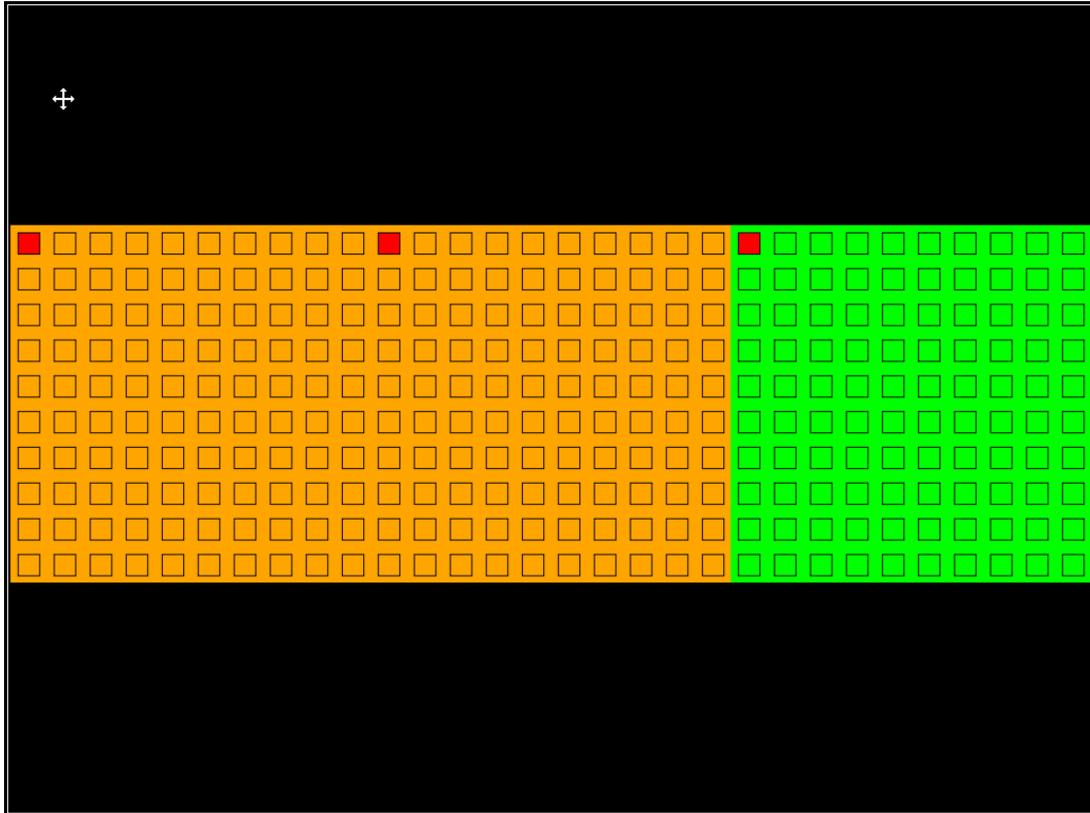
If the DMX addressing should be automatically incremented for all following fixtures, enable [Auto Increment]. If you want to address the following fixtures manually, you may enter the new DMX addressing in the Fixture Patch before adding the fixture to the patch.

Now click on [Add] in the [Toolbar](#) or choose the add-function via the right-click menu and proceed a left mouse click in the patch area. Your first fixture will appear. Do this two more times to get all 3 fixtures on the patch.



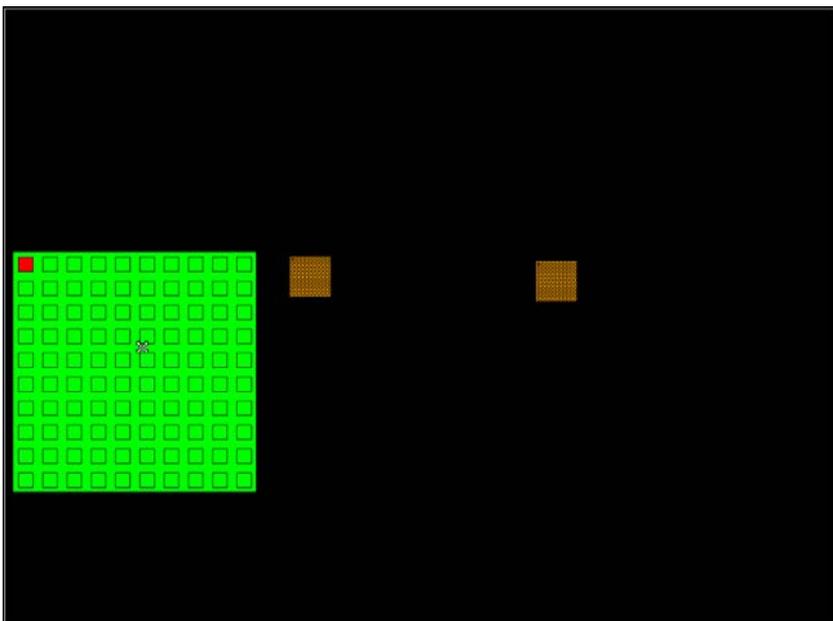
Adjusting the fixtures on the patch

As the fixtures should cover the whole width of the patch, you have to position and scale them to the correct size. So that the result looks similar to this:



The scaling can be done in several ways: by eye, by calculating the correct zoom factor or by using a prepared background image.

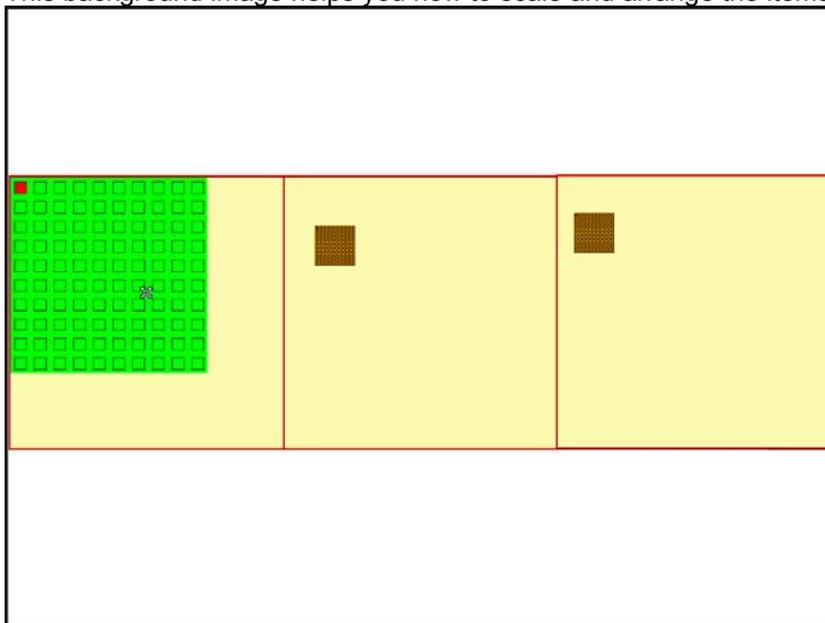
- By eye:
Turn to scale-mode using the right-click menu or pressing the scale button in the [toolbar](#). Click on the fixture and move the mouse cursor to the right while holding down the left mouse button. Do this for every fixture. Then adjust the positions by turning into the move-mode.



- By calculating the correct size (in %):
 The patch is 1024 px wide, one fixture is 10 px wide (zoom factor = 100%). A fixture should cover 1/3 of the patches width. So 1/3 of the patch width are $1024/3 = 341,3$ px. To get the new size, divide the size 100% through the fixture's width (10 px) and multiply this with the width the fixture should cover (341,3 px):
 $100\% / 10px \times 341,3px = 3413 \%$.
 Select the first fixture when being in move-mode. Now enter the new size into the according text field in the [Fixture Patch](#) and press [Apply]. Do this for all fixtures and position them on the patch.
Please note: the size can only be applied in 10%-steps, so that you have to round the value up or down. In this case you could use a size of 3410% or 3420%.

Fixture Patch	
Vendor	coolux
Type	test 10x10
Fixture Name	
Location X	0 px
Location Y	210 px
Size	3420 %
Angle	0 °
DMX Startaddress	1
Artnet Subnet	0
Artnet Universe	0
<input type="checkbox"/> Auto Increment	<input type="button" value="Apply"/>

- By using a prepared background image:
 You may prepare an image, that shows the correct adjustment of three items over the width of the image. This can be loaded as background image. To do so, go to File→ Load Background Image and browse to the image path. To show / hide this image, toggle the option [Show BG] in the [Patch Settings](#) down right.
 This background image helps you now to scale and arrange the items on the patch.



Useful Hints:

You may check and modify the settings in the Fixture Patch for each fixture if necessary (eg. the DMX addressing or the positioning).

To remove a fixture from the patch, highlight the fixture by clicking it and press [Del] on your keyboard.

Save Patch & Export Matrix:

When patching the matrix is completed, it is recommended to save this patch file in order to still be able to modify it later on. Do this by File → Save Patch

Export your matrix by File → Export Matrix. The matrix will automatically be exported as "pixelpatch.csv" to the directory where the Matrix Patcher.exe file is located (e.g. C:\coolux\program files\Pandoras Box SERVER STD Rev xxx).

Every time you export a matrix, the current pixelpatch.csv file will be overwritten. If you want to keep it, browse to the accordant directory and rename the file or save it under another directory. Please note that for using the matrix in the MediaPlayer and MediaServer only the file named 'pixelpatch.csv' will be loaded.

6 WARPER

The built-in Warper lets you create any custom shape with scalable free-form-deformers (FFD) that enable you to warp almost any screen shape.

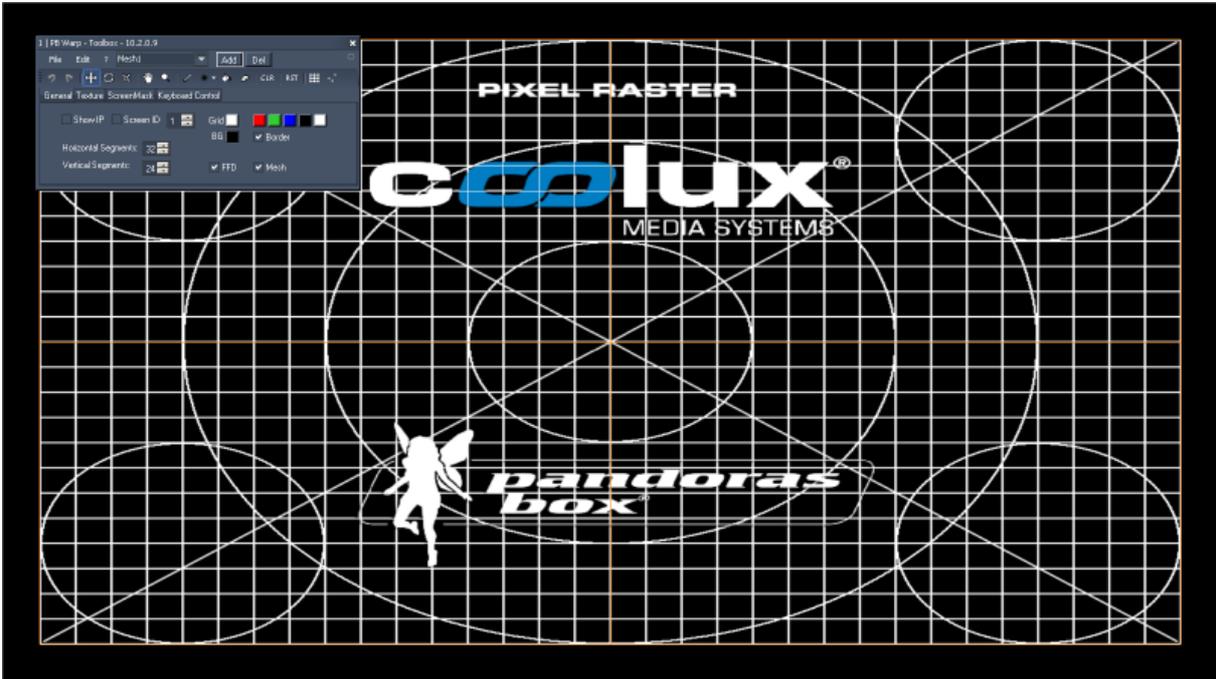
If you are missing important information or if you would like to contribute to the library please feel free to contact support@coolux.de.

For more information about how to use the Warper please refer to the following pages:

- [User Interface](#),
- [Warping Guide](#),
- [Keyboard Shortcuts](#).

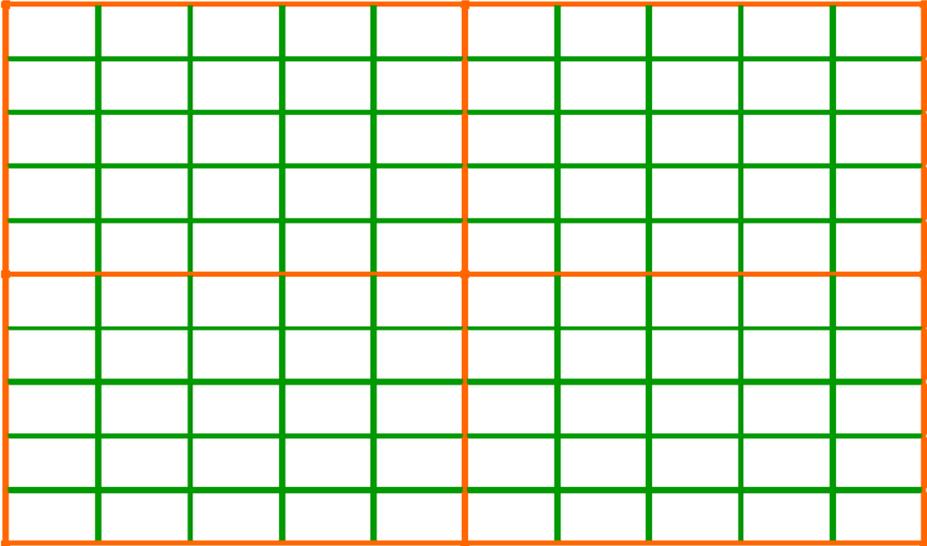
6.1 USER INTERFACE (GUI)

General Introduction

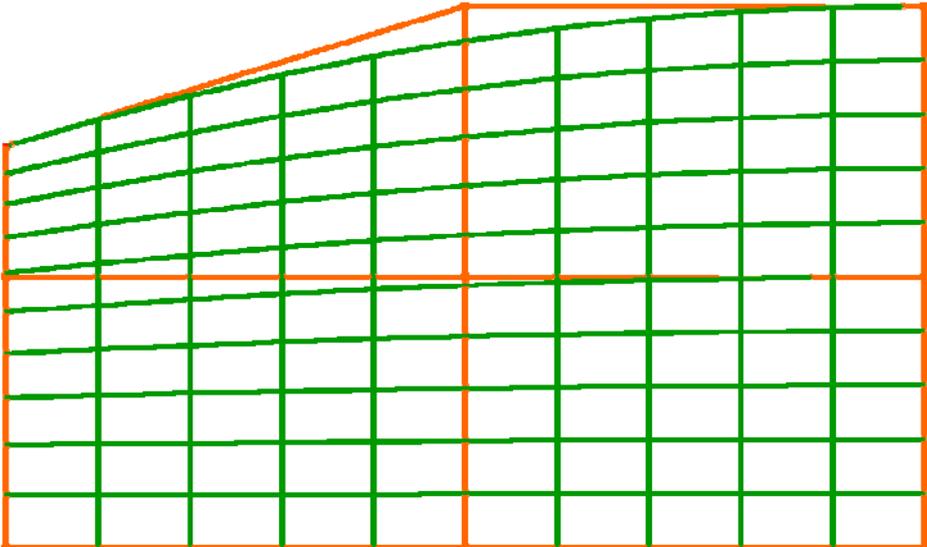


When opening the Pandoras Box Warper application in the background you will see the orange lines (FFD - Free Form Deformers) and the white lines (mesh). In the foreground you have a grey Toolbox, wherein you set up the grid properties.

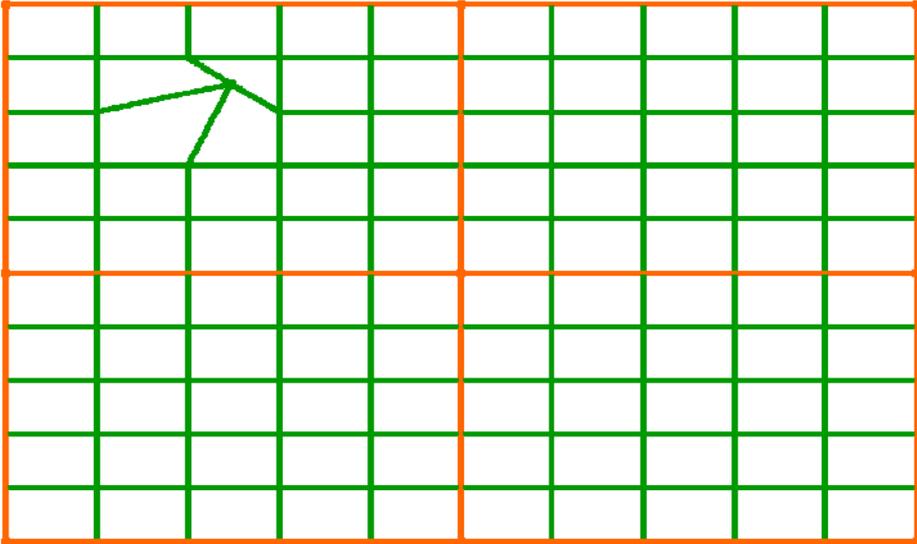
See here the differences between moving a FFD control point and moving a mesh point:



a. The grid without any editing.



b. The top left FFD control point is moved further down. The whole mesh is affected by this change: the horizontal lines are bend together on the top left side, the meshes outline gets curved.



c. One mesh point is moved. Only the segment lines between the moved point and the four neighbour mesh points are affected by this.

Once you have set up the mesh according to your screen, you can export it to Pandoras Box and use it on the camera. The overall rendering will now be displayed on the selected object.

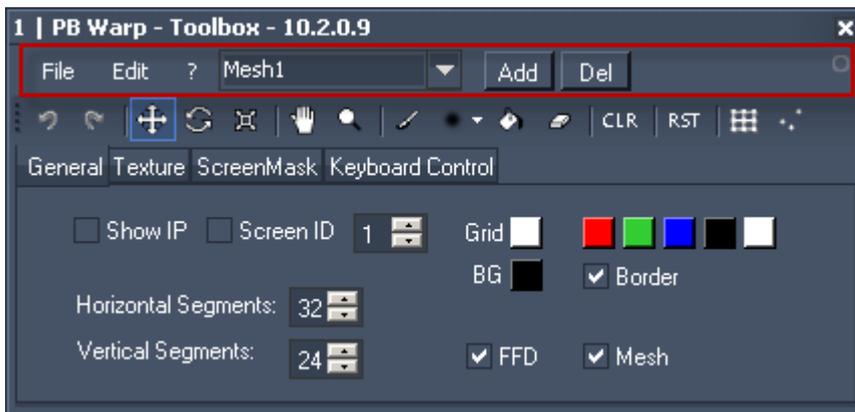
The FFD is only a helping tool to set up the mesh, you won't see the FFD in the exported object.

6.1.1 TOOLBOX OVERVIEW



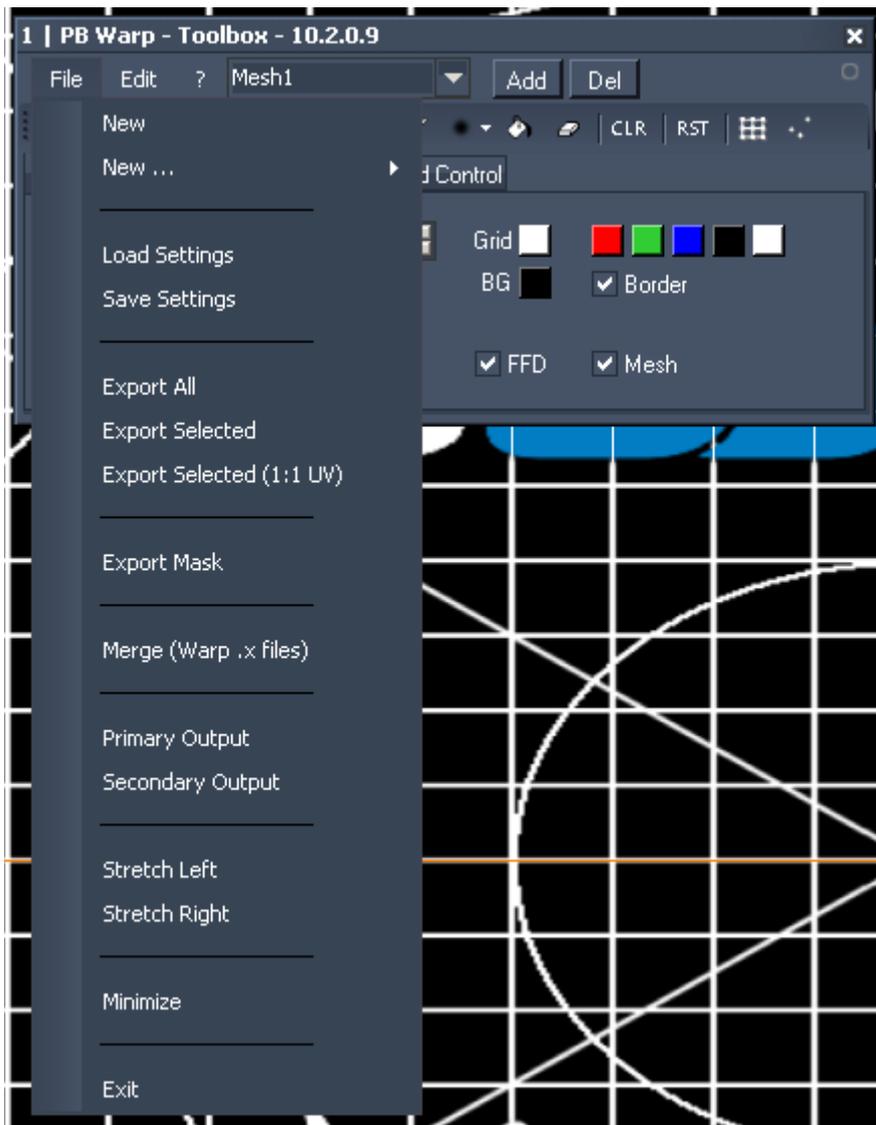
The Toolbox is divided into the [Menu Bar](#), the [Tools Bar](#) and the following tabs: [General](#), [Texture](#), [ScreenMask](#) and [Keyboard Control](#).

6.1.1.1 MENU BAR

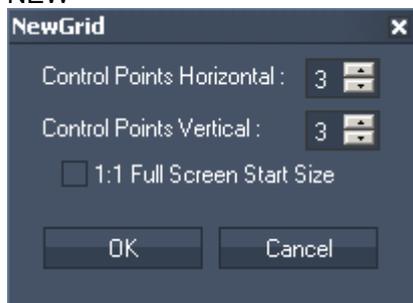


The Menu Bar is divided into the [File Menu](#), the [Edit Menu](#), the [\[?\] - Button](#) and the [Mesh Selection](#).

6.1.1.1.1 FILE MENU

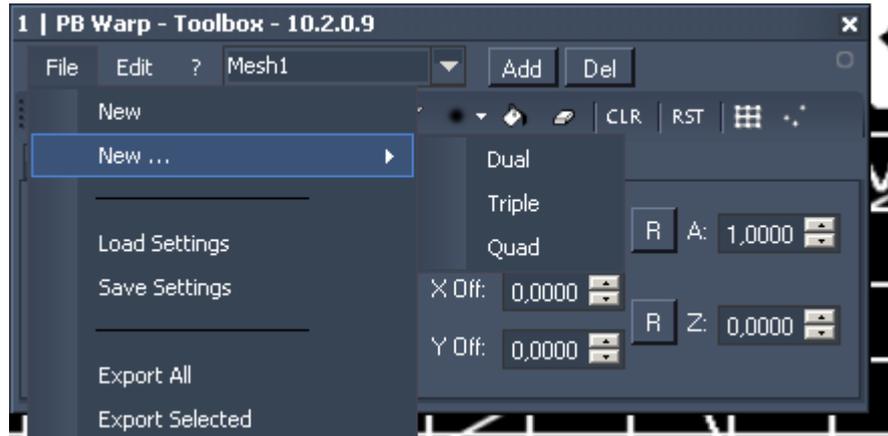


NEW



When creating a new grid, this dialog box opens up. Please type in the amount of horizontal and vertical FFD control points you want to have. Tick the checkbox [1:1 Full Screen Start Size] if the new mesh should cover the complete output instead of keeping a small border uncovered. Click [OK].

NEW...



The option [New...] allows to create predefined mesh objects within one warping project. Choose between Dual, Triple or Quad. You can add meshes to your project any time.



A dialog box opens up where you might change the amount of Horizontal and Vertical FFD Control Points each mesh object should have. Click [OK].

LOAD SETTINGS

If you want to load an existing Warping file (*.wrp) a small browser opens where you can choose your file. Press [Open].

SAVE SETTINGS

To save your warping file (*.wrp) a small browser opens. Choose the directory where you want to save this file, name it and press [Save].

EXPORT ALL

Use this export option to export all meshes as one warping file.

A small browser opens. Please choose the directory, name your file and press [Save]. Your file is now exported as a *.x-file, which can be inserted in your Pandoras Box Project and used as camera object.

EXPORT SELECTED

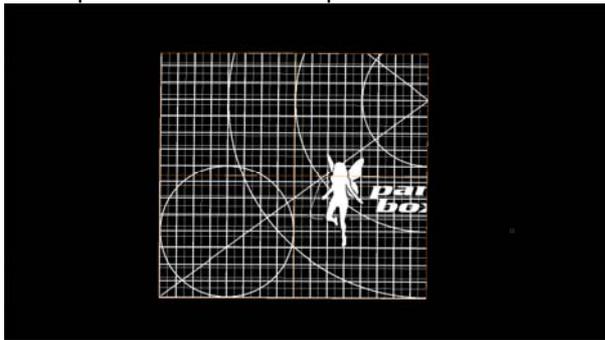
Use this export option to export the selected mesh as warping file.

A small browser opens. Please choose the directory, name your file and press [Save]. Your file is now exported as a *.x-file, which can be inserted in your Pandoras Box Project and used as camera object.

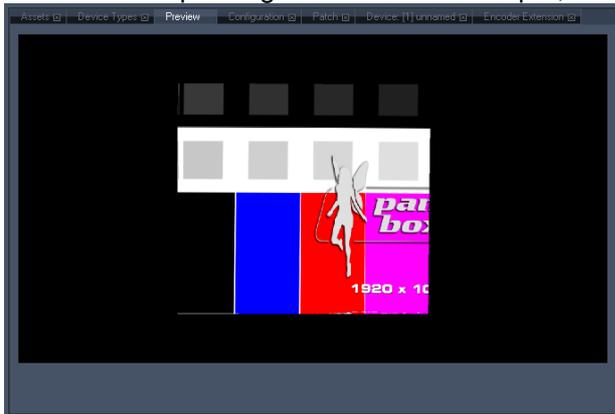
Please note: Changes done to the UV texture mapping (by editing the texture's Zoom or Offset settings in the Texture tab) will be included in the exported file. This will influence the size or position of a texture used with this object in Pandoras Box as well!

If you want to have the complete texture mapped 1:1 on the object, please use the option "Export Selected (1:1 UV)" instead.

Example: The following image shows the warping project. The texture mapping is modified – you only see a part of the whole testpattern on the mesh.



After having exported this file via the option “Export Selected”, in Pandoras Box the object’s texture will look corresponding to texture in the warper, see image below.

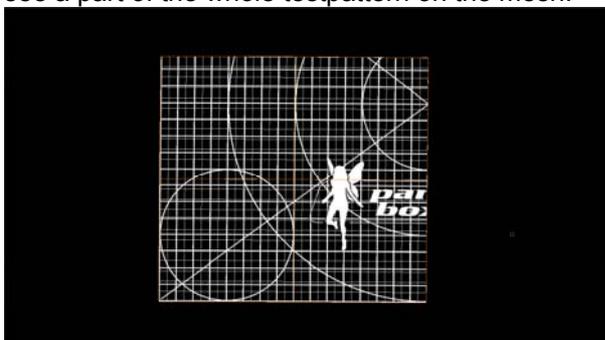


EXPORT SELECTED (1:1 UV)

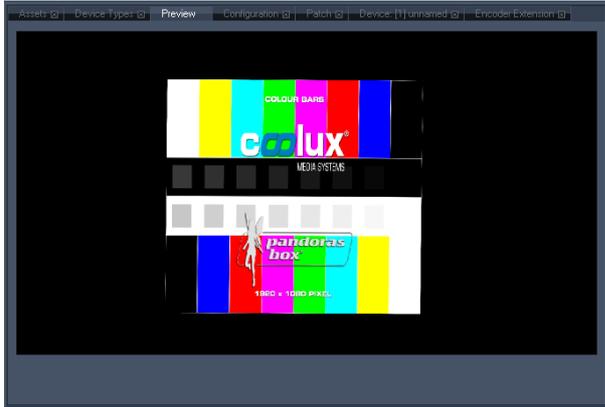
Use this export option to export the selected mesh as warping file. A small browser opens. Please choose the directory, name your file and press [Save]. Your file is now exported as a *.x-file, which can be inserted in your Pandoras Box Project and used as camera object.

Please note: Changes done to the UV texture mapping (by editing the texture’s Zoom or Offset settings in the Texture tab) won’t be included in the exported file. In Pandoras Box a texture for this object will be mapped 1:1 on the object! If you want to apply the changes you have done on the texture’s zoom or offset, please use the option “Export Selected”.

Example: The following image shows the warping project. The texture mapping is modified – you only see a part of the whole testpattern on the mesh.



After having exported this file via the option “Export Selected (1:1 UV)”, in Pandoras Box the object’s texture won’t show the texture offset and zoom that was set up in the Warper, see image below.



EXPORT MASK

Use this export option to export the screen mask you created in the ScreenMask-Tab. A small browser opens. Please choose the directory, name your file and press [Save]. Your file is now exported as a *.png-file, which can be inserted in your Pandoras Box Project and used as mask object on a layer.

MERGE FILE

This option enables you to merge several warping files (.x-files) into one file. Browse to the folder where the x-files are located. Select all files you want to merge and click on [Open]. Now browse to the path you want to save the merged object to. Enter a name and click on [Save]. The merged .x-file may now be used in Pandoras Box.
Please note: You won't see the merged file inside the Warper!

PRIMARY OUTPUT/SECONDARY OUTPUT

By default the warping grid opens on your primary output. If you want to do the warping for your secondary output, here you can switch it to the secondary output. If you open the application one more time, you can work on both outputs simultaneously. (graphicscard setting: extended mode / dual view).

STRETCH LEFT / STRETCH RIGHT

When you have two outputs and the graphicscard is in STRETCH mode (recommended for older ATI cards and latest NVidia Cards), please use this option to position the warper's mesh on the left or right output.

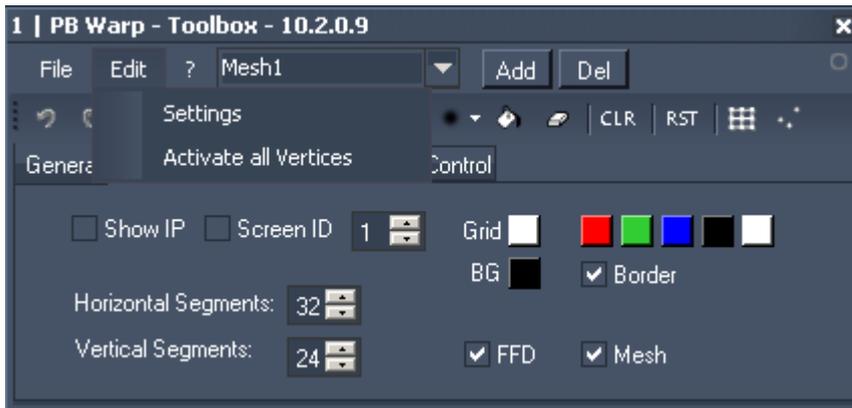
MINIMIZE

Minimize the Warper window. As the Toolbox always stays in the foreground you have to close it as well or just press [H] to hide it.

EXIT

Quit the application. A dialog box will appear and ask you if you want to save the project before closing. Choose [Yes] to save it, [No] for exiting without saving or [Cancel] to get back to the application.

6.1.1.1.2 EDIT MENU



SETTINGS



If you're running the Warper on the same computer as your PB Master software (Manager, Player or Server), the exported mesh or mask can directly be added into your current PB Project. To use this function, please make sure that the IP address and Domain of your local computer match the PB Masters settings displayed in the pop-up dialog. Press [OK].

The next time you export the mesh or the mask, it will be added into your Pandoras Box Project.

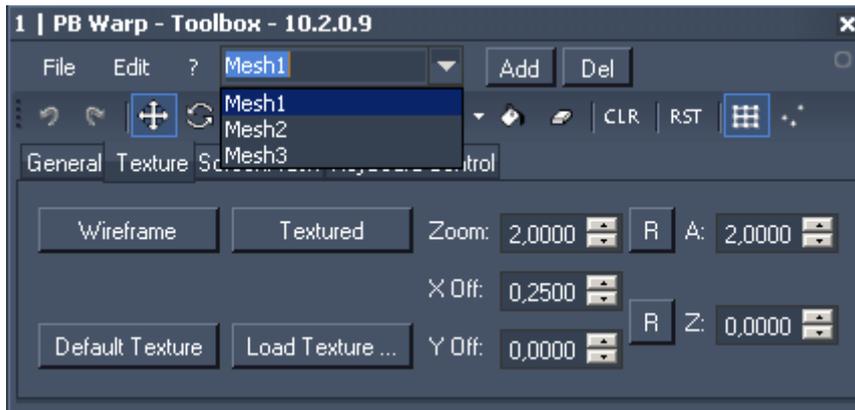
ACTIVATE ALL VERTICES

If you toggled some vertices/faces of the mesh with the shortcut [D] to be invisible, you can activate all hidden vertices again using this menu entry.

6.1.1.1.3 [?]-BUTTON

Here you will find a listing of all keyboard shortcuts available in the application. Use [F1] to open this help as well.

6.1.1.1.4 MESH SELECTION



The Warper allows to deal with several mesh objects within one warping project.



Choosing one of the existing mesh objects from the drop-down list will select the object in the main window.

[Add]:

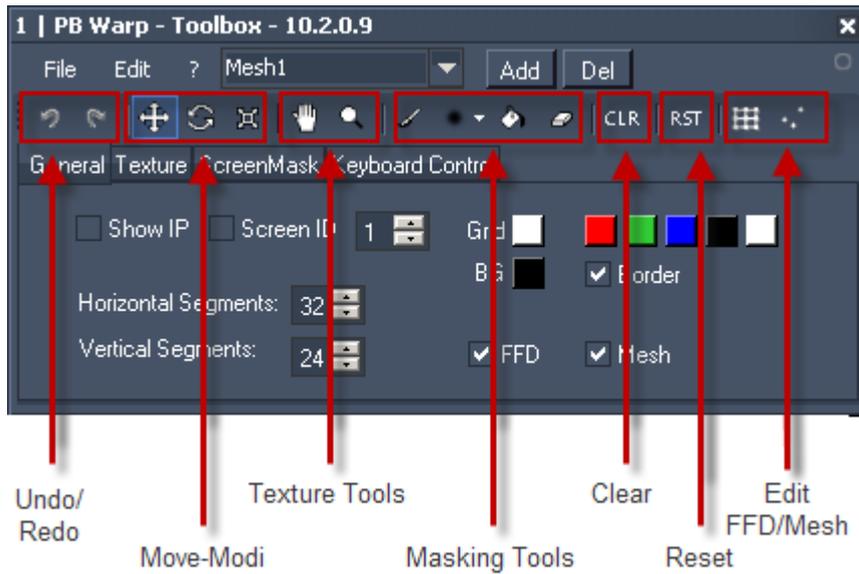
If you want to add one more mesh object, press [Add]. A pop-up dialog allows to define the amount of Horizontal and Vertical FFD mesh points for the new mesh. Click [OK]. The new mesh will be added to the main window.

[Del]:

In order to delete one of the existing mesh objects, please select the mesh objects first via the drop-down list. Now press [Del]. A pop-up dialog needs a further confirmation for this action, as it can not be undone.

See the tutorial [Warping with several meshes](#) for more information about this topic!

6.1.1.2 TOOLS BAR



UNDO



Use this button to undo the last change in the mesh.

Please note: Undo only refers to the mesh, changes done to the FFD or the ScreenMask can't be undone.

REDO



Use this button to redo the last change in the mesh.

Please note: Redo only refers to the mesh, changes done to the FFD or the ScreenMask can't be redone.

MOVE-MODI

There are 3 different possibilities to move the selected Mesh- or FFD-Points when using the mouse. Moving the points with the keyboard will always behave like being in Standard Move-Mode.

Press the following numeric characters on your keyboard to enter the different Move-Modes:

- [1]: Standard Move Mode,
- [2]: Rotate Mode,
- [3]: Scale Mode.

Example 1: Move-Mode, Shortcut [1]

Position the selected points by holding the right mouse button pressed and moving the mouse up, down, left and right.



Standard Move Mode:

(press this button or use Keyboard Shortcut [1])

When this mode is active, the selected FFD control points or Mesh points can be moved up, down, left and right by holding the right mouse button pressed and moving the mouse or use [SHIFT + arrows] on your keyboard.



Rotate Mode:

(press this button or use Keyboard Shortcut [2])

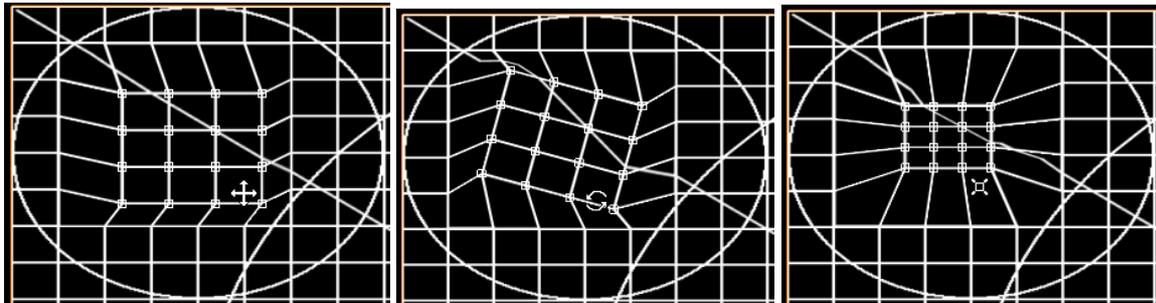
When this mode is active, the selected FFD control points or Mesh points will be rotated clockwise or anti-clockwise by holding the right mouse button pressed and moving the mouse left and right. This does not work for [SHIFT + arrows].



Align Mode:

(press this button or use Keyboard Shortcut [3])

When this mode is active, the selected FFD control points or Mesh points will be aligned by holding the right mouse button pressed and moving the mouse left/right for x-axis alignment and up/down for y-axis alignment. This does not work for [SHIFT + arrows].



See here examples for a) Standard Move Mode, b) Rotate Mode and c) Align Mode.

TEXTURE TOOLS



Drag Texture:

Use this function to drag the visible texture on the mesh. Please see Texture Tab for further information.



Zoom Texture:

Use this function to zoom the visible texture on the mesh. Moving mouse up zooms in, moving mouse down zooms out. Please see Texture Tab for further information.

MASKING TOOLS

Please change to the [ScreenMask Tab](#) to be able to use these tools for creating a screen mask!



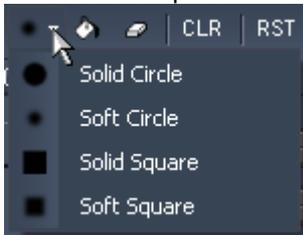
Paint Mask:

Use this tool to paint a mask on your warping.



Paint Brushes:

Unfold the drop-down list to see all available brush types for the painting tool:



Fill Mask:

Use this tool if you want to fill the whole texture with black (everything will be invisible). Alternatively use the button [Black Mask] on the ScreenMask Tab.



Erase Mask:

Use this tool if you want to erase parts of your mask (erases the black parts).

CLEAR

 Use this button to clear your selection of FFD control points or mesh points.

RESET

 When using this button the selected Mesh points will lose their offset and go back to their origin position related to the FFD.

Please note: Changes applied to the FFD control points and the screen mask will not be reset!

EDIT FFD / MESH

Use these buttons (or the according shortcuts) to change between editing the FFD or the Mesh.

 Only the FFD control points can be selected and edited (Keyboard Shortcut [F])

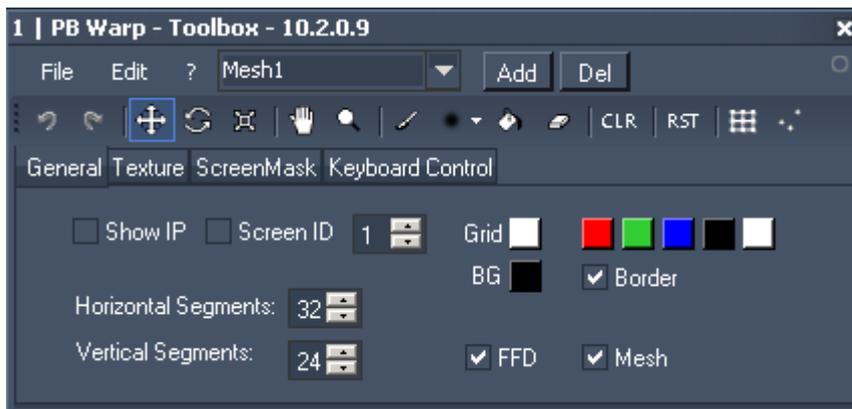
 Only the Mesh control points can be selected and edited (Keyboard Shortcut [E])

6.1.1.3 TABS

See here more information about the different tabs in the Toolbox:

- [General](#),
- [Texture](#),
- [ScreenMask](#) and
- [Keyboard Control](#).

6.1.1.3.1 GENERAL



SHOW IP

Displays the computers IP down left in the screen. This could be very helpful if working on a big screen warping with several instances of the warper.

SCREEN ID

Display the Screen ID in the center of the screen. Choose an ID number from the list on the right.

MESH SETTINGS

Enter the amount of horizontal and vertical segments you want to use in your mesh.

Important: Adjust the amount of mesh segments BEFORE you modify the mesh, because this will reset any changes you did to the mesh before! There is no CTRL-Z function!

GRID APPEARANCE

In this section you will be able to adjust the grid appearing settings. Check / uncheck the boxes to switch between different views:



Clicking the coloured fields changes the colour of the mesh lines. It is useful to work with different Grid colours if you have an overlap between two warping grids. Once the lines match exactly, the colour of the doubled grid lines change. This lets you work more precisely.



Click in the coloured box to adjust the warpers background colour.

Border:

Uncheck / check this box to hide / display the Warpers one pixel white border.

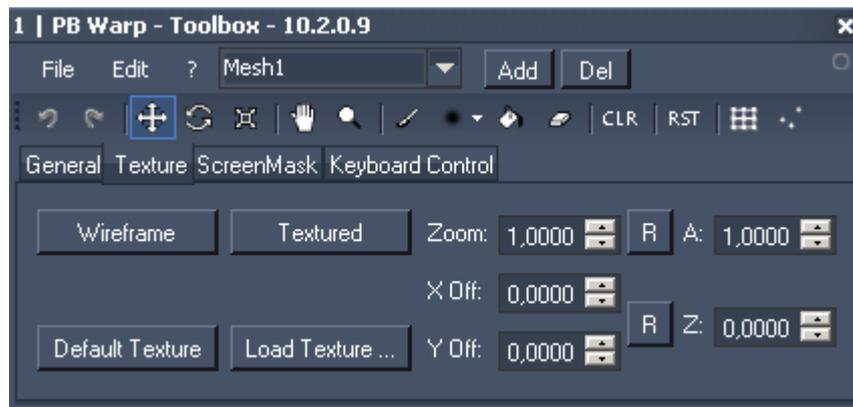
FFD / MESH CHECKBOXES

Check / uncheck the boxes to switch between different views:

FFD: Show / Hide the FFD

Mesh: Show / Hide the Mesh

6.1.1.3.2 TEXTURE



The texture options help you to control if your mesh is perfectly matching the surface you are projecting on.

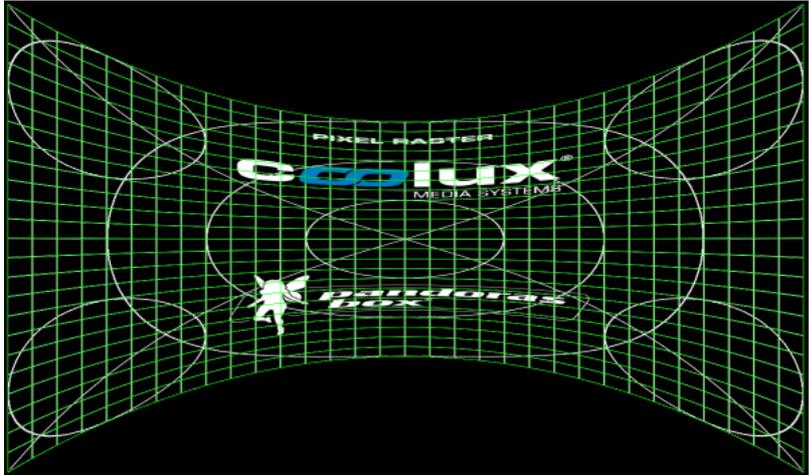
[WIREFRAME]:

Push this button to change the texture to wireframe / grid mode.

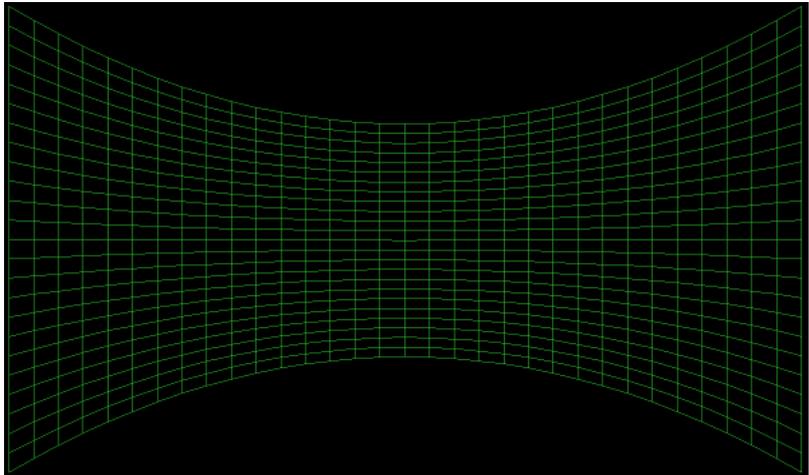
[TEXTURED]:

By clicking this button you change to Textured Mode. In Textured Mode you will see the default Texture (coolux testpattern) or the loaded texture on your grid.

Use the Shortcut [G] as well to toggle between Wireframe/Grid and Textured View.



Example: Warper in Textured Mode



Example: Warper in Grid Mode

[DEFAULT TEXTURE]

By clicking this button the default Texture (coolux testpattern) will be loaded on your grid (will be displayed when you are in Textured Mode)

[LOAD TEXTURE]

By clicking this button an upcoming dialog box enables you to choose a picture or video file that will be loaded on your grid (will be displayed when you are in Textured Mode).

Tip: If you loaded a video file, the space bar will play and pause the file.

ZOOM

Use this option to zoom into the selected texture (only available when you are in Textured Mode). The Zoom factor is related to the width of the texture. The height is given by the aspect ratio, see A (ASPECT RATIO).

The minimum zoom factor is 1, the maximum zoom factor is 99.

To zoom inside the texture you may use the [Zoom Texture Tool](#) from the Tools Bar as well.

Press **R** to reset the zoom to the default value 1. Please note that the Aspect Ratio will be set back to default as well!

A (ASPECT RATIO)

The aspect ratio value sets the height of the texture, the width is given by the zoom factor, see ZOOM.

The Aspect Ratio's maximum value is always limited by the ZOOM value.

Example: Zoom is set to 2 (you will only see a half of the image in width). If the aspect ratio is set to 1 (that means a ratio of 1:1 – width : height), you will see only a half of the image in the height as well. If the aspect ratio is increased to the factor 2 (that means 2:1), you see the whole image in the height, but only half of the image in the width.

X- AND Y-OFFSET

The X- and Y-Offset enables you to move the displayed texture in both X and Y position.

To do this you can use the [Drag Texture Tool](#)  from the Tools Bar as well.

Press **R** to reset the X- and Y-Offset. Please note that the Z-Order will be set to default as well!

Z (Z-ORDER):

The Z-Order value is important if

- more than one mesh is used inside the project and
- at least one mesh overlaps another one.

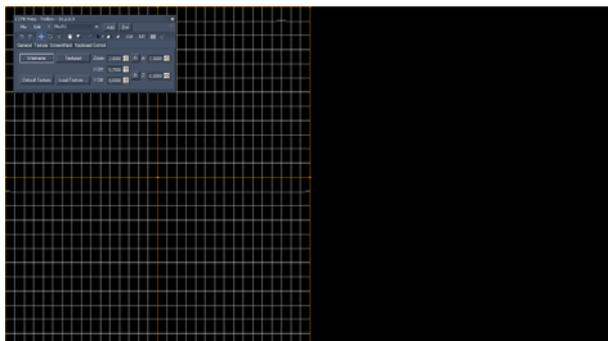
Overlapping meshes without different Z-Order values will result in Z position fighting when the objects (exported as one object) are used in Pandoras Box. Therefore you have to define the Z-Order for the overlapping meshes.

Increasing the Z-Order value will send the selected mesh more to the back, decreasing the value will bring it more to the front.

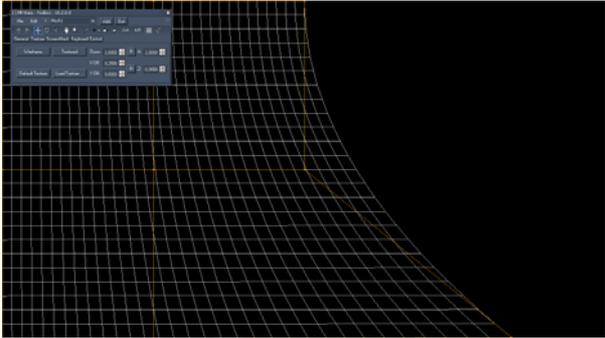
Example:



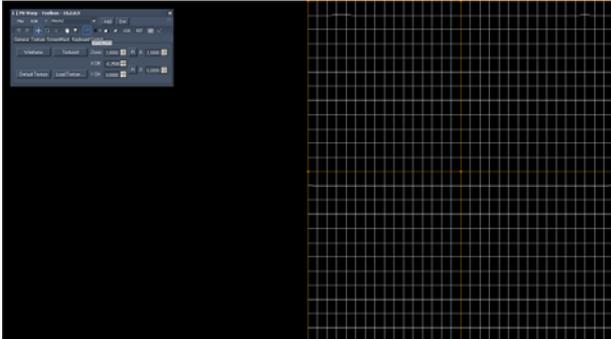
A new warping project with two meshes side by side is created (mesh 1 is selected).



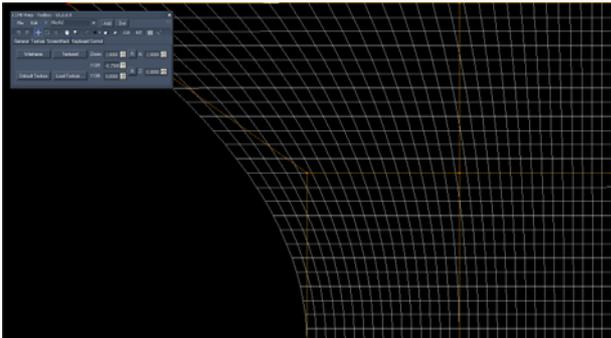
The view is changed from "Textured" to "Wireframe". Mesh 1 is now visible, because it is selected.



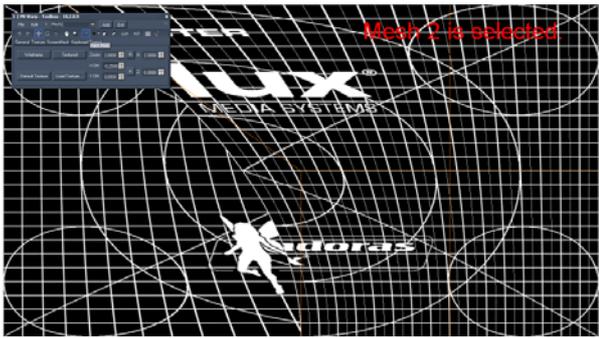
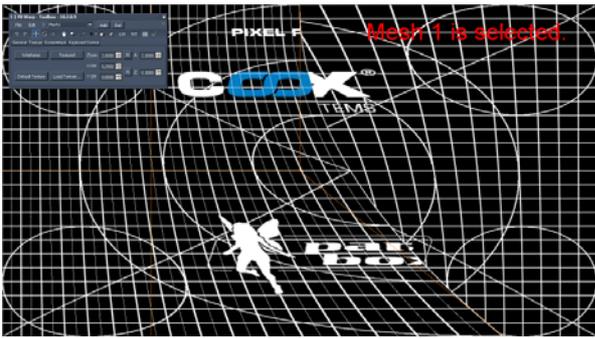
The FFD point down right is moved to the right.



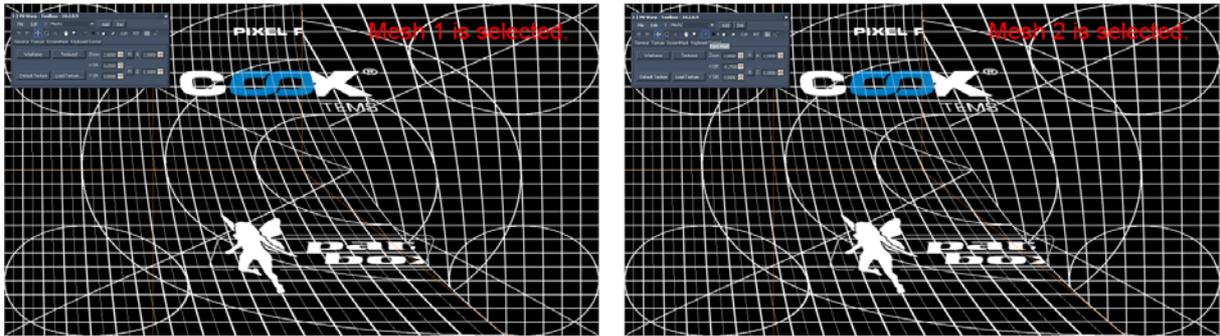
Now Mesh 2 is selected and displayed.



Mesh 2 is modified as well: the FFD point top left is moved to the left.



As long as the Z-Order for none of the meshes is modified, always the selected mesh will be displayed in front of the not-selected one: on the left mesh 1 is selected, on the right mesh 2 is selected.



The Z-Order of Mesh two is increased to the value 0,002, this sends the mesh more to the back. Now mesh 1 is always displayed in front of mesh 2: on the left mesh 1 is selected, on the right mesh 2 is selected.



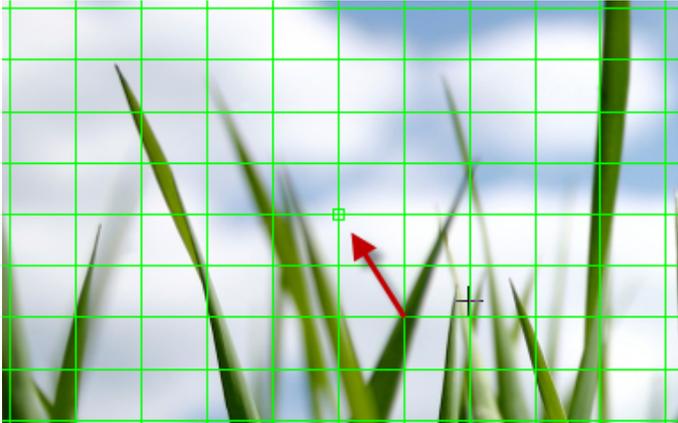
The meshes were exported via the option "Export All". The new .x-file is loaded to Pandoras Box. The texture on mesh 2 disappears behind mesh 1 as set up in the Warper before.

TOGGLE FACE VISIBILITY

This is another function that should be mentioned in the texture section. With the keyboard shortcut [D] you are able to toggle the visibility of selected faces. This could be handy if there are parts in the projection where you do not want to have anything textured, eg. when there is the need to cut out doors on a stage design.

As you just toggle hard edged faces, this is more a rough masking function. To create a finer mask for your screen, please refer to [ScreenMask Tab](#).

Please have a texture loaded to your mesh. To turn a face (the area surrounded by four mesh lines) to be invisible, select the mesh point that is down left of the face and press [D]. Turn several faces to be invisible when selecting more mesh points.



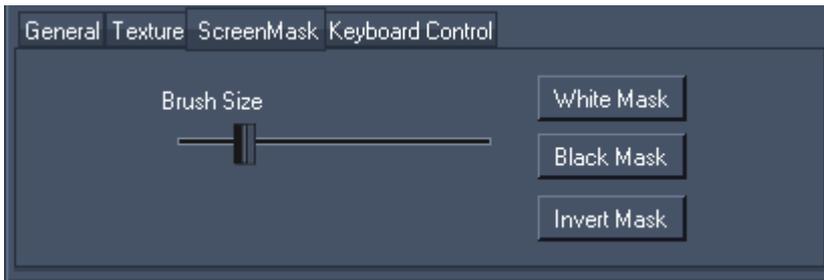
Example 1a: One mesh point is selected (red arrow is pointing at it).



Example 1b: After pressing the shortcut [D] the face top right of the selected mesh point turns invisible.

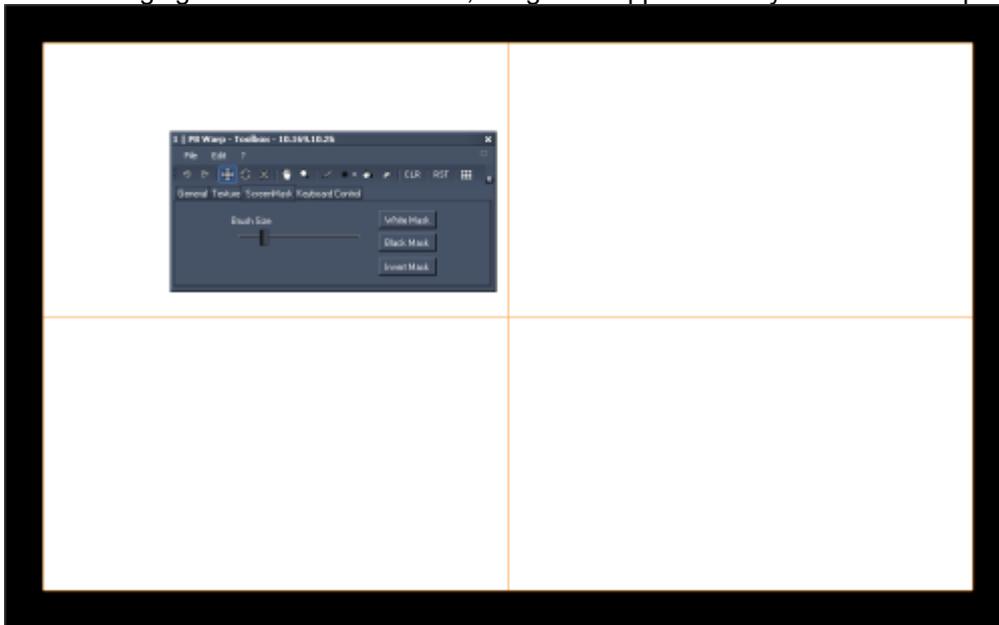
To reload the texture later on, select the same points and press [D] again. To reload all hidden faces without selecting the according mesh points, use 'Activate all Vertices' from the [Edit Menu](#).

6.1.1.3.3 SCREENMASK™



The ScreenMasking Tool allows you to mask while painting onto the projected surface from within the Warper. After finishing the mask, export it as png-file and use it on a high layer in Pandoras Box. This way the mask will perfectly match your warped surface.

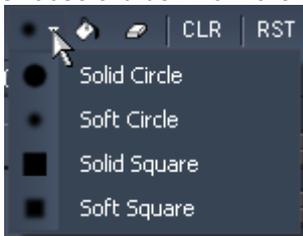
When changing to the ScreenMask tab, the grid disappears and you see a white plane instead.



To paint on this white background, select the Paint Mask Tool  from the Tools Bar.

BRUSH TYPE

Choose a brush from the drop-down list in the Tools Bar.



BRUSH SIZE

Define the Brush Size by moving the slider left and right in the ScreenMask tab.



PAINTING THE MASK

Now that you have chosen your brush, move your mouse with the left mouse button clicked over the white mesh. The painted parts turn black.



Every white part on your warping will be transparent in the mask, every black part stays black; so there will be no light projected on the black areas, if the mask is put on the top layer in Pandoras Box.

If you want to remove parts of your paintings, select the Erase Tool  from the Tools Bar and move your mouse with the left mouse button clicked over the screen.

WHITE MASK

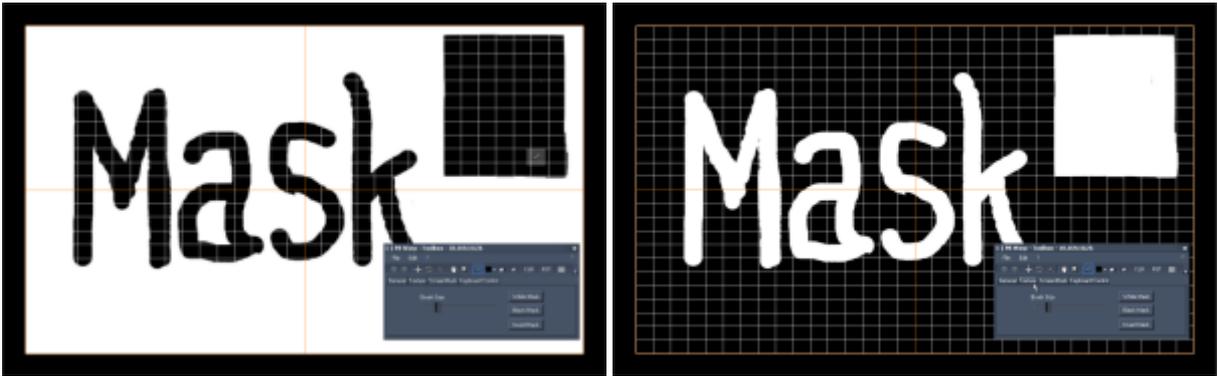
Press this button to get a plain white mask (all parts are transparent). Paint the parts that should be masked with the Painting Tool .

BLACK MASK

Press this button to get a plain black mask (all parts will be masked). Erase the parts that should NOT be masked with the Erase Tool .

INVERT MASK

Press this button to invert the mask.



Example: a) ScreenMask painted on white Mask, b) ScreenMask inverted.

EXPORTING THE MASK

Click on File → Export mask, browse to the location where you want to store your mask-file and name it. A PNG-File will be created.

USING THE MASK

Use this PNG-File on a layer in Pandoras Box to hide the defined areas from being projected on.



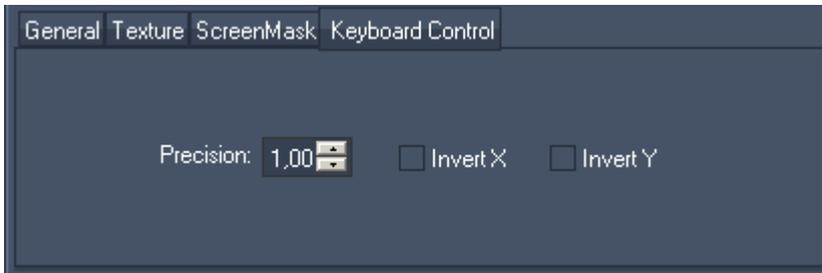
Example how a mask looks like in Pandoras Box:

The left mask from the example above is used in Pandoras Box on top of the content layer.

The right mask from the example above is used in Pandoras Box on top of the content layer.

The great benefit of this masking tool is the live painting on the projected surface, because this mask will exactly fit to your warping file.

6.1.1.3.4 KEYBOARD CONTROL



Use the Keyboard Control Settings to adjust the keyboard behaviour when you are not using the mouse for editing the mesh.

PRECISION

The precision value ranges from 0,01 (maximum precision) to 1 (minimum precision). When doing a rough Grid / FFD adjustment start with minimum precision to save time. Later on the fine adjustment can be done with maximum precision if needed.

INVERT X AND Y

When warping a rear projection or the picture is upside down, inverting X and Y movement can help you adjusting the mesh.

6.2 WARPING GUIDE

See here more information about the following topics:

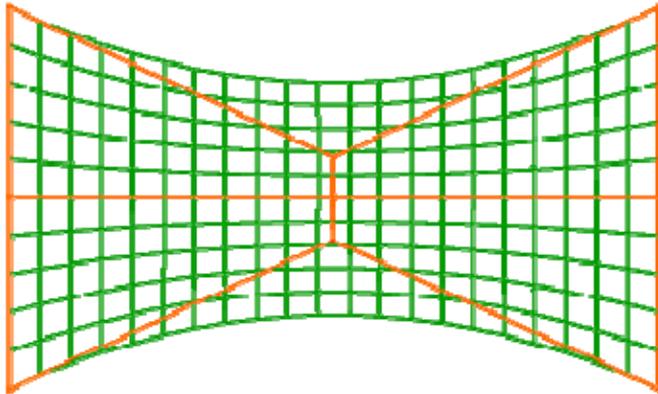
[General warping workflow,](#)

[Warping with several meshes.](#)

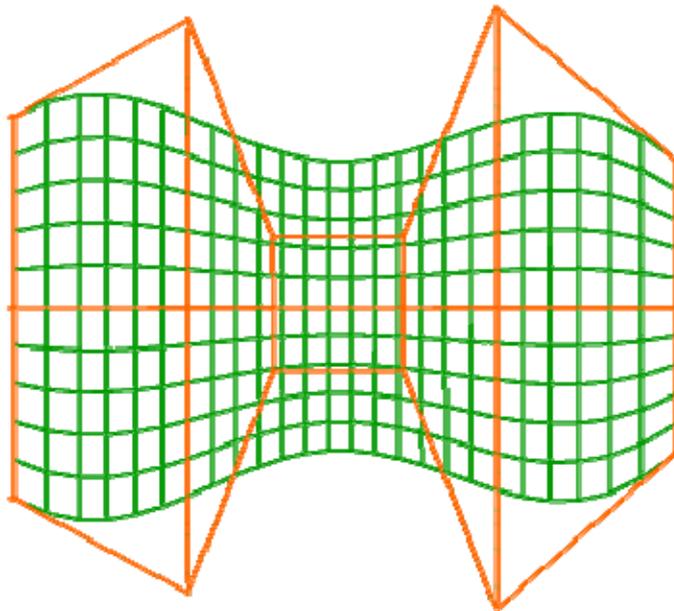
6.2.1 GENERAL WARPING WORKFLOW

SETTING UP FFD CONTROL POINTS AND MESH SEGMENTS

Before you start moving the control points you have to decide with how many FFD control points and mesh segments you should work. This depends on your screen surface and outline.



Example 1: A simply bend screen will go well with only 3 FFD control points horizontally. The more smooth the outline has to be, the more horizontally mesh segments you should take. In this case there are 21 mesh segments.



Example 2: Complexer curved screens will be easier to handle when you increase the amount of FFD control points. In this case there are 6 control points horizontally and still 3 control points vertically. The curved outline of the mesh is the result by only moving the FFD control points.

FFD – THE COARSE ADJUSTMENT

At first you will adjust the FFD as good as possible to match the meshes outline with your screen outline. Try already now to get always the same distance between the horizontal lines and between the vertical lines. The better the FFD is adjusted, the less time is to spend finishing the mesh.

MESH – THE FINE TUNING

Switch to the Mesh-Mode and adjust the Mesh if it is necessary. If you have a big or complex screen it can be difficult to get the same distance between the horizontal and vertical segment lines with the naked eye. Here it can help to take a folding rule and measure the spaces between the lines. When working with keyboard shortcuts, you can adjust the precision of the arrow presses for positioning the Mesh / FFD points in the toolbox section “Keyboard Control Settings”

SEVERAL WAYS TO EDIT POINTS

Depending on your preference you can work either using the mouse or using keyboard shortcuts.

Mouse:

Click the points you want to edit with the left mouse button (multiselect: hold down [CTRL] while selecting). To move the selected points hold down the right mouse button and move the cursor.

Keyboard:

Navigate from point to point with the keyboard arrows (multiselect: hold down [CTRL]). To move your selection hold down [SHIFT].

For both ways applies: to switch between editing the FFD control points and the mesh points, press [F] / [E] on the keyboard or push [SEL] / [MOV] in the toolbox (to show / hide the toolbox press [T] / [H]).

EXPORTING THE GRID

When you finished the mesh, please export your file in order to use it in Pandoras Box. A small browser window opens. Browse to the directory to where you want to export your mesh and press [Save]. The mesh will be exported to this directory as *.x-file.

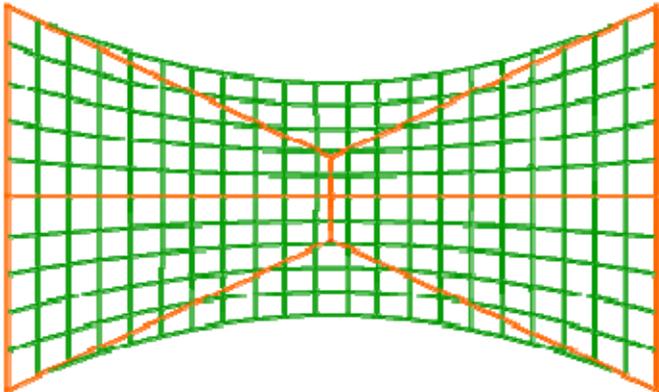
SAVING THE WARPING PROJECT FILE

Although you could think that after exporting the mesh you don't have to touch your warping project file again, SAVE it (File/Save Settings). Once e.g. the projector is moved a bit to the side, your grid does not match anymore exactly to the screen. Instead of doing all the warping again, you just have to load your warping project file (File/Load Settings), adjust the warping file to the screen and export it again.

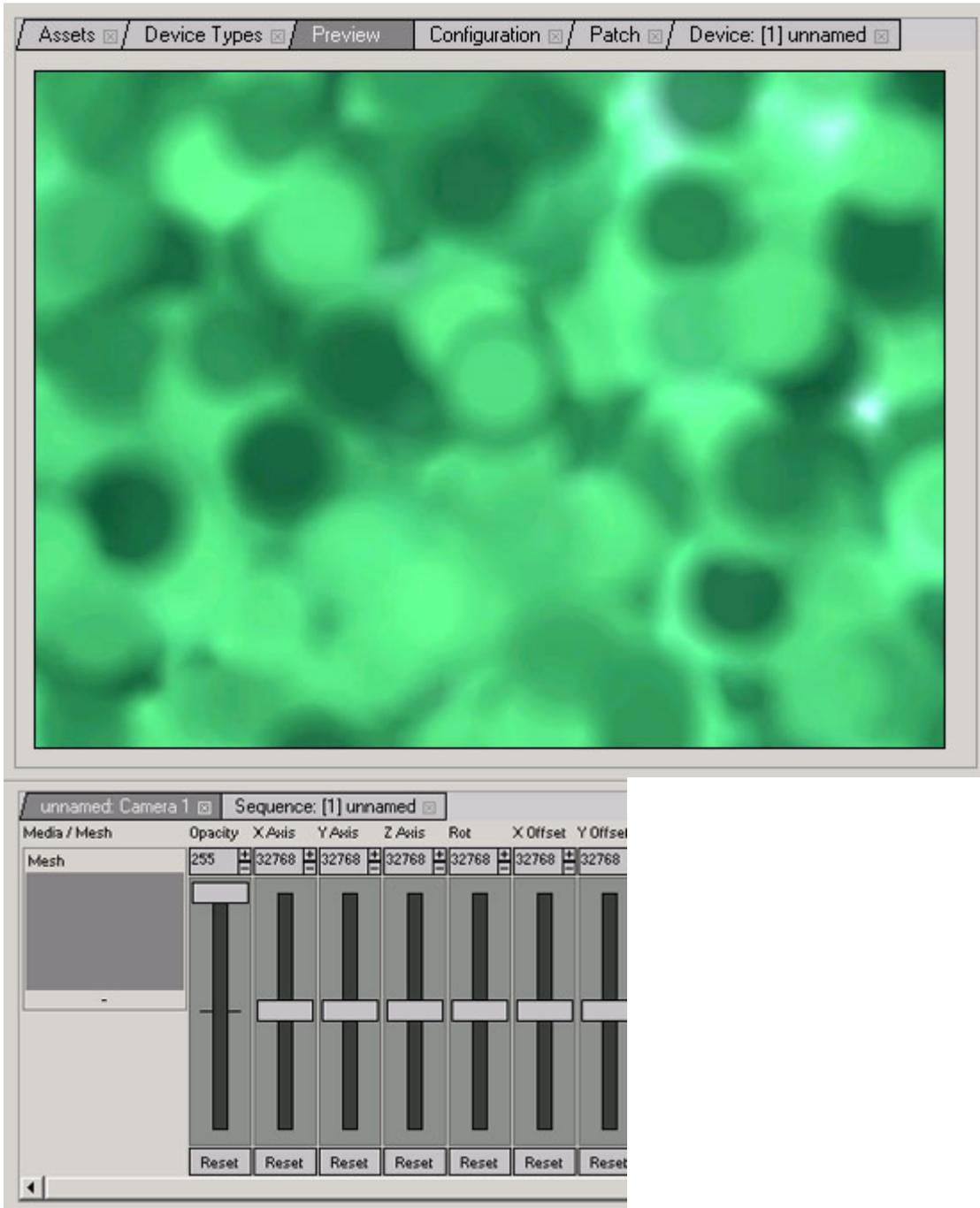
USING THE EXPORTED MESH WITH PANDORAS BOX

Open your Pandoras Box application (Pandoras Box Manager, Player or Server). In the Assets Tab browse to the directory to where you exported your mesh. Drag and drop this *.x-file into your Project Tab. Depending on your project, spread the file to the server. If you created this file for output 1 or output 2, put it on camera 1 or camera 2. Don't mix up a camera object with other 3D-Objects that you usually put on the layers. This object has to be on the camera to map the output to your specific screen surface.

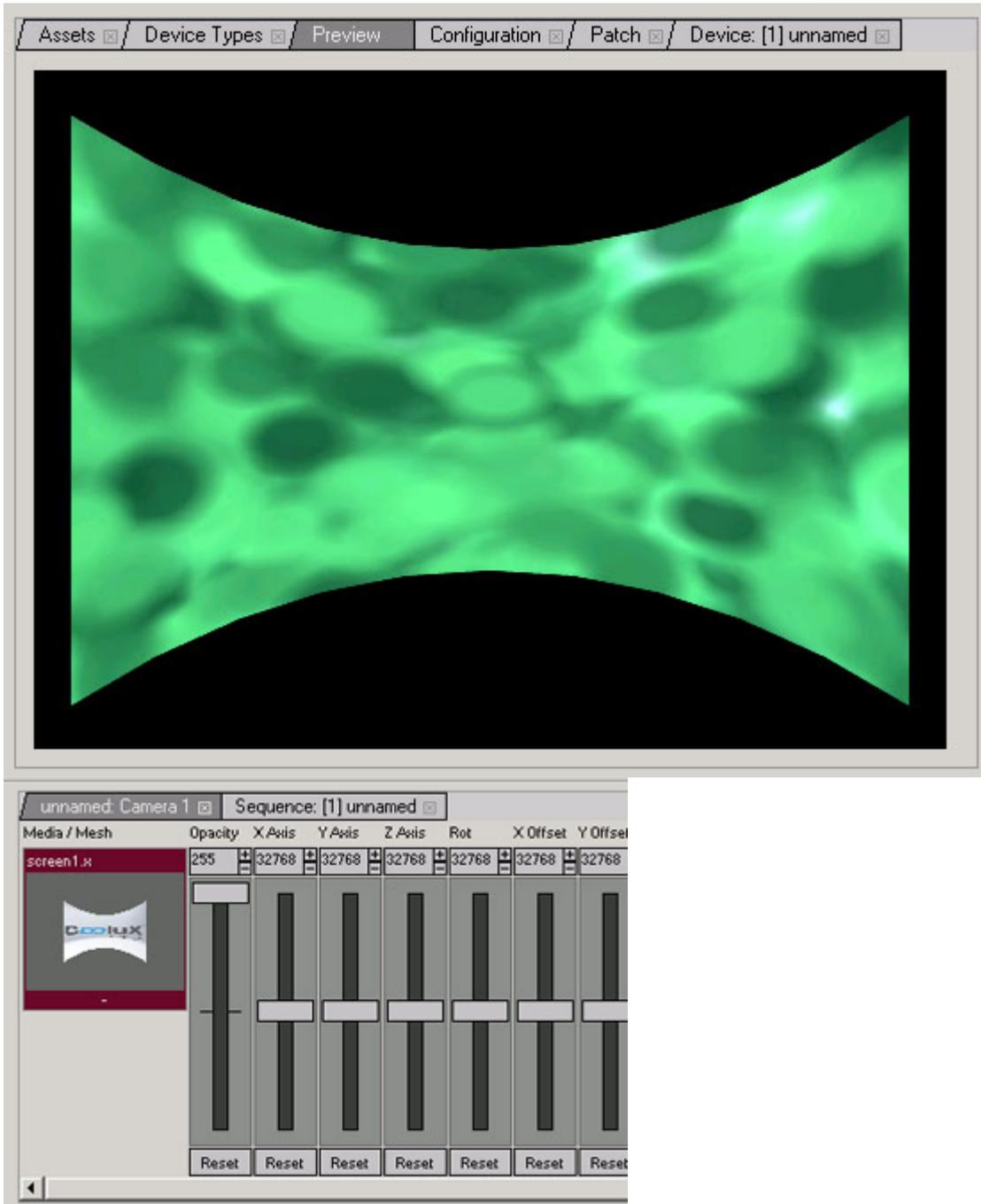
Example:



a. This grid is exported as screen5.x



- b. On a layer in pandoras box a video file is loaded, the preview looks like this. There is no object under 'mesh' in the camera device control.



c. The screen5.x file is added to the camera. The preview shows how the whole output is mapped on the mesh-object.

6.2.2 WARPING WITH SEVERAL MESHES

See here an example for a workflow if you have to project on a screen setup as shown in the image below.



The task is to project on this screen setup in this way:



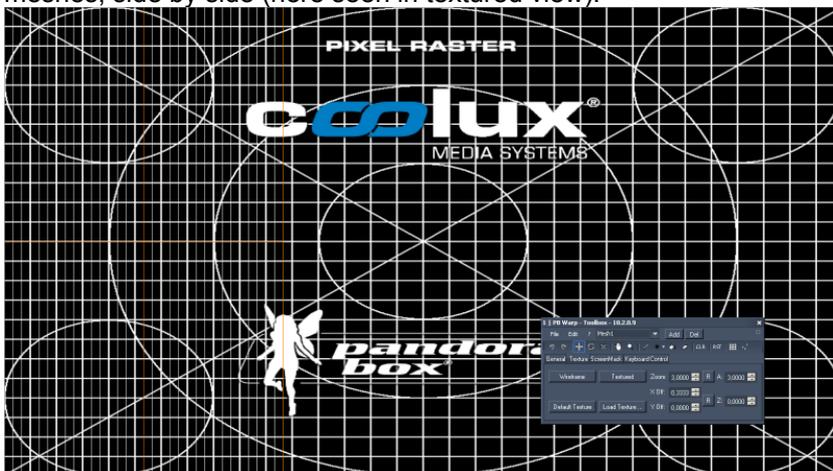
The screen in the middle should show the whole content. Each of the two side screens should show only the a half of the content.

Important:

If your setup will contain overlapping meshes, please read the information about the [Z-Order](#) as well!

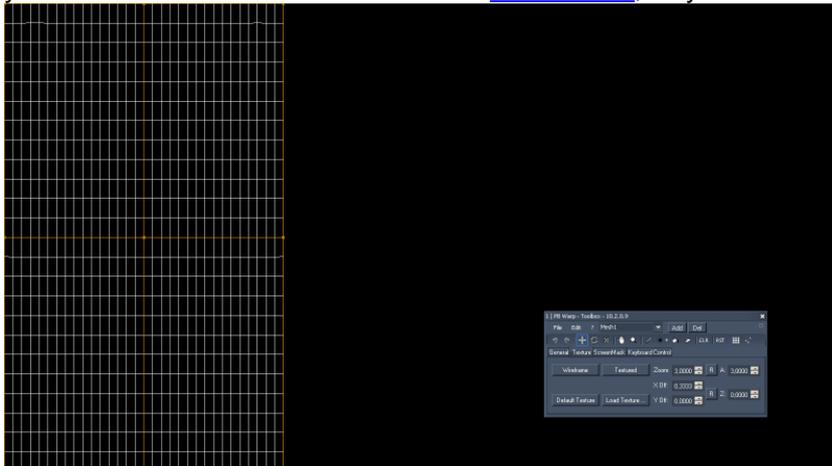
Step 1:

Start creating a new warping file: File Menu → New... → Triple. The project contains now three meshes, side by side (here seen in textured view).



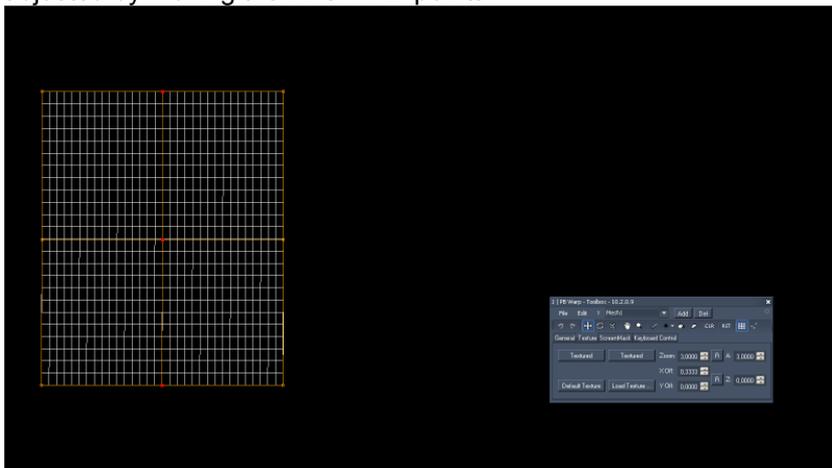
Step 2:

Start adjusting the left screen (= mesh 1). Make sure that mesh 1 is selected in the [mesh selection](#). If you switch to the Wireframe Mode in the [Texture Tab](#), only mesh 1 will be visible.

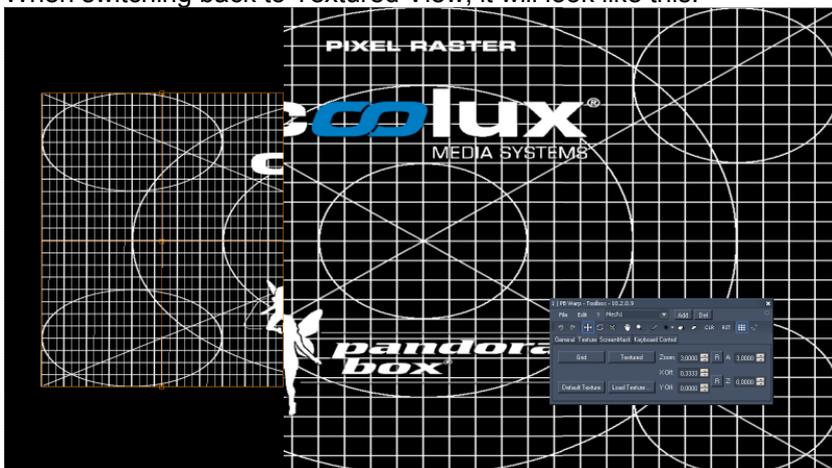


Step 3:

Mesh 1 should now be modified in order to cover screen one in our setup. Click on “Edit FFD” in the [Tools Bar](#) and move the FFD points so that the borders of your projected mesh exactly fit to the borders of the left screen. The mesh segments should all have the same size as well. This can be adjusted by moving the inner FFD points.



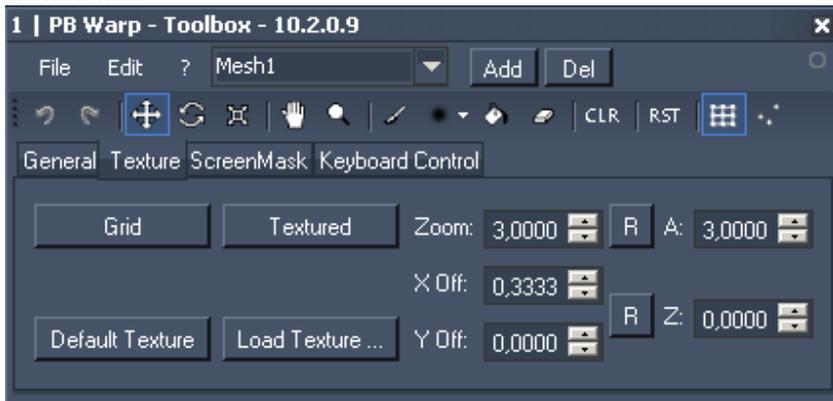
When switching back to Textured View, it will look like this.



Step 4:

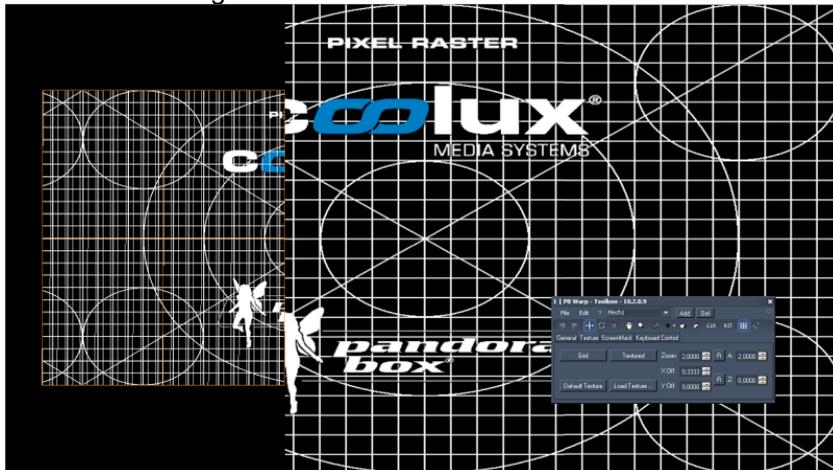
The content (in this case the coolux pixel raster testpattern) on mesh 1 needs to be adjusted. Now it is shown with its full height and a third of its width. This has to be modified, so that on screen 1 the full

height of a content and the left half of its width is shown. To change the texture mapping, go to the texture tab.



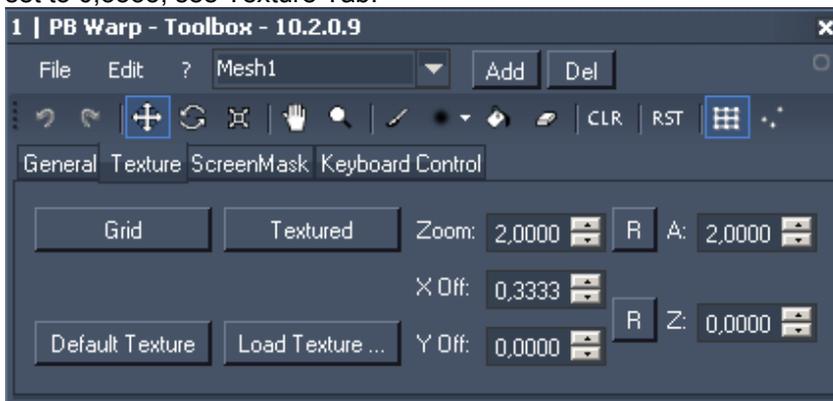
Step 5:

Now the zoom is set to 3 so that a third of the content's width is shown on the mesh. The zoom factor needs to be changed to the value 2. The result looks like this:

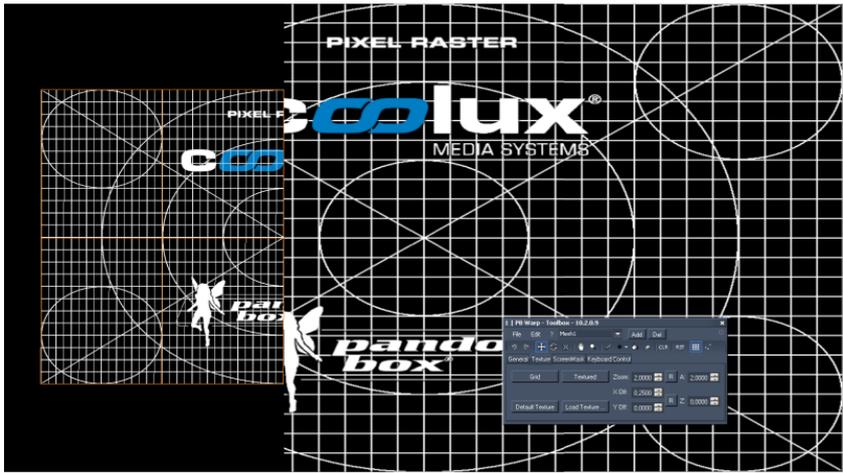


Step 6:

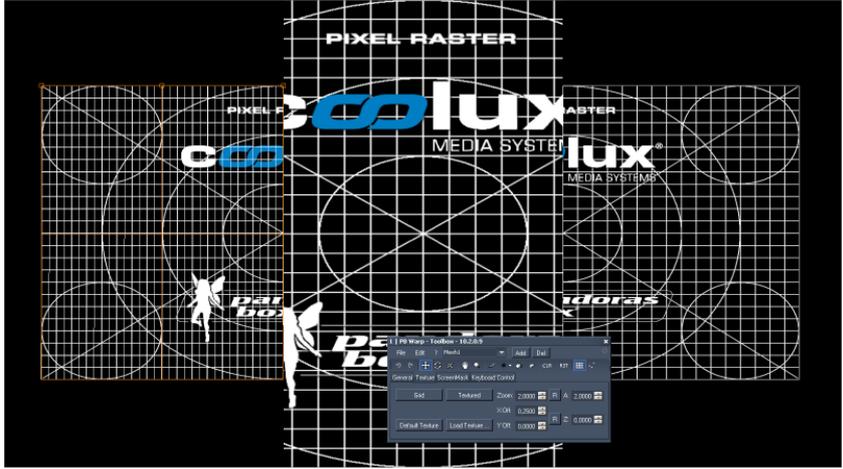
Half of the content is now visible on the mesh, but the X Offset is not correct yet. The texture needs to be moved to the left in order to show the left border of the testpattern (on the left border of the mesh) as well as the center point (on the right border of the mesh). The X Offset in the Texture Tab is now set to 0,3333, see Texture Tab.



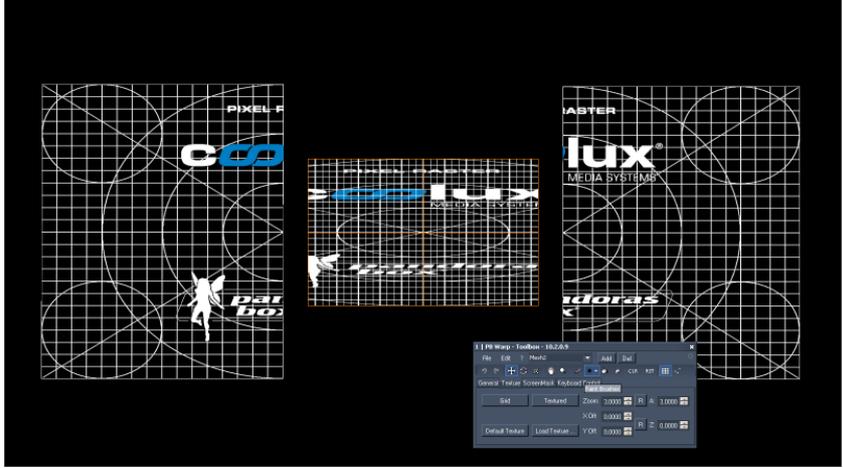
Having the Zoom factor set to 2 and X Offset set to 0, the texture's center point would be shown in the middle of mesh 1. To get it to the right side of mesh 1, it needs to be moved 1/4 of the texture width to the right. So the X Offset of now 0,3333 needs to change to the value 0,25. And now the texture sits perfect on the mesh:



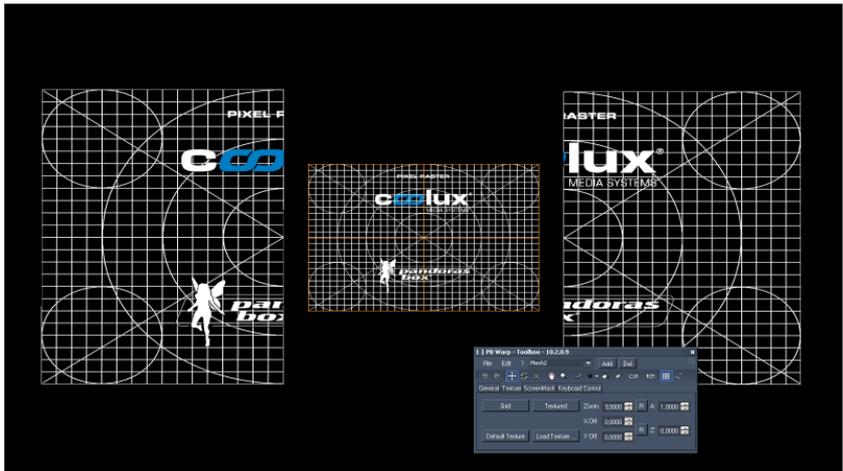
Step 7:
 Mesh 1 is now adjusted. Repeat Step 1 to Step 6 for mesh 3 (right side screen). Only the value for the Texture's X Offset will be different: -0,25 instead of 0,25.
 The meshes look like this now:



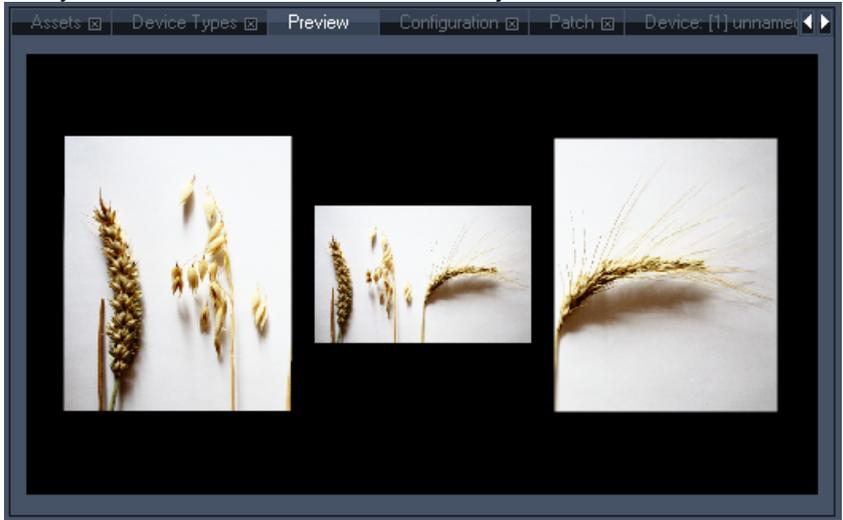
Step 8:
 Switch over to mesh 2 and adjust it according to step 3 to the screen where it is projected on.
 In textured view it looks like this:



Step 9:
 The texture mapping on mesh 2 needs to be adjusted. The Zoom factor is still set to the value 3, the X Offset is 0. To see the whole texture on the mesh, the Zoom factor just has to be set to the value 1.
 Having done this, the texture on the meshes are displayed like they should, see image below.



Step 10:
 The last thing to do now is to export the whole scene.
 Go to File → Export All and choose the file location. All three meshes will now be combined in the newly created .x-file. Use this .x-file as object on a camera in Pandoras Box.



6.3 KEYBOARD SHORTCUTS

- [F1] – Help
- [T] – Show Tools
- [H] – Hide Tools

- [S] – Select Mode
- [M] – Move Mode ([1] Pos, [2] Rot, [3] Scale)
- [F] – FFD Mode
- [E] – Edit Points Mode

- G – Toggle Grid / Textured View
- [Space] – Play/Pause Video Texture

- [D] – Toggle Face Visibility

- [ESC] – Clear Selection
- [CTRL+A] – Select All
- [R] – Reset Offset of Selected Points

[Up] – Selection Up
[Down] – Selection Down
[Right] – Selection Right
[Left] – Selection Left

[Shift]+[Up] – Move Selection Up
[Shift]+[Down] – Move Selection Down
[Shift]+[Right] – Move Selection Right
[Shift]+[Left] – Move Selection Left

[CTRL]+[Up] – Multiselect Up
[CTRL]+[Down] – Multiselect Down
[CTRL]+[Right] – Multiselect Right
[CTRL]+[Left] – Multiselect Left

7 DOME MASTER

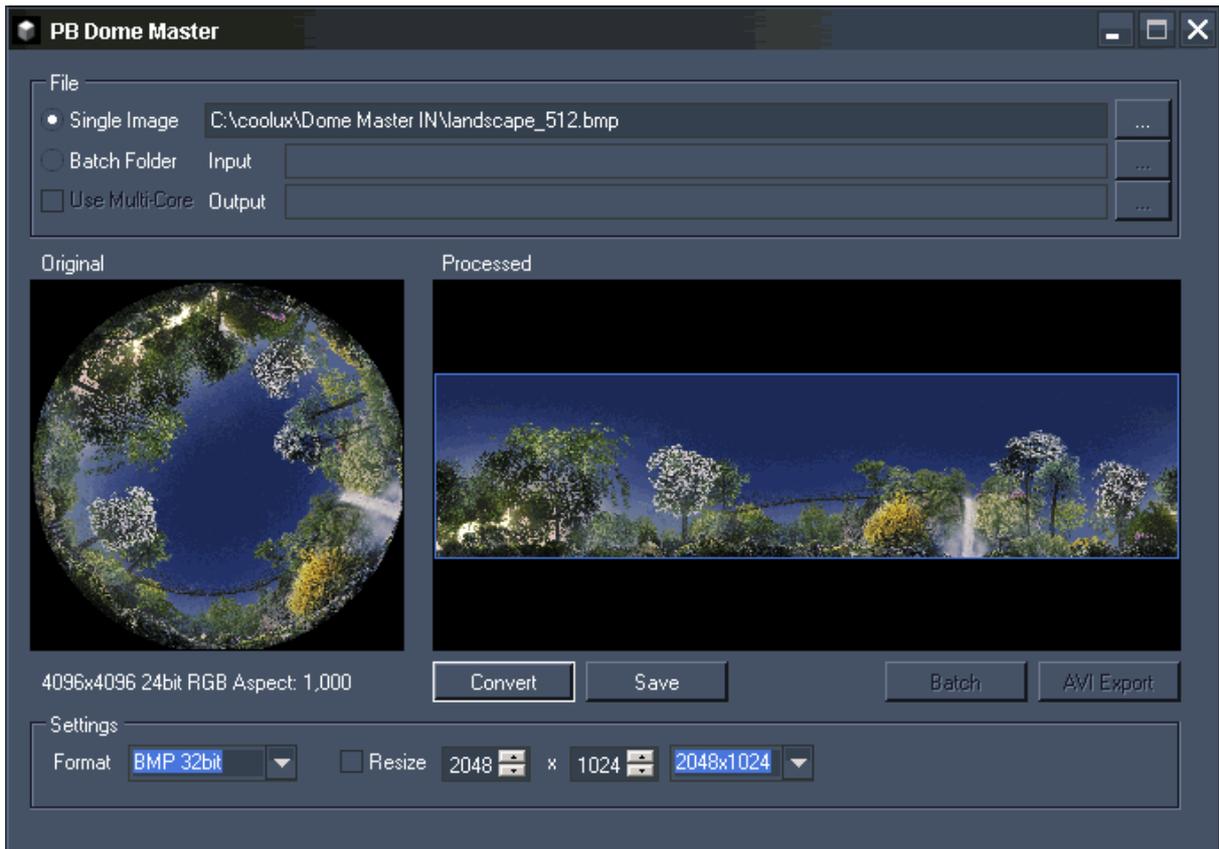
The Dome Master is a spherical map converter that allows the conversion of dome master files to spherical map files. Its sub-pixel accuracy allows optimum image sharpness for large scale projections.

Input formats:

- Bitmap (.bmp),
- GIF (.gif),
- JPEG (.jpg),
- PNG (.png),
- PSD (.psd),
- TGA (.tga),
- TIF (.tif),
- TIFF (.tiff).

Output formats:

- BMP 24bit (Bitmap, RGB),
- BMP 32bit (Bitmap, RGB+Alpha),
- PNG 32 bit (RGB+Alpha),
- AVI Sequence



Loaded image: Courtesy of Triad, Berlin

7.1 WHAT IS A DOME MASTER?

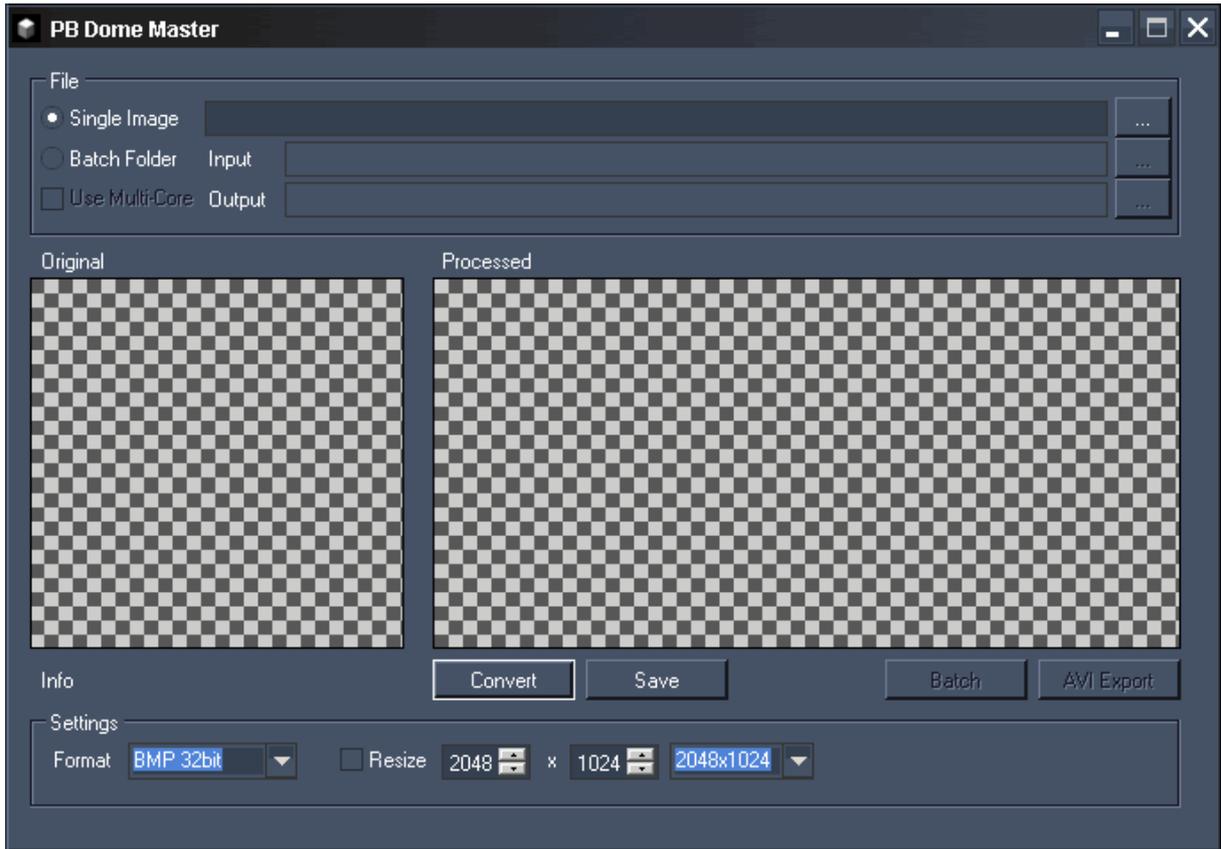
A Dome Master file describes a sphere or a hemisphere as circular image within a square. The outer edge of the circle corresponds to the dome's equator, the circle's center point corresponds to the dome's pole.

To map content to 3D spheres or Dome Warpings it is reasonable to convert Dome Master files to spherical maps. These spherical maps will have the aspect ratio 2:1 (full sphere) or 4:1 (hemisphere).

The Dome Master Converter allows a 1:1 conversion via pixel blending to achieve the best quality for the spherical map. Due to this process it can take a longer time for the conversion.

7.2 DOME MASTER USER INTERFACE

The Dome Master User Interface is divided into three sections: [File](#), [Image](#) and [Settings](#).



7.2.1 FILE

To process files with the Dome Master you may do it image by image or as batch conversion.



Single Image conversion:

Select [Single Image] and then Click on [...] to browse to your file's location to convert a single Dome Master file.

The file will be displayed on the left side in the Image section.

Batch Conversion:

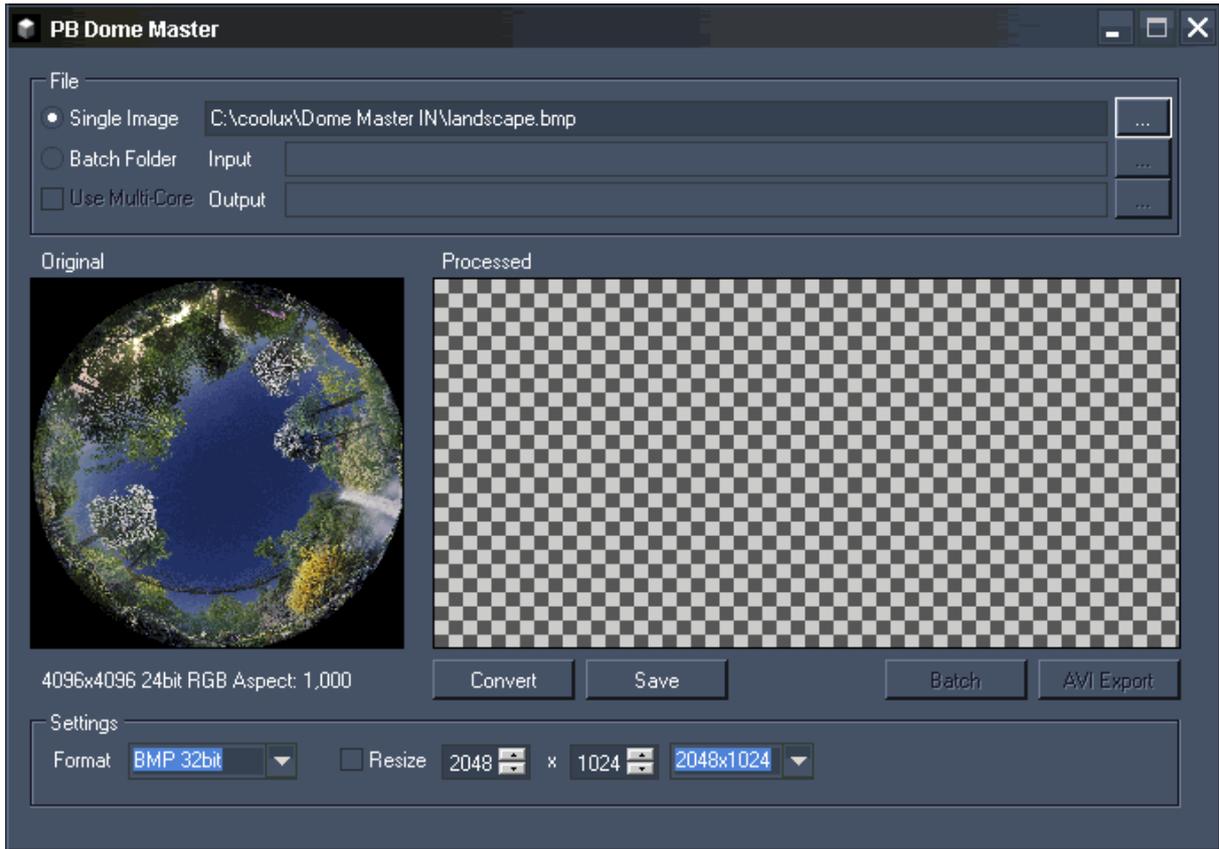
Select [Batch Folder] and click [...] to choose the folder where all of the Dome Master Files are located. You have to define an output folder as well, where the converted files will be stored.

The first file from the Input folder will be displayed on the left side in the Image section.

You may want to enable the option [Use Multi-Core] to split the conversion process evenly over all available cores of your computer for faster conversion.

7.2.2 IMAGE

On the left side you will see the original image you loaded to the Dome Master Converter.



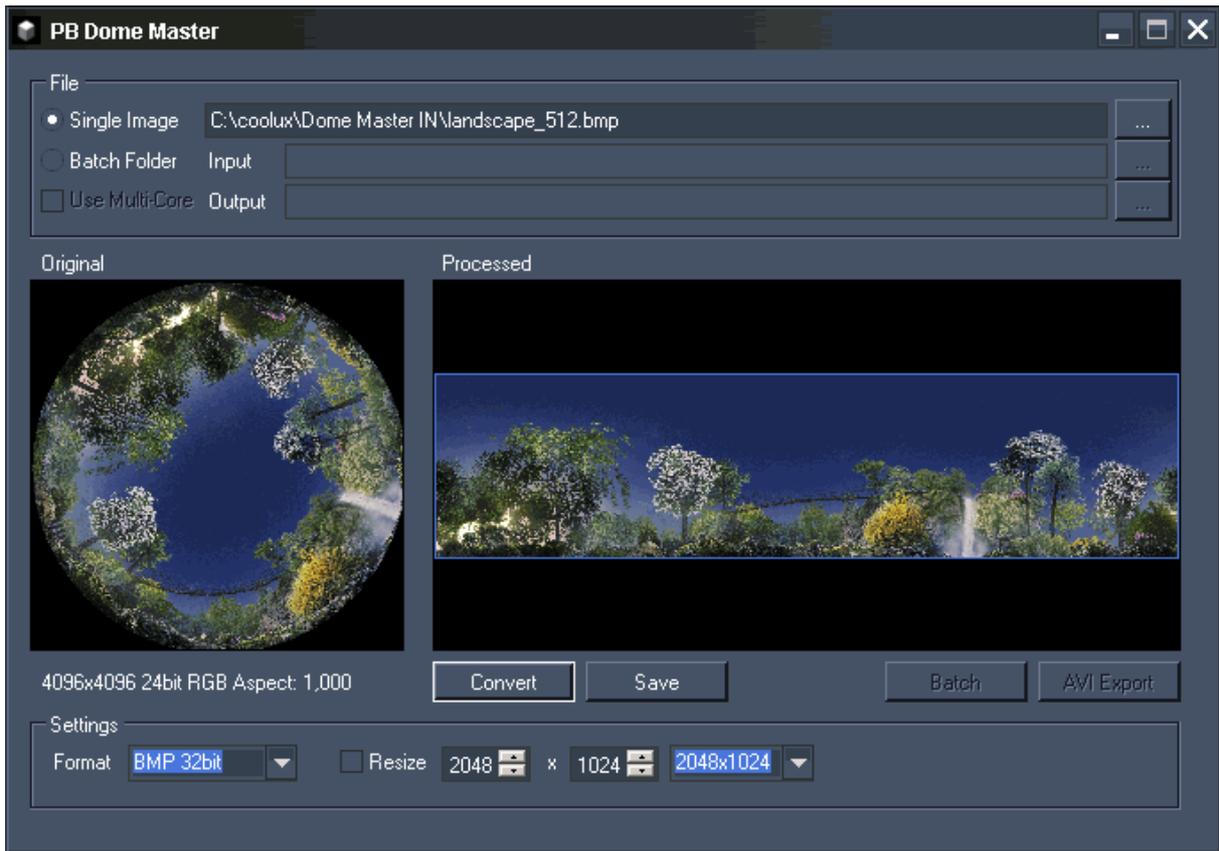
Loaded image: Courtesy of Triad, Berlin

[Convert]:

Press this button to convert the image. Per default (without using the Resize option in the Info section) the image will be converted in the according image size with the aspect ratio 4:1 and the file format chosen under [Format]. The processed image will be displayed on the right side.

For example:

Converting an image with the native size 4096x4096 px, will result in the image size 8192x2048 px.



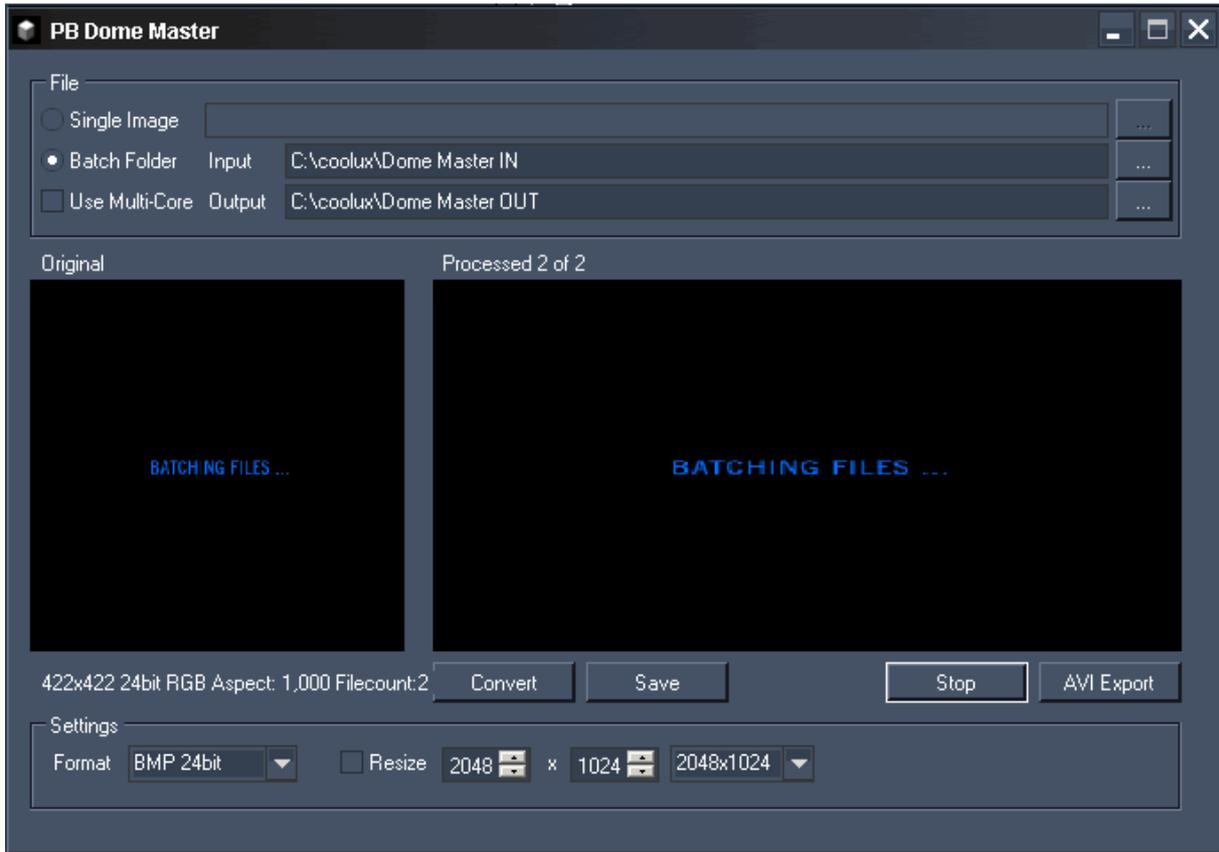
Loaded image: Courtesy of Triad, Berlin

Saving a single image:

To save this single image just press [Save] and choose the location where to save it.

Saving and converting files from batch folder:

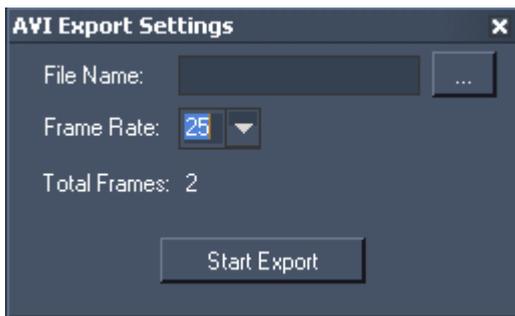
If you loaded a whole file folder for batch conversion, you may press [Batch] now to start the conversion process. This will deliver single Bitmap images in your output folder.



While the batch conversion process is running, the message “Batching files ...” is displayed in the image fields.

To skip the batch conversion process press [Stop].

To create a video out of all files located in the Input folder, press [AVI Export] instead of pressing [Batch]. A pop-up dialog opens up.



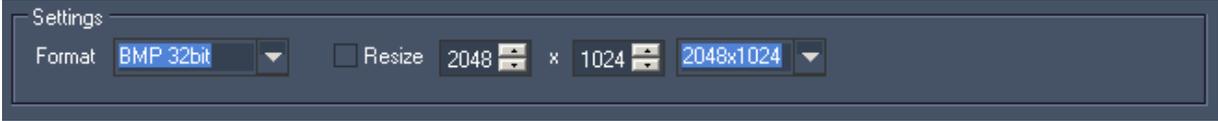
File Name:
Choose a File Name for your AVI video and use [...] to browse to the location where it should be stored.

Frame Rate:
Choose the Frame Rate out of the following ones:
24, 25, 30, 50 and 60 Frames per Second.

Now press [Start Export] and your AVI video will be created.

7.2.3 SETTINGS

Use this section to define the image's output settings.



[Format]:

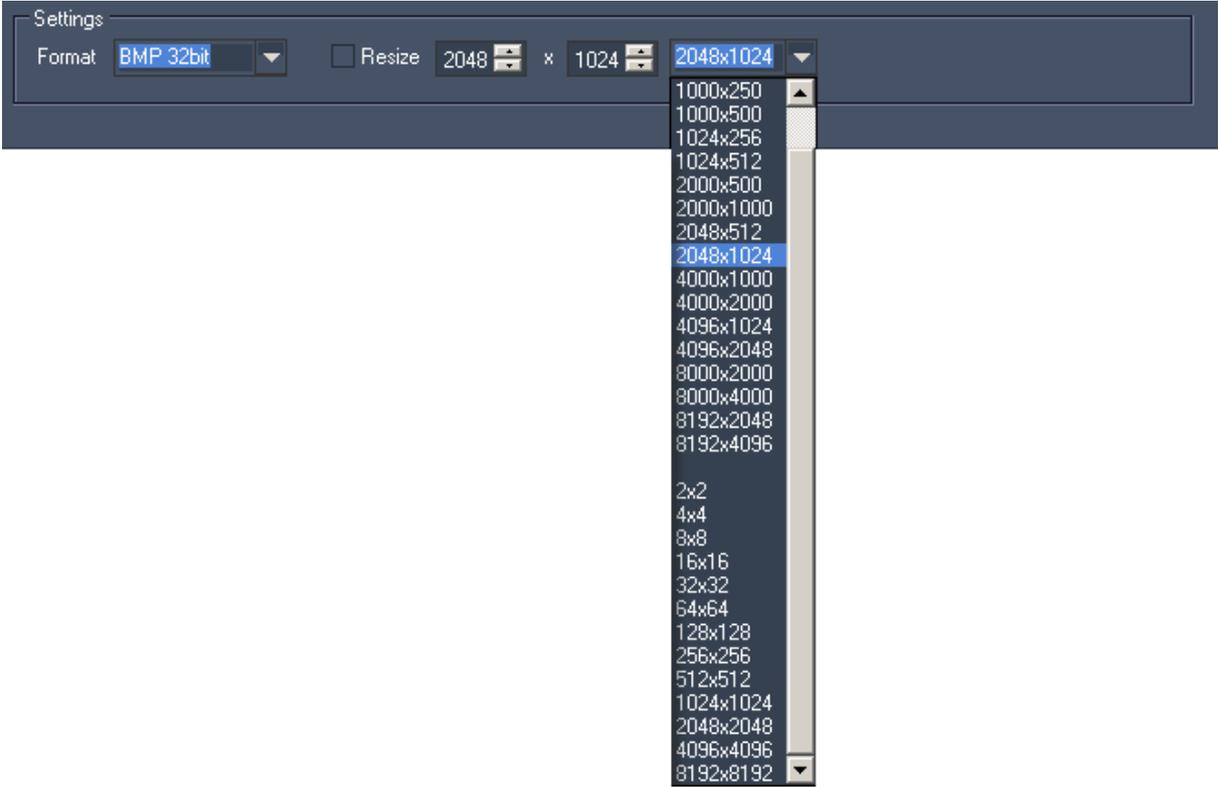
Choose one of the following image formats for the processed spherical maps:

- BMP 24bit (Bitmap, RGB),
- BMP 32bit (Bitmap, RGB+Alpha),
- PNG 32 bit (RGB+Alpha).

[Resize]:

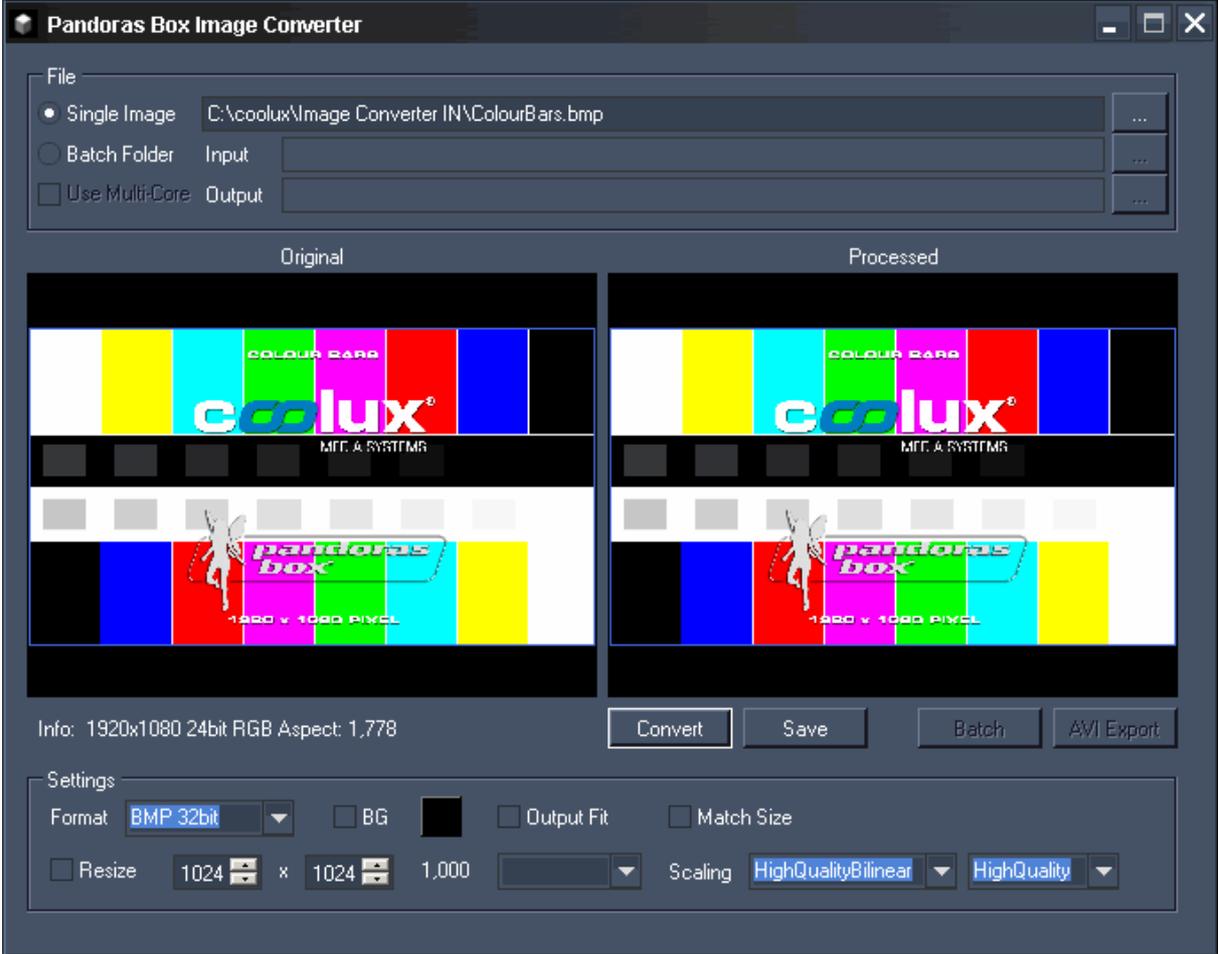
By default this option is disabled. Converting images without Resize enabled will result in images with the aspect ratio 4:1 and the file format chosen under [Format].

If you want to resize the image, enable [Resize] You now may choose one of the settings from the drop down list on the right or enter the new values for Width and Height manually in the text fields.



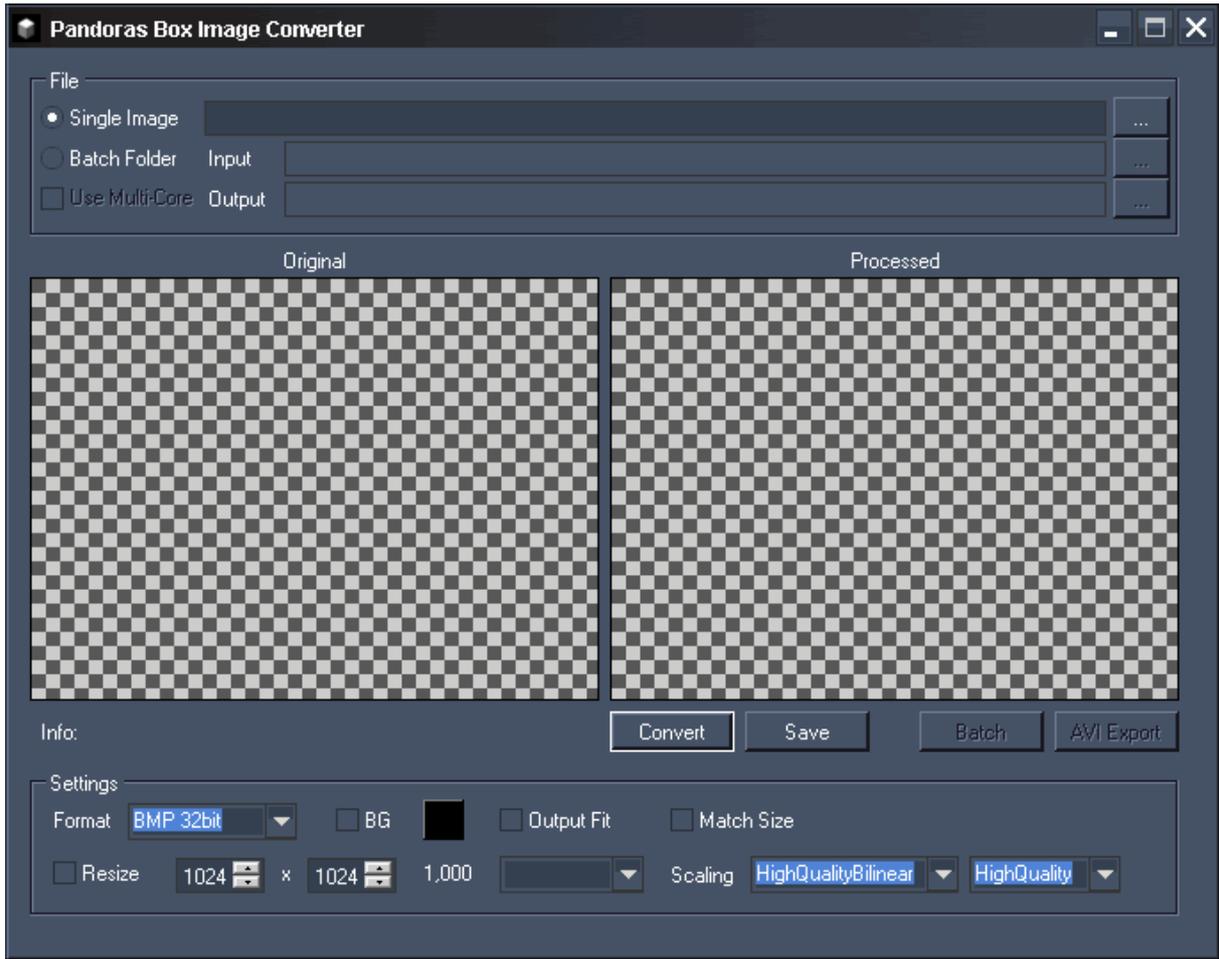
8 IMAGE CONVERTER

The Image Converter enables you to easily resize single images or image sequences to smaller file sizes. This can be very useful in order to increase the performance of the PB Playback system.



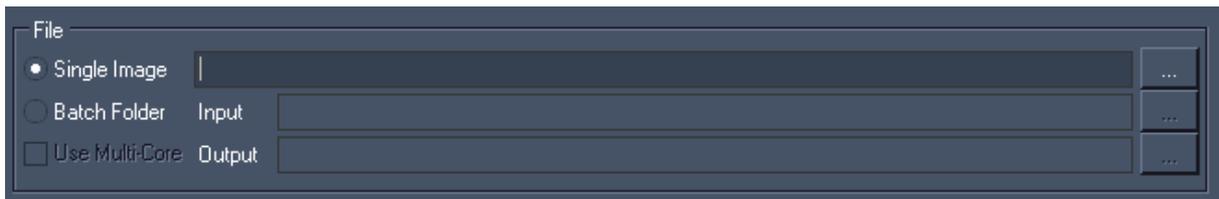
8.1 IMAGE CONVERTER USER INTERFACE

The Image Converter User Interface is divided into three sections: [File](#), [Image](#) and [Settings](#).



8.1.1 FILE

To process files with the Image Converter you may do it image by image or as batch conversion.



Input formats:

- Bitmap (.bmp),
- GIF (.gif),
- JPEG (.jpg),
- PNG (.png),
- PSD (.psd),
- TGA (.tga),
- TIF (.tif),
- TIFF (.tiff).

Single Image conversion:

Select [Single Image] and then Click on [...] to browse to your file's location to convert a single image file to a new size.

The file will be displayed on the left side in the Image section.

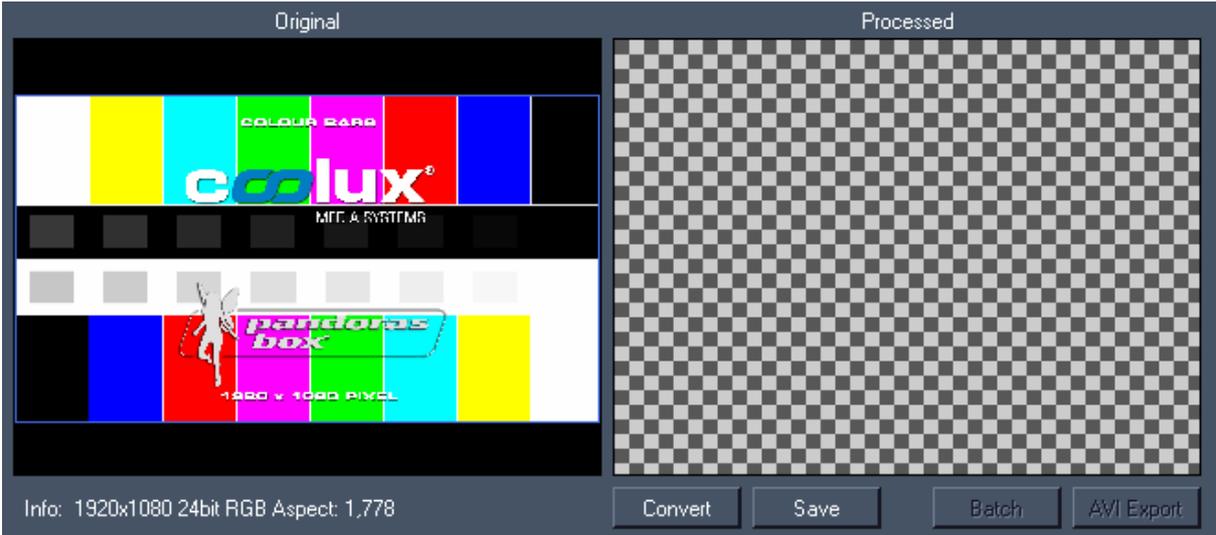
Batch Conversion:

Select [Batch Folder] and click [...] to choose the folder where all of the image files are located. You have to define an output folder as well, where the converted files will be stored. The first file from the Input folder will be displayed on the left side in the Image section.

You may want to enable the option [Use Multi-Core] to split the conversion process evenly over all available cores of your computer for faster conversion.

8.1.2 IMAGE

On the left side you will see the original image you loaded to the Image Converter.



Below the image you see the format information of the currently loaded image: Size, Colour Depth and Aspect Ratio.

The image size in the example above is 1920x1080 px, its colour depth is 24 bit (containing RGB + Alpha) and the aspect Ratio is 1,778 (=16/9).

[Convert]:
Press this button to convert the image. Per default (without using the Resize option in the Info section) the image will keep it's size and it will be converted into the file format chosen under [Format]. The processed image will be displayed on the right side.

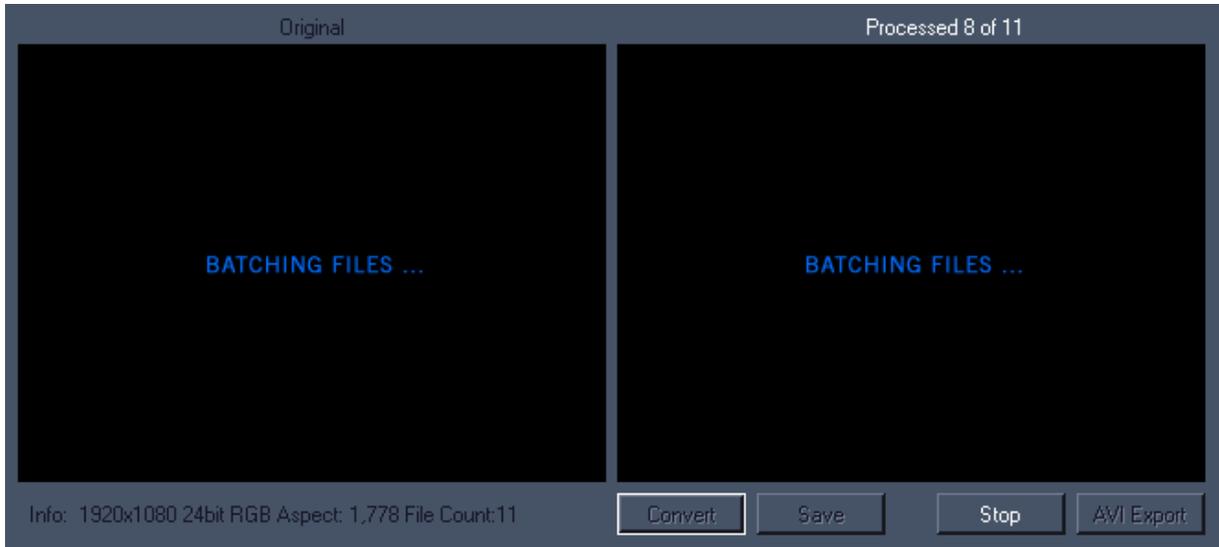


Saving a single image:

To save this image just press [Save] and choose the location where to save it.

Saving and converting files from batch folder:

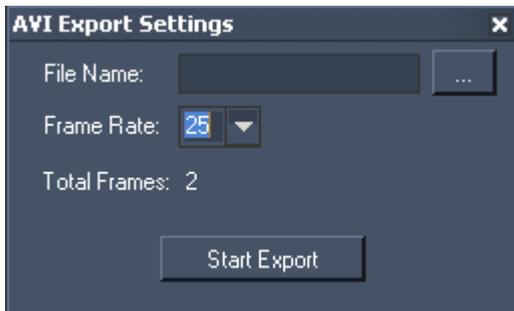
If you loaded a whole file folder for batch conversion, you may press [Batch] now to start the conversion process. This will deliver single images in your output folder.



While the batch conversion process is running, the message “Batching files ...” is displayed in the image fields.

To skip the batch conversion process press [Stop].

To create an AVI video out of all files located in the Input folder, press [AVI Export] instead of pressing [Batch]. A pop-up dialog opens up.



File Name:

Choose a File Name for your AVI video and use [...] to browse to the location where it should be stored.

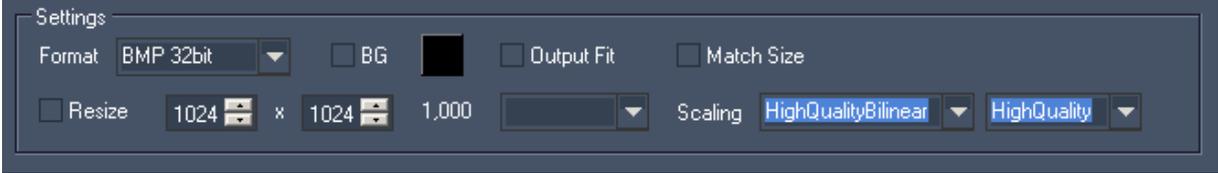
Frame Rate:

Choose the Frame Rate out of the following ones:
24, 25, 30, 50 and 60 Frames per Second.

Now press [Start Export] and your AVI video will be created.

8.1.3 SETTINGS

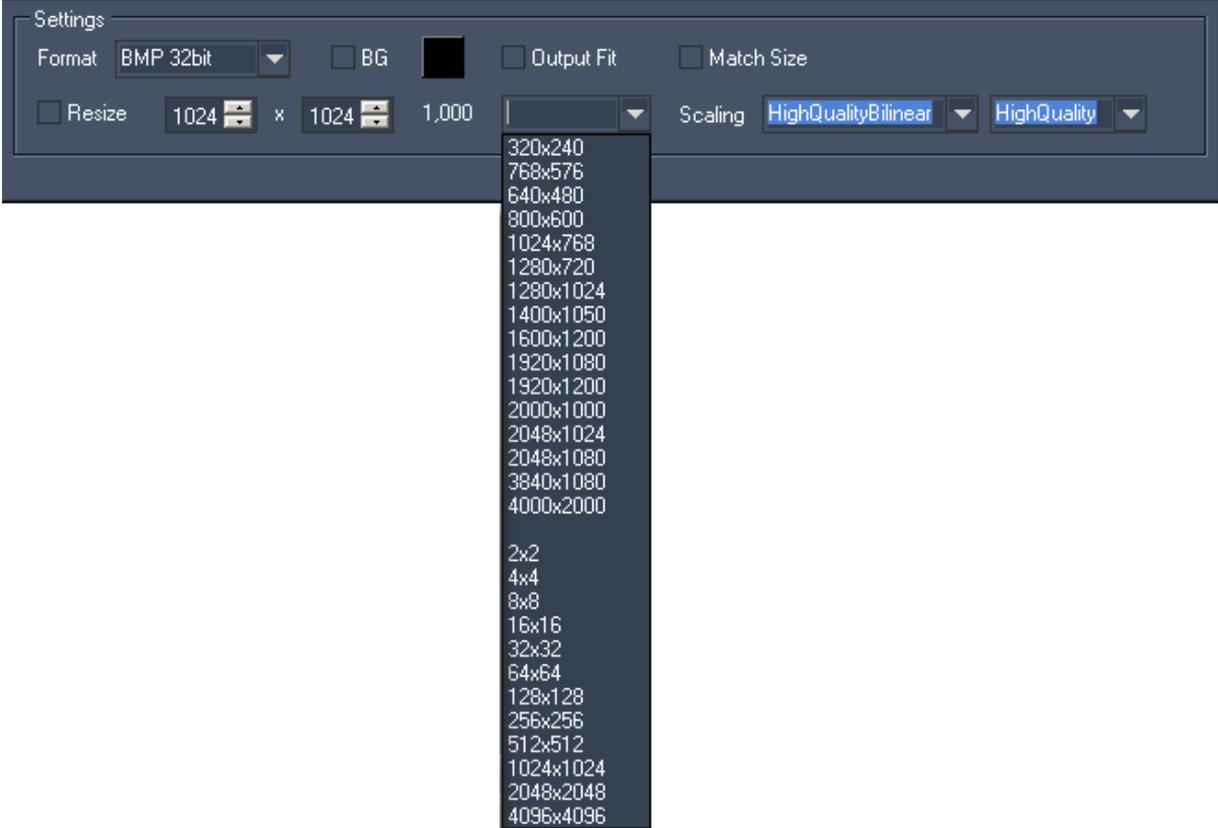
Use this section to define the image's output settings.



[Format]:
Choose one of the following image formats for the converted images:
BMP 24bit (Bitmap, RGB),
BMP 32bit (Bitmap, RGB+Alpha),
PNG 32 bit (RGB+Alpha).

[Resize]:
By default this option is disabled. Converting images without Resize enabled will result in images with their original size and the file format chosen under [Format].

If you want to resize the image, enable [Resize] You now may choose one of the settings from the drop down list on the right or enter the new values for Width and Height manually in the text fields.



[Match Size]:

This option allows to easily resize the image to any size without having to calculate the correct Width and Height to keep the image's original aspect ratio.

Example:

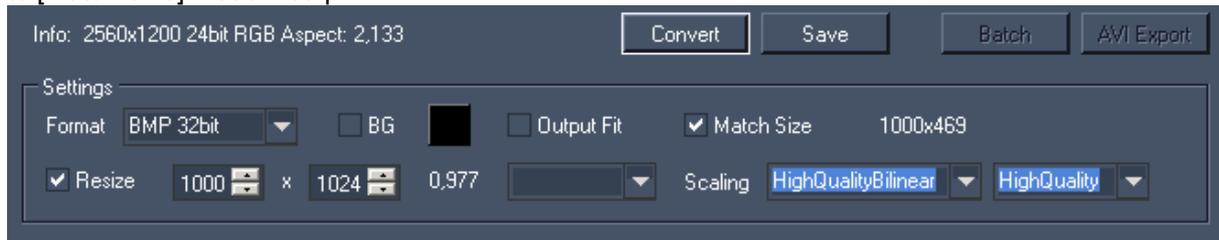
To convert an image file with the size 2560x1200 px (aspect ratio is 2,133) to a file that is 1000 px wide, you have two options:

Not using [Match Size]

Enter the new values for Width and Height manually into the text fields: Width = 1000px, Height = 469 px. This assumes that you know (or calculate) the Height to keep the correct Aspect Ratio.

Using [Match Size]:

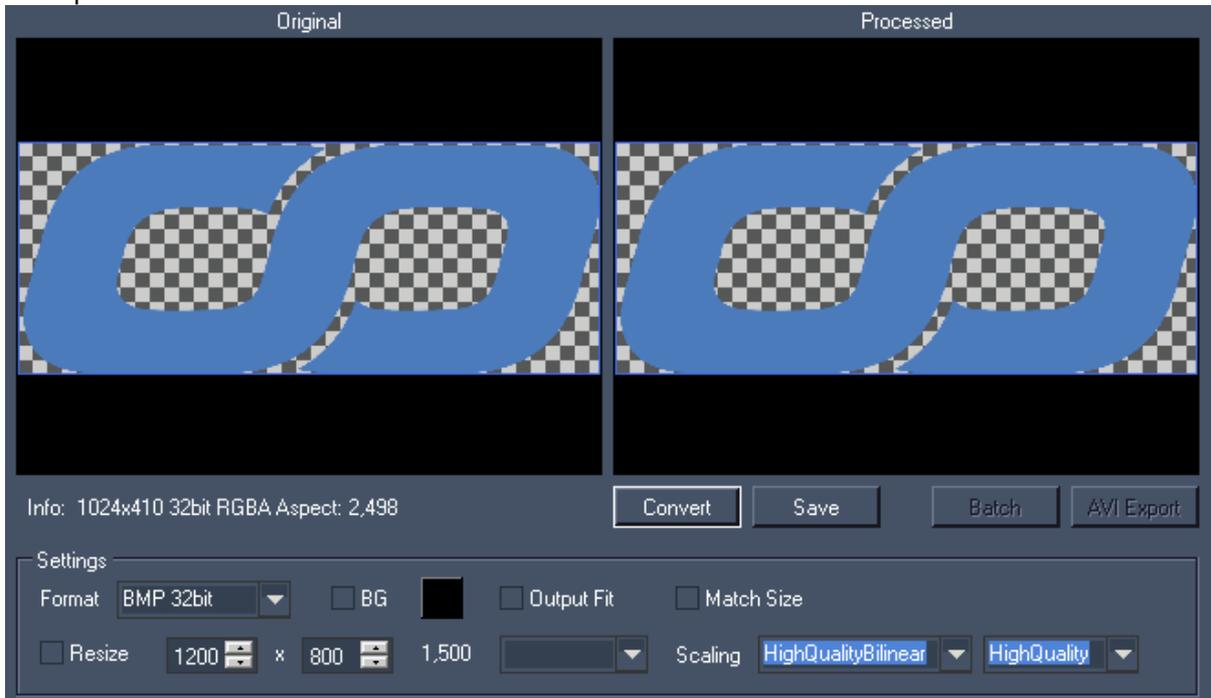
If you don't want to calculate the value for the according Height, just enter the Width value (=1000) and then enable the [Match Size] option. Now press [Convert]. The new image size is displayed next to [Match Size]: 1000x469 px.



[BG (=Background)]:

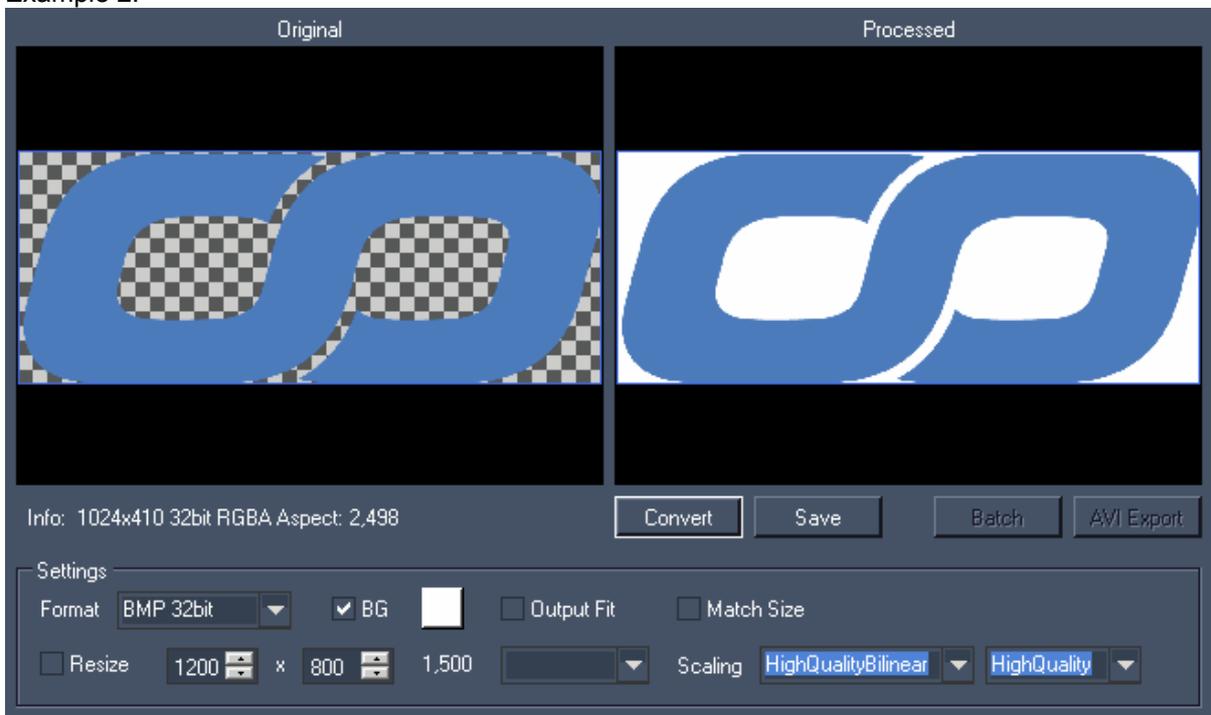
This option allows to replace transparent image parts with a background colour. Enable the option and click on the small box next to [BG] to choose the background colour.

Example 1:



The coolux oo-logo contains transparent parts. Converted with [BG] disabled: the transparent parts will be kept.

Example 2:

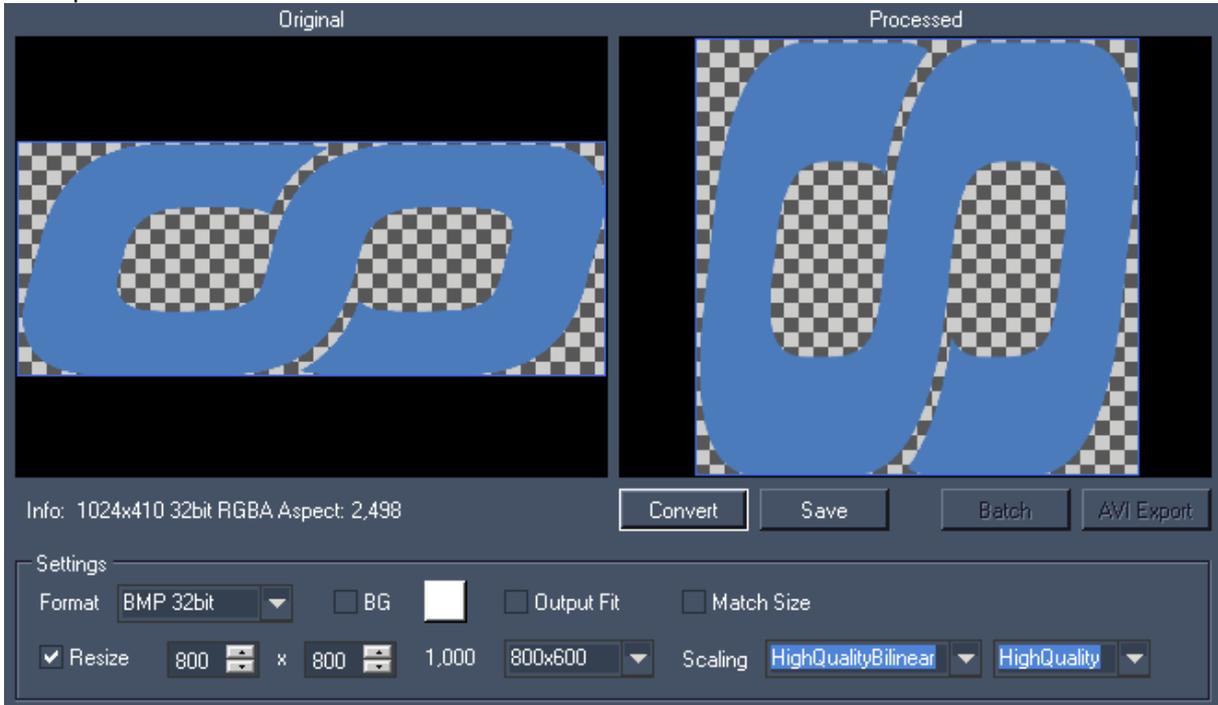


The same logo is converted with [BG]-option enabled, a white BG colour is chosen: the former transparent parts on the logo are replaced by white.

[Output Fit]:

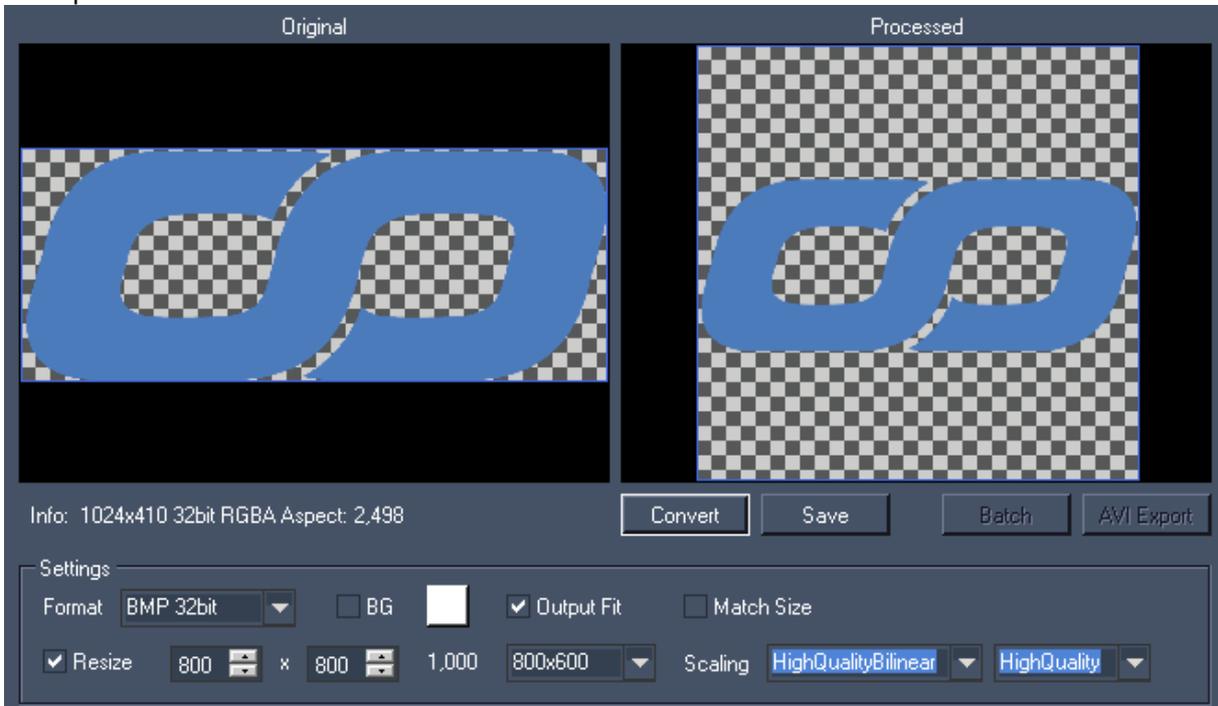
This option allows to resize an image to a size with a different aspect ratio without stretching the content.

Example 1:



The logo (size 1024x410 px) is resized to 800x800 px. The result is a stretched image.

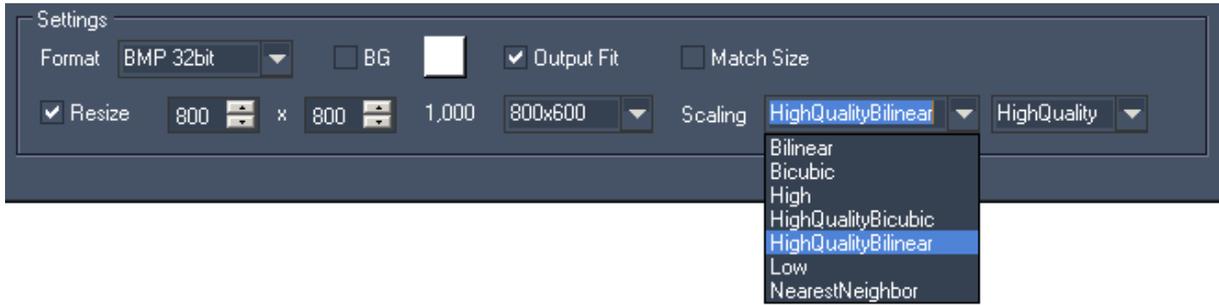
Example 2:



The logo (size 1024x410 px) is resized to 800x800 px, but this time the [Output Fit]-option is checked. The logo keeps its aspect ratio, only the canvas size's aspect ratio changed. The canvas area that is added on top and bottom to fit to the output will appear transparent if [BG] is not checked. With [BG] checked it shows the chosen background colour.

[Scaling]:

Choose between several filtering and quality options for the scaling.

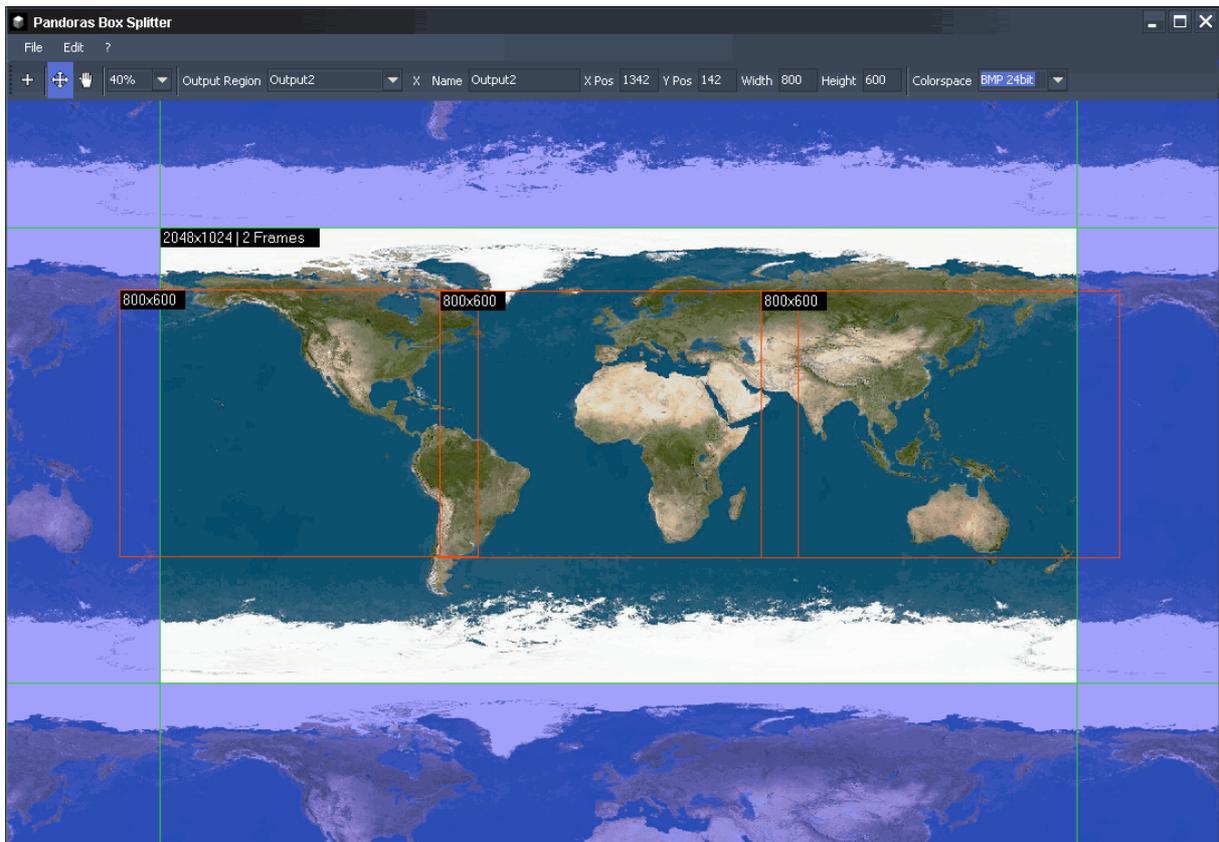


9 SPLITTER

The Splitter is designed for splitting one big master-file into several smaller split-files for Multi-Display or Multi-Projection purposes. This allows a good performance and capacity on the playback systems, with native playback of Video Content of nearly any size.

Features:

- Setup of any amount of Output regions
- Output Regions can wrap around top/bottom or left/right. This is important for 360° Panorama / Sphere content overlap setups



Using the Splitter primarily makes sense when the content has to be created before the technical setup is defined, eg. without knowing how many projectors will be used or how big the overlap between the projectors will be. This way the content producers may work independently from the technical setup. Only the total image resolution has to be defined.

Please note that it is only possible to load image sequences:

Supported Input Formats:

- BMP Sequence
- JPEG Sequence
- TIFF Sequence
- TGA Sequence
- PNG Sequence

The advantage of using Image Sequences is that the data transfer will be considerably faster and allows an easier replacement of certain scenes inside a movie.

Supported Video Sizes:

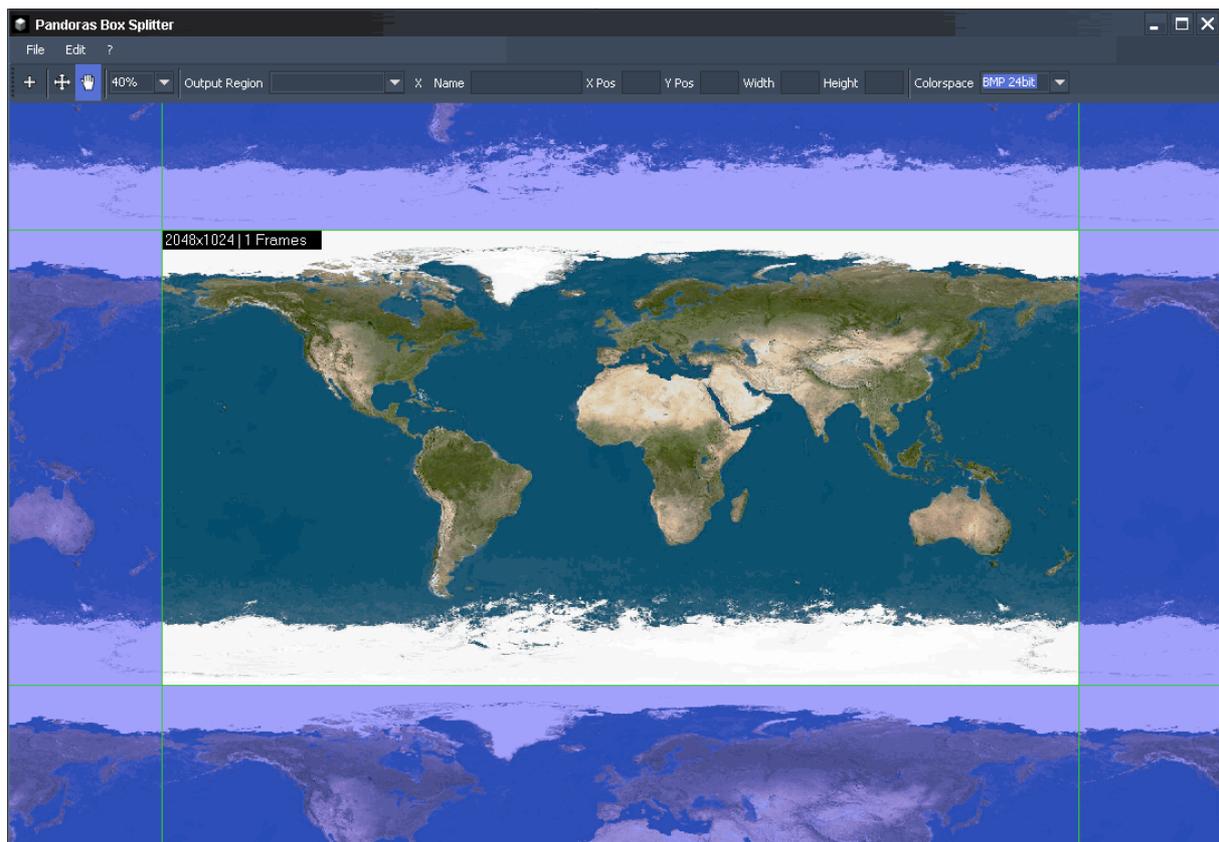
The Master Files may have 8192x2048 px (on Windows XP).

Under Win7 64bit files with up to 65535x2048 px may be processed.

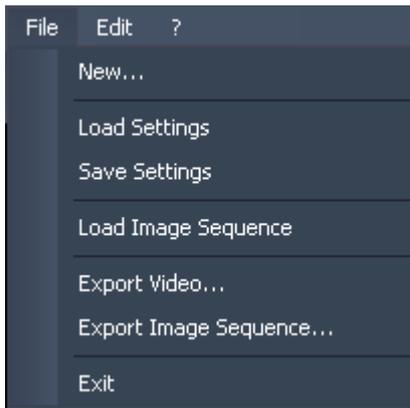
See here more information about the [Splitter User Interface](#) and the [Splitter Workflow](#).

9.1 SPLITTER USER INTERFACE

The User Interface is divided into the [File Menu](#), the [Edit Menu](#), the [Toolbar](#) and the [Main Window](#).



9.1.1 FILE MENU



[New...]

All Output Regions will be removed and you may start loading a new image sequence.

[Load Settings]

You may load a Splitter project (.vsp) that you saved before.

[Save Settings]

You may save your current Splitter project as .vsp-file.

[Load Image Sequence]

Please browse to the folder your image sequence is located in. This will be loaded then into the current project.

[Export Video...]

Please browse first to the folder where you want to export your AVI video file to. The upcoming AVI Export Settings dialog allows you to set the frame rate (24, 25, 30, 50 or 60 fps). It displays as well the amount of frames. Press **[Start Export]** to render out the video file.



[Export Image Sequence...]

Please browse to the folder your image sequence should be exported to. When the export is finished you will be notified by a pop-up window.

[Exit]

Exits the application.

9.1.2 EDIT MENU



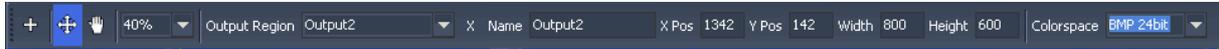
RESET ALL OUTPUT REGIONS

This option resets all output regions.

HIGH PERFORMANCE MODE IMAGE SEQ I/O

Using this option enables / disables the High Performance Mode for exporting Image Sequences.

9.1.3 TOOLBAR



Use the toolbar to create and manage the Output Regions.



[+ Create Region]:

Click the left mouse button and span the desired region.



[+ Move Region]:

Select the desired region and move it to its correct place.



[Hand Drag View]:

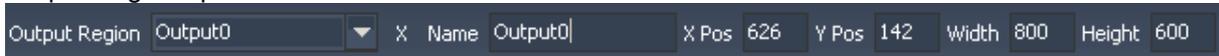
Use this mode to drag the view around.



[100% Zoom]:

Choose one of the Zoom factors to adjust the preview window. You may enter an individual zoom factor as well. You may use the keys + / - on your keyboard as well.

Output Region options:



Output Region:

You may choose an Output Region from the list in order to delete it, to adjust its name, position or size.

[X]:

Press the cross to delete the selected Output Region.

[Name]:

To change the name of an Output Region, please select it first from the drop-down list, enter the new name and press [Enter].

[X / Y Pos]:

The Pixel values inside these two text fields display the position of the region's top left corner. To change its position to an exact place please enter new values for X and Y here.

To move a region with the mouse please use the option [Move Region], see above.

[Width / Height]:

These two values display the size of the selected Output Region. To change its size please enter the new Width and Height into the text fields.



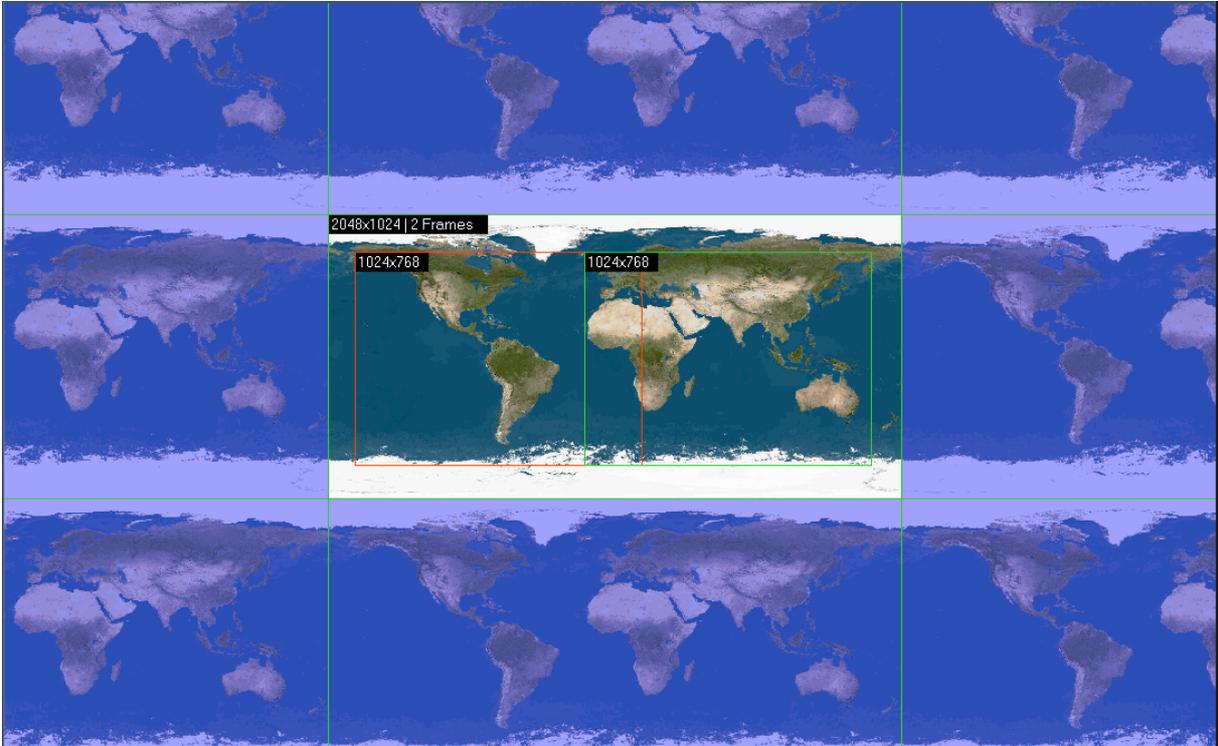
[Colourspace]:

Choose here the colourspace for the Image Sequence. You may choose between

- BMP 24bit (Bitmap, RGB)
- BMP 32bit (Bitmap, RGB + Alpha)
- PNG 32bit (PNG, RGB + Alpha)

This setting does not affect an exported AVI file, it will always be exported as Uncompressed AVI.

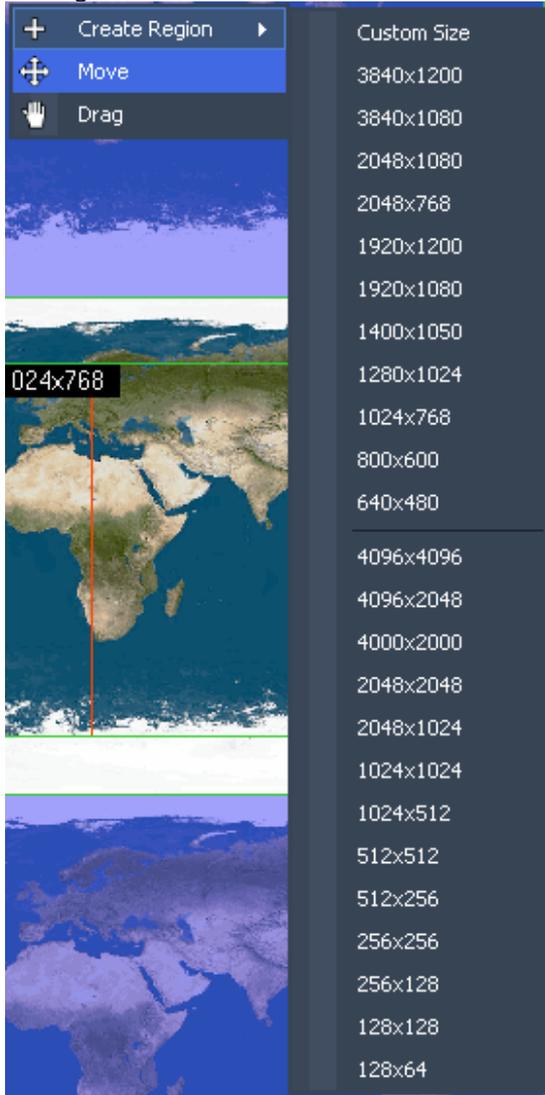
9.1.4 MAIN WINDOW



In the middle of the Main Window the loaded master file is shown, which is repeated at the left, top, right and bottom side. This allows you to wrap the Output Regions around top/bottom or left/right. This is important for 360° Panorama / Sphere content overlap setups.

You may set up any amount of Output Regions, using the right-click menu or the create mode (see [Toolbar](#)). In the example above two Output Regions were created (green and red rectangle). Both have the size 1024x768 px. When exporting the master file, there will be a separate file created for each of the Output Regions.

The right-click menu inside the Main Window:



The right-click menu gives you access to

- Create an Output Region: Choosing Custom Size will enable you to span a rectangle in the Main Window. Choosing one of the pre-defined sizes you just have to define the position of the Output Regions top left corner by clicking into the Main Window.
- Move existing Output Regions.
- Drag the whole View around (incl. Masterfile and Output Regions).

9.2 WORKFLOW

To split a master file into separate split files, see here a short workflow overview:

1. Loading the master file:
Load an Image Sequence or an existing Splitter Project using the File Menu.
2. Creating Output Regions:
Create as many Output Regions as you need, using the “Create Region” function in the Toolbar or using the right-click menu inside the Main Window.
3. Adjusting Output Regions:
Probably the Output Regions need to be adjusted in their position and/or size. You may do

this by moving the Output Regions with the mouse (using the “Move”-option from the toolbar). To do an exact positioning, select the Output Region (by name in the Toolbar or by clicking on it when being in Move-Mode) and enter the Pixel values of the top left corner in the Width and Height text fields.

4. Exporting the split files:
After the setup for the Output Regions is done you may export the separate split files now as Image Sequence or as AVI File. When exporting an Image Sequence choose the Image Sequence format in the Toolbar first (BMP 24bit, BMP 32bit or PNG 32bit).
5. Saving the current project:
Don't forget to save your settings in order to be able to modify the Output Regions after you once closed the Splitter. Do this inside the File Menu.

10 DESKTOP STREAMER

The Pandoras Box CITP based Desktop Streamer is a versatile tool to stream any Windows XP / Win7 desktop region, for example the preview section of Pandoras Box Manager or any application content, into WYSIWYG directly.

This way you can project your favourite video content directly into WYSIWYG without using any capture cards. It is designed for pre-programming and can also be set up at different frame-rates to match the systems performance.

You may use several instances of the Desktop Streamer at the same time!

10.1 DESKTOP STREAMER USER INTERFACE



The User Interface is divided into three sections: the [Streaming settings](#), the [Preview Window](#) and the [Capture Settings](#).

10.1.1 STREAMING SETTINGS



[Window Title]:

You may start several instances of the Desktop Streamer at the same time to pass several CITP streams into your WYSIWYG application. The number shown in the Window Title [] displays the stream number: Pandoras Box CITP Desktop Streamer [1] = Stream 1.

[IP / Port]:

On the top left the computer's IP address and the used TCP/IP-Port are displayed.

[RGB]:

The [RGB] option allows you to match to the CITP colour space of your WYSIWYG version.

If this option is disabled, the colour space BGR is used for CITP streaming. Enable it and the colour space will be changed to RGB.

Background:

Up to WYSIWYG Rev.25 the colour space BGR (according to CITP 1.0) is used.

Up from WYSIWYG Rev. 26 the colour space RGB (according to CITP 1.2) is used.

[FPS]:

The Framerate can be set to values between 1 and 30 fps, according to your system's performance.

Please note: you don't have to press [Apply], your changes are applied immediately.

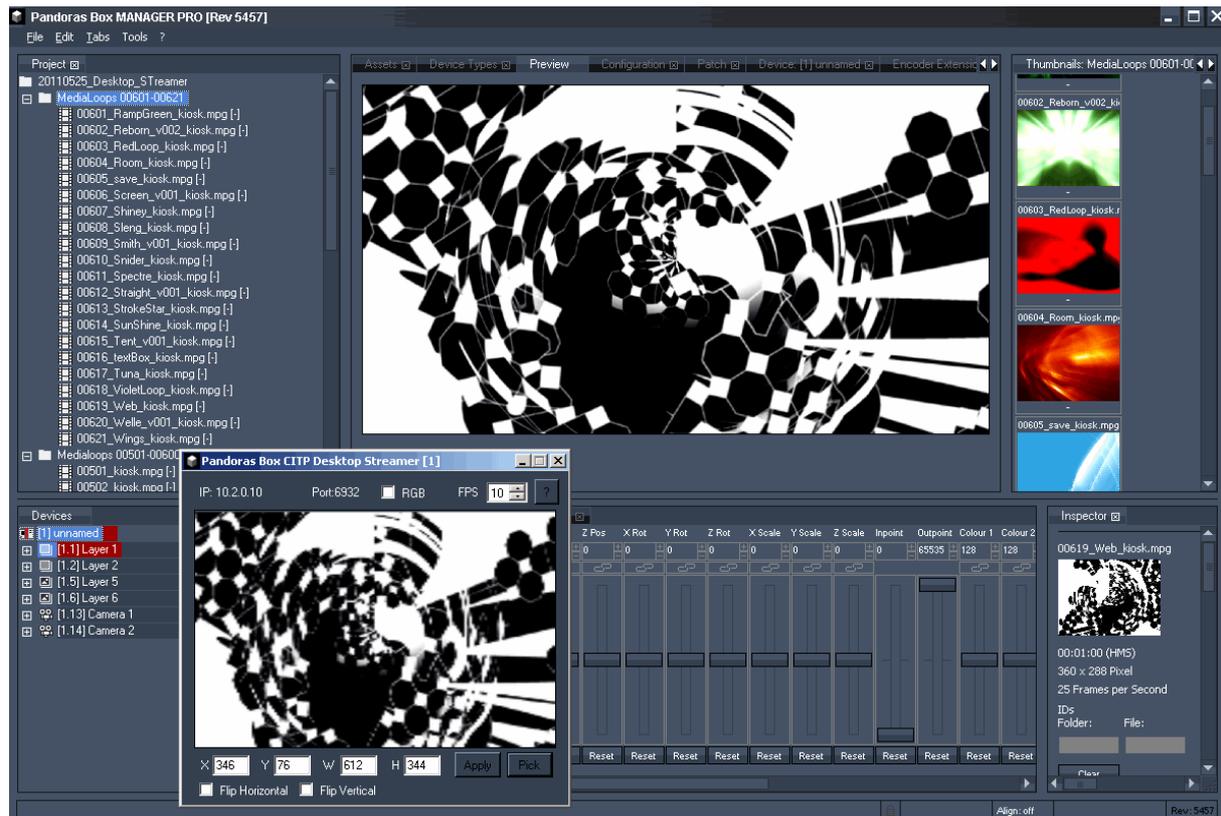
[?]:

See here information about the settings you will need in WYSIWYG in order to use the CITP stream, see [WYSIWYG settings](#).

10.1.2 PREVIEW

The Preview shows the part of your desktop that is sent via CITP.

According to the CITP specifications the size of the streamed media is 144x144 px.



Example:

In the image above the Pandoras Box Preview window is streamed via the Desktop Streamer.

Please note:

The Preview will not show modifications like image flipping or a change in the colour space. This will be seen in WYSIWYG only.

10.1.3 CAPTURE SETTINGS



[Defining the capture region]:

There are two possibilities to define the region of your desktop that is going to be captured for CITP streaming:

1. enter the region's width and height (W/H) as well as its starting pixel (X/Y) into the text fields and press [Apply].
2. press [Pick] and span the desired desktop region with the mouse.

Please note:

To capture a desktop region that is on a secondary monitor, enter the region's Width, Height and starting pixel as described in option 1. This can't be done by picking a region with the mouse.

[Flip Horizontal / Flip Vertical]:

Depending on the texture mapping in WYSIWYG, these two options offer you to flip the CITP stream horizontally and / or vertically.

Please note: you don't have to press [Apply], your changes are applied immediately.

10.2 WYSIWYG SETTINGS

In order to stream your desktop or parts of it over to WYSIWYG, please follow these steps:

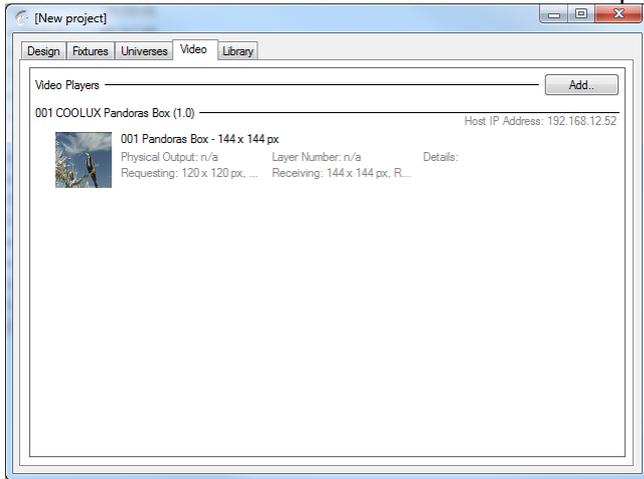
- Start WYSIWYG.
- Go to "Options - Application Options" tab "Additional Interfaces" and check "Enable CITP".
- Close and restart WYSIWYG.
- Within a project open the Video Manager.
(this can be found in the menus Tools/Design/Live depending on your Working-Mode).
- Add a new video source.
- Check "CITP Video Stream" and click browse.
- Select the COOLUX Pandoras Box stream from the device list.
- Assign the stream as a texture to the desired objects.
- Open the "Video Tool" from "Live/Design".
- Select the CITP stream from the dropdown-list and click the play-button.

10.3 CAPTURE POLAR SETTINGS

In order to stream your desktop or parts of it over to Capture Polar, please follow these steps:

- Start Capture Polar.
- Open a new or existing project.
- Start the Pandoras Box Desktop Streamer.
- Goto the Video Tab.

- The COOLUX Pandoras Box stream should be displayed in the list.



- Goto the Design tab.
- In Materials you add a new material".
- Select the Coolux Pandorss Box stream, in the right window next to Video.
- Add this material as a texture to the desired objects.
- The Video Stream can be stretched manually or automatic to one or more objects.



11 PB WIDGET DESIGNER

The Widget Designer comes in two versions

Widget Designer STD
and
Widget Designer PRO.

While WD STD is provided as freeware license to the Pandoras Box user group, WD PRO offers various advanced features and tools.

WD PRO has been designed to provide a node based programming environment that lets the user create projects that can later be opened and run but not edited in WD STD.

The main purpose of Widget Designer is to provide a graphical user interface design and runtime environment. With Widget Designer you can create user-controls such as faders, buttons, labels and many more and instantly use them without compiling any code.

Widget Designer has been created for users that do not need to have any programming skills to create their own custom applications or interfaces.

While WD is based on the Microsoft .net framework all controls have been designed to meet the requirements of flexible and dynamic programming.

One of the most powerful concepts in WD is the script command language. Anywhere in WD where scripts can be entered you may access all scripts from a listbox to copy and paste the desired script into your control.

Currently over [150 script commands](#) are available to control specific features of Pandoras Box, Widget Designer or other 3rd party products and protocols.

Please see the following topics for working with the Widget Designer:

[Setup](#)
[User Interface](#)
[Controls \(Create Menu\)](#)
[Tools Menu](#)
[Scripts](#)

11.1 SETUP

Please see the following pages:

[Installation](#)

[Launching WD](#)

[Network Setup](#)

11.1.1 INSTALLATION

Both WD STD & PRO require Microsoft .net framework and the latest DirectX 9c to be installed prior to the installation of WD.

If you have any issues with the installer itself you may need to update your windows installer from the Microsoft homepage. Once the software is installed please make sure to install the dongle drivers first before launching WD PRO. WD STD does not require any dongle.

11.1.2 LAUNCHING WD

Once WD is installed on your PC you may launch WD from the start menu or create a shortcut on your desktop.

When starting WD you will see an empty screen. This empty screen represents the main background of your application window.

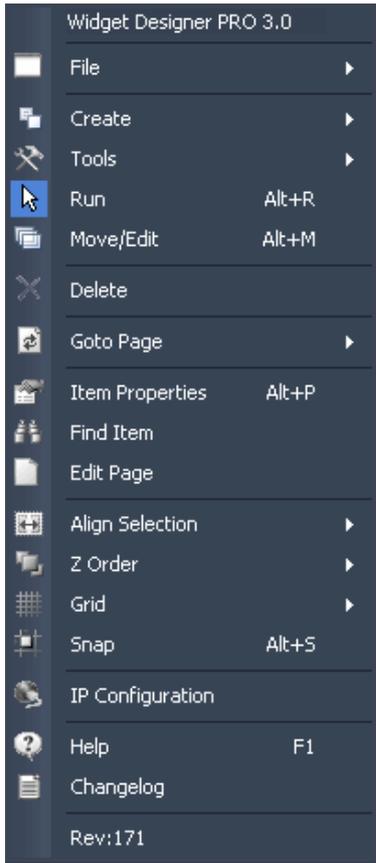
You may wonder why you do not see any standard windows borders and their control to open, close, maximize or minimize the application.

The reason why these features are disabled by default is that WD is mostly used for touch screen interface design and to offer a clean fullscreen application window without revealing any standard windows controls. See the [Main GUI Properties](#) to change these settings.

11.1.3 NETWORK SETUP

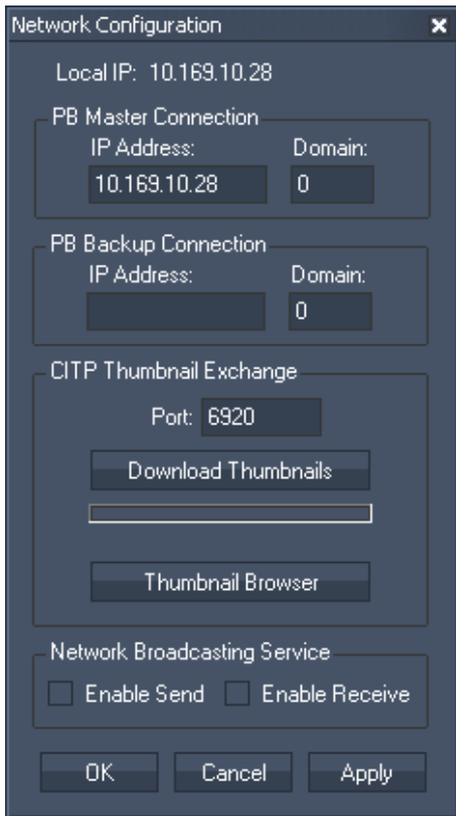
Depending on how you want to use and integrate WD to control Pandoras Box or other devices, the first thing you might want to set up is the communication to Pandoras Box. Since WD and Pandoras Box communicate via network you will need to set up the Pandoras Box IP and domain in order to send control data from WD to a Pandoras Box System.

To access the network configuration please right click anywhere on the empty main background window and choose the menu entry "IP Configuration"



The IP dialog now opens and lets you set up the Pandoras Box IP and domain in the top section.

If you are running WD on the same computer with the Pandoras Box Master system that you would like to control, all you need to do is make sure that the domain settings here match the domain of Pandoras Box that can be found in the [Configuration Tab](#) of Pandoras Box.



If you would like to connect to Pandoras Box on a remote computer please enter the IP and domain of Pandoras Box here.

In case that your systems use multiple network-cards simultaneously please always check the IP address in the [asset browser tab](#) of Pandoras Box to get the right IP address of the network-card in use.

The network configuration dialog also allows you to set up a backup IP and domain. This setting is used when your Pandoras Box system is set up as full redundant backup with two Master systems. If you wish to send all Pandoras Box related controls to both the Master and backup system then enter all fields here.

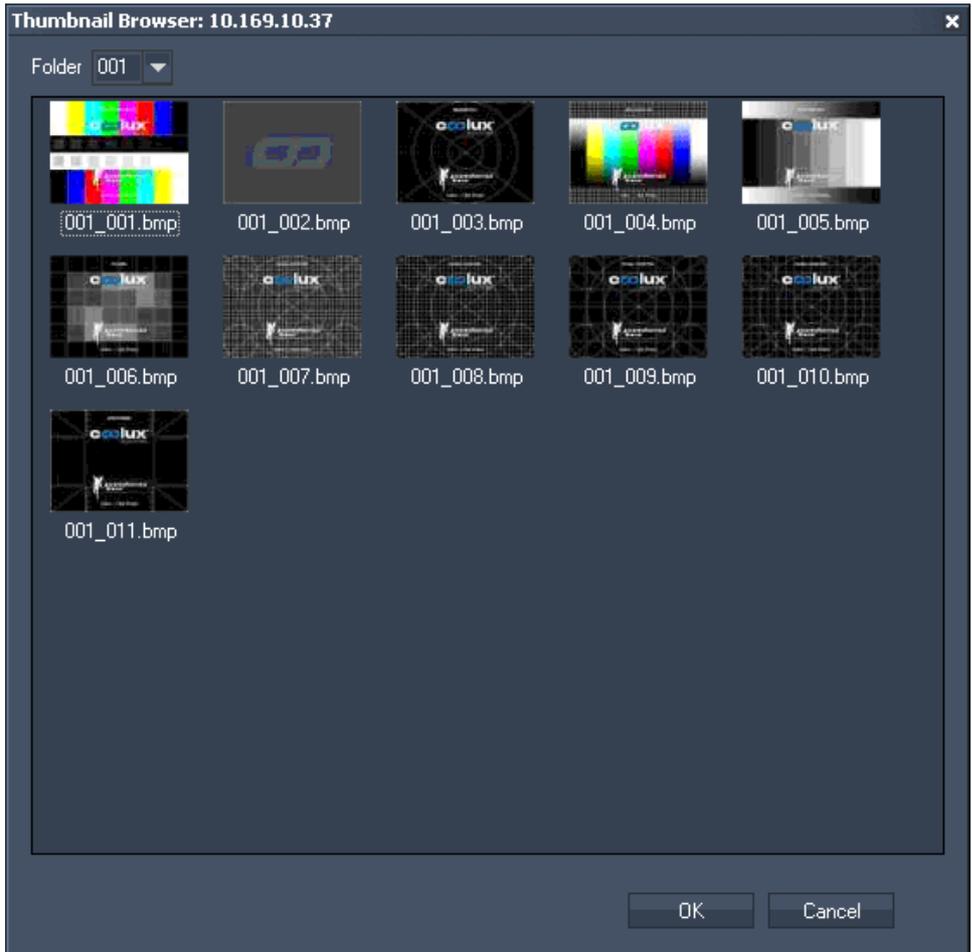
Download Thumbnails

Up from V4.5 of Pandoras Box you may want to download the media thumbnails for later use in button controls.

The thumbnail exchange is provided via the CITP thumbnail exchange of Pandoras Box. Before downloading any thumbnail please first activate the [CITP mode in Pandoras Box configuration tab](#) and make sure that the IP domain and port matches and is applied in WD.

Please keep in mind that CITP is transmitting only indexed media. This means that any media that you would like to download needs to have a [Folder and File ID](#) assigned in Pandoras Box. Once this is set up you may press "Download Thumbnails" and once the blue progress bar is completed, all thumbnails of Pandoras Box will appear.

To get an overview of the downloaded images you may click on "Thumbnail Browser" to check if all files were successfully received and stored into WD file-structure.



Please be aware that all thumbnails are stored into the WD file structure based on the given source IP address. Once you change the IP address of Pandoras Box you will have to download the files again in order to have WD find them on the local hard drive system.
Network Broadcasting Service

NBS allows to transmit and update [Labels](#), [Faders](#) and [CustomScript Buttons](#) across multiple WD Designer instances on the network.
Please check the according options to enable/disable the Widget Designer to Send or Receive Network Broadcasting data.

11.2 USER INTERFACE

Please see the following topics for detailed description:

[Creating a User Interface](#)

[Main GUI](#)

[File Menu](#)

[UI Tools](#)

[Controls](#)

[Tools Menu](#)

11.2.1 CREATING A USER INTERFACE

Now that you have your communication set up and running we will have a look at some basic controls to create a user interface (UI) to remote control Pandoras Box.

As you have seen earlier your main editing access is provided through the context menu. Here you also find all the controls that we are going to use next.

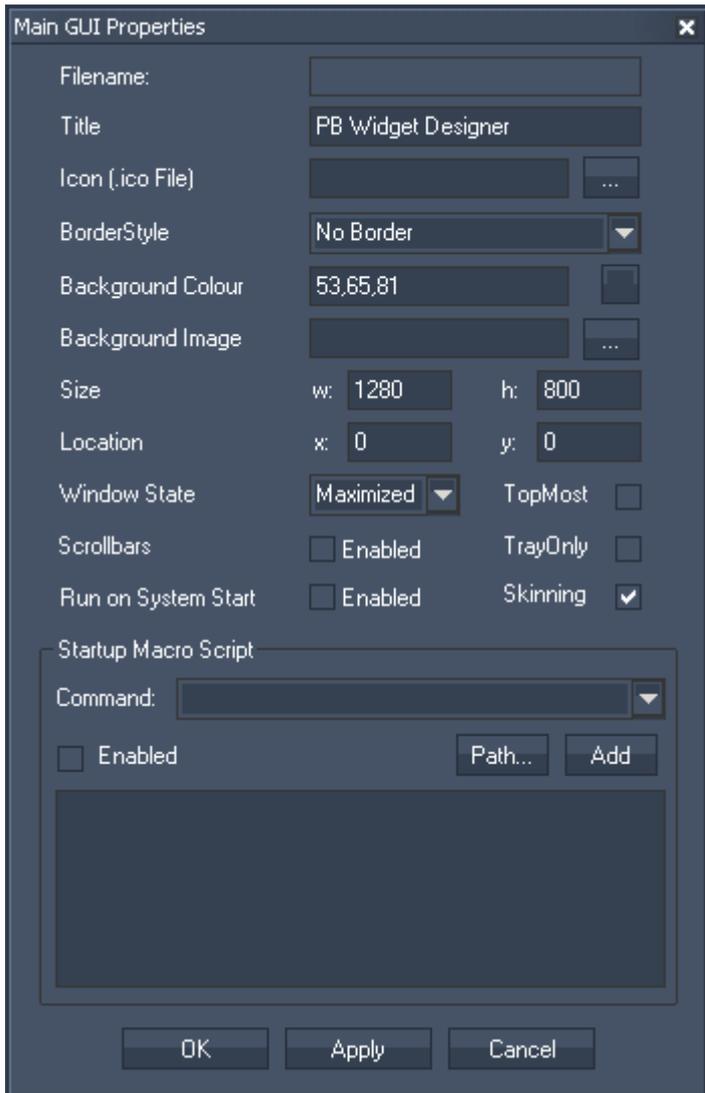
Widget Designer has several operating modes "RUN", "CREATE", "MOVE/CONNECT/EDIT".

Once you have chosen any item from the creation menu WD will automatically go into "CREATE" mode

To exit any mode simply right click anywhere over the main background window to go back to "RUN" mode or choose any other option from the menu.

11.2.2 MAIN GUI

The main background window represents the Main GUI windows. To access its properties right-click anywhere on the empty main background window and go to "Item Properties". The Main GUI property dialog will open.



In this dialog you can set the general project settings and style of the main application window.

Depending on the BorderStyle chosen you may or may not see a standard Windows border and application title bar.

You can set up a default background colour and image that will be shown as general background on all pages in your Widget Designer project.

Define size and location of the WD Interface.

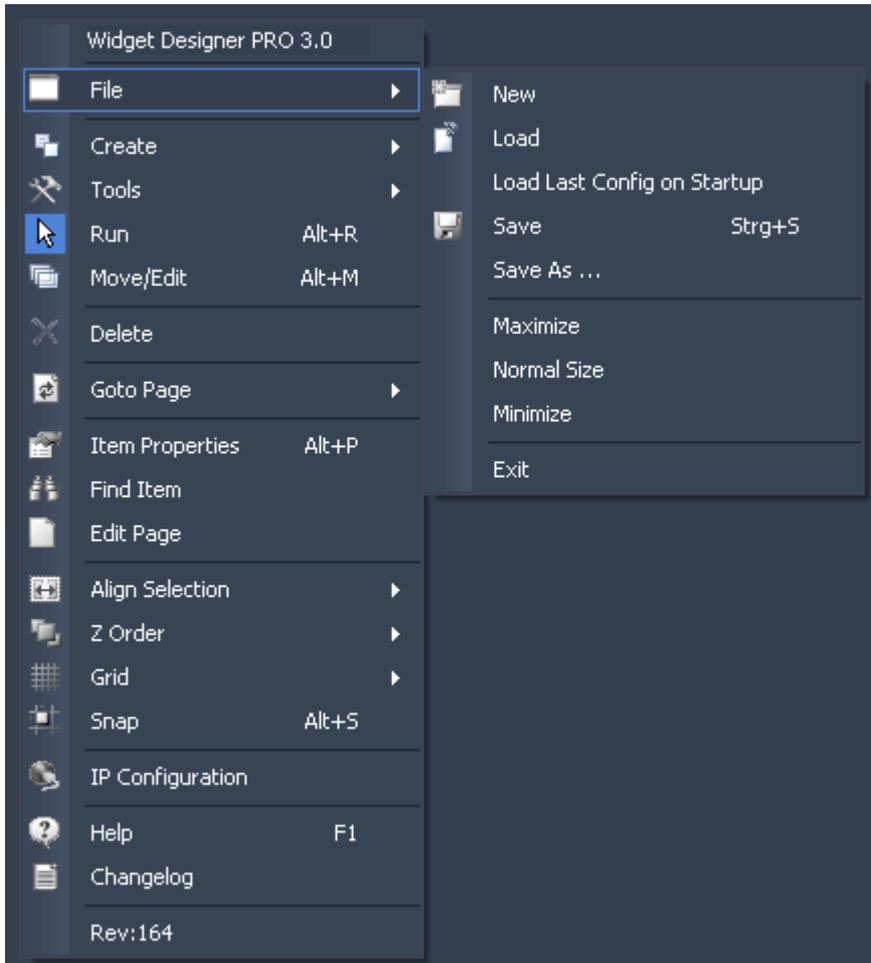
Choose between standard Windows Window States: Maximized, normal and minimized.

Tick the following checkboxes to
 always have the WD on top of all applications (Top Most),
 enable Scrollbars (you will see them if the WD Gui is scaled smaller then its original size),
 only have the WD opened in the Tray and
 to automatically start WD on System Start. This option will write WD to your autostart folder.
 turn the skinning on and off in case that webpages are displayed with the Widget Designer skinning colours.

The additional start up script on project load can also be entered here.

11.2.3 FILE MENU

In the file menu you get access to load and save WD projects.



NEW:

Creates a new WD project file.

LOAD:

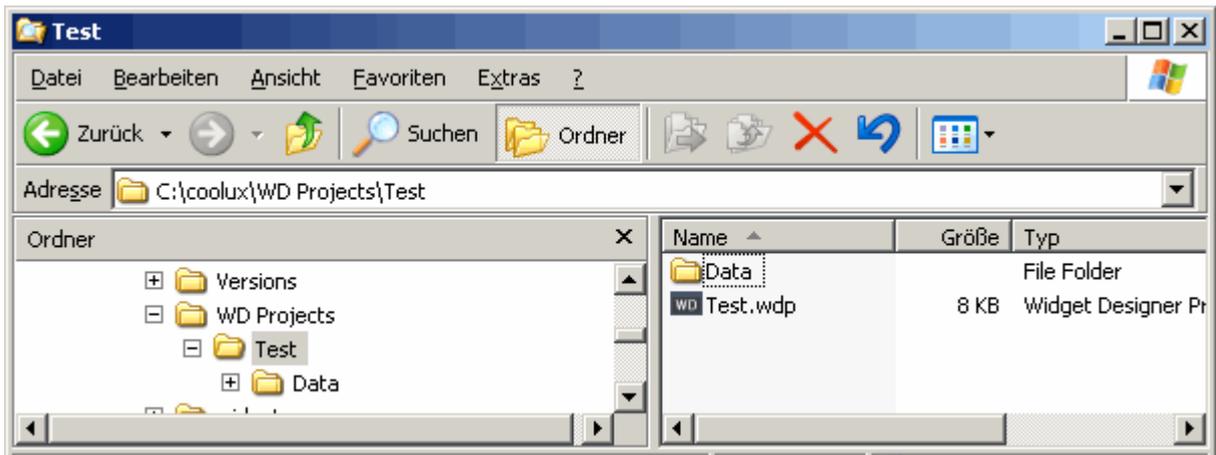
A click on load opens a file browser where you can choose the WD project file to be loaded. If you load a file created with an older WD version, it will be imported automatically. A pup-up window then asks you to re-save this file as new project.

LOAD LAST CONFIG ON STARTUP:

To load the current project on next start, click on "Load last Config on Startup" to enable this feature.

SAVE:

Click on save or use the shortcut [CTRL+S] to save your WD project file. At the location you specified a folder will be created. Inside this folder you will find the WD project file (xxx.wdp) as well as data-folder containing all images applied to different controls in WD.

**SAVE AS...:**

Use this option to save the current WD project file under a different name.

Please note: WD only asks you to save the current project file when exiting the application. There is also NO AUTOSAVE.

MAXIMIZE:

Maximizes the WD window over the whole screen.

NORMAL SIZE:

Brings the WD to the size set in the [Main GUI](#)'s Item Properties.

MINIMIZE:

Minimizes the WD window.

11.2.4 UI TOOLS

As you might have noticed already, the context menu offers tools for alignment, Z-ordering controls as well as a snap to grid function to create clean and proper user interfaces.

All of these tools are accessible in "MOVE" mode.

In "MOVE" mode you may left click and drag a selection frame to select multiple UI controls and elements to either move them or even scale the items where possible.

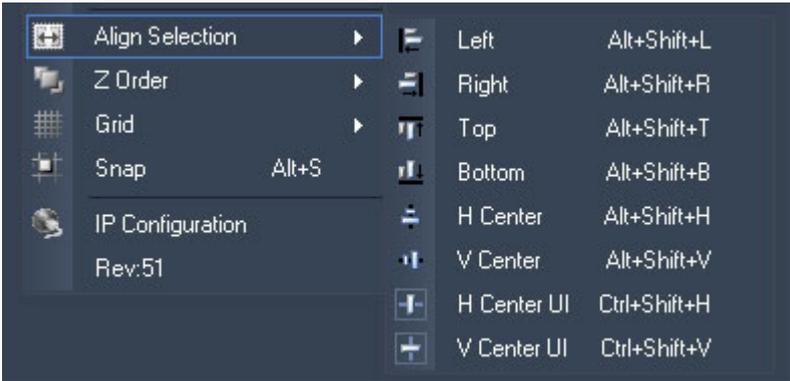
Most control will show up a small diagonal double arrow when in "MOVE" mode. To change the size of the item, click and drag until the control matches your desired size.

All standard user control also support copy and paste with CTRL+C and CTRL+V. Nodes do not support this feature yet.

If you need to delete an item, right-click on the element and click delete or switch to "MOVE" mode. Select multiple controls and press the delete key on the keyboard.

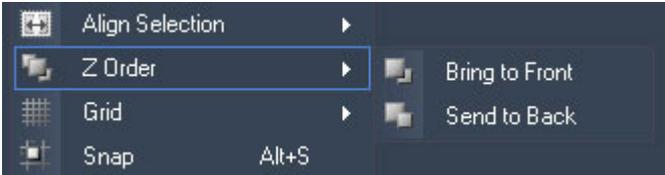
ALIGNMENT

To align multiple UI elements to each other you will first need to select the items and then apply the desired alignment method.



Z-ORDERING

When you need to place one element on top of another you may click on the desired element and choose "Send to Back" or "Bring to Front".



11.2.5 KEYBOARD SHORTCUTS

File:

CTRL + S	Save
CTRL + SHIFT + S	Save as
ALT + F4	Exit Application
F1	Help

User Interface:

ALT+R	Run Mode
ALT+M	Move/Edit Mode
ALT+S	Toggle Snap at Grid
ALT+G	Toggle Grid
CTRL+SHIFT+M	Maximise the Interface on the Primary Screen
CTRL+SHIFT+T	Show Main GUI Title Bar
CTRL+SHIFT+F	Hide Main GUI Title Bar
Page Up	Next Page in Order
Page Down	Last Page in Order
CTRL+SHIFT+T	Changes the window border style to Icon Title Window

Selection:

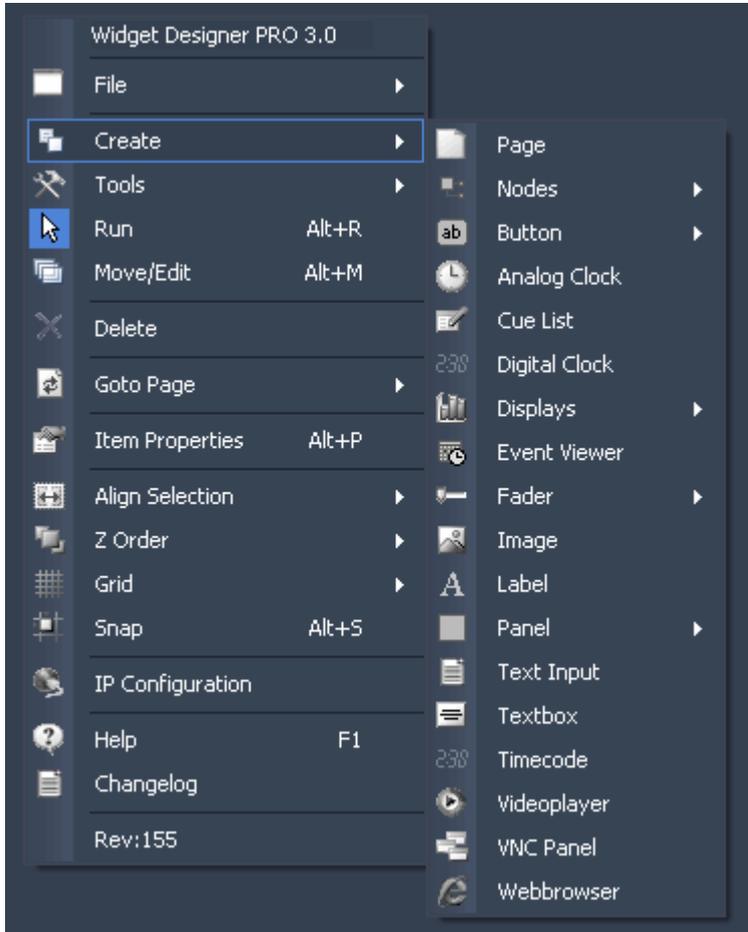
CTRL+A	Select all controls and nodes on current page
CTRL+Mouse	Multiselect controls and nodes
ESC	Clear current selection
CTRL+C	Copy
CTRL+V	Paste
CTRL+P	Paste controls at the same location (useful when group of controls need to be copied to multiple pages)
CTRL+ARROW	Move selected items
ALT+P	Item Properties (when mouse cursor placed over a control)
F2	Edit Node (when mouse cursor placed over a node)

Align Selection:

ALT+SHIFT+L	Align Selection to the left border
ALT+SHIFT+R	Align Selection to the right border
ALT+SHIFT+T	Align Selection to the top border
ALT+SHIFT+B	Align Selection to the bottom border
ALT+SHIFT+H	Align Selection to its horizontal center
ALT+SHIFT+V	Align Selection to its vertical center
CTRL+SHIFT+H	Align Selection to the horizontal center of the UI
CTRL+SHIFT+V	Align Selection to the vertical center of the UI.

11.3 CONTROLS

To create a Control right-click anywhere on the empty main background window and go to "Create"-> and choose the desired control.



Once you have clicked on the last menu item the mouse cursor will change to a crosshair icon. This icon tells you that you are in "CREATE" mode.

To create one or multiple controls just left click anywhere on the empty main background window and you will see a new control being assigned and displayed. The control can now be used.

Next you will need to set up the properties of the newly built control. To edit the controls parameters simply right-click on the desired control and choose the menu entry "Item Properties" or press [Alt+P]. The controls property dialog opens up.

When you are in Move Mode [Alt+M9], the Control IDs will be shown without the need to open the control's properties.

Please see the following pages for detailed information about available controls:

[Page](#)

[Nodes](#)

[Button](#)

[Analog Clock](#)

[Cue List](#)

[Digital Clock](#)

[Displays](#)

[Event Viewer](#)

[Fader](#)

[Image](#)

[Label](#)

[Panel](#)

[Text Input](#)

[Textbox](#)

[Timecode](#)

[Video Player](#)

[VNC Panel](#)

[Web Browser](#)

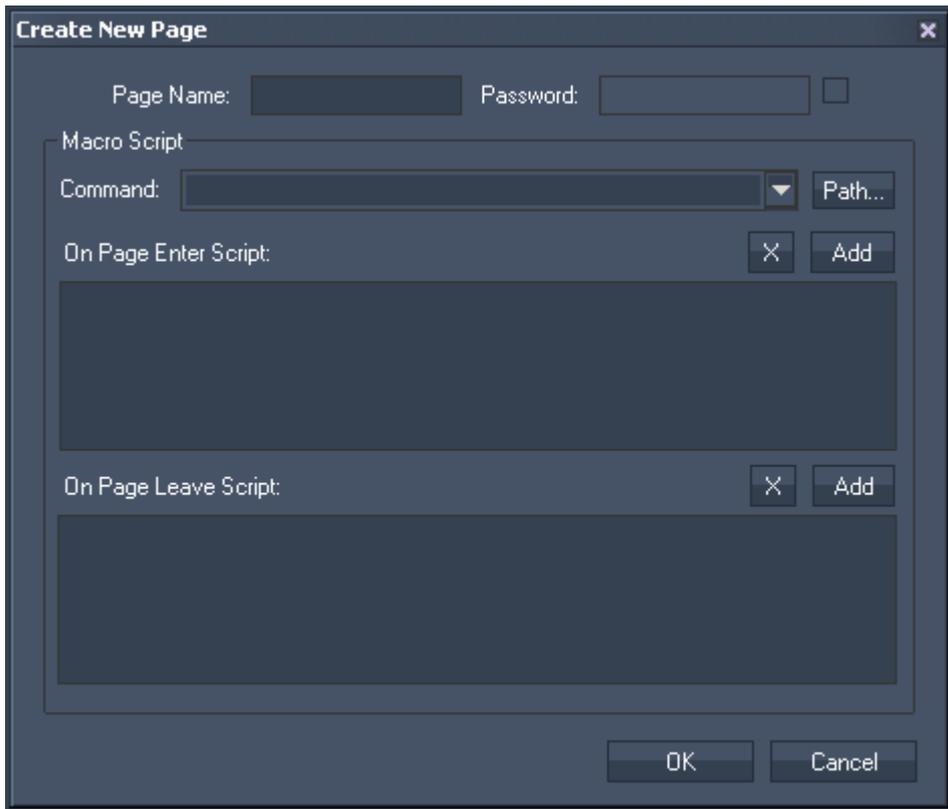
11.3.1 PAGE

Widget Designer supports unlimited pages to create dynamic menu systems.

Buttons and scripts can be used to change from one page to another.

To create a new page right-click anywhere on the empty main background window and go to "Create"->"Page".

The Page Creation Dialog opens up.



Page Name:
To create the new Page enter a new page name and click OK.

Password:
If you want this page to be password protected, enable the little checkbox and enter a password. This will be requested when changing onto this page.

Macro Script:
In the Macro Scripts section you may enter custom scripts that will be assigned as On-Page-Enter- or On-Page-Leave-Script. This way you can assign an additional action to every page change. See here a list of all [scripts](#).

If you want to edit the page settings (Page Name, Password, Macro Scripts) later on, please do a rightclick on the main GUI and choose Edit Page. Then the Page Dialog will appear again.

To go to the newly build page right-click anywhere on the empty main background window and go to "Goto Page" to switch to your new page.

Specifics about Pages

For Node systems Pages can be used to switch between different node systems.

Up on Page enter all nodes of the entered page are automatically activated.

When VNC Panels are used with pages, the page change will cause all invisible VNC panels to disconnect their VNC Connection for performance reasons.

11.3.2 NODES (WD PRO ONLY)

The Node system in Widget Designer Pro allows to create custom logic routing of control data.

For example you want to remote control a Pandoras Box Layer with a standard Joystick.

or

You want to connect a SensorLink sensor input to any Pandoras Box Layer Parameter.

or

You want to receive Art-Net values from Pandoras Box and map these to Midi output values.

etc,...

The list of possible scenarios is probably endless.

If you have never worked with a node based system, the way it works within Widget Designer is very easy to learn.

Node types

There are basically four types of nodes: [Inputs](#), [Filter](#), [Outputs](#) and [Scripts](#).

Input nodes provide numeric or text based input values.

For example the Mouse or Joystick input Node provides you with an X&Y value.

This value might be related to screen coordinates based on your local display resolution 1024x768.

But you might want to map the mouse motion to the 16bit value range of a layer between 31768 and 33768.

To resolve this you simply connect a Range Filter node to the Mouse input and tell the Range Filter to recalculate the range from 0-1023 to 31768-33768. This is all it takes.

Last you would connect a Layer Output node to the range output and assign the range output to the X Position Parameter of a given Layer.

The script Nodes allow to receive either ASCII or Byte values over a local COM port connection. Any input data can be linked to directly execute dedicated scripts.

See the following topics in this chapter:

[Creating and setting up nodes](#)

[The Node systems underlying mechanism](#)

[Tutorial Nodes](#)

[Syntax TCP- / UDP- / Serial Messages](#)

[Input Nodes](#)

[Filter Nodes](#)

[Output Nodes](#)

[Script Nodes](#)

11.3.2.1 CREATING AND SETTING UP NODES

To create an new node right-click anywhere on the empty main background window and go to "Create"->"Nodes".

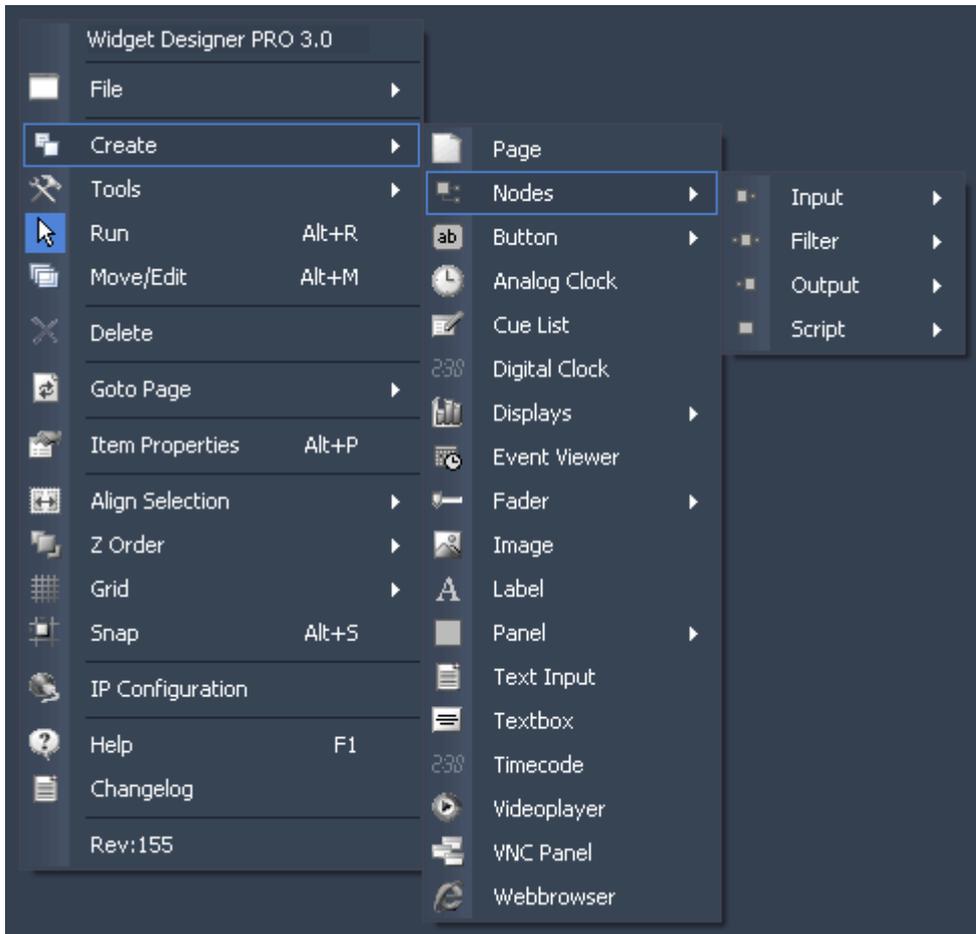


Figure 1: The right-click menu to create Nodes.

Once you have clicked on the last menu item the mouse cursor will change to a crosshair icon. This icon tells you that you are in "CREATE" mode. To create one or multiple nodes just left click anywhere on the empty main background window and you will see a new node being assigned and displayed.

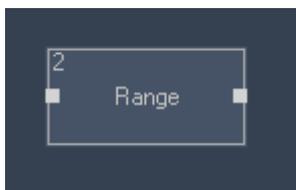


Figure 2: A range node is created.

Next you will need to set up the properties of the newly build node. To edit the node parameters right-click on the desired node control and choose the menu entry "Item Properties" or just double-click on the node.

The Nodes Property Dialog will open up.

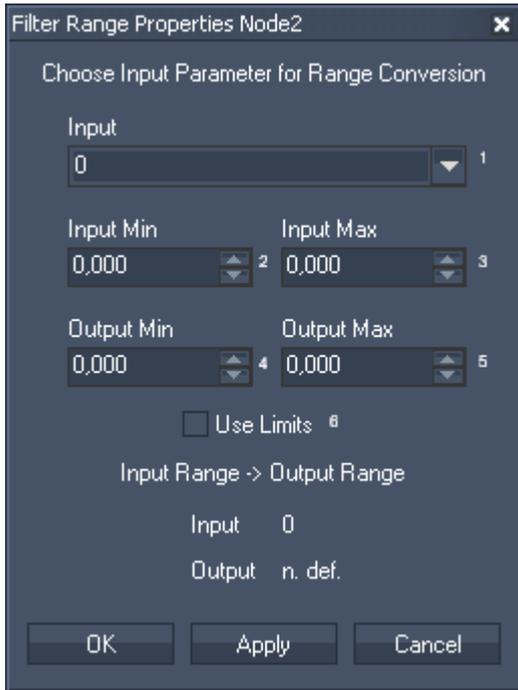


Figure 3: See here as example the properties of a Range Node.

Here you can set up the static parameters and everywhere you see a dropdown list you may choose to pick a source node value output or enter a static numeric value into the text field of the combo box directly.

Index Numbers

In many nodes you will notice little index numbers next to the input fields. These index numbers are important if you wish to remote control a node source or node value via scripts from any other element such as a Custom Script Button or external remote or other output script node. This makes the node system very dynamic and lets you design systems that can change their behavior based on specific input parameters and controls.

Connecting Nodes

If you want to connect two nodes with each other first switch to "MOVE" mode by pressing ALT+M and then left click and drag from the source node output pin to the target node and release the left mouse button.



Figure 4a+b: RUN / MOVE Mode are shown with different mouse cursor types.

The connection between the node is now displayed as grey line.

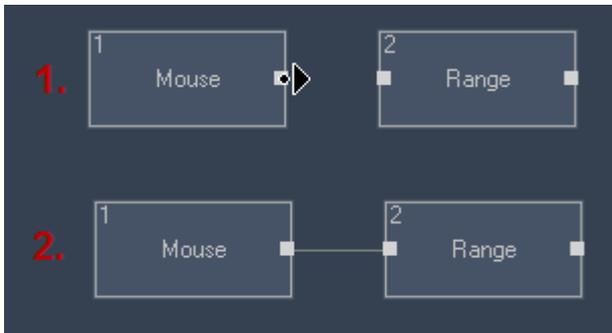


Figure 5: Connecting Nodes (be in MOVE Mode!)

It is possible as well to connect nodes on different pages.

To do this press Page-Up or Page-Down on your keyboard when dragging the connect node line to navigate to the desired page.

Disconnecting Nodes

To disconnect a node or free an input or output pin from all its connections switch to "MOVE" mode and right-click on the pin that you would like to be reset. Resetting the pins does not reset all node values. Some node parameters are not based on source node values and can be set manually.



Figure 6: Disconnection Nodes (be in MOVE Mode!)

To delete just a single connection between two nodes, switch to “MOVE” mode and select the Node Connection by clicking on it. The Node Connection turns blue. Now press [delete] on your keyboard to delete the Node Connection and confirm the upcoming pop up dialog.

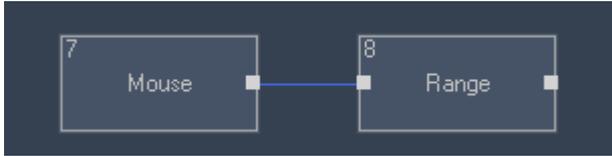


Figure 7a: Node connection is selected. Press [delete] to delete this connection.

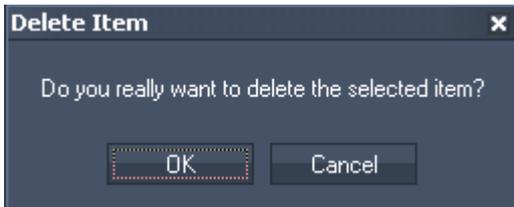


Figure 7b: Confirm upcoming pop-up dialog

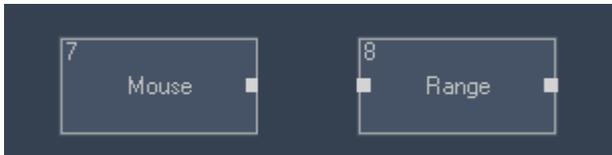


Figure 7c: Node connection is deleted.

Copy and Paste Nodes

To copy and paste Nodes, you have to be in MOVE/Edit Mode [ALT+M].

To copy a single Node, just click on it or drag a window across it.

To select multiple Nodes, hold [CTRL] pressed while clicking on the Nodes or drag a window across the Nodes. select the Nodes in Move Mode. To do this, either draw a window

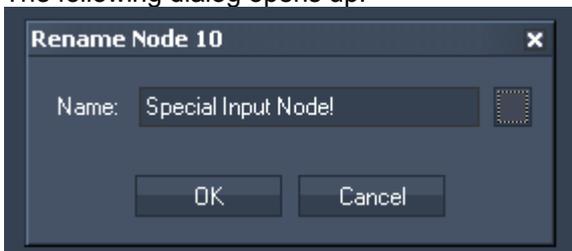
Once selected, the Nodes may be copied (CTRL+C) and pasted (CTRL+V) within the Widget Designer Project.

All Node Properties will also be copied, as long the Node Sources are copied as well.

Edit Nodes

To change the text and the background colour displayed inside the nodes, please position the mouse cursor over the node and press [F2] or rightclick in the main GUI and choose “Edit Node”.

The following dialog opens up:

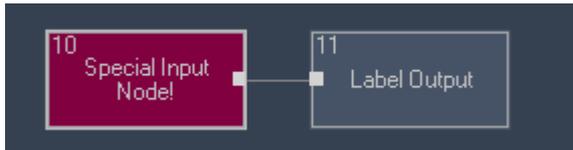


Name:

Enter the new name and press [OK] to apply the change.

Background Colour:

Click in the little box to the right of the text field to choose a different colour for the node’s background.



11.3.2.2 THE NODE SYSTEMS UNDERLYING MECHANISM

The node system has been designed to be optimized for performance as many inputs might generate quite some amount of data to be processed.

Therefore it is important to understand that all output nodes are being updated with a fixed sample rate of 60 times per second.

On each update cycle every output node is updated and calculates all values of its connected node chain.

No matter the update frequency, all input nodes receive every input value as these run independent of the output cycle.

A few nodes depend on the update rate to calculate relative or time based values.

Since the Property pages request the node chain to update 25 times per second to display the current values, it is recommended to have all property dialogs closed during show mode for exact value processing.

Again these exception apply only to a few specific filter nodes and this information is mentioned for every node it applies to.

11.3.2.3 TUTORIAL NODES

Please see here a little example of how to map the X and Y position of a layer in Pandoras Box to a mouse cursor. Moving the mouse cursor to the left /right /upper or lower screen side should result in also moving the layer left / right / up or down.

At first please make sure that:

1. the [IP Configuration](#) of your Widget Designer is set up correct to control Pandoras Box, and
2. Parameters value readout in Pandoras Box is in non-centered mode, set this up in [Configuration Tab](#) in PB.

Create three different nodes:

1. Mouse Input Node,
2. two Range Filter Nodes (one for translation of X position, one for translation of Y position),
3. PB Layer Control Node.

Connect the nodes in the following order:

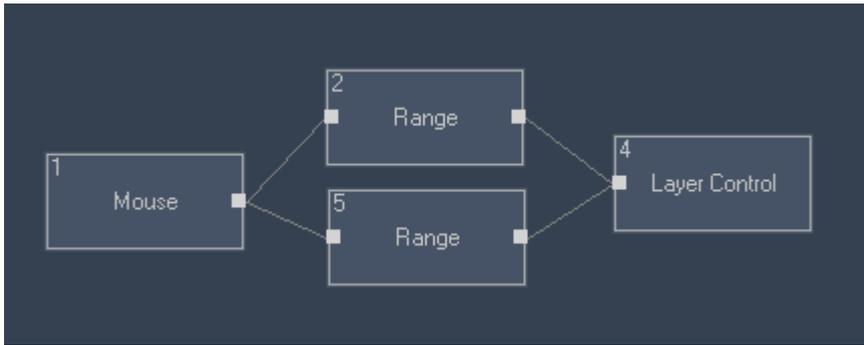


Figure 1: Example nodes setup

The range nodes are the translators between the mouse cursor X and Y position data and the X and Y Position values in Pandoras Box.

Right-click on the Mouse Node and choose Item Properties. Now the cursor positions are shown.

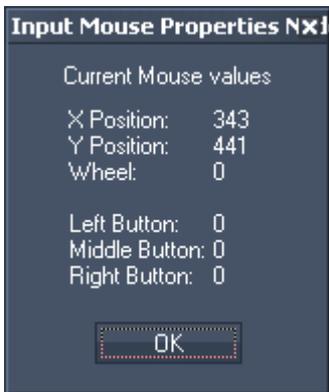


Figure 2: Mouse Input Node Properties

When your mouse cursor is at the left border of your screen, the mouse X Position shows 0 (at the right border eg. 1023 is shown, this depends on your screen resolution).

Please change to Pandoras Box Software. Here Layer 2 (the scaled black and white image) is moved to the left side, the X position value for this position is 32168 (according to this, when the layer is moved to the right side, the X Position value is 33360), see figure below:

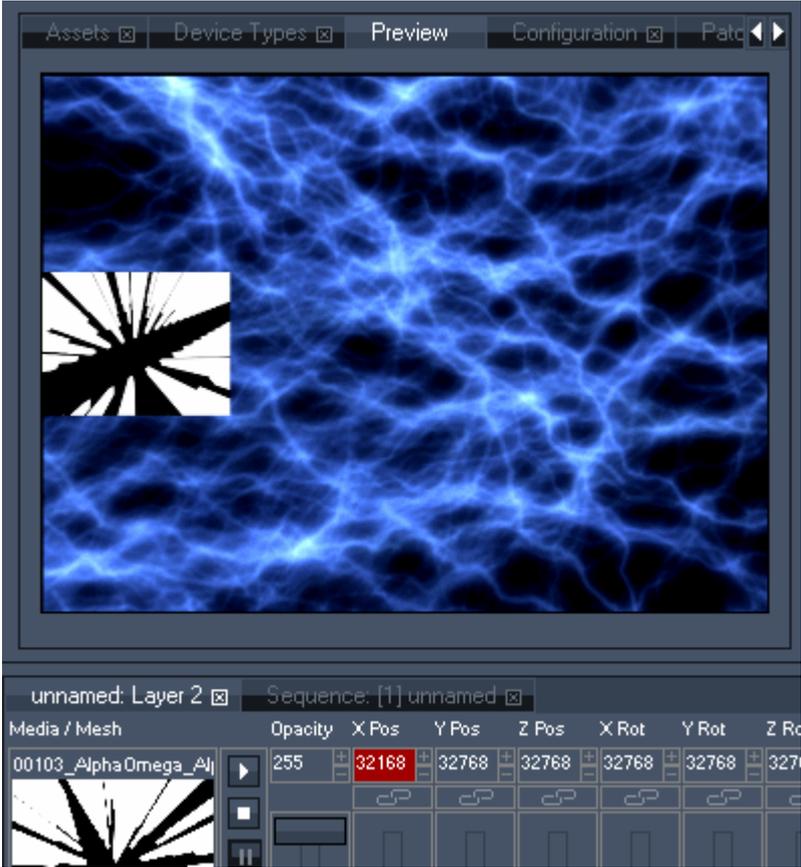


Figure 3: Pandoras Box setup

The Range Filter Nodes allow to map the mouse position data to Pandoras Box Layer Position data. We start with the first Range Node that we set up to map the X position. Please right-click on the first Range Node and choose Item Properties.

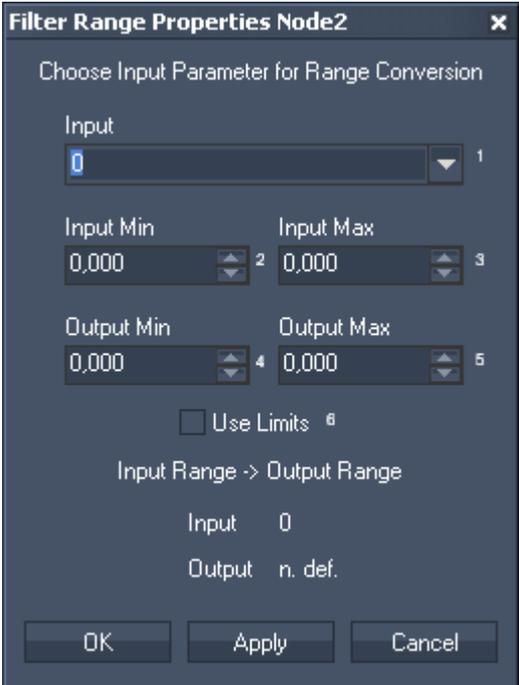


Figure 4: Properties dialog of Range Filter Node.

Please choose "Mouse X Pos" from the list as Input. The Input Min and Input Max text fields are related to your mouse cursor X position.

For Input Min enter the min mouse X position value (keeps the value 0), assign the max mouse X position value for Input Max (read it from mouse input node properties, when your mouse cursor is moved to the right side of your screen).

Output Min and Max are related to Layer 2 in Pandoras Box.

For Output Min enter the value 32168 (value is read out of Pandoras Box Layer 2 X Position, when the layer is moved to the left side of the screen) and for Output Max enter 33360 (layers X position value at the right side of the screen). Press Apply / OK. The filter node properties should look like this now:

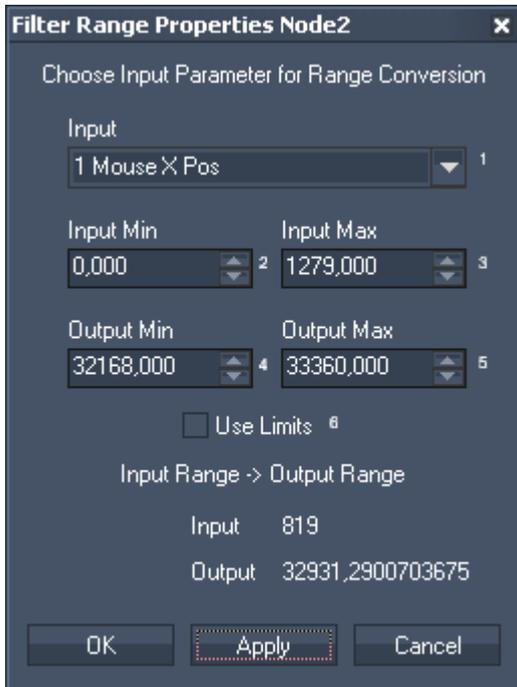


Figure 5: First Range Filter Node is set up for X position.

After preparing the translation of X position, the second range filter node needs to be set up for translation of Y position.

The mouse cursor at top of the screen delivers Y position value 0, at the bottom of the screen it delivers Y position value 799 (according to your screen size).

The Layer in Pandoras Box gets the following values in this example: Y position on top of the screen is 33208, Y position on bottom of the screen is 32428.

Prepare now the second range filter node, see figure below.

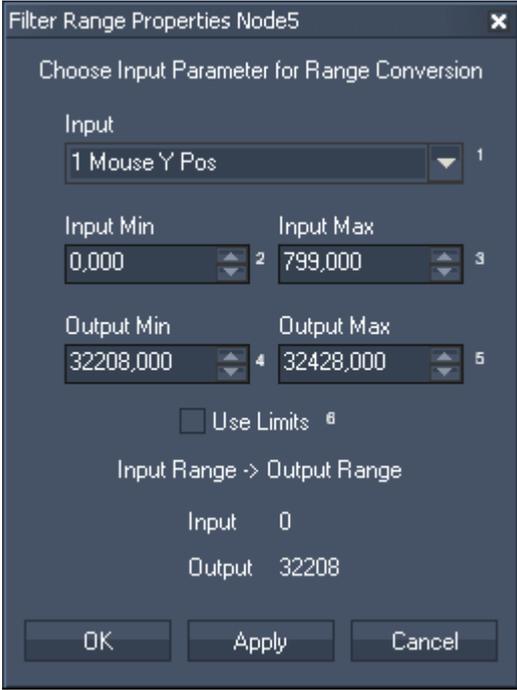


Figure 6: Second Range Filter Node is set up for Y position.

The last thing to do is setting up the PB Layer Control Output Node. Right-click on it and choose Item Properties.

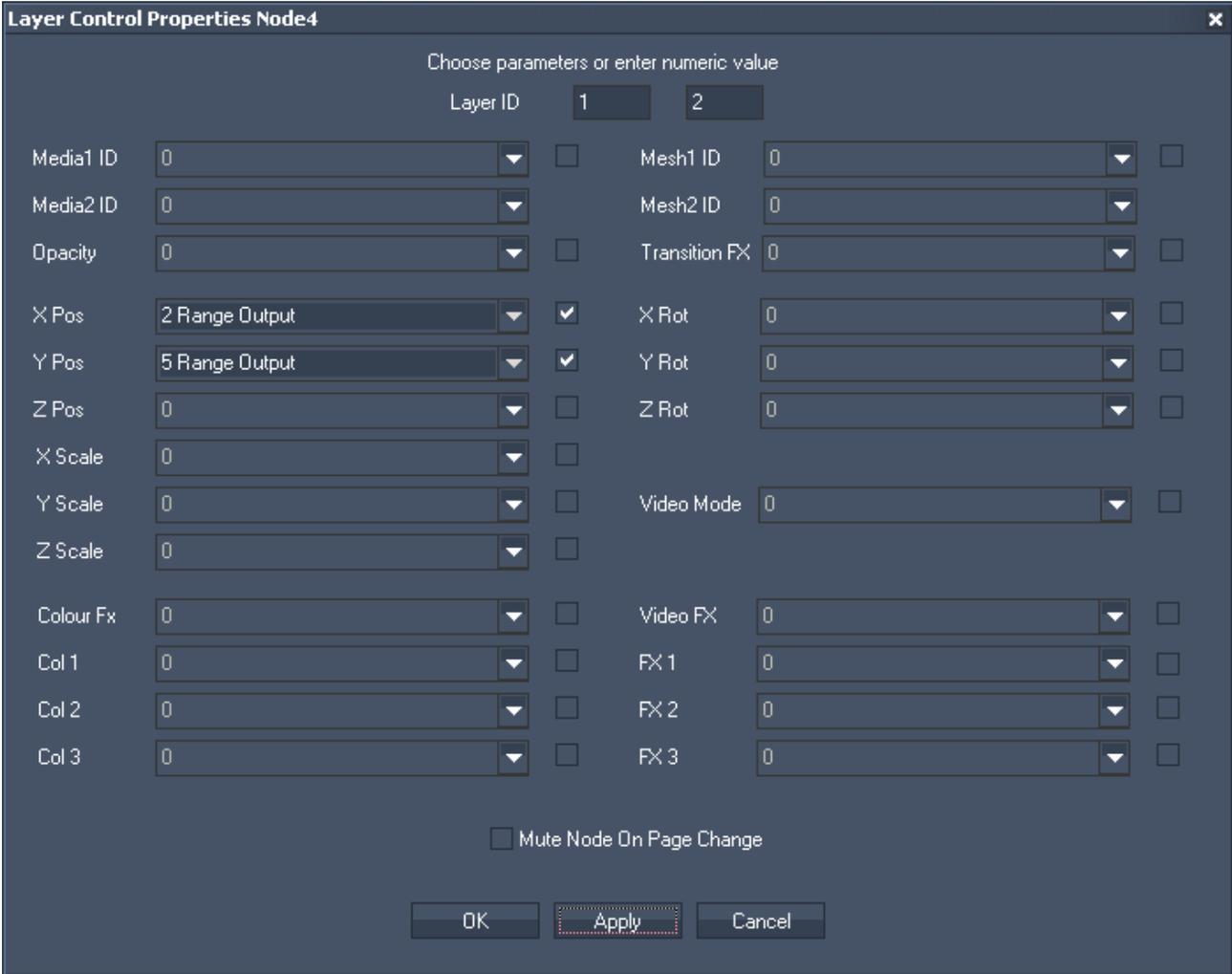


Figure 7: Properties of PB Layer Control Output Node.

Enter the Layer ID on top of the dialog. In the first text field enter the site ID, in the second text field enter the layer ID.

Tick the checkbox next to X Pos and choose the Range Output from the list, that is set up for the X position.

Tick the checkbox next to Y Pos and choose the Range Output from the list, that is set up for the Y position.

Press Apply / OK.

Move your mouse cursor and the layer now will be mapped to it (make sure you are in RUN Mode [Alt+R]).

11.3.2.4 SYNTAX TCP- / UDP- / SERIAL MESSAGES

Via TCP-, UDP- and COM Port nodes incoming or outgoing values can be entered as string, decimal or hexadecimal values.

Example:

Use [d13] to enter one or multiple decimal values.

Use [h0D] to enter one or multiple hexadecimal values.

Use [CR] to enter ASCII symbols.

Mixed values are also possible:

[d13 h0D CR]Example String[CR].

Please see the DEC HEX ASCII Table.

DEC	HEX	ASCII Symbol	Description
0	0	NUL	Null char
1	1	SOH	Start of Heading
2	2	STX	Start of Text
3	3	ETX	End of Text
4	4	EOT	End of Transmission
5	5	ENQ	Enquiry
6	6	ACK	Acknowledgment
7	7	BEL	Bell
8	8	BS	Back Space
9	9	HT	Horizontal Tab
10	0A	LF	Line Feed
11	0B	VT	Vertical Tab
12	0C	FF	Form Feed
13	0D	CR	Carriage Return
14	0E	SO	Shift Out / X-On
15	0F	SI	Shift In / X-Off
16	10	DLE	Data Line Escape
17	11	DC1	Device Control 1 (oft. XON)
18	12	DC2	Device Control 2
19	13	DC3	Device Control 3 (oft. XOFF)
20	14	DC4	Device Control 4
21	15	NAK	Negative Acknowledgement

22	16	SYN	Synchronous Idle
23	17	ETB	End of Transmit Block
24	18	CAN	Cancel
25	19	EM	End of Medium
26	1A	SUB	Substitute
27	1B	ESC	Escape
28	1C	FS	File Separator
29	1D	GS	Group Separator
30	1E	RS	Record Separator
31	1F	US	Unit Separator
32	20		Space
33	21	!	Exclamation mark
34	22	"	Double quotes (or speech marks)
35	23	#	Number
36	24	\$	Dollar
37	25	%	Procenttecken
38	26	&	Ampersand
39	27	'	Single quote
40	28	(Open parenthesis (or open bracket)
41	29)	Close (or close bracket)
42	2A	*	Asterisk
43	2B	+	Plus
44	2C	,	Comma
45	2D	-	Hyphen
46	2E	.	Period, dot or full stop
47	2F	/	Slash or divide
48	30	0	Zero
49	31	1	One
50	32	2	Two
51	33	3	Three
52	34	4	Four
53	35	5	Five
54	36	6	Six
55	37	7	Seven
56	38	8	Eight
57	39	9	Nine
58	3A	:	Colon
59	3B	;	Semicolon
60	3C	<	Less than (or open angled bracket)
61	3D	=	Equals
62	3E	>	Greater than (or close angled bracket)
63	3F	?	Question mark
64	40	@	At symbol
65	41	A	Uppercase A
66	42	B	Uppercase B
67	43	C	Uppercase C
68	44	D	Uppercase D
69	45	E	Uppercase E
70	46	F	Uppercase F
71	47	G	Uppercase G
72	48	H	Uppercase H

73	49	I	Uppercase I
74	4A	J	Uppercase J
75	4B	K	Uppercase K
76	4C	L	Uppercase L
77	4D	M	Uppercase M
78	4E	N	Uppercase N
79	4F	O	Uppercase O
80	50	P	Uppercase P
81	51	Q	Uppercase Q
82	52	R	Uppercase R
83	53	S	Uppercase S
84	54	T	Uppercase T
85	55	U	Uppercase U
86	56	V	Uppercase V
87	57	W	Uppercase W
88	58	X	Uppercase X
89	59	Y	Uppercase Y
90	5A	Z	Uppercase Z
91	5B	[Opening bracket
92	5C	\	Backslash
93	5D]	Closing bracket
94	5E	^	Caret - circumflex
95	5F	_	Underscore
96	60	`	Grave - accent
97	61	a	Lowercase a
98	62	b	Lowercase b
99	63	c	Lowercase c
100	64	d	Lowercase d
101	65	e	Lowercase e
102	66	f	Lowercase f
103	67	g	Lowercase g
104	68	h	Lowercase h
105	69	i	Lowercase i
106	6A	j	Lowercase j
107	6B	k	Lowercase k
108	6C	l	Lowercase l
109	6D	m	Lowercase m
110	6E	n	Lowercase n
111	6F	o	Lowercase o
112	70	p	Lowercase p
113	71	q	Lowercase q
114	72	r	Lowercase r
115	73	s	Lowercase s
116	74	t	Lowercase t
117	75	u	Lowercase u
118	76	v	Lowercase v
119	77	w	Lowercase w
120	78	x	Lowercase x
121	79	y	Lowercase y
122	7A	z	Lowercase z
123	7B	{	Opening brace

124	7C		Vertical bar
125	7D	}	Closing brace
126	7E	~	Equivalency sign - tilde
127	7F		Delete
128	80	€	Euro sign
129	81		
130	82	,	Single low-9 quotation mark
131	83	f	Latin small letter f with hook
132	84	”	Double low-9 quotation mark
133	85	...	Horizontal ellipsis
134	86	†	Dagger
135	87	‡	Double dagger
136	88	ˆ	Modifier letter circumflex accent
137	89	‰	Per mille sign
138	8A	Š	Latin capital letter S with caron
139	8B	◀	Single left-pointing angle quotation
140	8C	Œ	Latin capital ligature OE
141	8D		
142	8E	Ž	Latin capital letter Z with caron
143	8F		
144	90		
145	91	‘	Left single quotation mark
146	92	’	Right single quotation mark
147	93	“	Left double quotation mark
148	94	”	Right double quotation mark
149	95	•	Bullet
150	96	—	En dash
151	97	—	Em dash
152	98	˜	Small tilde
153	99	™	Trade mark sign
154	9A	š	Latin small letter S with caron
155	9B	›	Single right-pointing angle quotation mark
156	9C	oe	Latin small ligature oe
157	9D		
158	9E	ž	Latin small letter z with caron
159	9F	ÿ	Latin capital letter Y with diaeresis
160	A0		Non-breaking space
161	A1	¡	Inverted exclamation mark
162	A2	¢	Cent sign
163	A3	£	Pound sign
164	A4	¤	Currency sign
165	A5	¥	Yen sign
166	A6		Pipe, Broken vertical bar
167	A7	§	Section sign
168	A8	¨	Spacing diaeresis - umlaut
169	A9	©	Copyright sign
170	AA	ª	Feminine ordinal indicator
171	AB	«	Left double angle quotes
172	AC	¬	Not sign
173	AD	Soft	hyphen
174	AE	®	Registered trade mark sign

175	AF	⌠	Spacing macron - overline
176	B0	°	Degree sign
177	B1	±	Plus-or-minus sign
178	B2	²	Superscript two - squared
179	B3	³	Superscript three - cubed
180	B4	´	Acute accent - spacing acute
181	B5	μ	Micro sign
182	B6	¶	Pilcrow sign - paragraph sign
183	B7	.	Middle dot - Georgian comma
184	B8	¸	Spacing cedilla
185	B9	¹	Superscript one
186	BA	º	Masculine ordinal indicator
187	BB	»	Right double angle quotes
188	BC	¼	Fraction one quarter
189	BD	½	Fraction one half
190	BE	¾	Fraction the quarters
191	BF	¿	Inverted question mark
192	C0	À	Latin capital letter A with grave
193	C1	Á	Latin capital letter A with acute
194	C2	Â	Latin capital letter A with circumflex
195	C3	Ã	Latin capital letter A with tilde
196	C4	Ä	Latin capital letter A with diaeresis
197	C5	Å	Latin capital letter A with ring above
198	C6	Æ	Latin capital letter AE
199	C7	Ç	Latin capital letter C with cedilla
200	C8	È	Latin capital letter E with grave
201	C9	É	Latin capital letter E with acute
202	CA	Ê	Latin capital letter E with circumflex
203	CB	Ë	Latin capital letter E with diaeresis
204	CC	Ì	Latin capital letter I with grave
205	CD	Í	Latin capital letter I with acute
206	CE	Î	Latin capital letter I with circumflex
207	CF	Ï	Latin capital letter I with diaeresis
208	D0	Ð	Latin capital letter ETH
209	D1	Ñ	Latin capital letter N with tilde
210	D2	Ò	Latin capital letter O with grave
211	D3	Ó	Latin capital letter O with acute
212	D4	Ô	Latin capital letter O with circumflex
213	D5	Õ	Latin capital letter O with tilde
214	D6	Ö	Latin capital letter O with diaeresis
215	D7	×	Multiplication sign
216	D8	Ø	Latin capital letter O with slash
217	D9	Ù	Latin capital letter U with grave
218	DA	Ú	Latin capital letter U with acute
219	DB	Û	Latin capital letter U with circumflex
220	DC	Ü	Latin capital letter U with diaeresis
221	DD	Ý	Latin capital letter Y with acute
222	DE	Þ	Latin capital letter THORN
223	DF	ß	Latin small letter sharp s - ess-zed
224	E0	à	Latin small letter a with grave
225	E1	á	Latin small letter a with acute

226	E2	â	Latin small letter a with circumflex
227	E3	ã	Latin small letter a with tilde
228	E4	ä	Latin small letter a with diaeresis
229	E5	å	Latin small letter a with ring above
230	E6	æ	Latin small letter ae
231	E7	ç	Latin small letter c with cedilla
232	E8	è	Latin small letter e with grave
233	E9	é	Latin small letter e with acute
234	EA	ê	Latin small letter e with circumflex
235	EB	ë	Latin small letter e with diaeresis
236	EC	ì	Latin small letter i with grave
237	ED	í	Latin small letter i with acute
238	EE	î	Latin small letter i with circumflex
239	EF	ï	Latin small letter i with diaeresis
240	F0	ð	Latin small letter eth
241	F1	ñ	Latin small letter n with tilde
242	F2	ò	Latin small letter o with grave
243	F3	ó	Latin small letter o with acute
244	F4	ô	Latin small letter o with circumflex
245	F5	õ	Latin small letter o with tilde
246	F6	ö	Latin small letter o with diaeresis
247	F7	÷	Division sign
248	F8	ø	Latin small letter o with slash
249	F9	ù	Latin small letter u with grave
250	FA	ú	Latin small letter u with acute
251	FB	û	Latin small letter u with circumflex
252	FC	ü	Latin small letter u with diaeresis
253	FD	ý	Latin small letter y with acute
254	FE	þ	Latin small letter thorn
255	FF	ÿ	Latin small letter y with diaeresis

11.3.2.5 INPUT NODES

[AIRBAR](#)

The Airbar Input node provides the following output values: Min, Max, Size and Center. Set up the Airbar via Com Port.

[AIRSCAN](#)

The AirScan Input node provides the following output values: X1/X2 position, Y1/Y2 position, distance, angle, P1/P2 (Point) enter, P1/P2 leave.

[AIRSCAN MULTI-POINT](#)

The AirScan Multi-Point Input node provides the position of each detected points as well as his status.

[ART-NET](#)

The Art-Net input node lets you receive an 8 or 16 bit DMX Value by choosing the desired source Subnet and Universe.

[AUDIO](#) (BETA)

The Audio input Node allows you to define three frequency band passes with a limiter and gate settings.

[BLACK BOX \(BETA\)](#)

The Black Box input node allows to use the 3D position data provided from Cast's device Black Box.

[BUTTON](#)

The Button input node allows you to intercept Button presses within Widget Designer. Select the Button ID to output the current Button state. The output value is either 0 or 1.

[CAMERA POINT TRACKER](#)

The Camera Point Tracker Input Interface and the Camera Point Tracker Input Node allows you to track up to 99 objects / points.

[CAMERA TRACKING \(Beta\)](#)

The CameraTracking Input Interface and Camera Input Node allows you to track up to 8 Tracking points.

[CLOCK](#)

The Clock node provides the current Date values: Year, Month, Day, Hour, Minute and Second.

[COLOUR PICKER](#)

The Colour picker input allows you to pick a colour. The values of this RGB colour can be transferred to the Colour FX faders on a layer in Pandoras Box.

[COM PORT](#)

The Com port input node allows to receive either ASCII or Byte values over a local COM port connection. This input node can output by default any incoming packet as text if no ASCII filter is applied.

[COM ASCII STREAM](#)

The Com ASCII Stream input node allows to receive ASCII values over a local COM port connection. This input node can output by default any incoming packet as text if no ASCII filter is applied.

[COM QUERY STRING](#)

The Com Query String input node allows to receive ASCII feedback messages from COM devices over a local COM Port connection.

This input node will output any incoming packet as Text Only, Numeric Only or mixed string.

[COUNT DOWN](#)

The Count Down input node allows you to set a target time to which it counts down.

It will give out either the total amount of remaining years, months, days, hours, minutes, seconds and the Count Down of hours, minutes and seconds.

[COUNTER](#)

The Counter input node can be set up to continuously count a certain value range in a given amount of time.

The counter can also be set to bounce up and down.

[DMX LINK IN](#)

The DMX Link input node provides all incoming DMX data via the coolux DMX Link interface.

[EMAIL](#)

The Email input node provides all incoming Emails for further processing.

[ENCODER](#)

The Encoder input node allows to intercept Encoder Values within Widget Designer.

[EVENTS](#)

The Events Input Node provides you information about the last events, current events and next events.

[EXCEL READER](#)

The Excel Reader Input Node allows you to readout cells from an excel sheet as text.

[FACE TRACKING](#)

The Face Tracker input node allows to proceed the position values delivered by the Face Tracker Tool.

[FADER](#)

The Fader input node allows to intercept Fader Values within Widget Designer. Select the Fader ID to output the current fader value.

[GPS](#)

The GPS COMPort input node supports the GPGLGA dataformat and is compatible with NMEA 0183.

[iPHONE REMOTE](#)

The iPhone Remote input node allows to receive the current iPhone remote single and multi-touch values.

[JOYSTICK](#)

The Joystick input node allows to intercept standard Windows gaming device input values for axis slider and button input.

[KINECT](#)

The Kinect input node allows to capture up to 8 filtered and tracked points/regions of interest via the Kinect device.

[KINESYS](#)

The Kinesys K2 Input Node allows you to grab X,Y,Z, Pitch, Tilt & Roll data from a Kinesys K2

[LABEL](#)

The Label input node allows to use label texts as Input.

[MEDIA CONTROL](#)

The Media Control input node allows to intercept the last called Folder and File ID of one or multiple Media Control Panels.

[MIDI IN](#)

The Midi input node allows to receive 7bit or 15bit input values as well as Note On/Off and raw byte messages. The midi connection needs to be enabled in the [Connection Manager](#).

[MIDI NOTE CATCH](#)

The Midi Note Catch node catches and outputs the first incoming Midi Note Message.

[MOTION DETECTOR](#)

The Motion Detection input node provides the data given by the Motion Detector Tool for further processing.

[MOUSE](#)

The Mouse input node provides the Mouse X&Y position as well as the three button press states Left, Middle and Right.

[MULTI-TOUCH ITEM](#)

The Multi-Touch Item input node provides the current state of a Multi-Touch Item (Position, Rotation, Size) as well as the current state of the Layer in PB linked to this Item

[MULTI-TOUCH PANEL POINT](#)

The Multi-Touch Panel Point input node provides the current Position of a Point inside a Multi-Touch Panel

[ODSL 30](#)

The ODSL 30 Input node lets you read out distance data from the optical distance measuring sensor ODSL 30 via a local COMPort connection (RS232).

[OSC](#)

The OSC Input node lets you receive data via the Open Sound Control Protocol, e.g. from iPhone, iPad or iPod (tested with Touch OSC). A UDP Broadcast Input Connection is required.

[PAGE](#)

The Page input node allows to use the current page name for further processing.

[PING](#)

The Ping input node gives you feedback in a certain time interval if the specified IP is online.

[RANDOM](#)

The Random input node provides a random number on a given update interval and value range.

[RSS](#)

The RSS input node provides all incoming RSS feeds as Input.

[SENSOR LINK](#)

The SensorLink input node provides the absolute, relative and delta values of the encoder inputs, the analog 0-10v inputs and the switch states 1 to 8.

[SERIAL LINK GPI](#)

The SerialLink input node provides all 24 GPI contact closure states. Connect a Serial Link via TCP in the [Connection Manager](#) and set its TCP ID in the input node to listen to the incoming packets.

[SMS](#)

The SMS input node provides all incoming SMS for further processing.

[SPACE NAVIGATOR](#)

The Space Navigator input node provides the 3D Mouse's X, Y and Z position and Rotation data.

[SMPTE LINK](#)

The SMPTE Link input node allows to read and use timecode within Widget Designer.

[TEXTBOX](#)

The Textbox input node allows to intercept Textbox Values within Widget Designer. Select the Textbox ID to output the current Textbox Value.

[TEXT READER](#)

The Text Reader input node allows you to read out text files (.txt) for further processing.

[TIMAX](#)

The Timax input node provides XYZ data of the Ubisense Timax tracker.

[TCP](#)

The TCP input node allows to receive either ASCII or Byte values based on the selected TCP connection. It can output by default any incoming packet as text if no ASCII filter is applied. The TCP connection is set up in the Connection Manager.

[TCP ASCII STREAM](#)

The TCP ASCII Stream input node allows to receive either ASCII values based on the selected TCP connection. It can output by default any incoming packet as text if no ASCII filter is applied.

[TCP QUERY STRING](#)

The TCP Query String input node allows to receive ASCII feedback messages from TCP devices over a TCP Port connection

[TRACKSCAN](#)

The TrackScan input node provides the integration of a Barcode scanner to read values in mm from 0 to up to 2 km of distances via the local COM Port.

[TRACKSCAN SERIAL LINK](#)

The TrackScan SerialLink input node provides the integration of a Barcode scanner to read values in mm from 0 to up to 2 km of distances via the coolux SerialLink device.

[UDP](#)

The UDP input node allows to receive either ASCII or Byte values based on the selected UDP connection. It can output by default any incoming packet as text if no ASCII filter is applied. The UDP connection is set up in the Connection Manager.

[UDP ASCII STREAM](#)

The UDP input node allows to either ASCII values based on the selected UDP connection. It can output by default any incoming packet as text if no ASCII filter is applied.

[VALUE](#)

The Value input node allows you to set a numeric value for further processing.

[VARIABLE](#)

The Variable input node allows you to use a variable for further processing.

[WHEEL](#)

The Wheel input node allows to intercept Wheel Values within Widget Designer. Select the Wheel ID to output the current Wheel value.

[WII](#)

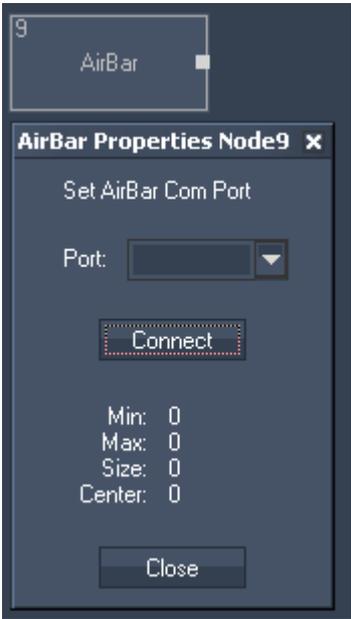
The Wii input node provides all 4 IR tracking coordinates as well as all Button presses and accelerometer data for up to 4 Wii controllers. The additional Nunchuk and Balance Board are also supported. The Wii controller needs to be connected via Bluetooth as HID.

[XY PANEL](#)

The XY Panel input node allows to intercept XY Panel Values within Widget Designer. Select the XY Panel ID to output the current XY Panel values.

11.3.2.5.1 AIRBAR

The Airbar Input node provides the following output values: Min, Max, Size and Center. Set up the Airbar via Com Port.



Node Properties:

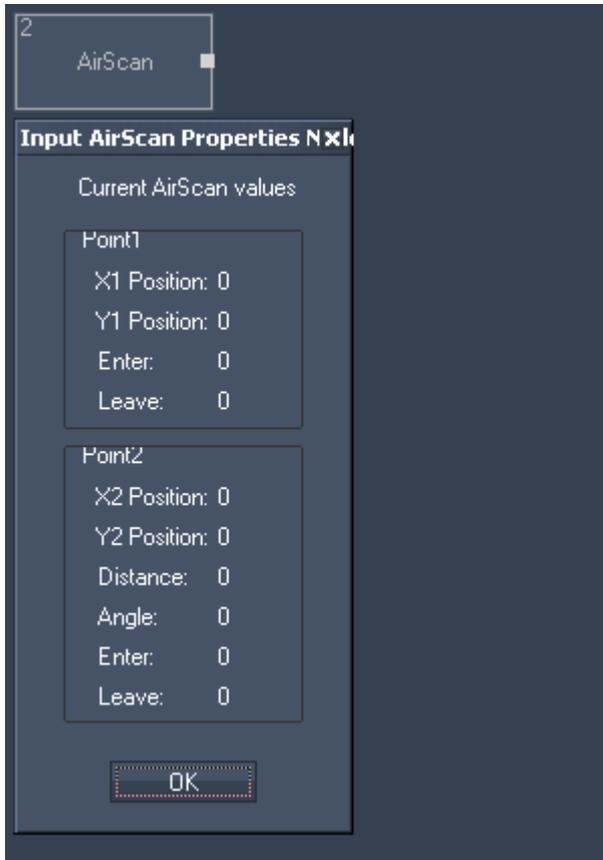
Port:
Enter the number of the COM Port the Airbar is connected to. Press Connect.

- The Node generates the following output:
- Airbar Min Output = Minimum Position from left
 - Airbar Max Output = Maximum Position from left
 - Airbar Size Output = distance between two points
 - Airbar Center Output = center Position between Min and Max.

11.3.2.5.2 AIRSCAN

The AirScan Input node provides the following output values: X1/X2 position, Y1/Y2 position, distance, angle, P1/P2 (Point) enter, P1/P2 leave.

Please set up the AirScan in the [AirScan Tools Menu](#).



Node Properties

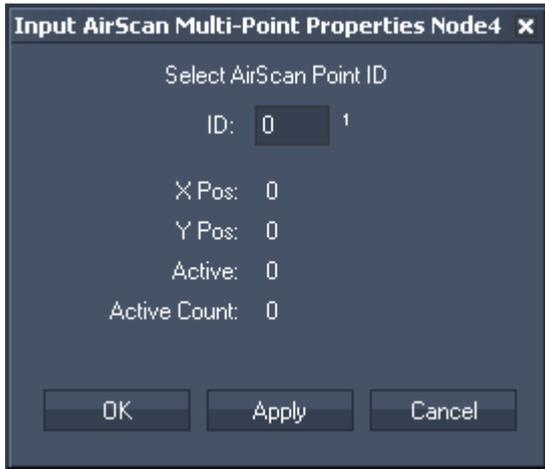
The Node generates the following output:

- AirScan X1 Pos,
- AirScan Y1 Pos,
- AirScan X2 Pos,
- AirScan Y2 Pos,
- AirScan Distance (between two points),
- AirScan Angle (between two points),
- AirScan P1 Enter (true or false),
- AirScan P1 Leave (true or false),
- AirScan P2 Enter (true or false),
- AirScan P2 Leave.(true or false).

11.3.2.5.3 AIRSCAN MULTI-POINT

The AirScan Multi-Point Input node provides the positions of each detected points as well as his status and the detected active point count.

The AirScan has to be set up in Multi-Point Mode, see [AirScan Tools Menu](#).



Node Properties

ID:

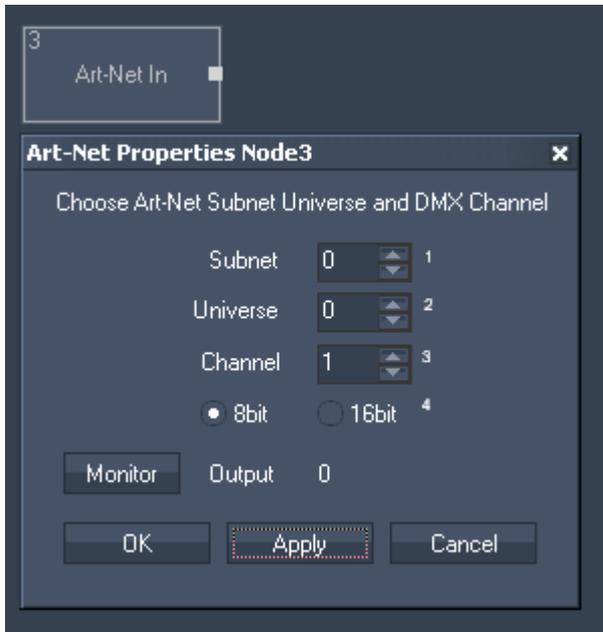
Enter here the ID of the point whose data you want to use (1-24).

The Node generates the following output:

- AirScan Multi-Point X Pos
- AirScan Multi-Point Y Pos
- AirScan Multi-Point Active (true or false)
- AirScan Multi-Point Active count

11.3.2.5.4 ARTNET

The ArtNet input node lets you choose an 8 or 16 bit DMX value by choosing the desired source Subnet and Universe.



Node Properties:

Subnet:

Enter subnet ID.

Universe:
Enter the Universe ID.

Channel:
Enter the Channel ID.

8bit / 16 bit:
Choose if you want to get a eight or sixteen bit DMX value.

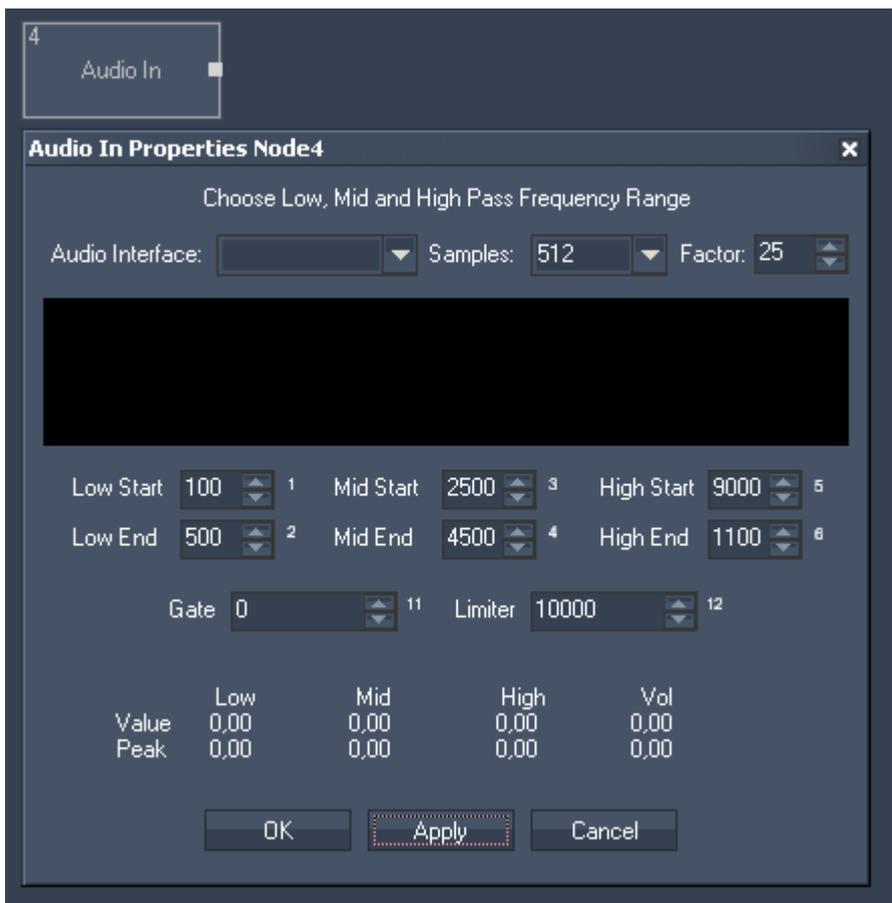
Monitor:
Click here to open the ArtNet Monitor.

Confirm your settings by pressing OK or Apply.

The Node generates the following output:
- ArtNet In DMX Channel.

11.3.2.5.5 AUDIO (BETA)

The Audio input node allows you to define three frequency band passes with a limiter and gate settings.



Node Properties:

Audio Interface
Choose your Audio Interface from the list.

Samples
547

Enter the amount of used samples.

Define the three frequency band passes (Low, Mid, High) by entering their Start and End frequency.

Limiter:

Set the limit for upper peak.

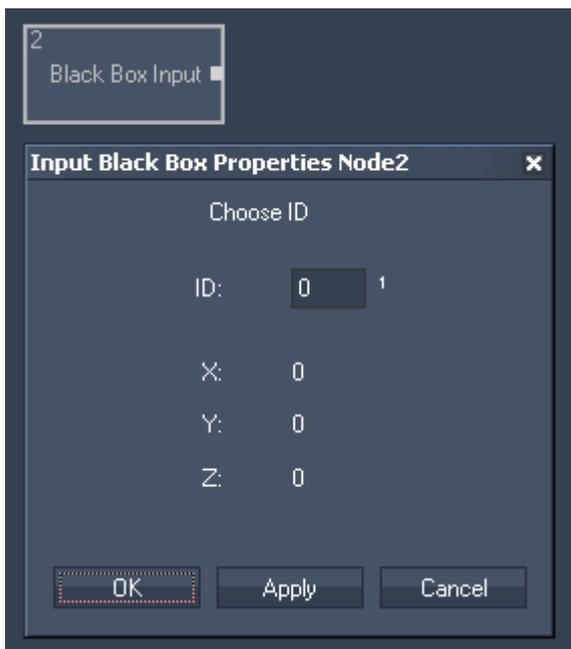
Confirm your settings by pressing OK or Apply.

The Node generates the following output:

- Audio In Low,
- Audio In Low Peak,
- Audio In Mid,
- Audio In Mid Peak,
- Audio In High,
- Audio In High Peak,
- Audio In Volume,
- Audio In Volume Peak.

11.3.2.5.6 BLACK BOX (BETA)

The Black Box input node allows to use the 3D position data provided from Cast's device Black Box.



Node Properties:

ID

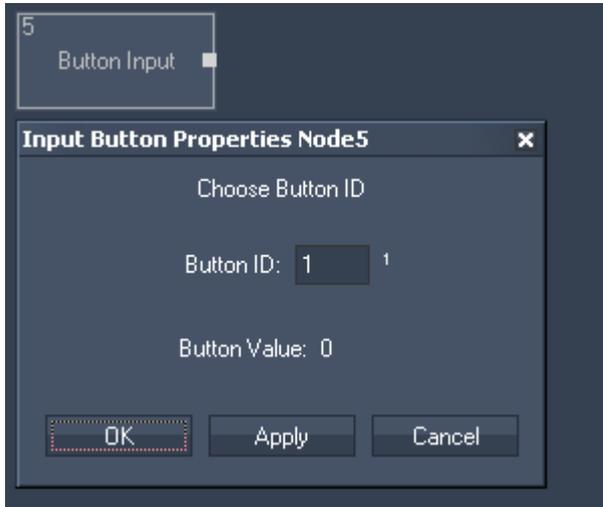
Enter the ID.

The Node generates the following output:

- Black Box Input X,
- Black Box Input Y,
- Black Box Input Z.

11.3.2.5.7 BUTTON

The Button input node allows you to intercept Button presses within Widget Designer. Select the Button ID to output the current Button state. The output value is either 0 or 1.



Node Properties:

Button ID:

Enter here the button ID this node should refer to.

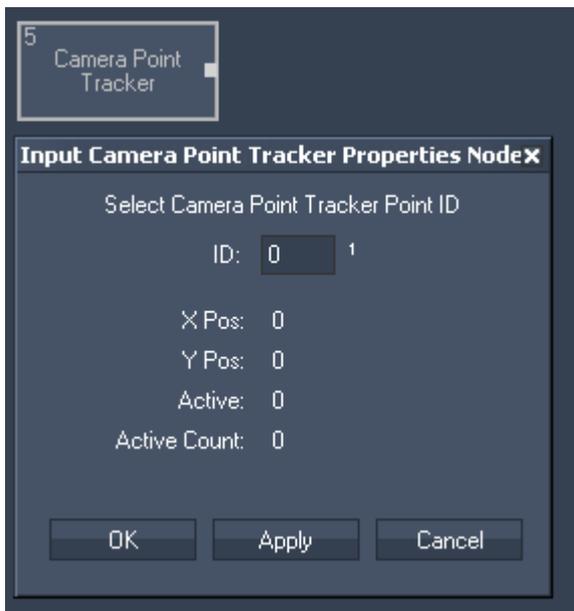
Confirm your settings by pressing OK or Apply.

The Node generates the following output:

- Button Value (True=1, False=0).

11.3.2.5.8 CAMERA POINT TRACKING

The Camera Point Tracker Interface and the Camera Point Tracking Input Node allows you to track up to 99 Tracking points.



ID:

Select the ID of the Point that is tracked via the Camera Point Tracker.

The Node generates the following output:

- Camera Point Tracker X Pos,
- Camera Point Tracker Y Pos,
- Camera Point Tracker Active (0 or 1),
- Camera Point Tracker Active Point Count.

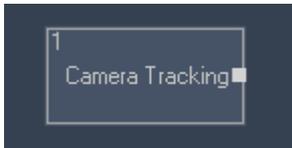
Please note:

Each tracked point whose data you want to get out for further processing needs its own Camera Point Tracker Input Node.

11.3.2.5.9 CAMERATRACKING (BETA)

The [CameraTracking Input Interface](#) and Camera Input Node allows you to track up to 8 Tracking points.

This node does not have an own Properties Window.



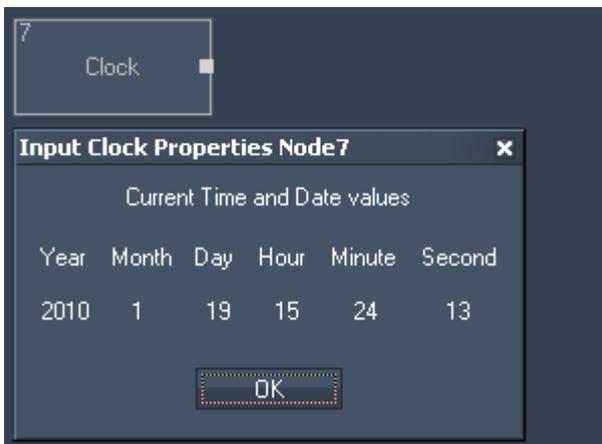
The Node generates the following output:

- TrackCam P1 X,
- TrackCam P1 Y,
- TrackCam P1 Radius,
- TrackCam P1 Angle,
- TrackCam P1 Width,
- TrackCam P1 Height.

These outputs count for P2 to P8, too.

11.3.2.5.10 CLOCK

The Clock node provides the current Date values: Year, Month, Day, Hour, Minute and Second.



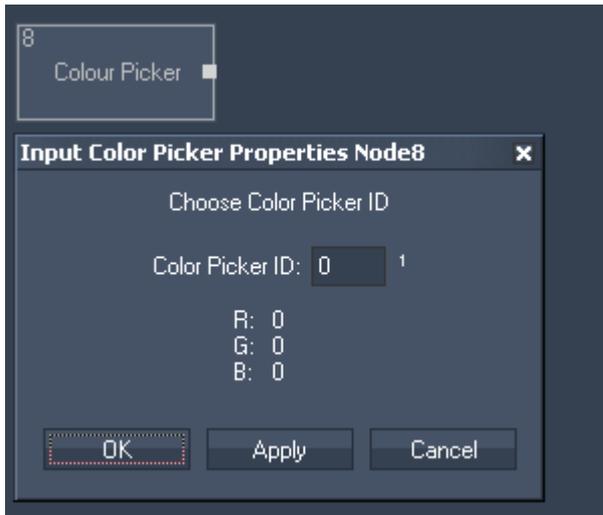
The Node generates the following output:

- Clock Year,
- Clock Month,

- Clock Day,
- Clock Hour,
- Clock Minute,
- Clock Second.

11.3.2.5.11 COLOUR PICKER

The Colour picker input allows you to pick a colour. The values of this RGB colour can be transferred to the Colour FX faders on a layer in Pandoras Box.

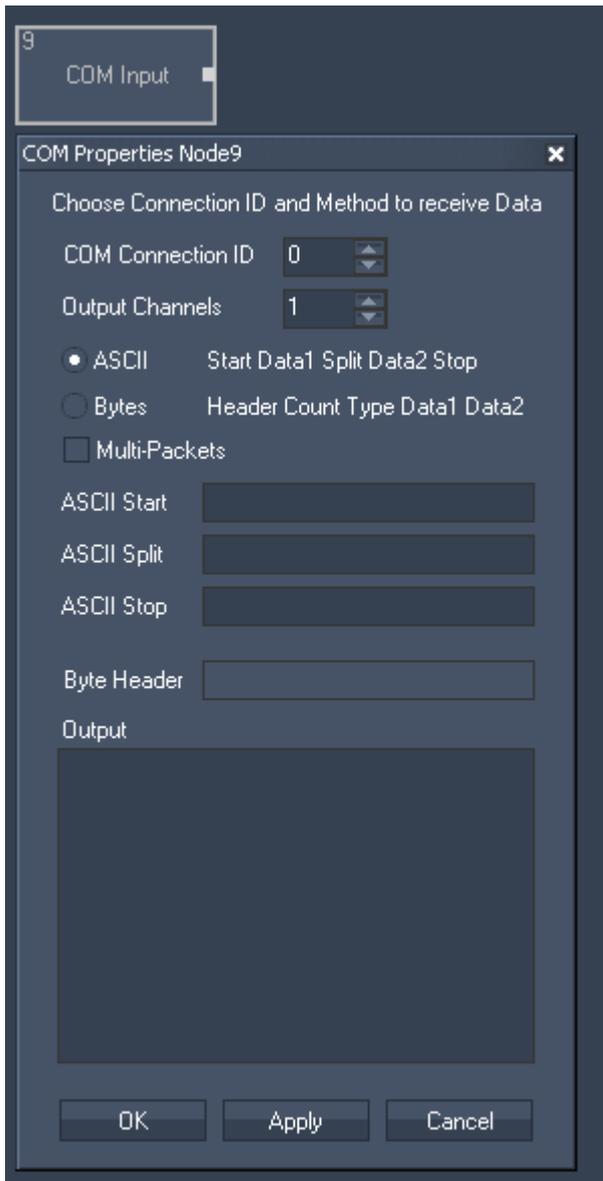


The Node generates the following output:

- Colour Picker Red,
- Colour Picker Green,
- Colour Picker Blue,
- Colour Picker Cyan,
- Colour Picker Magenta,
- Colour Picker Yellow.

11.3.2.5.12 COM PORT

The Com port input node allows to receive either ASCII or Byte values over a local COM Port connection. The COM Port connection needs to be enabled in the [Connection Manager](#). This input node can output by default any incoming packet as text if no ASCII filter is applied.



Node Properties:

COM Connection ID:

Enter the ID of the [COM Port connection](#).

Output Channels:

Enter the amount of output channels you want to use for this node.

ASCII / Bytes:

Choose to receive either ASCII or Byte values.

Multi-Packets:

Check this box to enable Multi-Packets.

ASCII Start, Split, Stop (if ASCII is enabled):

Enter the Byte header.

Byte Header (if Byte is enabled):

Enter symbols for ASCII Message Start, Split and Stop.

The Node generates the following output:

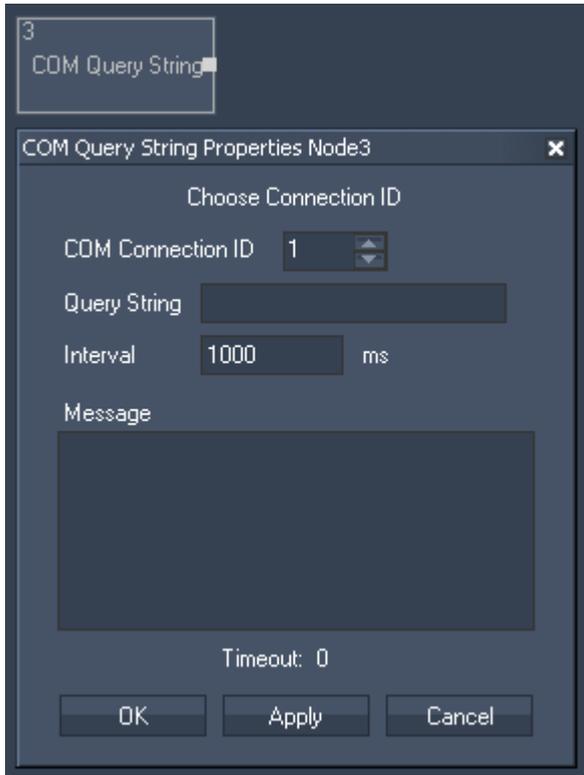
- COM Port Input Value 1 up to Input Value X (X=number of entered output channels).

11.3.2.5.13 COM ASCII STREAM

The Com ASCII Stream input node allows to receive ASCII values over a local COM Port connection.

The COM Port connection needs to be enabled in the [Connection Manager](#).

This input node can output by default any incoming packet as text if no ASCII filter is applied.



Node Properties:

COM Connection ID:

Enter the ID of the [COM Port connection](#).

The ASCII message between Start [STX] and End [ETX] symbol will be given out.

Confirm your settings by pressing OK or Apply.

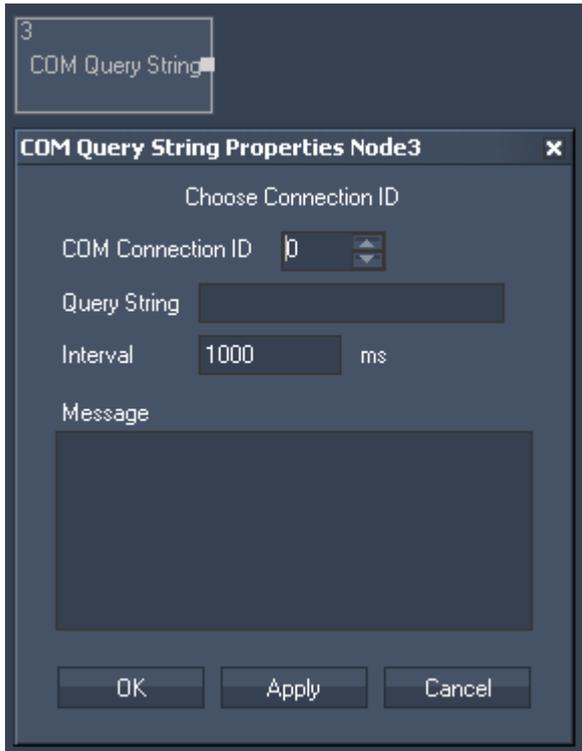
The Node generates the following output:

- COM Stream In String.

11.3.2.5.14 COM QUERY STRING

The Com Query String input node allows to receive ASCII feedback messages from COM devices over a local COM Port connection. The COM Port connection needs to be enabled in the [Connection Manager](#).

This input node will output any incoming packet as Text Only, Numeric Only or mixed string.



Node Properties:

COM Connection ID:

Enter the ID of the [COM Port connection](#).

Query String:

Enter the query string that you want to send to the specified COM Device.

Interval:

Enter the time interval in ms in which the query string will be send to the COM Device.

If you want to query the device manually (e.g. by pressing a Custom Script Button using the script "[WDNodeSetParam,'NodeID','ParamID','Value'](#)"), please set the Interval Time to 0 ms.

Message:

The response of the COM Device will be displayed here.

Timeout:

The Timeout gives you feedback about the connection status. If Timeout is "0", there is no communication with the specified COM Device. If Timeout is "1" the communication works.

Confirm your settings by pressing OK or Apply.

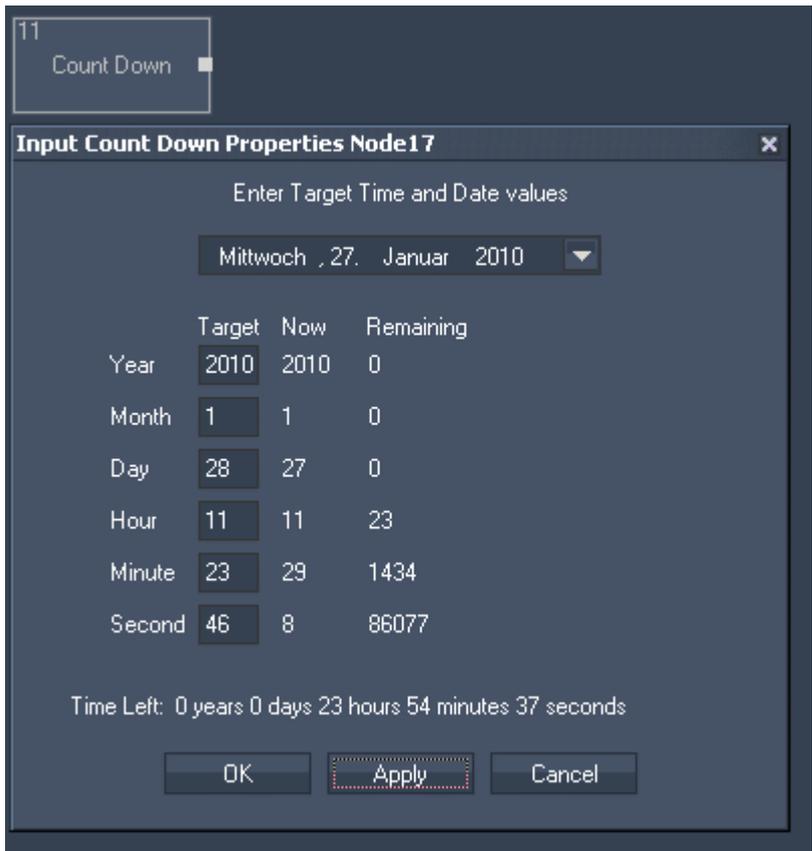
The Node generates the following output:

COM Query String Response,
 COM Query String Text Only,
 COM Query String Numeric Only
 COM Query String Timeout.

11.3.2.5.15 COUNT DOWN

The Count Down input node allows you to set a target time to which it counts down.

It will give out either the total amount of remaining years, months, days, hours, minutes and seconds and the Count Down of hours, minutes and seconds.



Node Properties:

Target Time and Date values:

Please choose the target date from the list or enter it in the text fields below. Enter here also the time target (hours, minutes, seconds).

Confirm your settings by pressing OK or Apply.

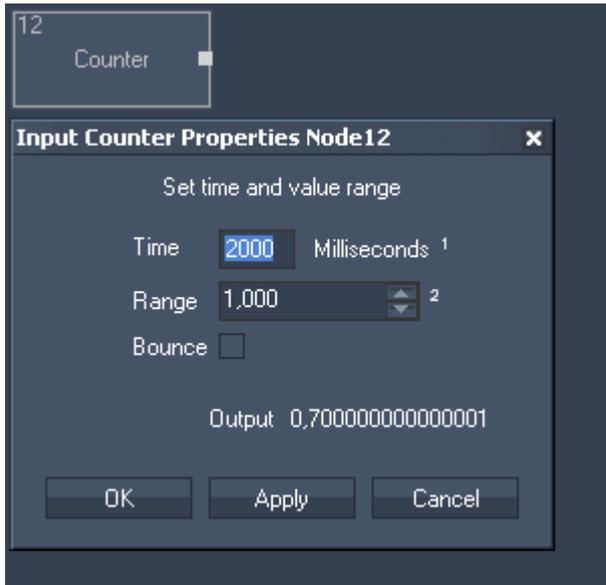
The Node generates the following output:

- Count Down Years Left,
- Count Down Months Left,
- Count Down Days Left,
- Count Down Hours Left,
- Count Down Minutes Left,
- Count Down Seconds Left,
- Count Down CD Hours,
- Count Down CD Minutes,
- Count Down CD Seconds.

11.3.2.5.16 COUNTER

The Counter input node can be set up to continuously count a certain value range in a given amount of time.

The counter can also be set to bounce up and down.



Node Properties:

Time:
Set the amount of time.

Range:
Set the value range.

For example:

To get a counter that counts continuously in 5 seconds from 0 to 5 enter for Time=5000 ms and for Range=5.

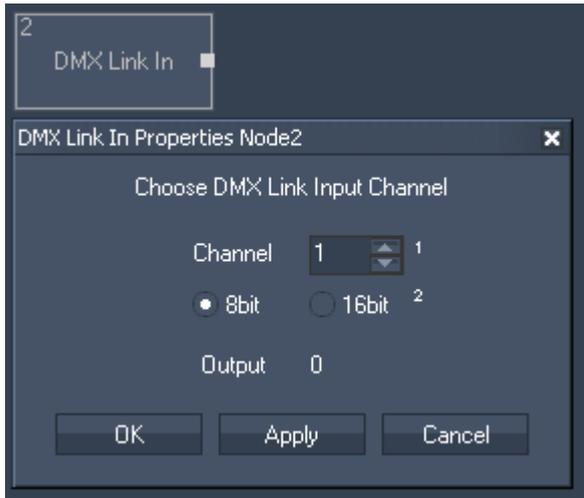
To get a counter that counts continuously in 5 seconds from 0 to 10 enter for Time=5000 ms and for Range=10.

To get a bouncing counter (counting continuously from 0 to X and back to 0 etc.) please tick the Bounce checkbox.

The Node generates the following output:
- Counter Value.

11.3.2.5.17 DMX LINK IN

The DMX Link input node provides all incoming DMX data via the coolux DMX Link interface.



Node Properties:

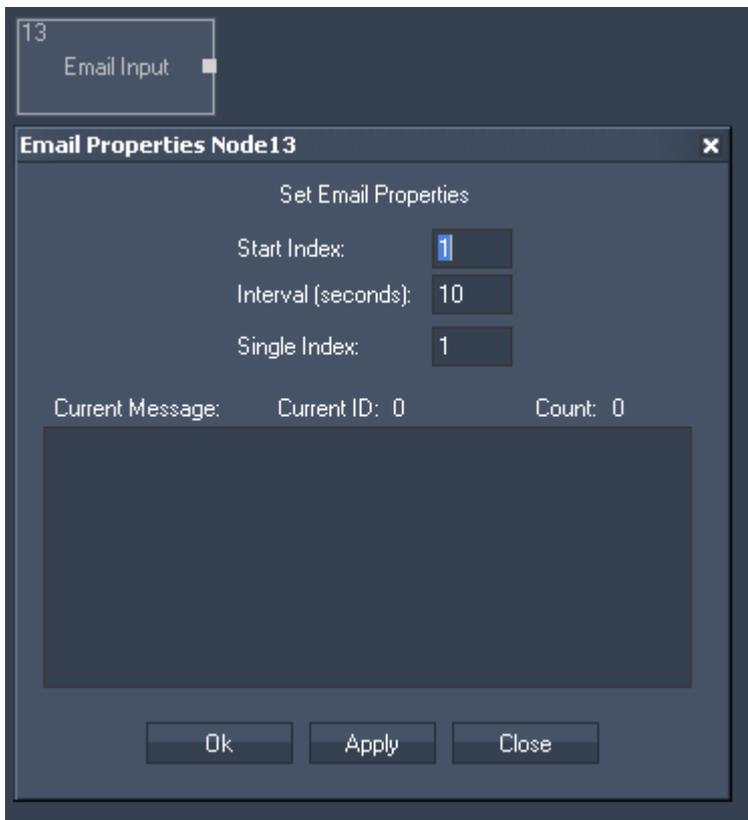
Channel:
Choose the DMX channel and if it is a 8bit or 16 bit value.

The Node generates the following output:
- DMX Link In DMX Value

11.3.2.5.18

11.3.2.5.19 EMAIL

The Email input node provides all incoming Emails for further processing.
Please configure your mail server in the [Email Settings](#).



Node Properties:

Start Index:

Enter the Index of the email where the cycling should start. This will effect the outputs Current Email and Current ID.

Interval (seconds):

All incoming emails will be cycling in the entered amount of time. This will effect the outputs Current Email and Current Email ID.

Single Index:

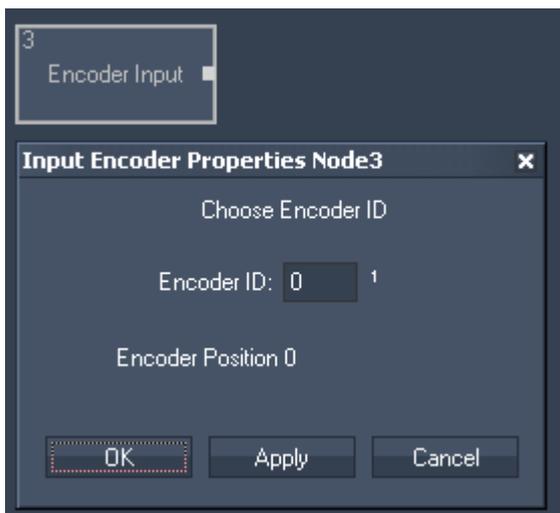
Enter the Index of the email that you want to route to the output Single Email.

The Node generates the following output:

- Email Input Email Count,
- Email Input Last Email,
- Email Input Current Email,
- Email Input Current Email ID,
- Email Input Single Email,
- Email Input RND Email (Random Email).

11.3.2.5.20 ENCODER

The Encoder input node allows to intercept Encoder Values within Widget Designer. Enter the Encoder ID to output the current Encoder value.



Node Properties:

Encoder ID:

Enter the Encoder ID.

The Node generates the following output:

- Encoder Input Value.

11.3.2.5.21 EVENTS

The Events Input Node provides information about the last events, current events and next events. Setup your events in the [Event Editor](#).



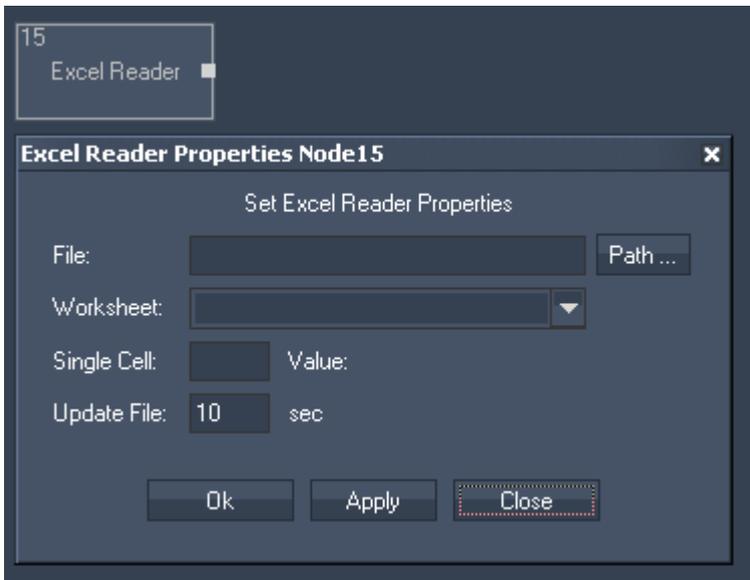
The Node generates the following output:

- Information about the Current Event:
- Events Current Event (Events name),
 - Events Current Year,
 - Events Current Month,
 - Events Current Day,
 - Events Current Hour,
 - Events Current Second.

The same information is provided for the last and the next event.

11.3.2.5.22 EXCEL READER

The Excel Reader Input Node allows you to readout cells from an excel sheet as text.



Node Properties:

File:
Use the Path-Button to browse to the document you want to read.

Worksheet:
Press apply after you have selected your file.
In the list select now one of the worksheets your file contains.

Single Cell:
Enter the cell you want to read out, eg. B11.

Update File:
Enter the update interval.

The Node generates the following output:

- Excel Reader Cell (as String).

11.3.2.5.23 FACE TRACKING

The Face Tracker input node allows to proceed the position values delivered by the [Face Tracker Tool](#).

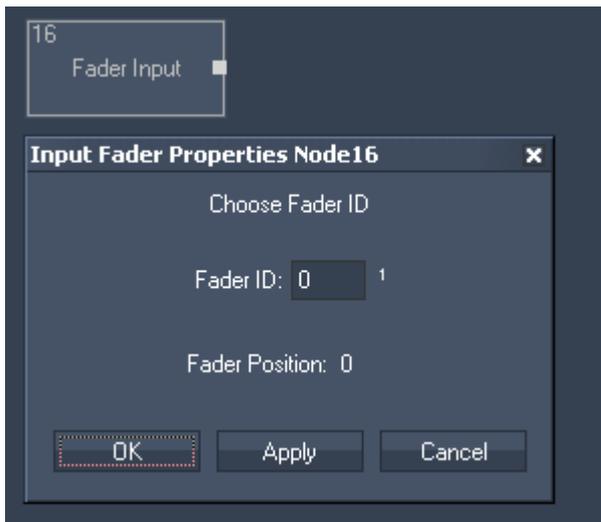


Node Properties:

- The Node generates the following output:
- Face Tracker X (X pos of bounding box)
 - Face Tracker Y (Y Pos of bounding box)
 - Face Tracker Z
 - Face Tracker w (Width of bounding box)
 - Face Tracker h (Height of bounding box)

11.3.2.5.24 FADER

The Fader input node allows to intercept Fader Values within Widget Designer. Select the Fader ID to output the current fader value.



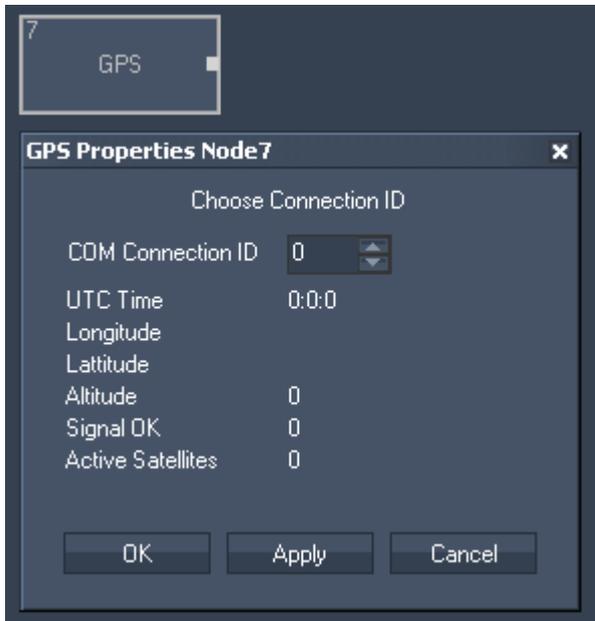
Node Properties:

Fader ID:
Choose the Fader ID.

The Node generates the following output:
 - Fader Input Value.

11.3.2.5.25 GPS

The GPS COMPort input node supports the GPGLGA dataformat and is compatible with NMEA 0183. This node was tested with Navilock USB GPS Input device.



Node Properties:

COM Connection ID>
 Choose the COM Port your GPS device is connected to.

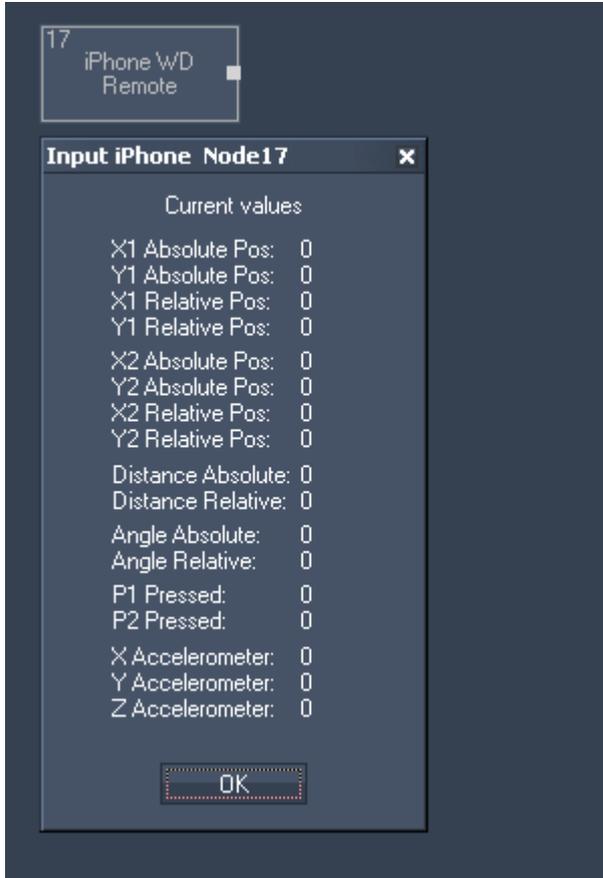
The Node generates the following output:

- GPS Hours
- GPS Minutes
- GPS Seconds
- GPS Longitudes Text
- GPS Longitudes Degrees
- GPS Longitudes Minutes
- GPS Longitudes Seconds
- GPS LattitudeText
- GPS Lattitude Degrees
- GPS Lattitude Minutes
- GPS Lattitude Seconds
- GPS Altitude
- GPS SignalOK
- GPS Active Satellites

11.3.2.5.26 IPHONE REMOTE

The iPhone Remote input node allows to receive the current iPhone remote single and multi-touch values.

Set up your iPhone Remote Control in the [Remoting Tool](#).

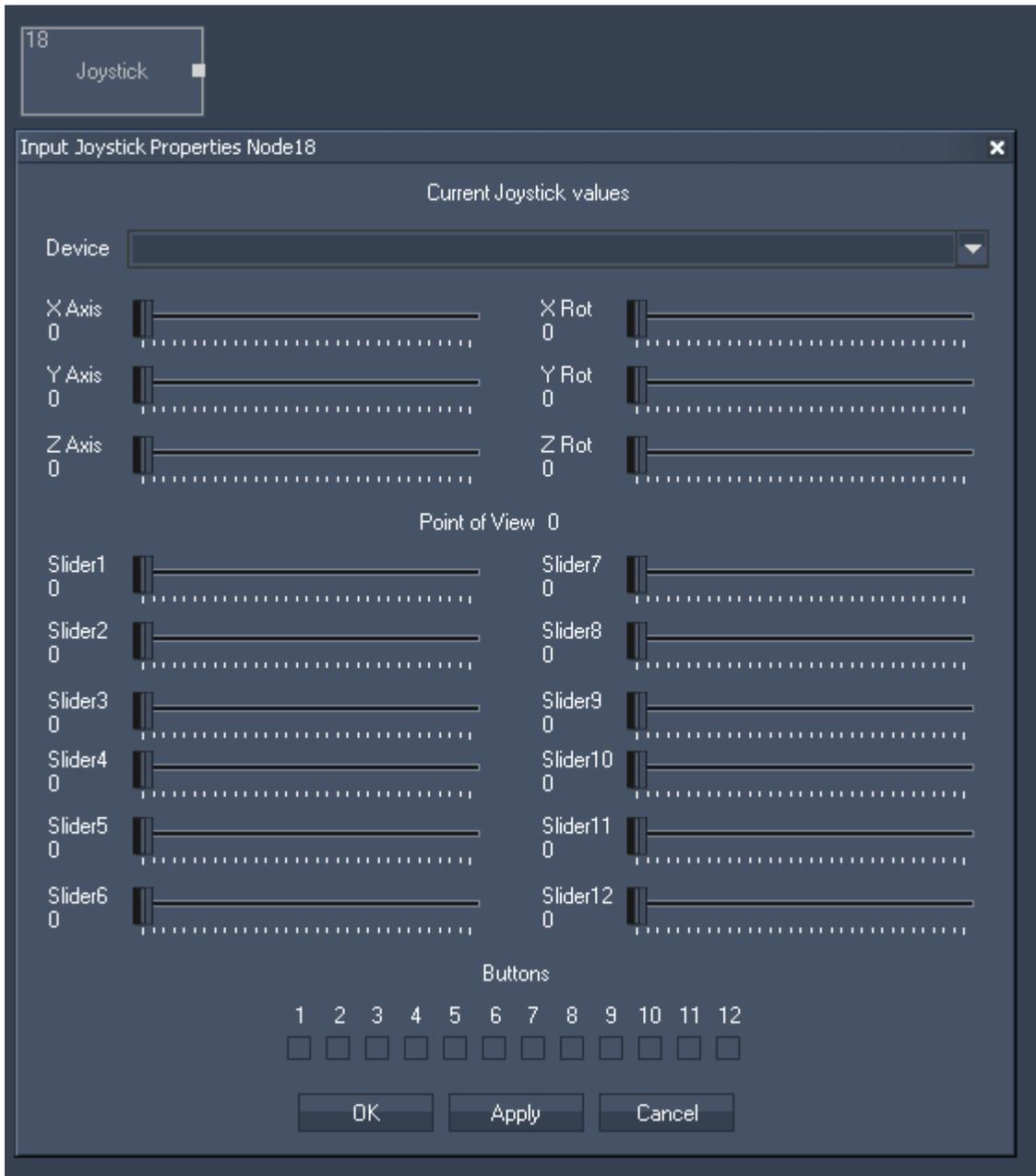


The Node generates the following output:

- Absolut and Relative Positions of two points (X1/Y1 and X1/X2),
- Distance and Angle Absolute / Relative,
- P1 or P2 pressed (True=1 and False=0),
- X,Y and Z Accelerometer.

11.3.2.5.27 JOYSTICK

The Joystick input node allows to intercept standard Windows gaming device input values for axis slider and button input.



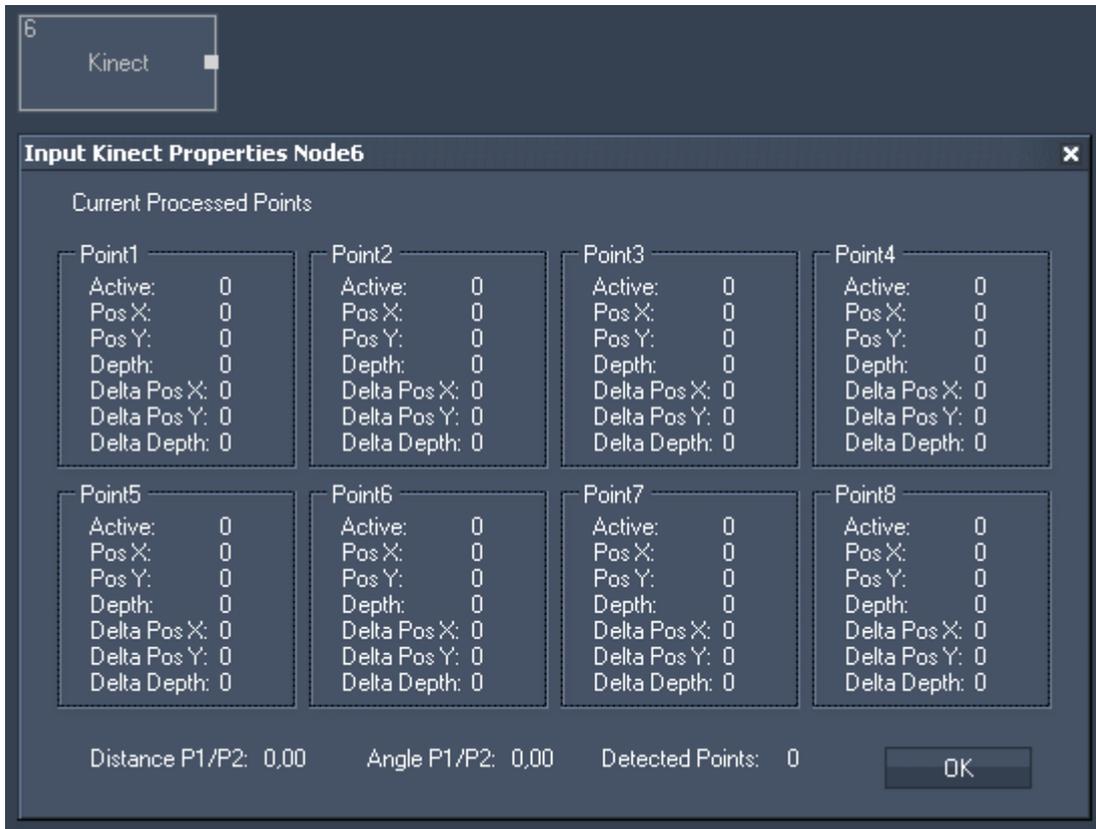
Node Properties:
Choose your gaming device from the list.

The Node generates the following output:

- X Axis,
- Y Axis,
- Z Axis,
- X Rot Axis,
- Y Rot Axis,
- Z Rot Axis,
- Point of View
- Slider 1 to 12
- Button 1 to 12

11.3.2.5.28 KINECT

The Kinect input node allows to capture up to 8 filtered and tracked points/regions of interest via the Kinect device. Setup your device in the [Kinect Tool](#) first.



Node Properties:

The Node generates the following output for each of the 8 points:

- Active,
- Pos X,
- Pos Y,
- Depth,
- Delta Pos X,
- Delta Pos Y,
- Delta Depth.

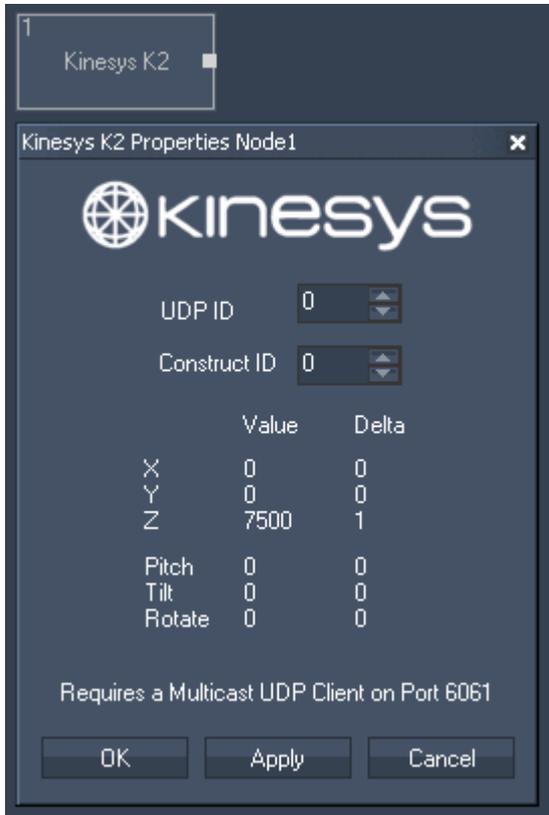
It outputs the overall active point count as well:

- Point Count.

11.3.2.5.29 KINESYS

The Kinesys K2 Input Node allows you to grab X,Y,Z, Pitch, Tilt & Roll data from a Kinesys K2

Please note, that a Multicast UDP Client on Port 6061 is required. Set it up in the [Connection Manager](#).



Node Properties:

UDP ID:

Choose the ID of your UDP Multicast Connection (see [Connection Manager](#)).

Construct ID:

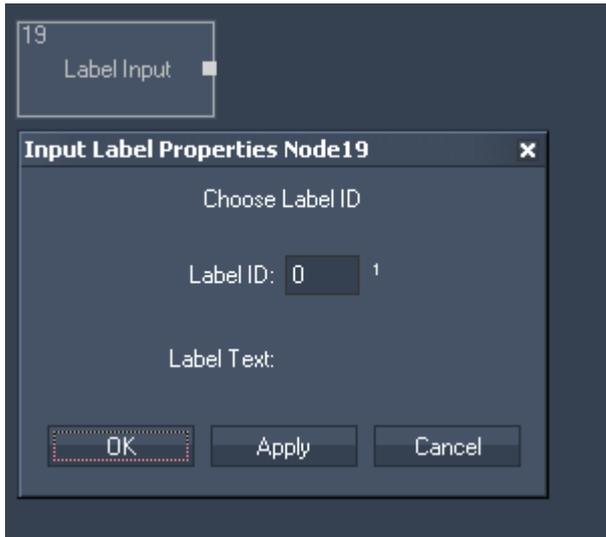
Choose the ID of the Construct as it is named in your Kinesys K2.

The Node generates the following output:

- Kinesys K2 X,
- Kinesys K2 X Delta,
- Kinesys K2 Y,
- Kinesys K2 Y Delta,
- Kinesys K2 Z,
- Kinesys K2 Z Delta,
- Kinesys K2 Pitch,
- Kinesys K2 Pitch Delta,
- Kinesys K2 Tilt,
- Kinesys K2 Tilt Delta,
- Kinesys K2 Rotate,
- Kinesys K2 Rotate Delta.

11.3.2.5.30 LABEL

The Label input node allows to use label texts for further processing.

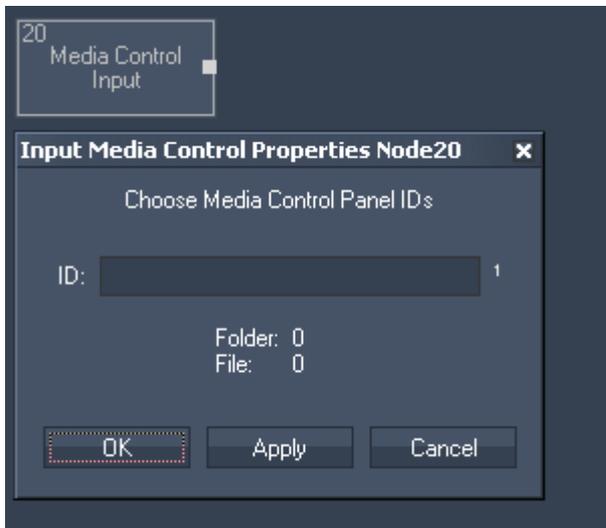


Node Properties:
Enter the Label ID in the text field.

The Node generates the following output:
- Label Input Value (as String).

11.3.2.5.31 MEDIA CONTROL

The Media Control input node allows to intercept the last called Folder and File ID of one or multiple Media Control Panels.



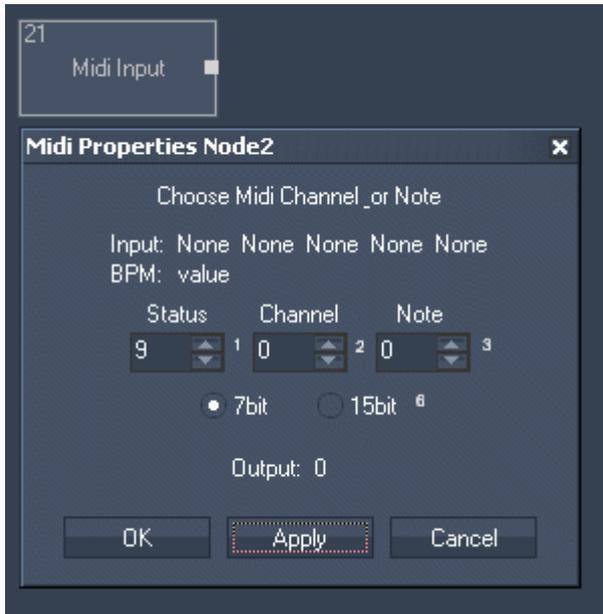
Node Properties:
Enter the Media Control Panel ID in the text field.

The Node generates the following output:
- Media Control Input Folder ID and
- Media Control Input File ID of the last called File.

11.3.2.5.32 MIDI IN

The Midi input node allows to receive 7bit or 15bit input values as well as Note On/Off and raw byte messages.

The Midi connection needs to be enabled in the [Connection Manager](#).



Node Properties:

Enter the Status, Channel and Note value.

Choose between 7bit or 15bit input values.

The Node generates the following output:

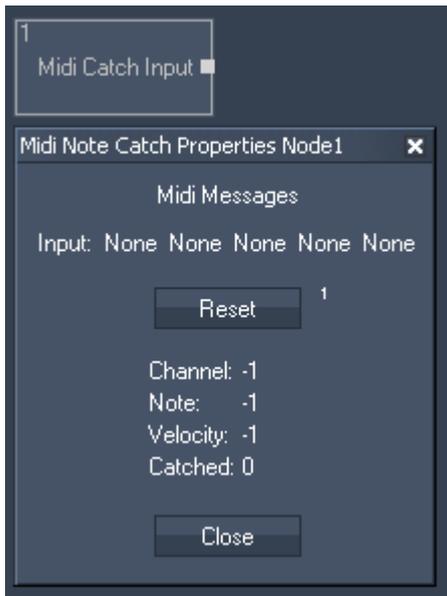
- Midi Input Current Value
- Midi Input Trigger
- Midi Input Status Byte
- Midi Input Channel Byte
- Midi Input DataByte 1 to DataByte 3 and
- Midi Input BPM.

11.3.2.5.33 MIDI NOTE CATCH

The node catches and outputs the first incoming Midi Note Message.

This is in particular useful for game scenarios where WD needs to identify the first incoming Midi Note event.

This node can be reset by setting Parameter 1 to 0 via script "[WDNodeSetParam](#)".

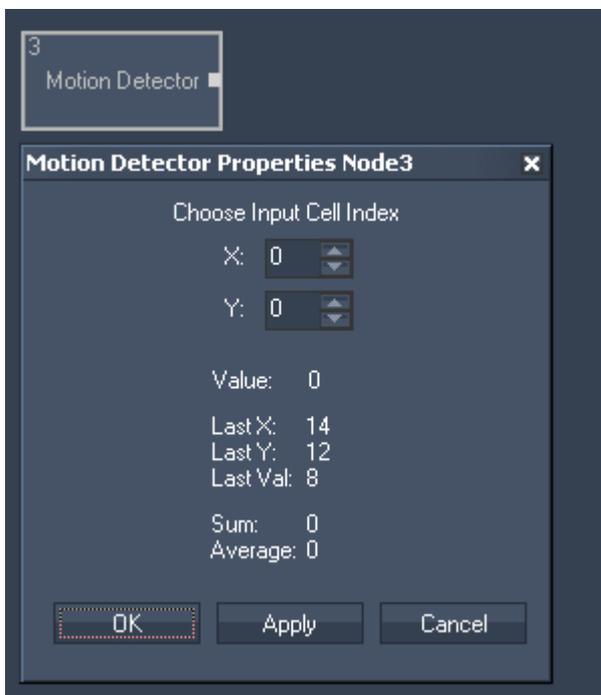


The Node generates the following output:

- Midi Catch Input Channel,
- Midi Catch Input Note,
- Midi Catch Input Velocity,
- Midi Catch Input isCatched.

11.3.2.5.34 MOTION DETECTOR

The Motion Detection input node provides the data given by the [Motion Detector Tool](#) for further processing.



Node Properties:

X/Y:

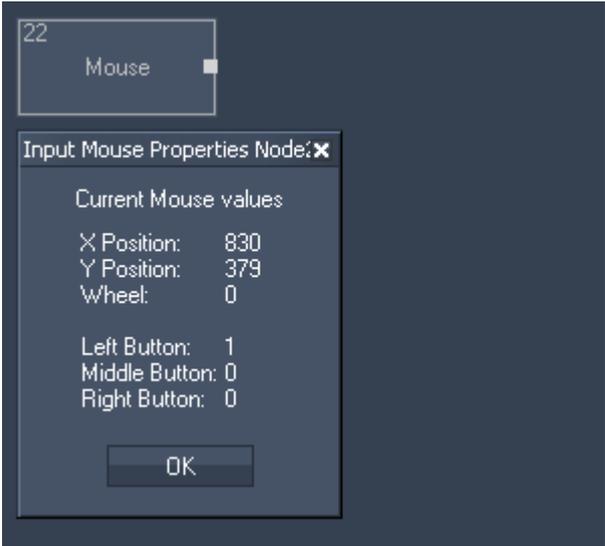
Choose here the Input Cell Index from the Motion Detector Tool whose data you want to use by entering the column number (X) and the row number (Y).

The Node generates the following output:

- Motion Detector Value (the value of the chosen cell)
- Motion Detector Last X (X index of the cell in which the last motion was detected)
- Motion Detector Last Y (Y index of the cell in which the last motion was detected)
- Motion Detector Last Value
- Motion Detector Sum (Sum of all cell values)
- Motion Detector Average (Average of all cell values).

11.3.2.5.35 MOUSE

The Mouse input node provides the Mouse X&Y position as well as the three button press states Left, Middle and Right.

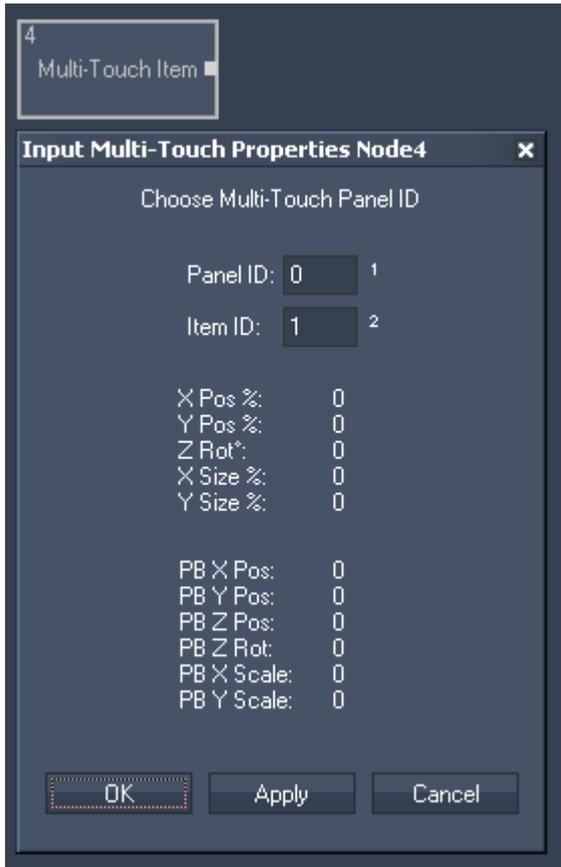


The Node generates the following output:

- Mouse X Pos,
- Mouse Y Pos,
- Mouse Wheel,
- Mouse Left Click,
- Mouse Middle Click,
- Mouse Right Click.

11.3.2.5.36 MULTI-TOUCH ITEM

The Multi-Touch Item input node provides the current state of a Multi-Touch Item (Position, Rotation, Size) as well as the current state of the Layer in PB linked to this Item. See the [Multitouch Tool](#) for further information and setup.



Node Properties:

Panel ID:

Enter the ID of the Multi-Touch Panel.

Item ID:

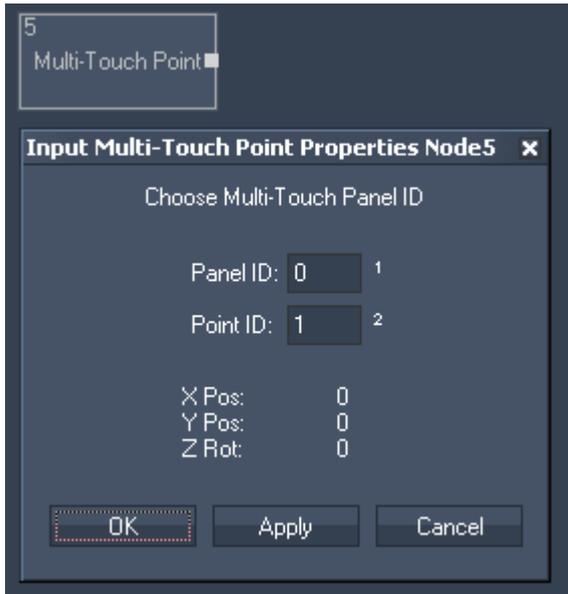
Enter the ID of the Multi-Touch Item you want to use.

The Node generates the following output:

- Multi-Touch Item X Pos %
- Multi-Touch Item Y Pos %
- Multi-Touch Item Z Rot °
- Multi-Touch Item X Size %
- Multi-Touch Item Y Size %
- Multi-Touch Item X Size %
- Multi-Touch Item X Pos PB
- Multi-Touch Item Y Pos PB
- Multi-Touch Item Z Rot PB
- Multi-Touch Item X Size PB
- Multi-Touch Item Y Size PB
- Multi-Touch Item X Size PB

11.3.2.5.37 MULTI-TOUCH PANEL POINT

The Multi-Touch Panel Point input node provides the current Position of a Point inside a Multi-Touch Panel. See the [Multitouch Tool](#) for further information and setup.



Node Properties:

Panel ID:
Enter the ID of the Multi-Touch Panel.

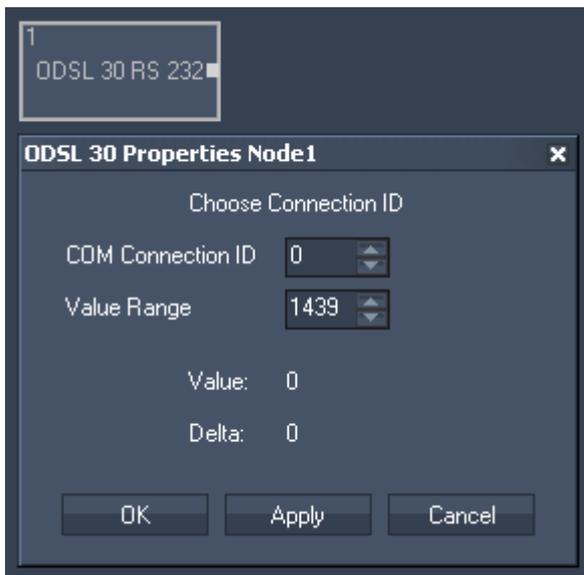
Point ID:
Enter the ID of the Multi-Touch Point you want to use.

The Node generates the following output:

- Multi-Touch Point X Pos
- Multi-Touch Point Y Pos
- Multi-Touch Point Active

11.3.2.5.38 ODSL 30

The ODSL 30 Input node lets you read out distance data from the optical distance measuring sensor ODSL 30 via a local COMPort connection (RS232). The COMPort Connections can be found and setup in the [Connection Manager](#).



Node Properties:

571

COM Connection ID:

Choose the COMPort Connection ID to listen to. The COMPort Connections can be found and setup in the [Connection Manager](#).

The following settings need to be used:

600/8n1 (Baud Rate: 9600, Parity: None, Data Bits: 8, Stop Bits: 1).

Value Range:

The range defines the jump point of a maximum value back to zero.

Enter the range in mm. This is only important for correct calculation of delta values when using as incremental length count.

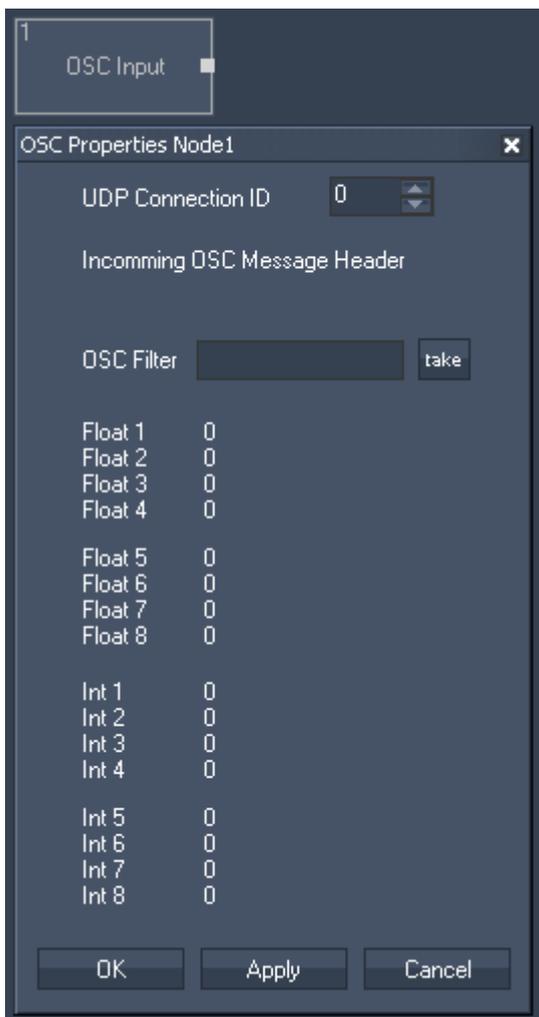
The Node generates the following output:

- ODSL 30 RS 232 Value
- ODSL 30 RS 232 Delta

11.3.2.5.39 OSC

The OSC Input node lets you receive data via the Open Sound Control Protocol, e.g. from iPhone, iPad or iPod (tested with Touch OSC).

A UDP Broadcast Input Connection is required, see [Connection Manager](#).



Node Properties:

UDP Connection ID:

572

Choose the UDP Connection to listen to. The UDP Connections can be found and setup in the [Connection Manager](#).

OSC Filter:

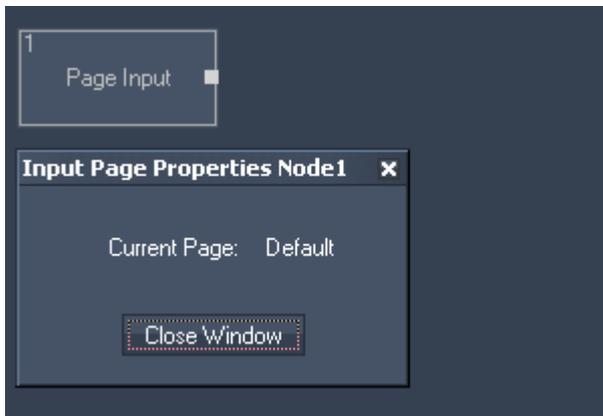
If an OSC message is incoming, the OSC Message Header will be displayed. To assign messages with this Header to this OSC Input Node (eg. send from a fader or button in OSC Touch), press [take]. Float1 to Float8 and Int1 to Int8 will now display the message details.

The Node generates the following output:

- OSC Input Float 1-8
- OSC Input Int 1-8
- OSC Input Msg

11.3.2.5.40 PAGE

The Page input node allows to use the current page name for further processing.



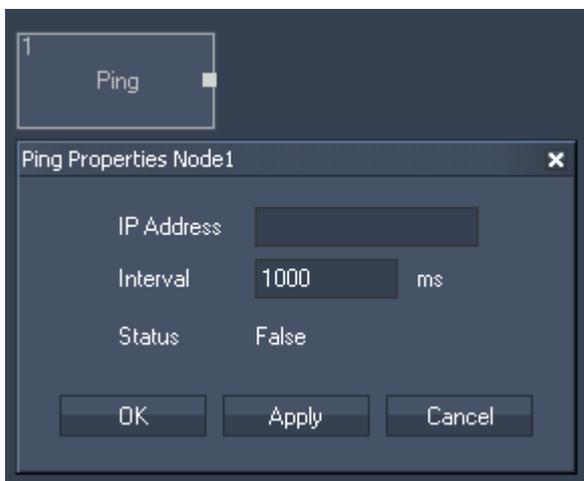
Node Properties:

The Node generates the following output:

- Page input value

11.3.2.5.41 PING

The Ping input node gives you feedback in a certain time interval if the specified IP is online.



Node Properties:

IP Address:

Enter the IP Address you want to ping.

Interval:

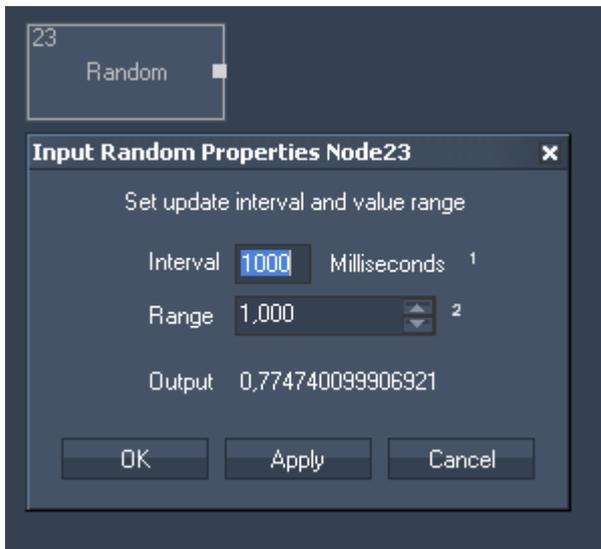
Enter the update interval in milliseconds.

The Node generates the following output:

- Ping status (true or false).

11.3.2.5.42 RANDOM

The Random input node provides a random number on a given update interval and value range.



Node Properties:

Interval:

Enter the update interval in milliseconds.

Range:

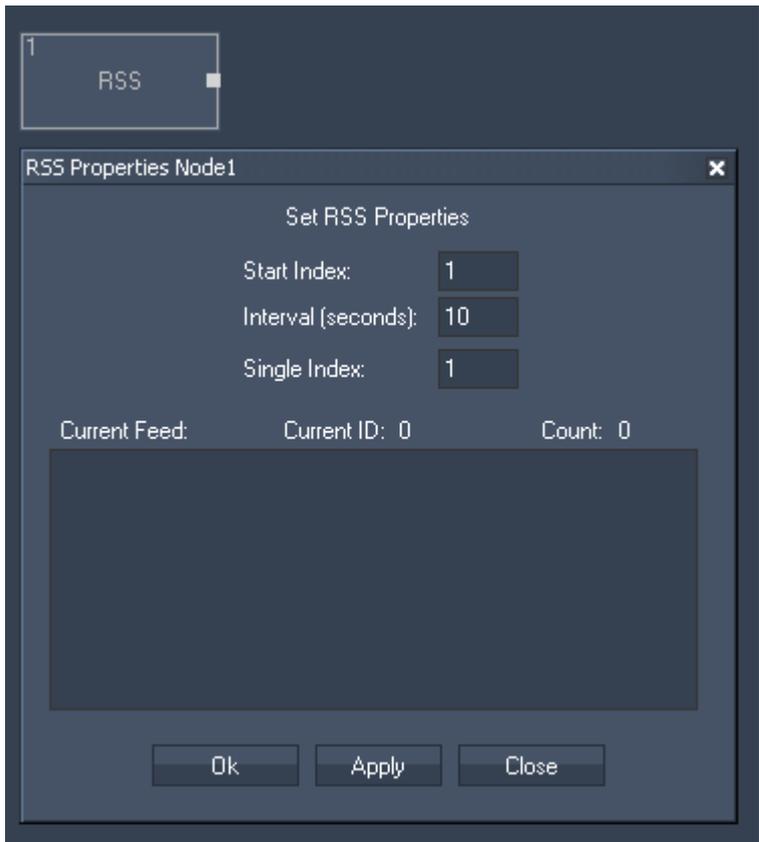
Enter the value range.

The Node generates the following output:

- Random Value.

11.3.2.5.43 RSS

The RSS input node provides all incoming RSS feeds for further processing. Please setup the RSS connection in the [RSS Settings](#) before.



Node Properties:

Start Index:

Enter the Index of the RSS Feed where the cycling should start. This will effect the outputs Current RSS and Current ID.

Interval (seconds):

All incoming RSS Feeds will be cycling in the entered amount of time. This will effect the outputs Current RSS and Current ID.

Single Index:

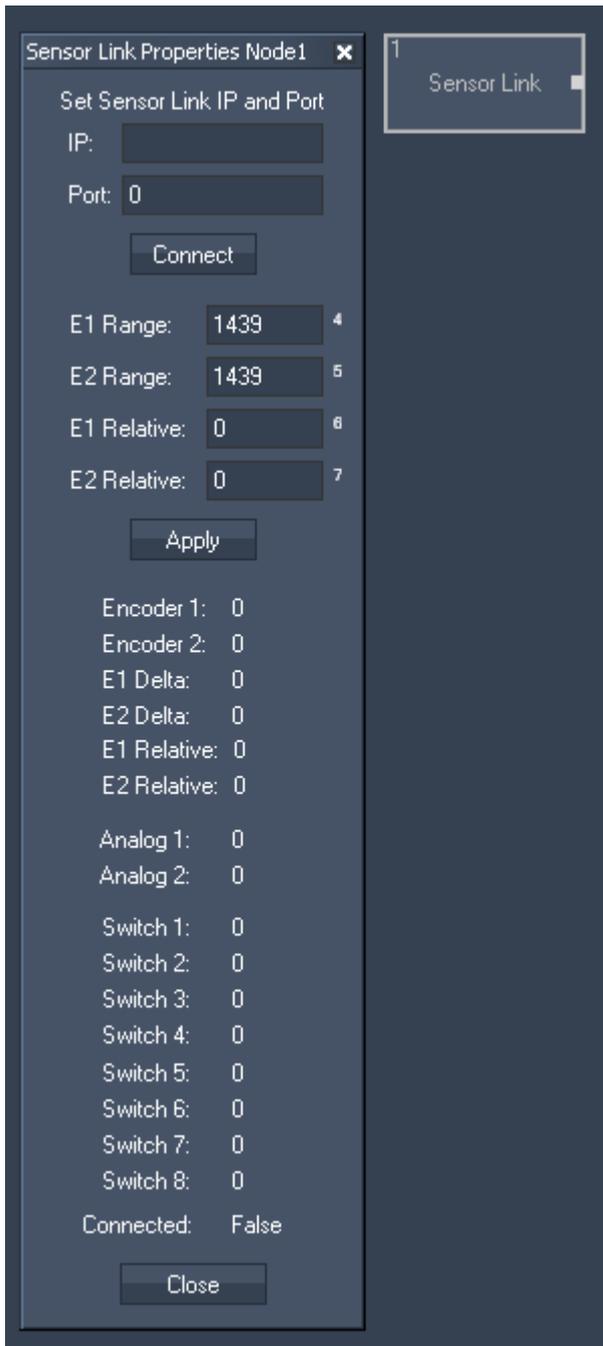
Enter the Index of the RSS Feed that you want to route to the output Single RSS.

The Node generates the following output:

- RSS Count,
- Last RSS,
- Current RSS,
- Current ID,
- Single RSS,
- RND RSS.

11.3.2.5.44 SENSOR LINK

The Sensor Link input node provides the absolute, relative and delta values of the encoder inputs, the analog 0-10V inputs and the switch states 1 to 8.



Node Properties:

Please enter the Sensor Link IP and Port number.
Connect the WD with the Sensor Link.

E1 Range:

Enter the encoder's amount of steps. If the encoder provides 1440 steps, enter 1439 because the counting starts with zero.
Please note that the encoders's range has to be entered in the [SensorLink Configuration Tool](#), too.

E2 Range

Enter the encoder's amount of steps. If the encoder provides 1440 steps, enter 1439 because the counting starts with zero.
Please note that the encoders's range has to be entered in the [SensorLink Configuration Tool](#), too.

E1 Relative

Enter zero to reset the relative step count for the current encoder position or enter an offset value.

E2 Relative

Enter zero to reset the relative step count for the current encoder position or enter an offset value.

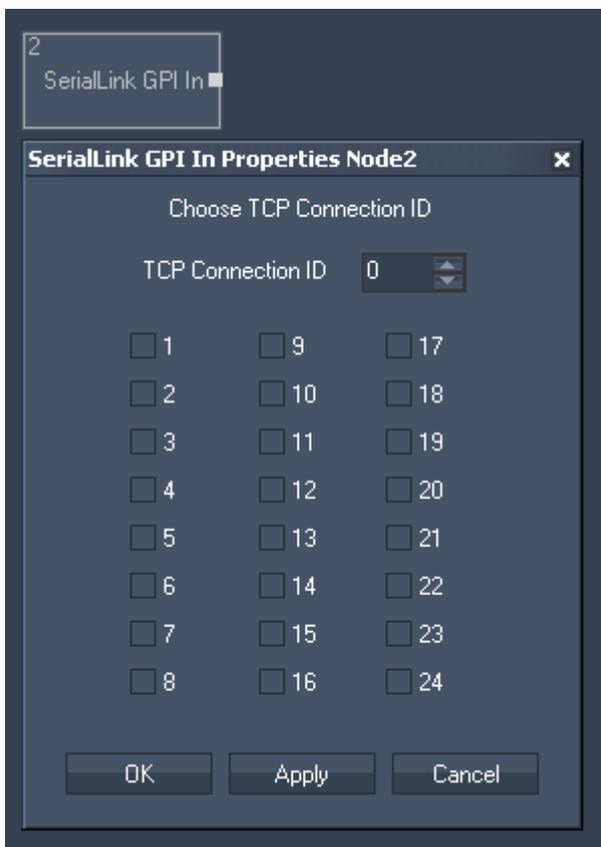
The Node generates the following output:

- E1,
- E2,
- Analog 1,
- Analog 2,
- Switch 1,
- Switch 2,
- Switch 3,
- Switch 4,
- Switch 5,
- Switch 6,
- Switch 7,
- Switch 8,
- E1 Delta,
- E2 Delta,
- E1 Relative,
- E2 Relative,
- Link Connection State.

11.3.2.5.45 SERIAL LINK GPI

The SerialLink input node provides all 24 GPI contact closure states.

Connect a Serial Link via TCP in the [Connection Manager](#) and set its TCP ID in the input node to listen to the incoming packets.



Node Properties:

TCP Connection ID:

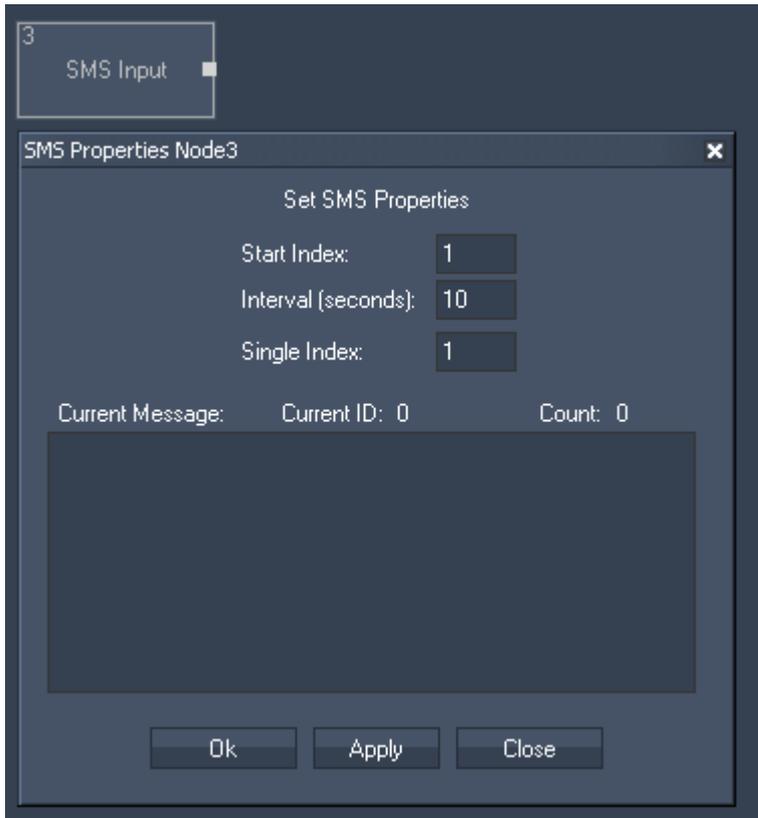
Enter here the SerialLink's TCP Connection ID.

The Node generates the following output:

- Status for all 24 GPIOs (True (10V)=1 or False (0V)=0).

11.3.2.5.46 SMS

The SMS input node provides all incoming SMS for further processing. Please setup the required GSM modem in the [SMS Settings](#) before.



Node Properties:

Start Index:

Enter the Index of the start SMS, where the cycling should begin. This will effect the outputs Current SMS and Current ID.

Interval (seconds):

All incoming SMS will be cycling in the entered amount of time. This will effect the outputs Current SMS and Current ID.

Single Index:

Enter the Index of the SMS that you want to route to the output Single SMS.

The Node generates the following output:

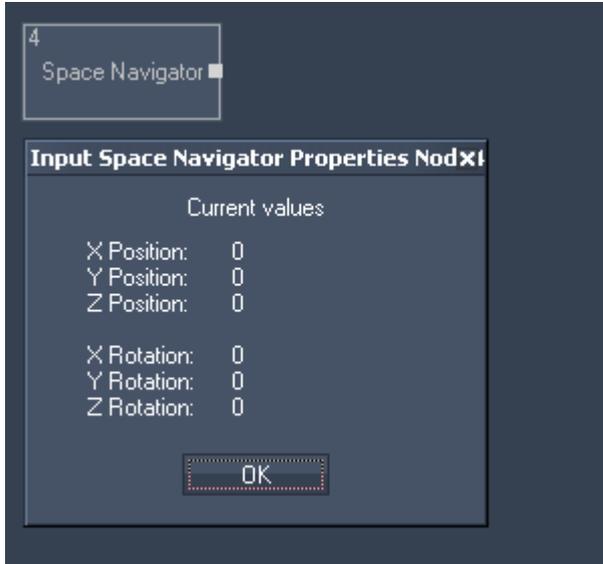
- SMS Count,
- Last SMS,

-
- Current SMS,
 - Current ID,
 - Single SMS,
 - RND SMS (Random SMS).

11.3.2.5.47 SPACE NAVIGATOR

The Space Navigator input node provides the 3D Mouse's X, Y and Z position as well as its X, Y and Z Rotation.

It is necessary to install the 3D Connexion Driver before using this tool.



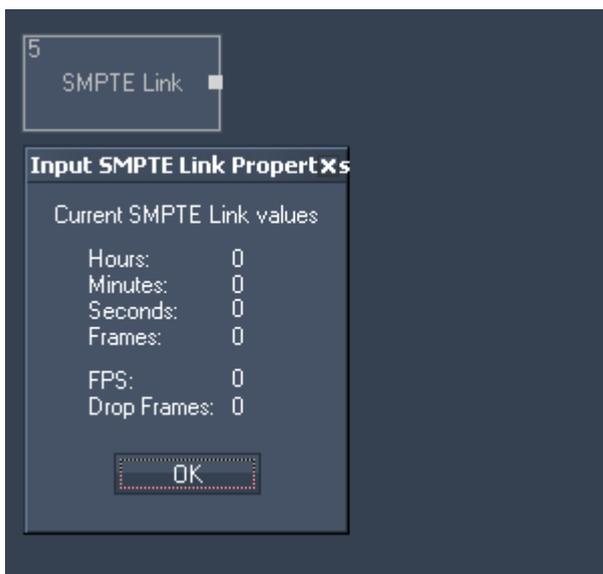
The Node generates the following output:

- X Pos,
- Y Pos,
- Z Pos,
- X Rot,
- Y Rot,
- Z Rot.

11.3.2.5.48 SMPTE LINK

The SMPTE Link input node allows to read and use timecode within Widget Designer.

The SMPTE connection needs to be enabled in the [Connection Manager](#).

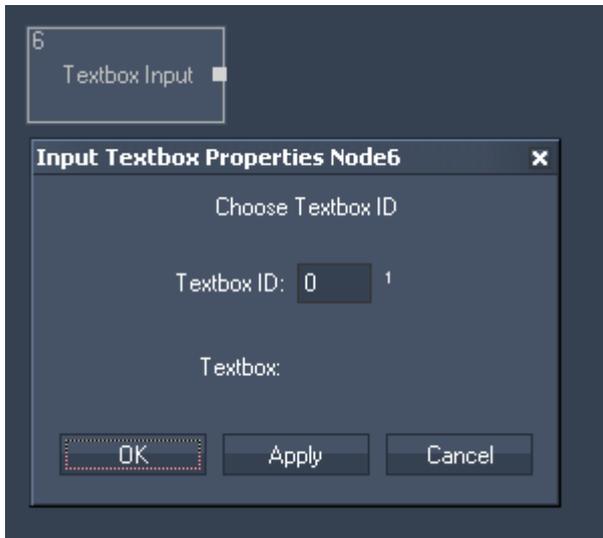


The Node generates the following output:

-
- Hours,
 - Minutes,
 - Seconds,
 - Frames,
 - FPS,
 - Drop Frames.

11.3.2.5.49 TEXTBOX

The Textbox input node allows to intercept Textbox Values within Widget Designer. Select the Textbox ID to output the current Textbox Value.



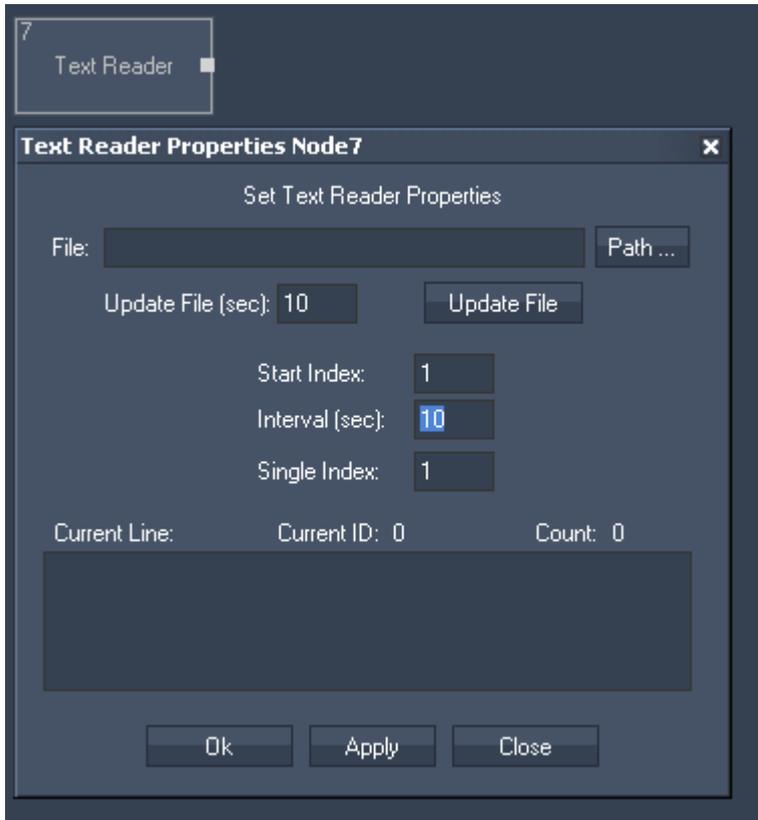
Node Properties:

Textbox ID:
Enter the Textbox ID.

The Node generates the following output:
- Textbox Input Value.

11.3.2.5.50 TEXT READER

The Text Reader input node allows you to read out text files (.txt) for further processing.



Node Properties:

File:

Click on [Path] and choose your text file via the windows browser.

Update File:

Please enter the interval time the files should be updated in seconds.
To do it manually click on [Update File].

Start Index:

Enter the Index of the line where the cycling should start. This will effect the outputs Current Line and Current ID.

Interval (seconds):

All Text Lines will be cycling in the entered amount of time. This will effect the outputs Current Line and Current Line ID.

Single Index:

Enter the Index of the line that you want to route to the output Single Line.

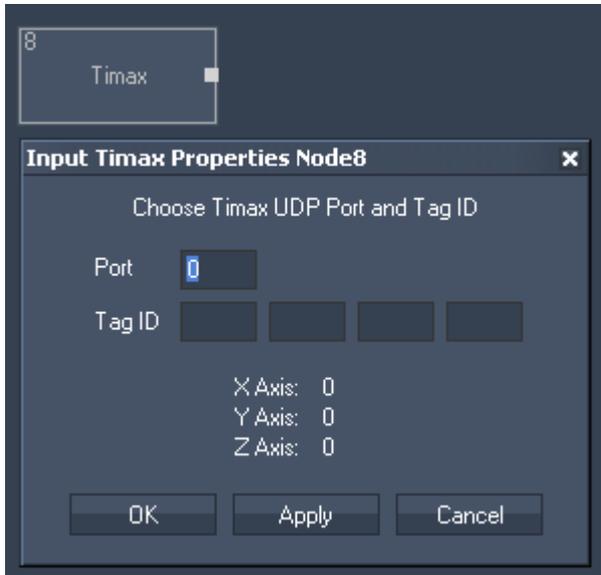
The Node generates the following output:

- Text Reader Line Count,
- Text Reader Last Line,
- Text Reader Current Line,
- Text Reader Current Line ID,
- Text Reader Single Line,
- Text Reader RND Line (Random Line),

- Text Reader Entire Text.

11.3.2.5.51 TIMAX

The Timax input node provides XYZ data of the Ubisense Timax tracker.



Node Properties:

Port:

Enter the Timax UDP Port.

Tag ID:

Enter the Timex Tag ID.

The Node generates the following output:

- Timax X Position,
- Timax Y Position,
- Timax Z Position.

11.3.2.5.52 TCP

The TCP input node allows to receive either ASCII or Byte values based on the selected TCP connection. It can output by default any incoming packet as text if no ASCII filter is applied. The TCP Connections can be found and setup in the [Connection Manager](#).



Node Properties:

TCP Connection ID:

Choose the TCP Connection to listen to. The TCP Connections can be found and setup in the [Connection Manager](#).

Output Channels:

Set the Amount of Output Channels of this Input Node.

Input Value 1 will output Data 1, Input Value 2 will output Data 2, etc.

ASCII Mode:

The ASCII Mode allows to create a custom ASCII protocol for data transfer.

Multiple data can be separated by the split string.

To determine the Start and End of the message, use the Start and Stop strings.

ASCII Start, Split and Stop:

Enter values as string, dec or hex value. Please refer to [Syntac TCP- / UDP- / Serial messages](#).

Bytes Mode:

The Byte protocol allows data transmission based on a byte stream.

First send the header with any amount of Bytes,
followed by the data count as 4 Byte integer,
followed by a single Byte to describe the datatype used
(1 = 4byte integer, 2 = 8byte double).

Byte Header:

Enter values as string, dec or hex value. Please refer to [Syntac TCP- / UDP- / Serial messages](#).

Multi-Packets:

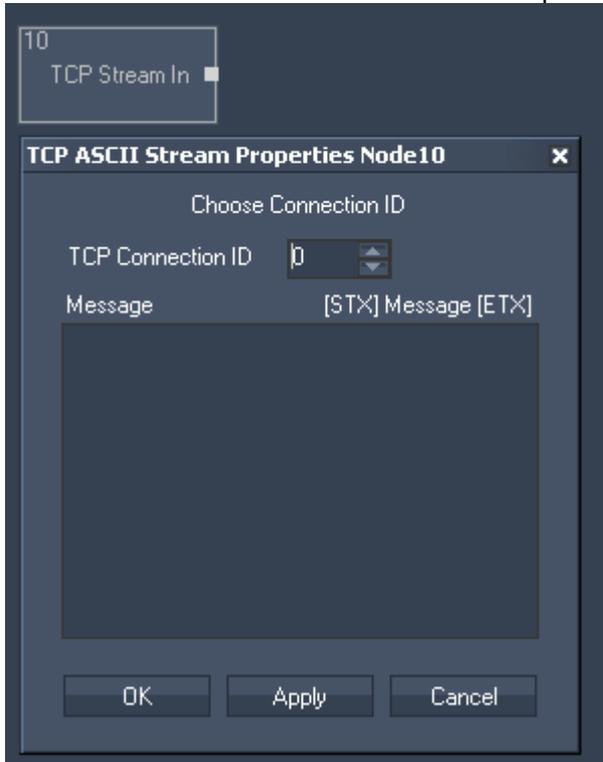
If the TCP packets are being received in parts, this option allows to read all part packets as one.

The Node generates the following output:

- TCP Input Value 1 - Value X (X = Amount of Output Channels).

11.3.2.5.53 TCP ASCII STREAM

The TCP ASCII Stream input node allows to receive either ASCII values based on the selected TCP connection. It can output by default any incoming packet as text if no ASCII filter is applied. The TCP Connections can be found and setup in the [Connection Manager](#).



Node Properties:

TCP Connection ID:

Choose the TCP Connection to listen to. The TCP Connections can be found and setup in the [Connection Manager](#).

Message:

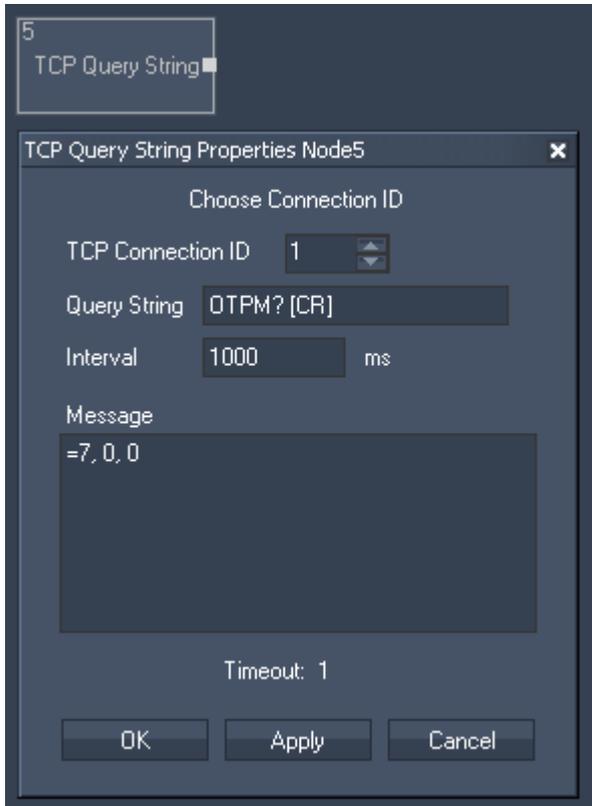
To determine the Start and End of the message, use the Start symbol [STX] and Stop symbol [ETX] Enter values as string, dec or hex value. Please refer to [Syntac TCP- / UDP- / Serial messages](#).

The Node generates the following output:

- TCP Stream In String.

11.3.2.5.54 TCP QUERY STRING

The TCP Query String input node allows to receive ASCII feedback messages from TCP devices over a TCP Port connection. The TCP Port connection needs to be enabled in the [Connection Manager](#). This input node will output any incoming packet as Text Only, Numeric Only or mixed string.



Node Properties:

TCP Connection ID:

Enter the ID of the [TCP Port Connection](#)

Query String:

Enter the query string that you want to send to the specified TCP Device.

Interval:

Enter the time interval in ms in which the query string will be send to the TCP Device.

If you want to query the device manually (e.g. by pressing a Custom Script Button using the script "[WDNodeSetParam,'NodeID','ParamID','Value'](#)"), please set the Interval Time to 0 ms.

Message:

The response of the TCP Device will be displayed here.

Timeout:

The Timeout gives you feedback about the connection status. If Timeout is "0", there is no communication with the specified TCP Device. If Timeout is "1" the communication works.

Confirm your settings by pressing OK or Apply.

The Node generates the following output:

- TCP Query String Response,
- TCP Query String Text Only,
- TCP Query String Numeric Only
- TCP Query String Timeout.

11.3.2.5.55 TRACKSCAN

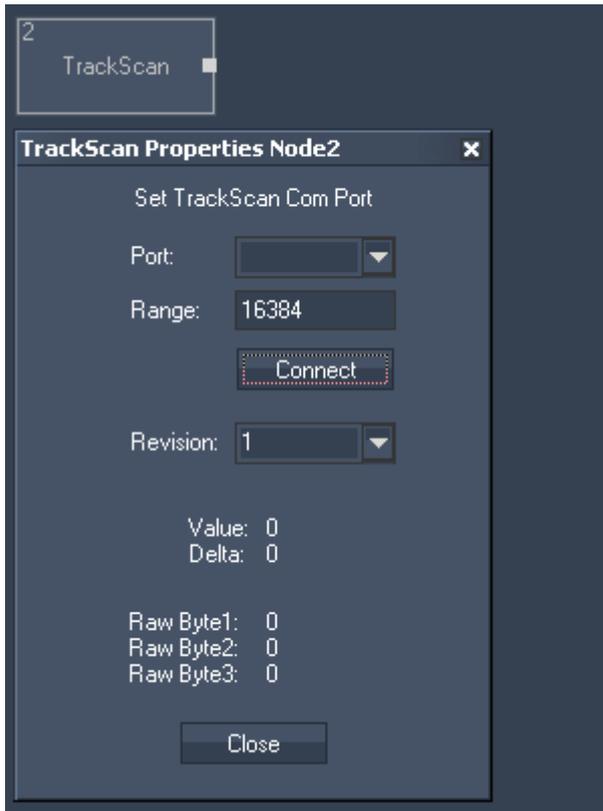
The TrackScan input node provides the integration of a Barcode scanner to read values in mm for up to 2 km of distance.

Please note:

There are two different revisions of the TrackScan device in circulation:

Rev.1 TrackScans (57600/8-N-1) only connect to the WD with this TrackScan Input Node (via the local COM Port).

Rev.2 TrackScans (9600/8-N-1) can be used with this TrackScan Input Node (via the local COM Port) and can also be connected via the [TrackScan Serial Link](#) Input Node (through a Serial Link Device).



Node Properties:

Port:

Choose the TrackScan COM Port to listen to. The COM Port Connections can be found and setup in the [Connection Manager](#).

Range:

The range defines the jump point of a maximum value back to zero.

The range is only important for rotating platforms, to determine the index point. Enter the range in mm. This is only important for correct calculation of delta values when using as incremental length count.

Revision:

Please choose here the Revision of your TrackScan (1 or 2).

The Node generates the following output:

- TrackScan Value,
- TrackScan Delta,

- TrackScan Byte 1,
- TrackScan Byte 2,
- TrackScan Byte 3.

11.3.2.5.56 TRACKSCAN SERIAL LINK

The TrackScan Serial Link input node provides the integration of a Barcode scanner to read values in mm for up to 2 km of distance via the coolux SerialLink device. It requires a Serial Link to be connected as TCP client in the [Connection Manager](#).

Please note:

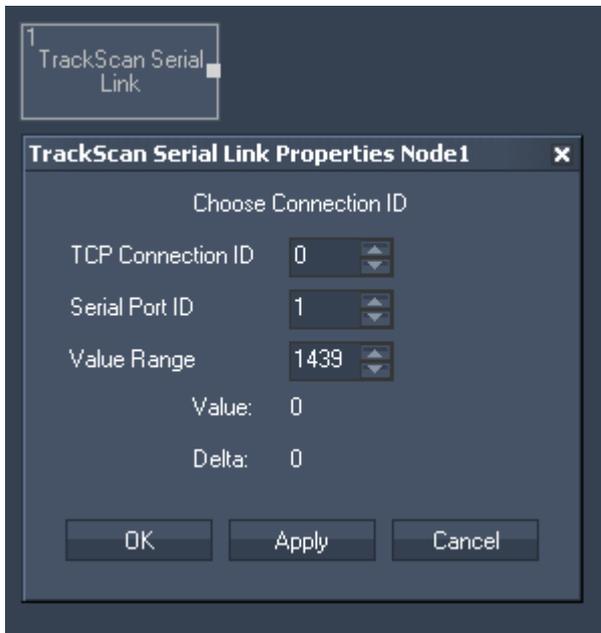
There are two different revisions of the TrackScan device in circulation:

Rev.1 TrackScans (57600/8-N-1) only connect to the WD with the [TrackScan Input Node](#) (via the local COM Port) and not with this TrackScan Serial Link input Node!

Rev.2 TrackScans (9600/8-N-1) can be used with the TrackScan Input Node (via the local COM Port) and can also be connected via this TrackScan Serial Link Input Node (through a Serial Link Device).

Important:

The Serial Link Ports must be set to 9600 Parity off. Please make sure that TX and RX are crossed (eg by using genderchangers and a nullmodem cabel between Serial Link and each TrackScan)!



Node Properties:

TCP Connection ID:

Enter here the Serial Links Connection ID. The TCP Connections can be found and setup in the [Connection Manager](#).

Serial Port ID:

Choose here the Serial Links Port ID the TrackScan is connected to.

Value Range:

The range defines the jump point of a maximum value back to zero.

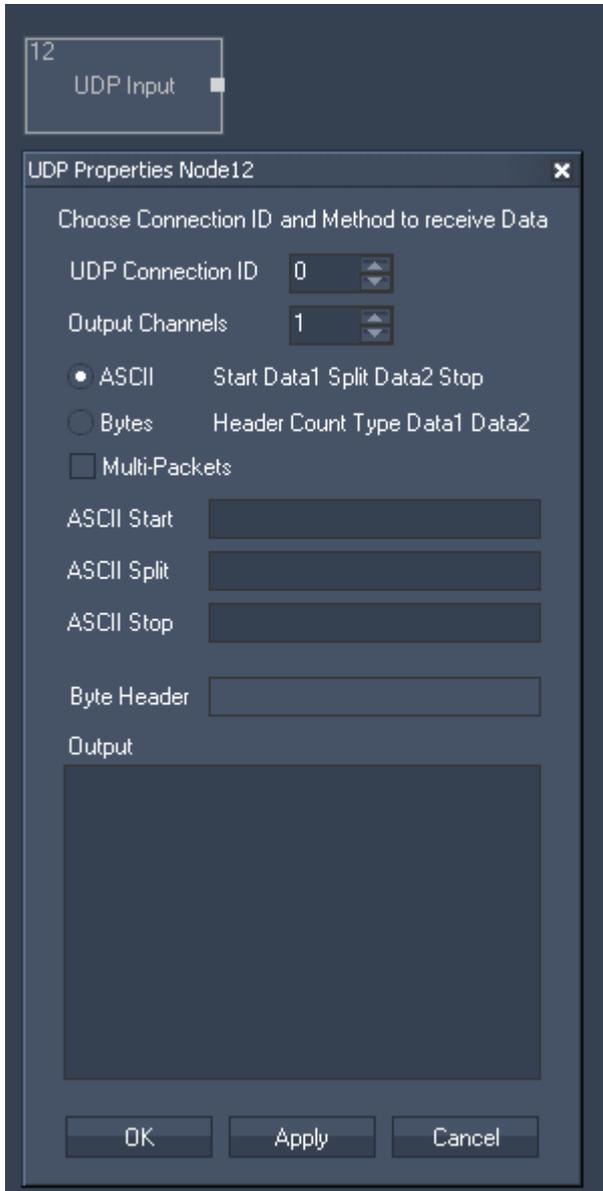
The range is only important for rotating platforms, to determine the index point. Enter the range in mm. This is only important for correct calculation of delta values when using as incremental length count.

The Node generates the following output:

-
- TrackScan Serial Link Value,
 - TrackScan Serial Link Delta.

11.3.2.5.57 UDP

The UDP input node allows to receive either ASCII or Byte values based on the selected UDP connection. It can output by default any incoming packet as text if no ASCII filter is applied. The UDP connection can be found and set up in the [Connection Manager](#).



Node Properties:

UDP Connection ID:

Choose the UDP Connection to listen to. The UDP Connections can be found and setup in the [Connection Manager](#).

Output Channels:

Set the Amount of Output Channels of this Input Node.

Input Value 1 will output Data 1, Input Value 2 will output Data 2, etc.

ASCII Mode:

The ASCII Mode allows to create a custom ASCII protocol for data transfer.

Multiple data can be separated by the split string.

To determine the Start and End of the message, use the Start and Stop strings.

ASCII Start, Split and Stop:

Enter values as string, dec or hex value. Please refer to [Syntac TCP- / UDP- / Serial messages](#).

Bytes Mode:

The Byte protocol allows data transmission based on a byte stream.

First send the header with any amount of Bytes,
followed by the data count as 4 Byte integer,
followed by a single Byte to describe the datatype used
(1 = 4byte integer, 2 = 8byte double).

Byte Header:

Enter values as string, dec or hex value. Please refer to [Syntac TCP- / UDP- / Serial messages](#).

Multi-Packets:

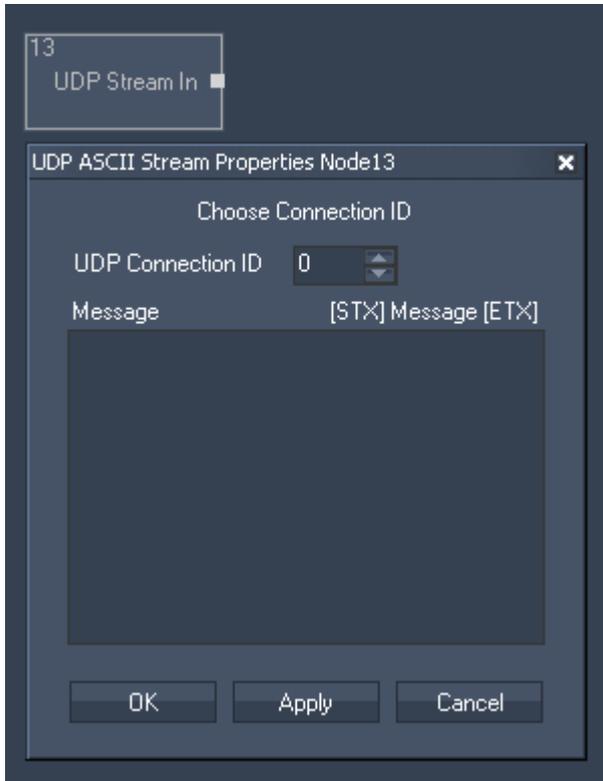
If the UDP packets are being received in parts, this option allows to read all part packets as one.

The Node generates the following output:

- UDP Input Value 1 - Value X (X = Amount of Output Channels).

11.3.2.5.58 UDP ASCII STREAM

The UDP ASCII Stream input node allows to either ASCII values based on the selected UDP connection. It can output by default any incoming packet as text if no ASCII filter is applied. The UDP connection can be found and set up in the [Connection Manager](#).



Node Properties:

UDP Connection ID:

Choose the UDP Connection to listen to. The UDP Connections can be found and setup in the [Connection Manager](#).

Message:

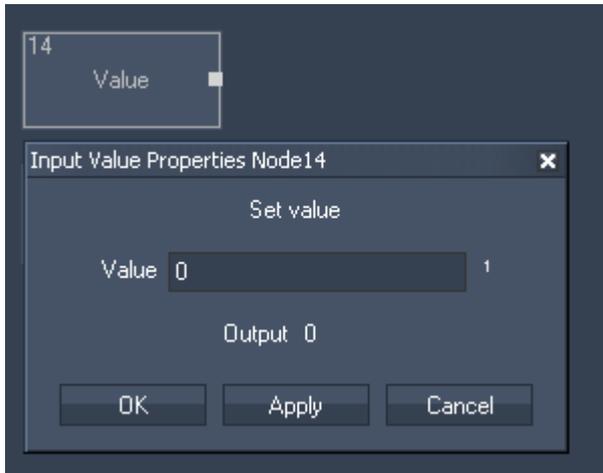
To determine the Start and End of the message, use the Start symbol [STX] and Stop symbol [ETX] Enter values as string, dec or hex value. Please refer to [Syntac TCP- / UDP- / Serial messages](#).

The Node generates the following output:

- UDP Stream In String.

11.3.2.5.59 VALUE

The Value input node allows you to set a numeric value for further processing.



Node Properties:

Value:

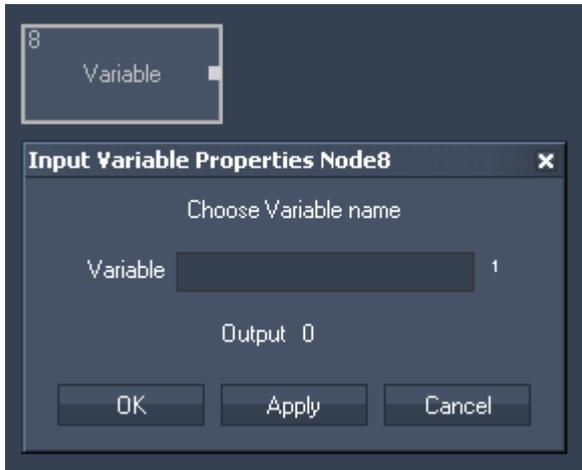
Enter the numeric value.

The Node generates the following output:

- Value.

11.3.2.5.60 VARIABLE

The Variable input node allows you to use a variable for further processing.



Node Properties:

Variable:

Enter the variable name.

The Node generates the following output:
Variable.

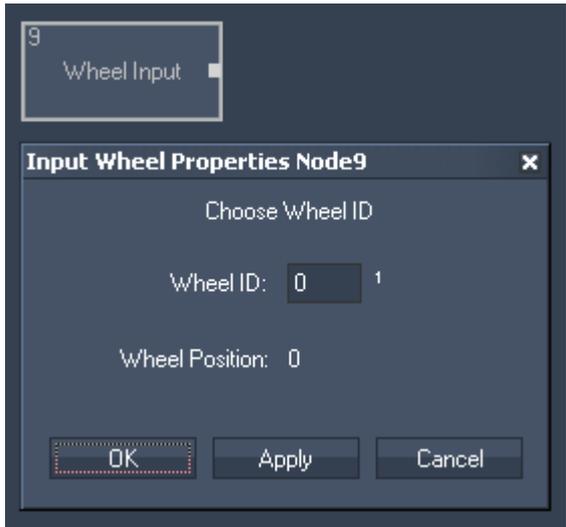
To set up and process variables, please use the following sripts:

- [VString,Name,Value](#)
- [VInt,Name,Value](#)
- [VDouble,Name,Value](#)
- [VDelete,Name](#)
- [VDeleteAll](#)
- [VValue,VarName,Value](#)
- [VGetNodeVal,VarName,NodeID,ParamID](#)
- [VGetFaderVal,VarName,FaderID](#)
- [VGetLabelText,VarName,LabelID](#)
- [VMultiply,VarName,Var1,Var2](#)
- [VDivide,VarName,Var1,Var2](#)
- [VAdd,VarName,Var1,Var2](#)
- [VSubtract,VarName,Var1,Var2](#)
- [VPow,VarName,Var1,Var2](#)
- [VSqrt,VarName,Var1](#)

To see all existing variables and their values, see the [Variable List](#).

11.3.2.5.61 WHEEL

The Wheel input node allows to intercept Wheel Values within Widget Designer. Select the Wheel ID to output the current Wheel value.



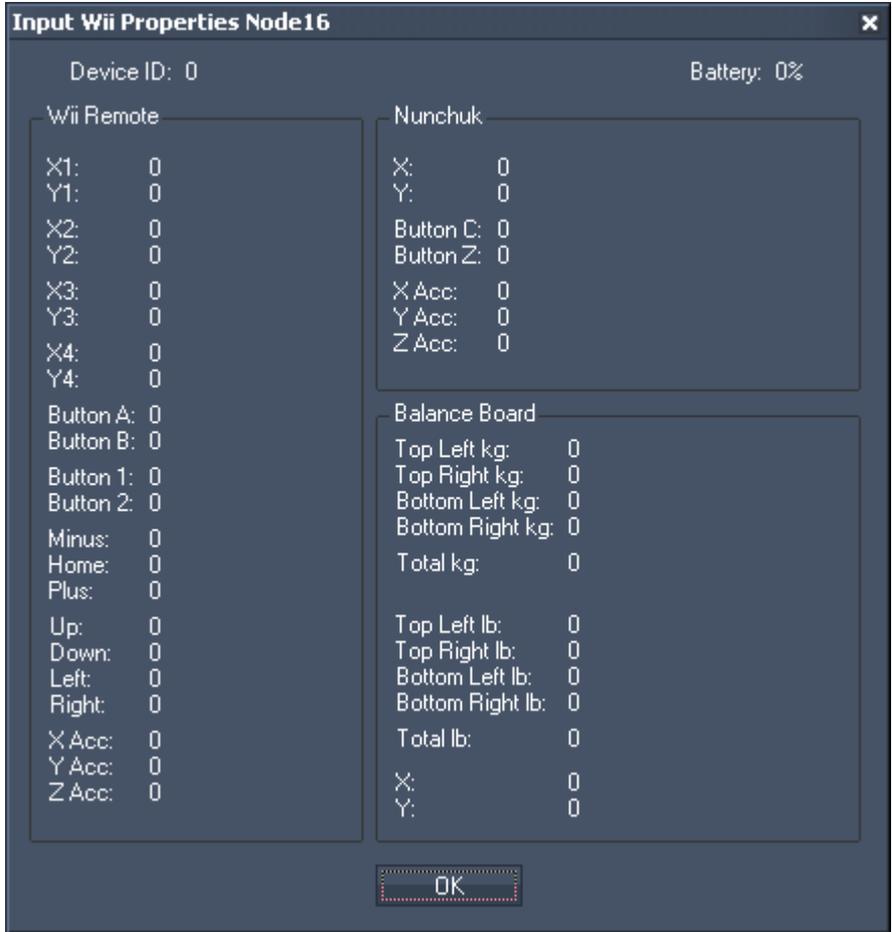
Node Properties:

Wheel ID:
Enter the Wheel ID.

The Node generates the following output:
- Wheel Input Value.

11.3.2.5.62 WII

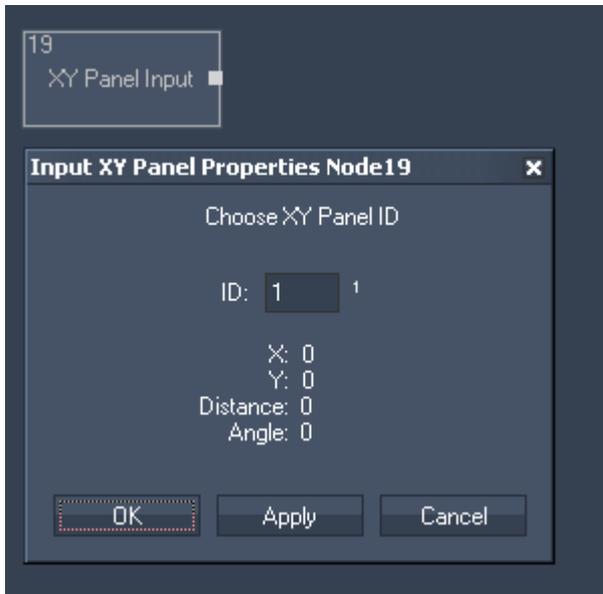
The Wii input node provides all 4 IR tracking coordinates as well as all Button presses and accelerometer data for up to 4 Wii controllers. The additional Nunchuk and Balance Board are also supported. The Wii controller needs to be connected via Bluetooth as HID.



The Node generates the following output:
 - Please see all items listed in the picture above.

11.3.2.5.63 XY PANEL

The XY Panel input node allows to intercept XY Panel Values within Widget Designer. Select the XY Panel ID to output the current XY Panel values.



Node Properties:

ID:
Choose the XY Panel ID.

The Node generates the following output:

- Input X Position,
- Input Y Position,
- Input Distance,
- Input Angle.

11.3.2.6 FILTER NODES

[ADD RELATIVE](#)

The Add Relative filter node continuously adds up incoming data. Since the Node system is updated 60 times per second the sampling speed of the node system is limited. As property windows update 25 times per second the sampling speed is increased with every property windows of an element in the node chain. It is recommended to keep all node property dialogs closed when an add relative filter node is being used.

[ANGLE TO POINT](#)

The Angle To Point filter node allows to calculate Pan and Tilt angles based on the relationship of moving targets xyz position input values according to the fixed position of the source. This node is useful to be used for tracking setups that require to calculate the exact Pan and Tilt angle for remote cameras or Moving Light projectors.

[DAMPING PREDICTION](#)

The prediction based damping filter node allows to reduce noisy input values and extrapolate a trend based on the history of the received values.

[DAMPING TIMED](#)

The time based damping filter node allows to set a delay time for the input data to be damped.

[DELTA](#)

The delta filter node allows to calculate the incremental delta value of the current value vs. the last input value. The Range defines the maximum value count in case of rotary encoders that would provide the same value range per 360°.

[DYNAMIC TRIGGER](#)

The Dynamic Trigger filter node allows to act as a gate with a given hold and release time and an additional target value. The Dynamic Trigger filter node is one of the few nodes that is related to the sample rate of the node system. When no node property window is opened, the filter works at the given time values. If the updates are increased by open node property dialogs of the node chain, then the timings will be affected. It is recommended to keep all node property dialogs closed when an add relative filter node is being used.

[IF](#)

The IF filter node allows to compare incoming data and outputs a true or false output value.

[JITTER REDUCE](#)

The jitter reduce filter node allows to eliminate jittering input data, for example when using the TrackScan.

The filter updates the output value, if the input is outside the min/max range. If the input is within the min/max range, the last value is on hold.

[MAX](#)

The Maximum filter node allows to set a maximum limit to input values.

[MIN](#)

The Minimum filter node allows to set a minimum limit to input values.

[POLAR > RECTANGULAR](#)

The Polar to Rectangular filter node allows to convert radial XY values to rectangular XY values. This node is useful to convert tracking values received from a spherical surface to apply them to a two dimensional texture coordinate space.

[RANGE ASYMMETRIC](#)

The Range Asymmetric node allows to convert a low and high range of an input source value and to leave a gap between the ranges. This filter is especially useful for filtering inconsistent joystick data, for example when the XY motion is mechanically snapping back to center, the center value might not always return the same values. Instead of creating a long node chain with multiple Range and min max nodes this nodes does it all in one step.

[RANGE](#)

The Range filter node allows to map any input range to a new output range. You may set limits, otherwise if the input range is exceeded in both, positive or negative values, the conversion will still be applied.

MATH FILTER NODES

The Math Filter nodes provide access to all standard math calculations.

[ABS](#)

Return an absolute positive value of the input source value.

[ACOS](#)

Arcus Cosine calculation.

[ADD](#)

Additive calculation of two source values.

[ASIN](#)

Arcus Sine calculation.

[ATAN](#)

Arcus Tangent calculation.

[CEILING](#)

Returns the maximum value of a decimal input value.

[COS](#)

Cosine calculation.

[DEGREE > RADIANS](#)

Converts a value from degrees to radians. This filter node is useful for cosine, sine and tangent calculation and value conversion.

[DIVIDE](#)

Division calculation of two source values.

[FLOOR](#)

Returns the minimum value of a decimal input value.

[LOG](#)

Logarithm calculation of the input source value.

[MODULO](#)

Modulo calculation of the input source value.

[MULTIPLY](#)

Multiplies two input source values.

[PERCENT](#)

Calculates the percent of an input source value.

[POWER X^Y](#)

Power of two input source values.

[RADIANS>DEGREE](#)

Converts a value from radians to degrees. This filter node is useful for cosine sine and tangent calculation and value conversion.

[ROUND](#)

This filter allows to round decimal values to a given amount of decimal places.

[SIN](#)

Sine calculation.

[SQRT](#)

Square Root calculation of the input source value.

[SUBTRACT](#)

Subtraction of two input source values.

[SUM](#)

Sums up all input values attached.

This is useful when connecting many delta nodes to determine easily when one of them has changed its value.

[TAN](#)

Tangent calculation.

TEXT NODES

Use these nodes to handle text assets, e.g. to compare texts.

[COMPARE TEXT](#)

Compares two text sources.

[CONTAINS TEXT](#)

This filter allows to scan a text input source for specific words.

[DATE TO TEXT](#)

Converts numeric input values to date string.

[LEADING ZEROS](#)

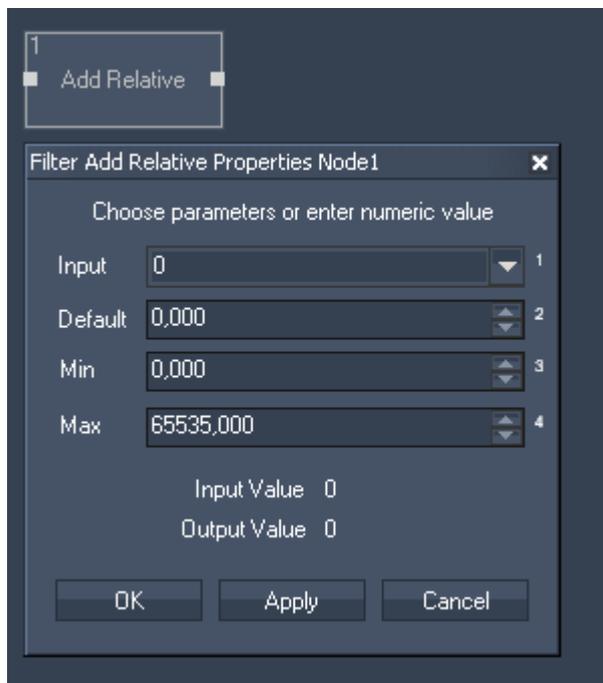
Generates Leading Zeros for Text.

[TEXT COMBINER](#)

Combines up to eight text input sources or entered text to one string.

11.3.2.6.1 ADD RELATIVE

The Add Relative filter node continuously adds up incoming data. Since the Node system is updated 60 times per second the sampling speed of the node system is limited. As property windows update 25 times per second the sampling speed is increased with every property window of an element in the node chain. It is recommended to keep all node property dialogs closed when an add relative filter node is being used.



Filter Properties:

Input

Choose input node from list or enter numeric value

Default

Enter the Default Value to which the Input Values will be added.

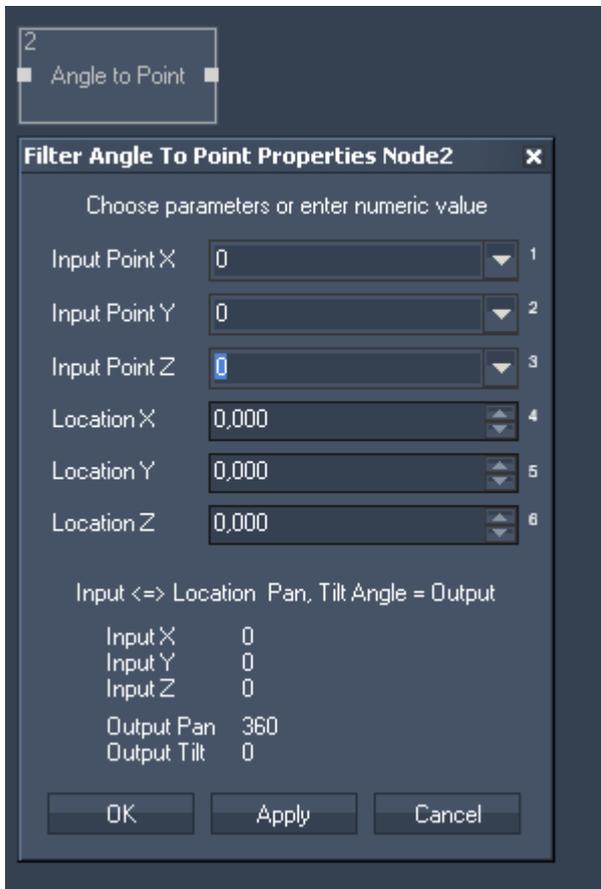
Min
Enter the limit for the minimum output value.

Max
Enter the limit for the maximum output value.

The filter generates the following output:
- Add Relative Output.

11.3.2.6.2 ANGLE TO POINT

The Angle To Point filter node allows to calculate Pan and Tilt angles based on the relationship of moving targets xyz position input values according to the fixed position of the source. This node is useful to be used for tracking setups that require to calculate the exact Pan and Tilt angle for remote cameras or Moving Light projectors.



Filter Properties:

Input Point X
Choose input node from list or enter numeric value

Input Point Y
Choose input node from list or enter numeric value

Input Point Z
Choose input node from list or enter numeric value

Location X
Enter the X Position of the reference point

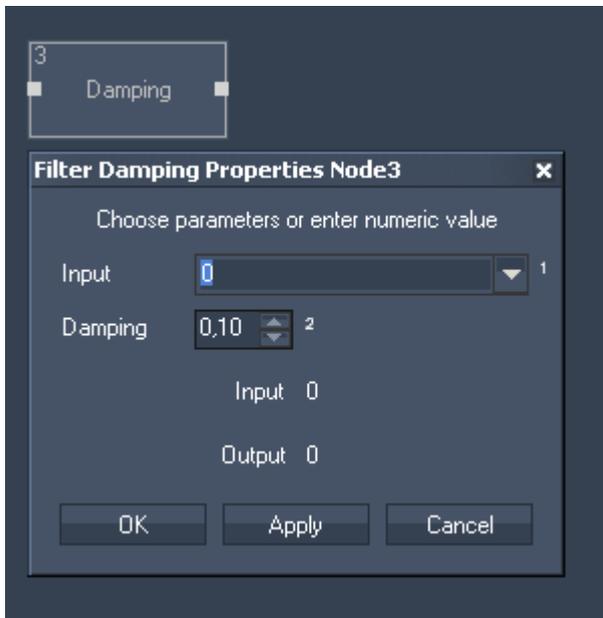
Location Y
Enter the Y Position of the reference point

Location Z
Enter the Z Position of the reference point

The filter generates the following outputs:
- Pan Angle
- Tilt Angle

11.3.2.6.3 DAMPING PREDICTION

The prediction based damping filter node allows to reduce noisy input values and extrapolate a trend based on the history of the received values.



Filter Properties:

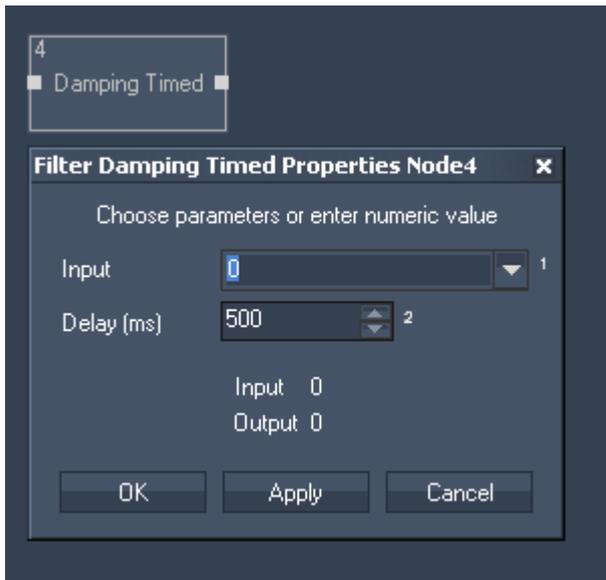
Input:
Choose input node from list or enter numeric value

Damping:
Enter the damping factor.
0,1 = maximum damping
1 = no damping

The filter generates the following output:
- Damping Output

11.3.2.6.4 DAMPING TIMED

The time based damping filter node allows to set a delay time for the input data to be damped.



Filter Properties:

Input:

Choose input node from list or enter numeric value

Delay (ms):

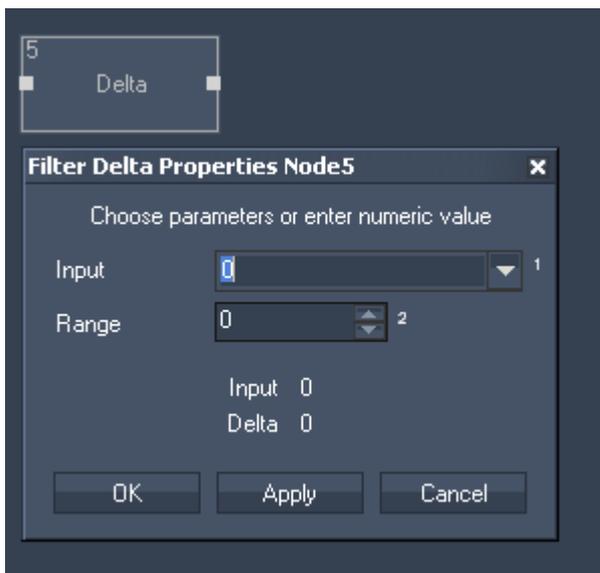
Enter the delay time in milliseconds

The filter generates the following output:

- Damping Timed Result

11.3.2.6.5 DELTA

The delta filter node allows to calculate the incremental delta value of the current value vs. the last input value. The Range defines the maximum value count in case of rotary encoders that would provide the same value range per 360°.



Filter Properties:

Input

Choose input node from list or enter numeric value.

Range

Enter maximum value if incremental values are used to calculate correct delta values between the start and end value.

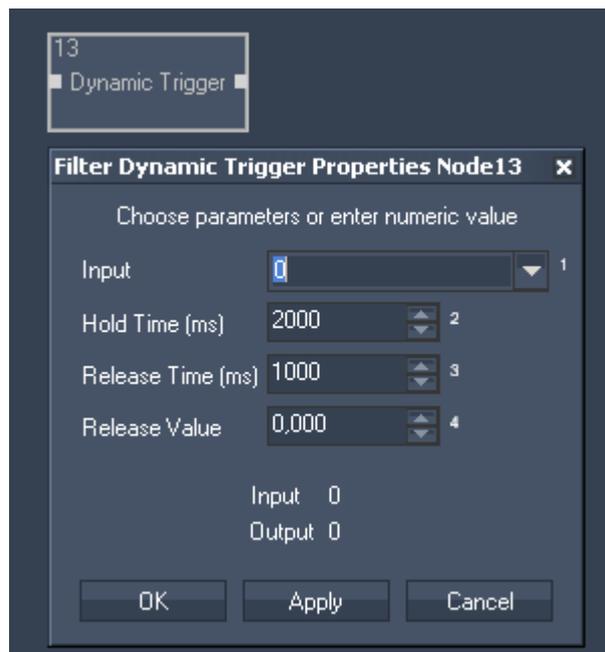
You will need this for example when using encoders from 0 to 1439.

The filter generates the following output:

- Delta Output.

11.3.2.6.6 DYNAMIC TRIGGER

The Dynamic Trigger filter node allows to act as a gate with a given hold and release time and an additional target value. The Dynamic Trigger filter node is one of the few nodes that is related to the sample rate of the node system. When no node property window is opened, the filter works at the given time values. If the updates are increased by open node property dialogs of the node chain, then the timings will be affected. It is recommended to keep all node property dialogs closed when an add relative filter node is being used.



Filter Properties:

Input

Choose input node from list or enter numeric value.

Hold Time (ms)

Enter the Hold Time in milliseconds

Release Time (ms)

Enter the Release Time in milliseconds

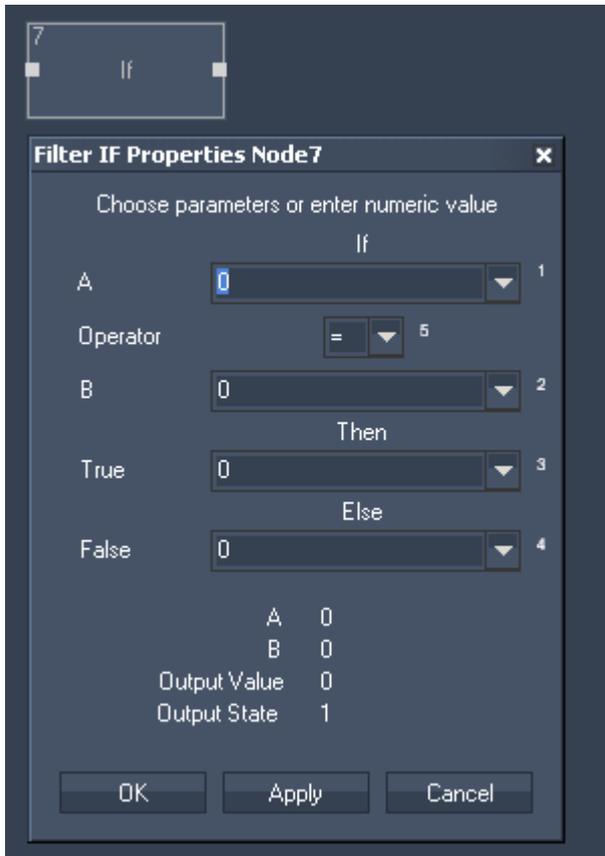
Release Value

Enter the Release Value, this will be the minimum value the node gives out.

The filter generates the following output:
 - Dynamic Trigger Result

11.3.2.6.7 IF

The IF filter node allows to compare incoming data and outputs a true or false output value.



Filter Properties:

A
 Choose input node from list or enter numeric value.

Operator
 Choose the Operator.

B
 Choose input node from list or enter numeric value.

True
 If the operation is True, this input node value or entered numeric value will be given out as Output Value.

False
 If the operation is False, this input node value or entered numeric value will be given out as Output Value.

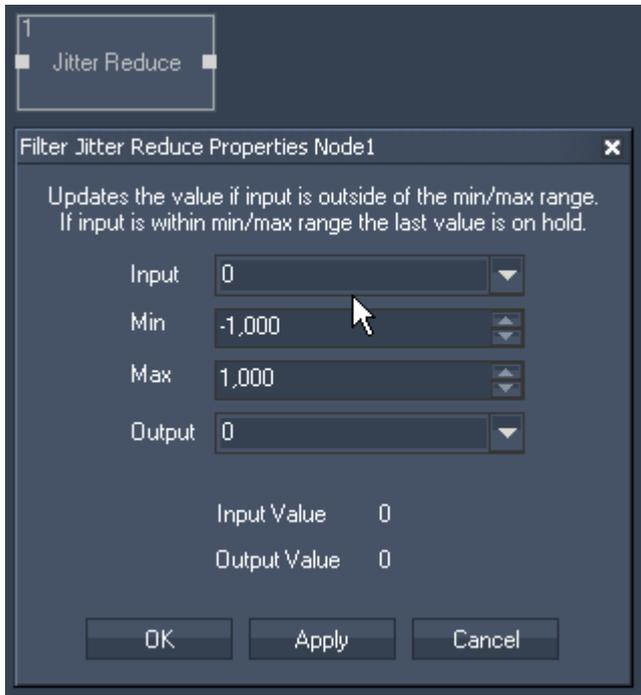
The filter generates the following output:
 - Output Value

- Output State (1=True, 0=False)

11.3.2.6.8 JITTER REDUCE

The jitter reduce filter node allows to eliminate jittering input data, for example when using the TrackScan.

The filter updates the output value, if the input is outside the min/max range. If the input is within the min/max range, the last value is on hold.



Filter Properties:

Input

Choose input node from list (a delta value).

Min

Enter minimum value for filtering the jitter from the delta input.

Max

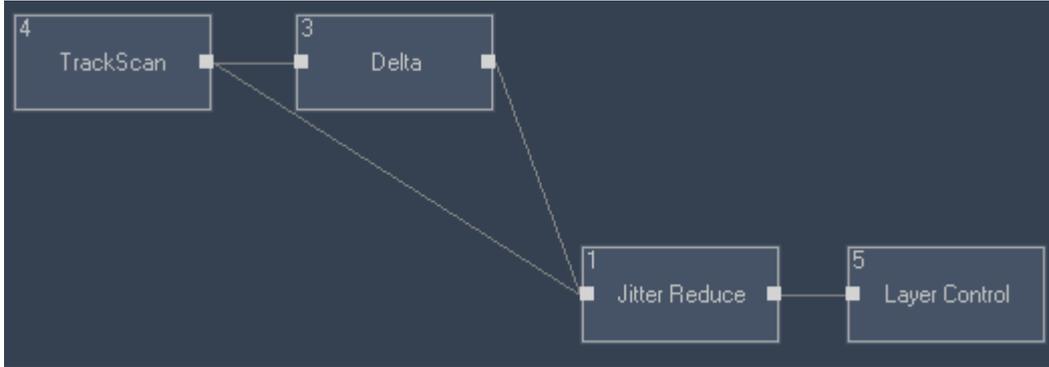
Enter maximum value for filtering the jitter from the delta input.

The filter generates the following output:

- Jitter Reduce Output.

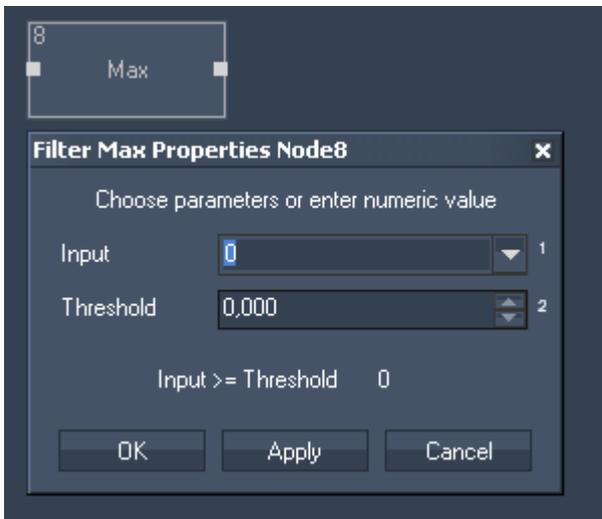
Example:

Place a delta filter node behind your sensor input node to calculate the jittering delta. In the jitter reduce node choose the delta node output as "Input". If you do not want to route the sensor input data to an output node as long as the delta is between eg. -1 and 1, enter these values for min and max. Connect the sensor output node as well to the jitter reduce filter node and choose the sensors output data for "Output".



11.3.2.6.9 MAX

The Maximum filter node allows to set a maximum limit to input values.



Filter Properties:

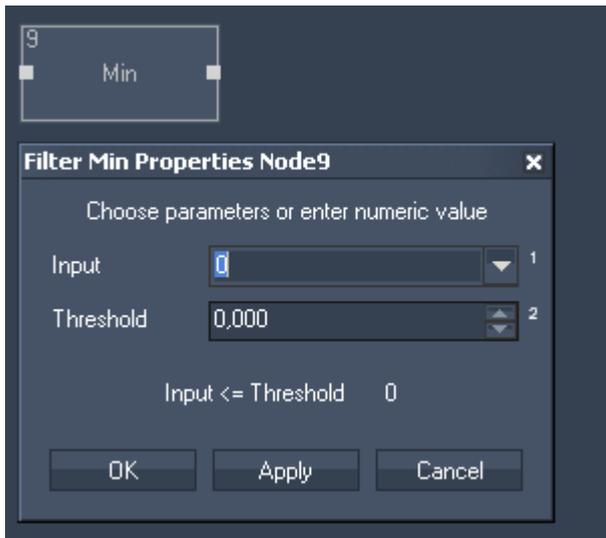
Input
Choose input node from list or enter numeric value.

Threshold
Choose the Threshold (maximum output value).

The filter generates the following output:
- Max Output Value

11.3.2.6.10 MIN

The Minimum filter node allows to set a minimum limit to input values.



Filter Properties:

Input

Choose input node from list or enter numeric value.

Treshold

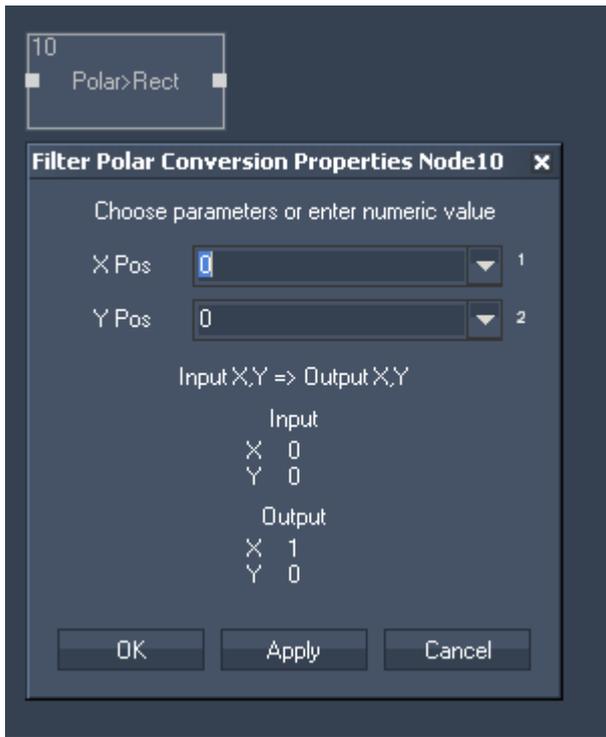
Choose the Treshold (minimum output value).

The filter generates the following output:

- Min Output Value

11.3.2.6.11 POLAR > RECTANGULAR

The Polar to Rectangular filter node allows to convert radial XY values to rectangular XY values. This node is useful to convert tracking values received from a spherical surface to apply them to a two dimensional texture coordinate space.



Filter Properties:

X Pos

Choose input node from list or enter numeric value.

Y Pos

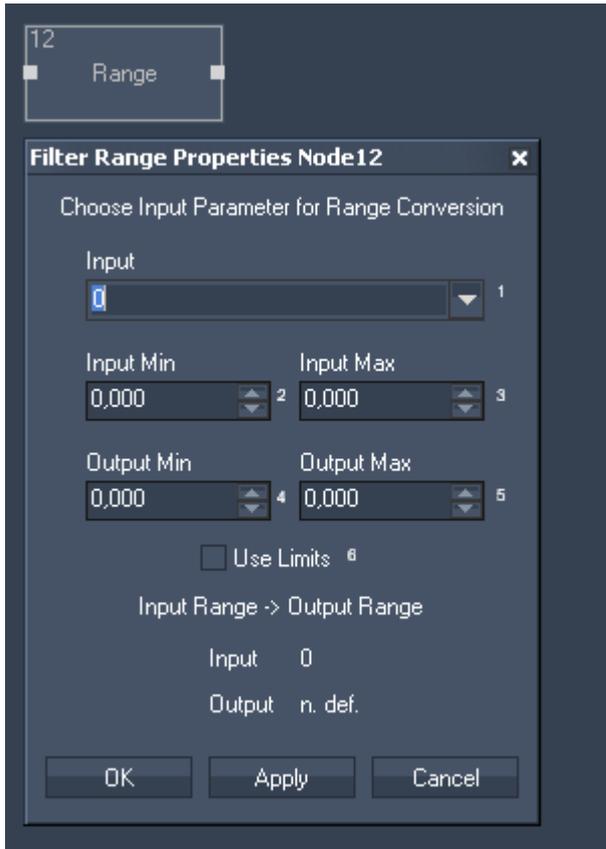
Choose input node from list or enter numeric value.

The filter generates the following output:

- Polar>Rect X
- Polar>Rect Y

11.3.2.6.12 RANGE

The Range filter node allows to map any input range to a new output range. You may set limits, otherwise if the input range is exceeded in both, positive or negative values, the conversion will still be applied.



Filter Properties:

Input

Choose input node from list or enter numeric value.

Input Min

Enter the Input Minimum value.

Input Max

Enter the Input Maximum value.

Output Min

Enter the Output Minimum value. The Input Minimum value will be mapped to the Output Minimum value.

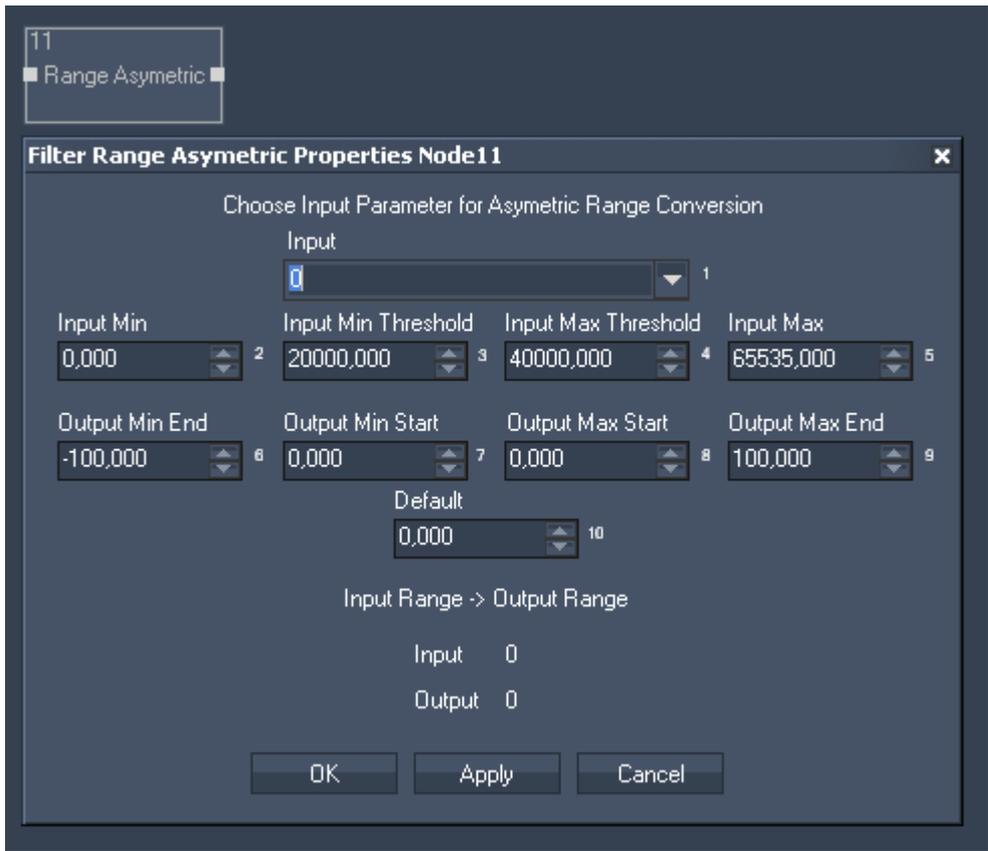
Output Max

Enter the Output Minimum value. The Input Maximum value will be mapped to the Output Maximum value.

The filter generates the following output:
Range Output.

11.3.2.6.13 RANGE ASYMMETRIC

The Range Asymmetric node allows to convert a low and high range of an input source value and to leave a gap between the ranges. This filter is especially useful for filtering inconsistent joystick data, for example when the XY motion is mechanically snapping back to center, the center value might not always return the same values. Instead of creating a long node chain with multiple Range and min max nodes this nodes does it all in one step.



Filter Properties:

Input
Choose input node from list or enter numeric value.

Input Min / Output Min End
For all values below the Input Minimum the Output Min End Value will be the output.

Input Min Threshold / Output Min End
For all values from Input Min up to Input Min Threshold the range between Output Min End and Output Min Start will be given out.

Input Max Threshold / Input Max
For all values between Input Min Threshold and Input Max Threshold the output will be the Default Value.

Input Max / Output Max End
For all values above this Input Maximum the Output Max End Value will be the output.

Default
This value will be given out for all input values between Input Min and Input Max Threshold.

The filter generates the following output:
- Range Asymmetric Output

11.3.2.6.14 MATH FILTER NODES

The Math Filter nodes provide access to all standard math calculations.

[ABS](#)

Return an absolute positive value of the input source value.

[ACOS](#)

Arcus Cosine calculation.

[ADD](#)

Additive calculation of two source values.

[ASIN](#)

Arcus Sine calculation.

[ATAN](#)

Arcus Tangent calculation.

[CEILING](#)

Returns the maximum value of a decimal input value.

[COS](#)

Cosine calculation.

[DEGREE > RADIANS](#)

Converts a value from degrees to radians. This filter node is useful for cosine, sine and tangent calculation and value conversion.

[DIVIDE](#)

Division calculation of two source values.

[FLOOR](#)

Returns the minimum value of a decimal input value.

[LOG](#)

Logarithm calculation of the input source value.

[MODULO](#)

Modulo calculation of the input source value.

[MULTIPLY](#)

Multiplies two input source values.

[PERCENT](#)

Calculates the percent of an input source value.

[POWER X^Y](#)

Power of two input source values.

[RADIANS>DEGREE](#)

Converts a value from radians to degrees. This filter node is useful for cosine sine and tangent calculation and value conversion.

[ROUND](#)

This filter allows to round decimal values to a given amount of decimal places.

[SIN](#)

Sine calculation.

[SQRT](#)

Square Root calculation of the input source value.

[SUBTRACT](#)

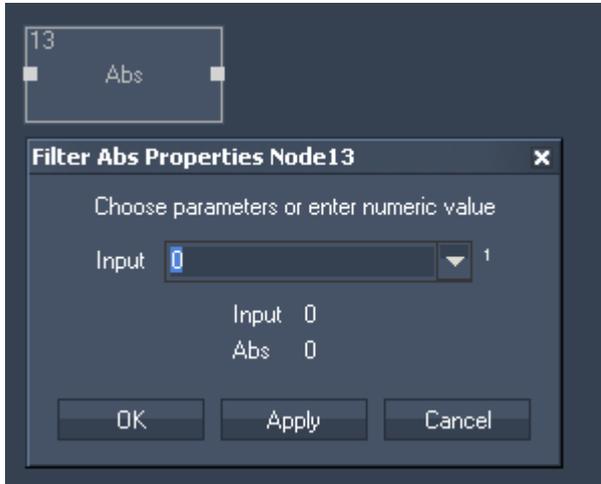
Subtraction of two input source values.

[TAN](#)

Tangent calculation.

11.3.2.6.14.1 ABS

Returns an absolute positive value of the input source value.



Filter Properties:

Input

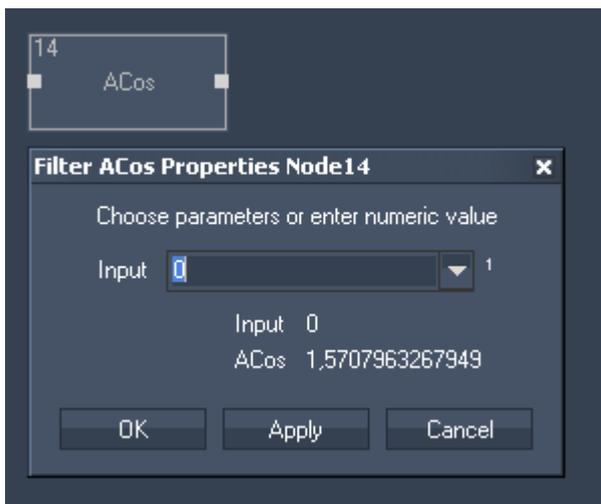
Choose input node from list or enter numeric value.

The filter generates the following output:

- Abs Output

11.3.2.6.14.2 ACOS

Arcus Cosine calculation.



Filter Properties:

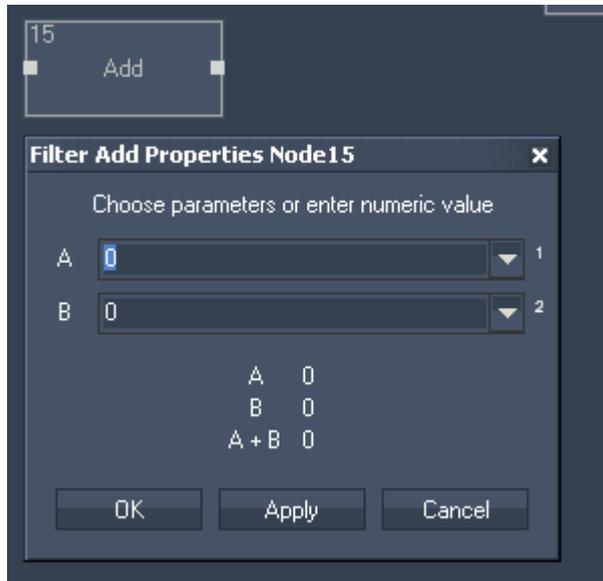
Input

Choose input node from list or enter numeric value.

The filter generates the following output:
- ACos Output

11.3.2.6.14.3 ADD

Additive calculation of two source values.



Filter Properties:

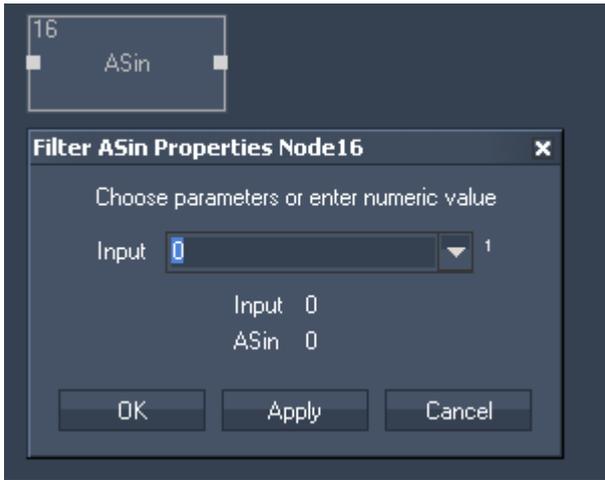
Input A
Choose first input node from list or enter numeric value.

Input B
Choose second input node from list or enter numeric value.

The filter generates the following output:
- Add Result: Input A + Input B.

11.3.2.6.14.4 ASIN

Arcus Sine calculation.



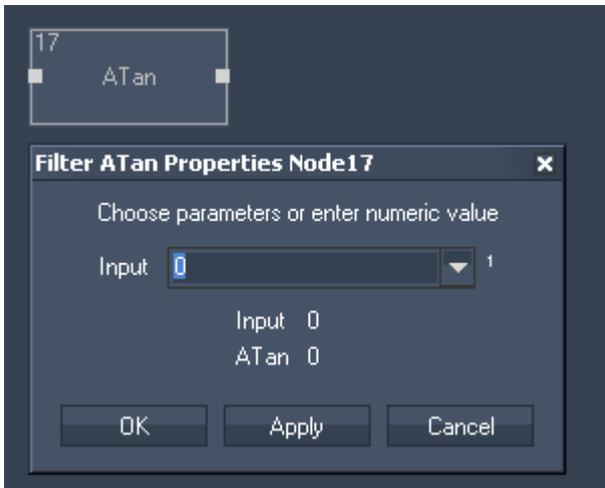
Filter Properties:

Input:
Choose input node from list or enter numeric value.

The filter generates the following output:
- ASin Result.

11.3.2.6.14.5 ATAN

Arcus Tangent calculation.



Filter Properties:

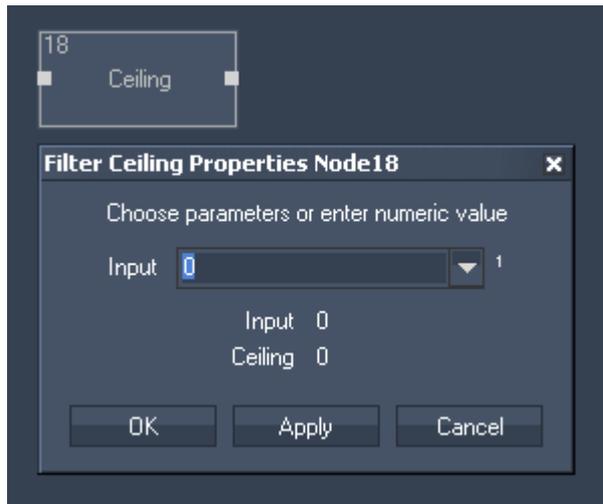
Input:
Choose input node from list or enter numeric value.

The filter generates the following output:
- ATan Result.

11.3.2.6.14.6 CEILING

Returns the maximum value of a decimal input value.

For example: Input value 5,1 results in the output value 6.



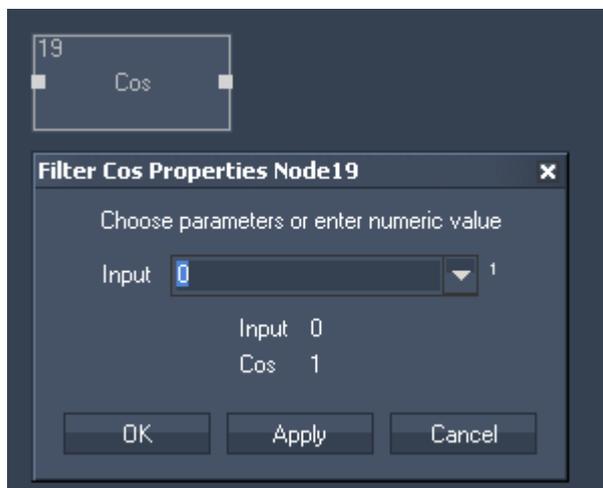
Filter Properties:

Input:
Choose input node from list or enter numeric value.

The filter generates the following output:
- Ceiling Result.

11.3.2.6.14.7 COS

Cosine calculation.



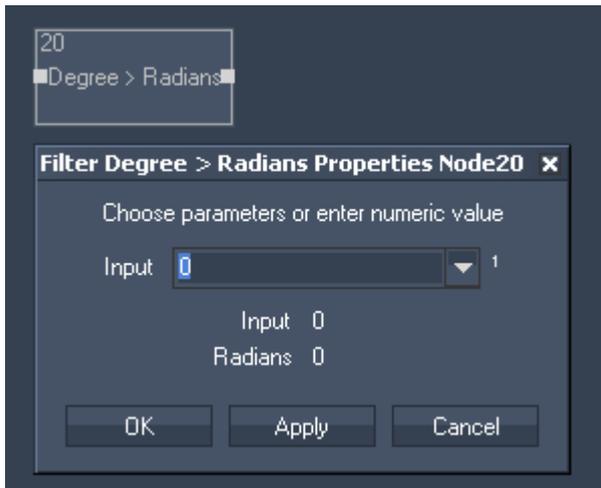
Filter Properties:

Input:
Choose input node from list or enter numeric value.

The filter generates the following output:
- Cosinus Result.

11.3.2.6.14.8 DEGREE > RADIANS

Converts a value from degrees to radians. This filter node is useful for cosine, sine and tangent calculation and value conversion.



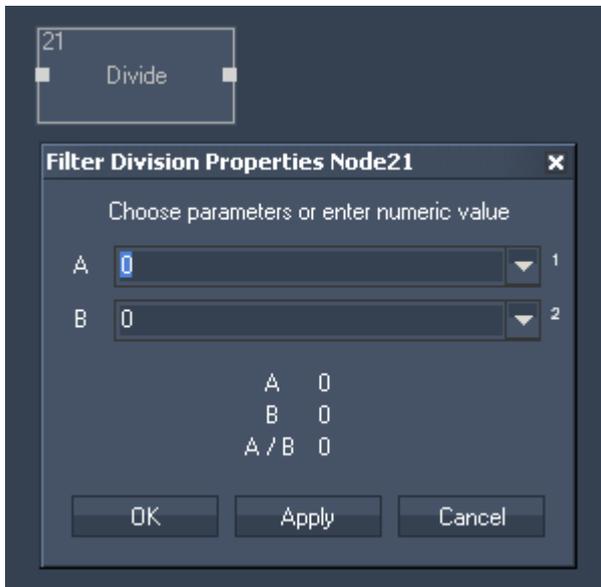
Filter Properties:

Input:
Choose input node from list or enter numeric value.

The filter generates the following output:
- Radians Result.

11.3.2.6.14.9 DIVIDE

Division calculation of two source values.



Filter Properties:

Input A:
Choose input node from list or enter numeric value.

Input B:
Choose input node from list or enter numeric value.

The filter generates the following output:
- Divide Result.

11.3.2.6.14.10 FLOOR

Returns the minimum value of a decimal input value.
For example: Input value of 4,3 will result in the Output value 4.



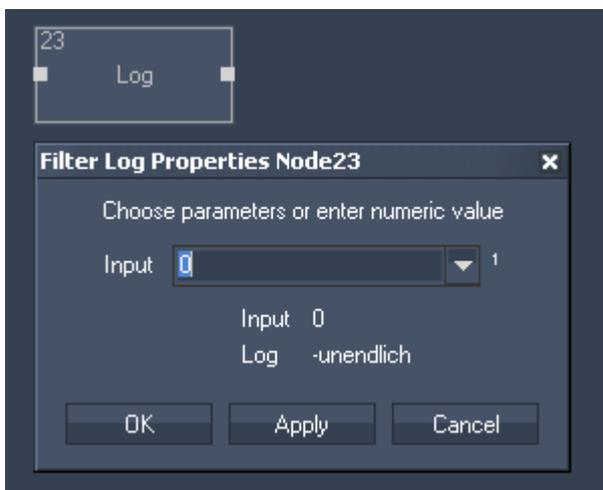
Filter Properties:

Input:
Choose input node from list or enter numeric value.

The filter generates the following output:
- Floor Result.

11.3.2.6.14.11 LOG

Logarithm calculation of the input source value.



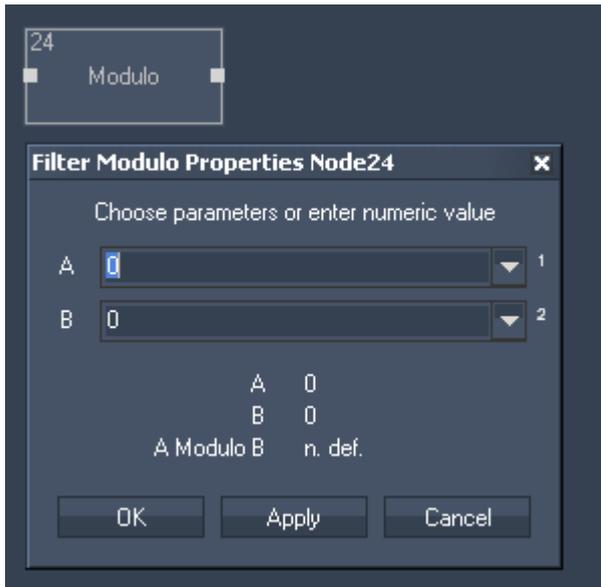
Filter Properties:

Input:
Choose input node from list or enter numeric value.

The filter generates the following output:
- Logarithm Result.

11.3.2.6.14.12 MODULO

Modulo calculation of the input source value.
For Example: 7 modulo 3 = 1.



Filter Properties:

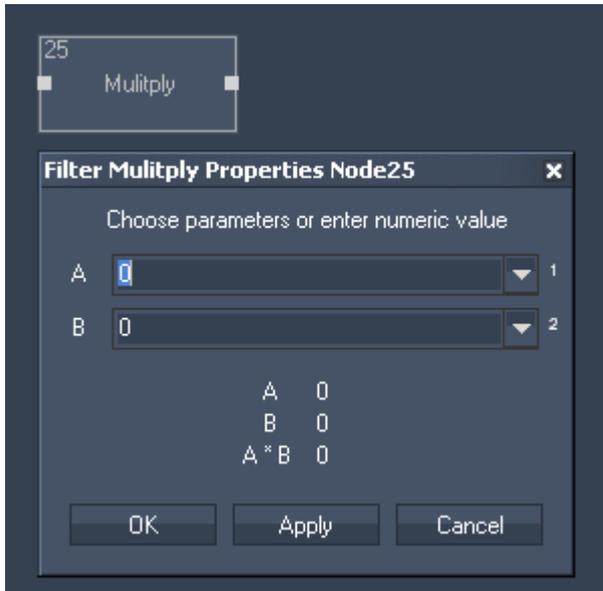
Input A:
Choose input node from list or enter numeric value.

Input B:
Choose input node from list or enter numeric value.

The filter generates the following output:
- Modulo Result.

11.3.2.6.14.13 MULTIPLY

Multiplies two input source values.



Filter Properties:

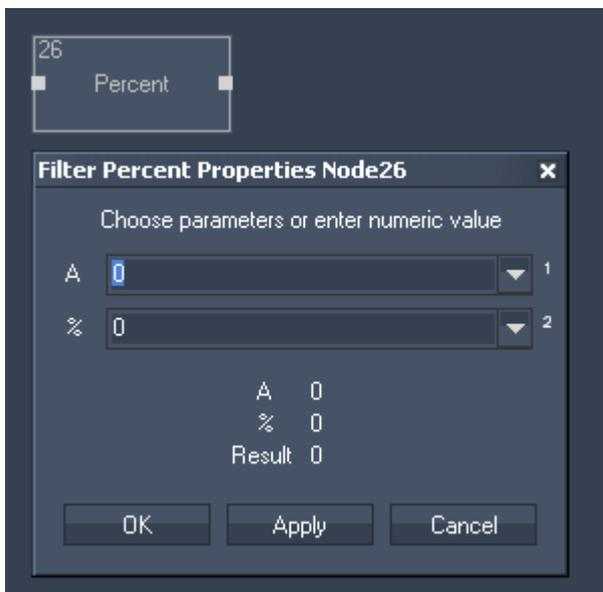
Input A:
Choose input node from list or enter numeric value.

Input B:
Choose input node from list or enter numeric value.

The filter generates the following output:
- Multiply Result.

11.3.2.6.14.14 PERCENT

Calculates the percent of an input source value.



Filter Properties:

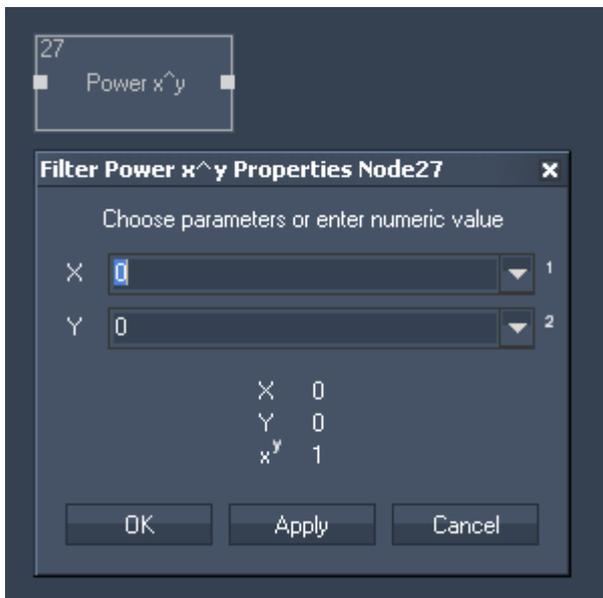
Input A:
Choose input node from list or enter numeric value.

Input %:
Choose input node from list or enter numeric value.

The filter generates the following output:
- Percent Result.

11.3.2.6.14.15 POWER X^Y

Power of two input source values.



Filter Properties:

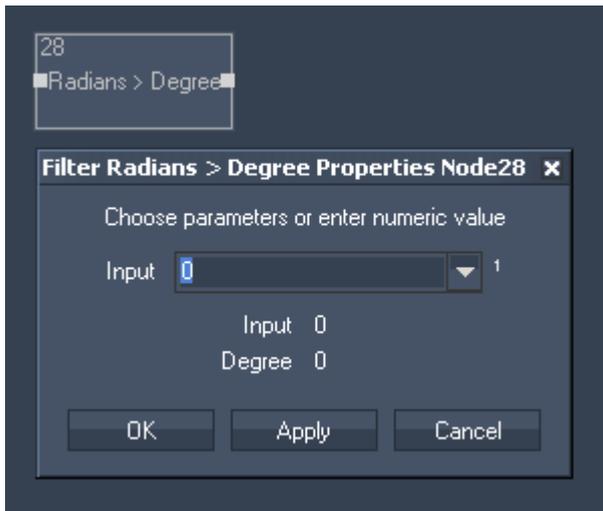
Input X:
Choose input node from list or enter numeric value.

Input Y:
Choose input node from list or enter numeric value.

The filter generates the following output:
- Power Result.

11.3.2.6.14.16 RADIANS>DEGREE

Converts a value from radians to degrees. This filter node is useful for cosine sine and tangent calculation and value conversion.



Filter Properties:

Input:

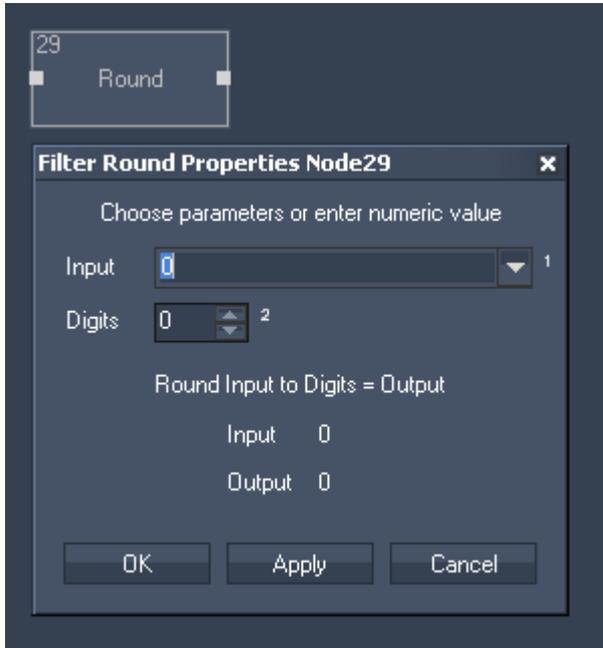
Choose input node from list or enter numeric value.

The filter generates the following output:

- Radians>Degree Result.

11.3.2.6.14.17 ROUND

This filter allows to round decimal values to a given amount of decimal places.
For Example: Input value 7,633 rounded to 1 digit results in the output value 7,7.



Filter Properties:

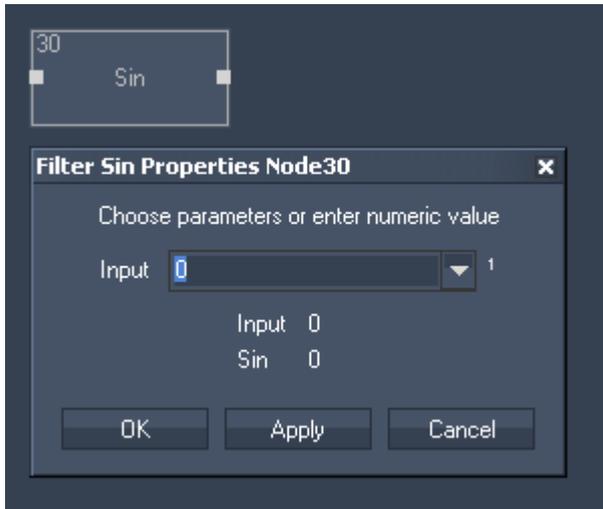
Input:
Choose input node from list or enter numeric value.

Digits:
Enter amount of decimal places.

The filter generates the following output:
- Round Result.

11.3.2.6.14.18 SIN

Sine calculation.



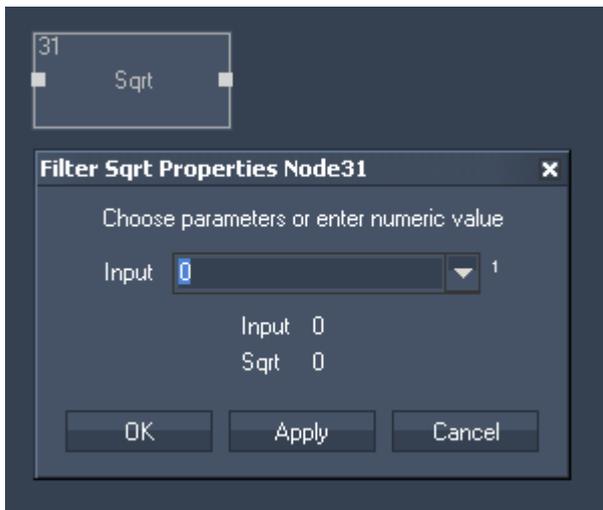
Filter Properties:

Input:
Choose input node from list or enter numeric value.

The filter generates the following output:
- Sin Result.

11.3.2.6.14.19 SQRT

Square Root calculation of the input source value.



Filter Properties:

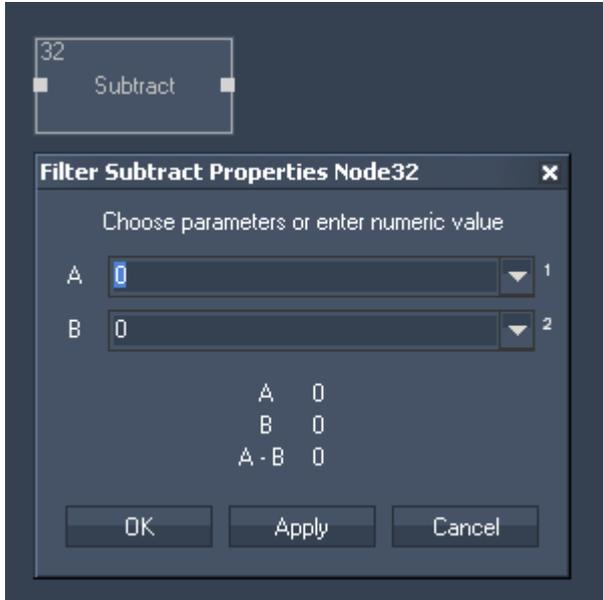
Input:
Choose input node from list or enter numeric value.

The filter generates the following output:

- Square Root Result.

11.3.2.6.14.20 SUBTRACT

Subtraction of two input source values.



Filter Properties:

Input A:

Choose input node from list or enter numeric value.

Input B:

Choose input node from list or enter numeric value.

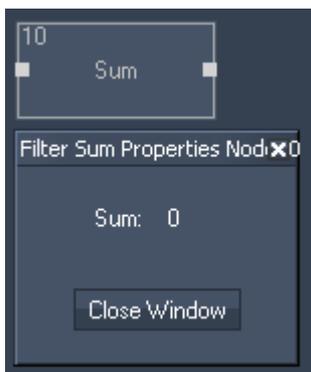
The filter generates the following output:

- Subtract Result.

11.3.2.6.14.21 SUM

The Filter Node SUM allows to sum up all input values attached.

This is useful when connecting many delta nodes to determine easily when one of them has changed its value.

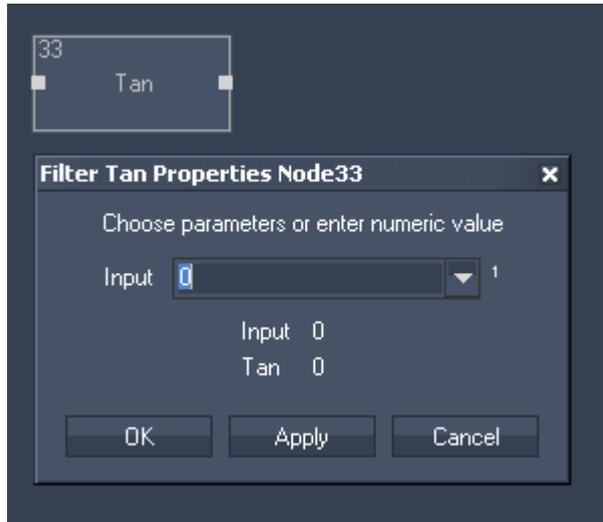


Filter Properties:

The filter generates the following output:
 - Sum.

11.3.2.6.14.22 TAN

Tangent calculation.



Filter Properties:

Input A:
 Choose input node from list or enter numeric value.

The filter generates the following output:
 - Tangent Result.

11.3.2.6.15 TEXT FILTER NODES

Use these nodes to handle text assets, e.g. to compare texts.

[COMPARE TEXT](#)

Compares two text sources.

[CONTAINS TEXT](#)

This filter allows to scan a text input source for specific words.

[DATE TO TEXT](#)

Converts numeric input values to date string.

[LEADING ZEROS](#)

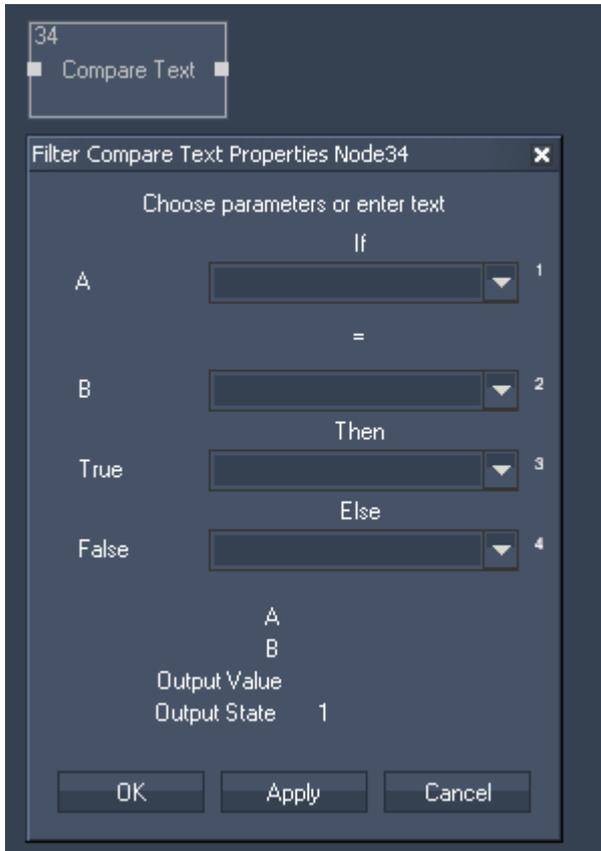
Generates Leading Zeros for Text

[TEXT COMBINER](#)

Combines up to eight text input sources or entered text to one string.

11.3.2.6.15.1 COMPARE TEXT

Compares two text sources.



Filter Properties:

Input A:

Choose input node from list or enter text.

Input B:

Choose input node from list or enter text.

True:

Choose input node from list or enter text that should be the output if the result is true.

False

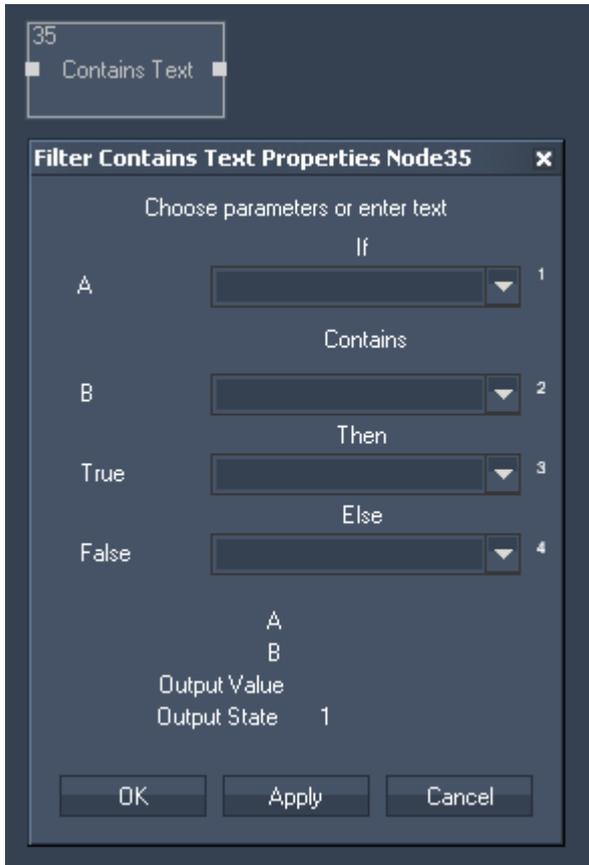
Choose input node from list or enter text that should be the output if the result is false.

The filter generates the following output:

- Compare Output value
- Compare State (true=1 or false=0)

11.3.2.6.15.2 CONTAINS TEXT

This filter allows to scan a text input source for specific words.



Filter Properties:

Input A:

Choose input node from list or enter text.

Input B:

Choose input node from list or enter text.

True:

Choose input node from list or enter text that should be the output if the result is true.

False

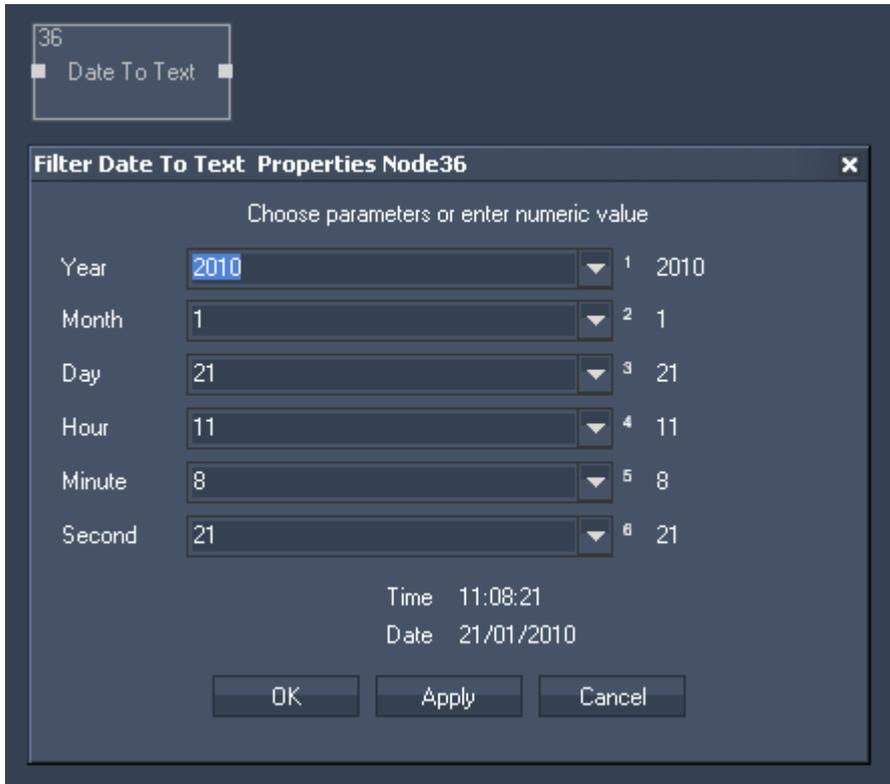
Choose input node from list or enter text that should be the output if the result is false.

The filter generates the following output:

- Contains Output Value
- Contains Output State (true=1 or false=0)

11.3.2.6.15.3 DATE TO TEXT

Converts numeric input values to date string.



Filter Properties:

Year:

Choose input node from list or enter numeric value.

Month:

Choose input node from list or enter numeric value.

Day:

Choose input node from list or enter numeric value.

Hour:

Choose input node from list or enter numeric value.

Minute:

Choose input node from list or enter numeric value.

Second:

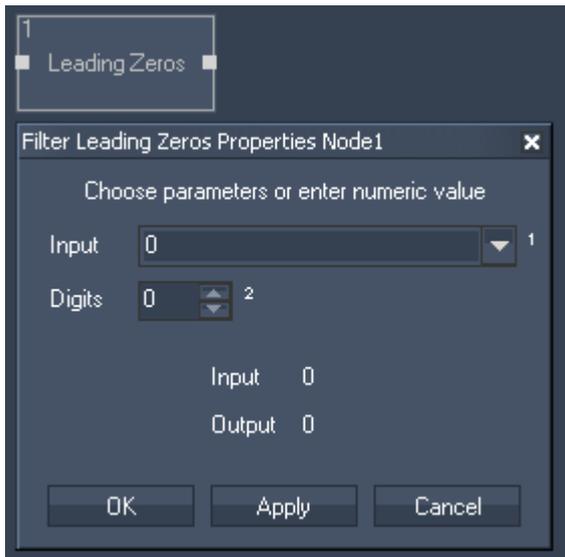
Choose input node from list or enter numeric value.

The filter generates the following output:

- Time Text Output
- Date Text Output

11.3.2.6.15.4 LEADING ZEROS

Generates Leading Zeros for Text. This is especially useful for scoreboard counts



Filter Properties:

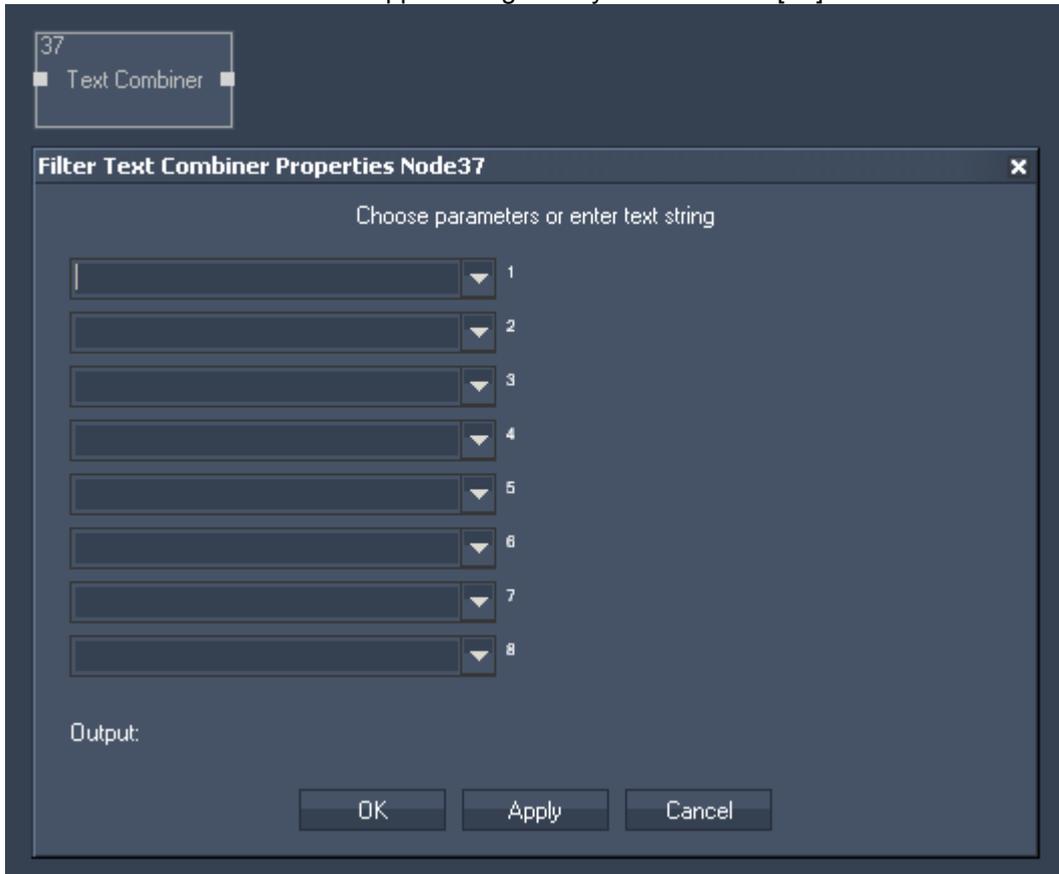
Input:
Choose input node from list or enter numeric value.

Digits:
Enter the amount of digits the filter should generate in front of the input.

The filter generates the following output:
Leading Zeros Number

11.3.2.6.15.5 TEXT COMBINER

Combines up to eight text input sources or entered text to one string.
The Text Combine Filter now supports single entry for Line Feed [LF].



Filter Properties:

Inputs (8x):

Choose input node from list or enter text string.

The filter generates the following output:

- Time String Output

11.3.2.7 OUTPUT NODES

[ANGULAR DISPLAY](#)

The Angular Display output node allows to route any incoming numeric value to be displayed on an Angular Display.

[ART-NET](#)

The Art-Net output node allows to assign incoming source values to either an 8 or 16bit DMX output value on a given Art-Net Subnet and Universe.

[BAR GRAPH](#)

The Bar Graph output node allows to assign incoming source values to a Bar Graph.

[COM PORT MESSAGE](#)

The Com Port Message value acts like an if node, the incoming data can be compared and depending on the true or false result a dedicated ASCII or Byte packet can be sent to the local COM Port.

[COM PORT ASCII STREAM](#)

The Com ASCII Stream output node allows to send ASCII values over the local COM Port connection.

[DIGITAL DISPLAY](#)

The Digital Display output node allows to assign incoming source values to a digital Display.

[DMX LINK OUT](#)

The DMX Link output node allows to send out DMX data via the coolux DMX Link Out interface (interface is still in developement).

[FADER](#)

The Fader output value allows to remote control any fader based on it's ID within Widget Designer project.

[LABEL](#)

The Label output value allows to display any input value to a label inside the Widget Designer.

[MIDI NOTE ON/OFF](#)

The Midi Note On/Off node allows to send Midi Note on/off values to a given note on a given Midi Channel.

[MIDI RAW MESSAGE](#)

The Midi Raw Message node allows to map individual input source values to all 5 midi control bytes.

[MIDI VALUE](#)

The Midi Value output node allows to send a 7 or 15bit value on a given Midi Channel.

[MOUSE](#)

The Mouse output node allows to remote control the local mouse and map input values to emulate mouse clicks and mouse motion.

[PAGE](#)

The Page output node allows to execute a page change inside WD via an input source.

[PB DEVICE CONTROL](#)

The Device node allows to control any Pandoras Box Device with any parameter name in both, absolute or relative mode.

[PB LAYER CONTROL](#)

The Layer output node allows to map any input or filter data to any layer parameter value.

[PB SEQUENCE CONTROL](#)

The Sequence Control output node allows to map any input or filter data to any sequence parameter value.

[PB SEQUENCE SEEK](#)

The Sequence Seek output node allows to map any input or filter data in order to set any sequence to any timecode.

[PB TEXT](#)

The PB Text output node allows to route any input or filter data to a PB Text Asset.

[PB TEXT UNICODE](#)

The PB Text Unicode output node allows to send textstrings in any language format to Pandoras Box text assets.

[SCRIPT](#)

The Script output node acts like an if node, the incoming data can be compared and depending on the true or false result a dedicated script can be executed within Widget Designer. It is recommended for performance reasons to choose "Update on input value change only".

[SERIAL LINK](#)

The Serial Link output node connects to a serial link via the connection managers TCP ID. Incoming values can be compared to send ASCII or Byte packets to any of the four serial ports of the connected Serial Link. All 24 GPI contact closures can be mapped and assigned to input values as well 0 is off, 1 is contact closed. It is recommended for performance reasons to choose "Update on input value change only".

[TCP MESSAGE](#)

The TCP Message value acts like an if node. The incoming data can be compared and depending on the true or false result a dedicated ASCII or Byte packet can be sent to the TCP connection setup by the its ID in the Connection Manager.

[TCP ASCII STREAM](#)

The TCP ASCII Stream output node allows to send ASCII values over the local COM Port connection.

[TEXTBOX](#)

The Textbox output node allows to send incoming texts to a textbox within Widget Designer.

[UDP MESSAGE](#)

The UDP Message value acts like an if node. The incoming data can be compared and depending on the true or false result a dedicated ASCII or Byte packet can be sent to the UDP connection setup by the its ID in the Connection Manager.

[UDP ASCII STREAM](#)

The UDP ASCII Stream output node allows to send ASCII values over an UDP connection.

[VALUE](#)

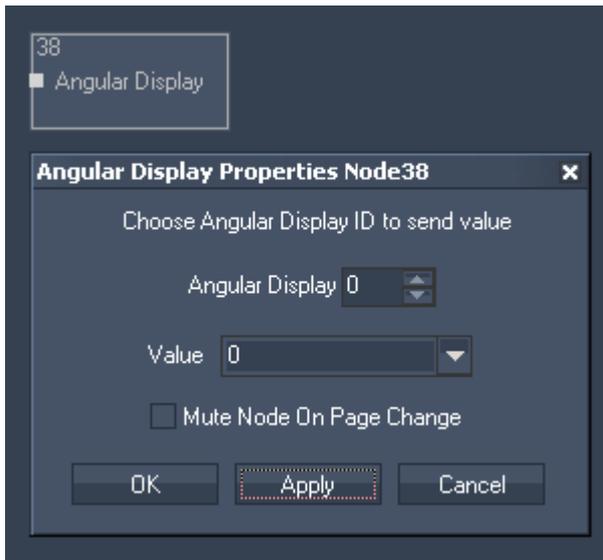
The Value output node allows to easily change the value of a [Value input node](#).

[VIDEO PLAYER VOLUME](#)

The Video Player Volume output node allows to control the Volume of the Video Player integrated within Widget Designer.

11.3.2.7.1 ANGULAR DISPLAY

The Angular Display output node allows to route any incoming numeric value to be displayed on an Angular Display.



Node Properties:

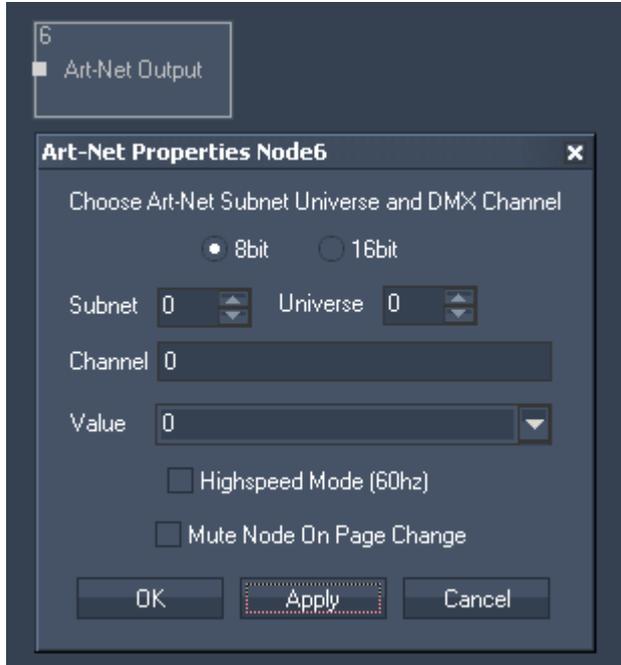
Angular Display:
Please enter the ID of the Angular Display.

Value:
Please choose the input source that should be given out via this Angular Display.

11.3.2.7.2 ART-NET

The Art-Net output node allows to assign incoming source values to multiple 8 or 16bit DMX output Channels on a given ArtNet Subnet and Universe.

simply type in all DMX startaddresses and use a white space inbetween them i.e.:1 2 123



Node Properties:

Tick one of the checkboxes to give out either 8bit or 16 bit DMX values.

ArtNet Subnet, Universe:

Set here the ArtNet Subnet and Universe.

Channel:

Set here the DMX channel. To send Art-Net to multiple channels, use a white space inbetween the channel IDs, e.g. 1 2 509.

Value:

Please choose one of your incoming source values.

Highspeed Mode (60 Hz):

Enable this option to use the HighSpeed Mode that does a refresh rate of 60 Hz (Default is off)

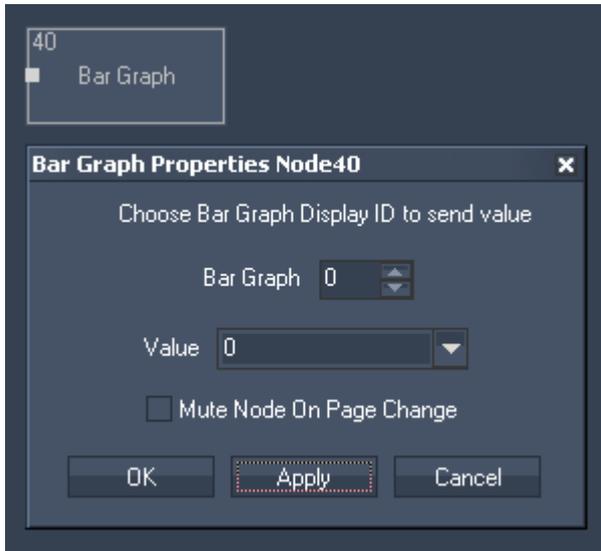
Please note:

The HighSpeed Mode is not supported by GrandMA consoles.

Tick the checkbox to Mute Node on Page Change.

11.3.2.7.3 BAR GRAPH

The Bar Graph output node allows to assign incoming source values to a [Bar Graph](#).



Node Properties:

Bar Graph:

Please enter the ID of the Bar Graph.

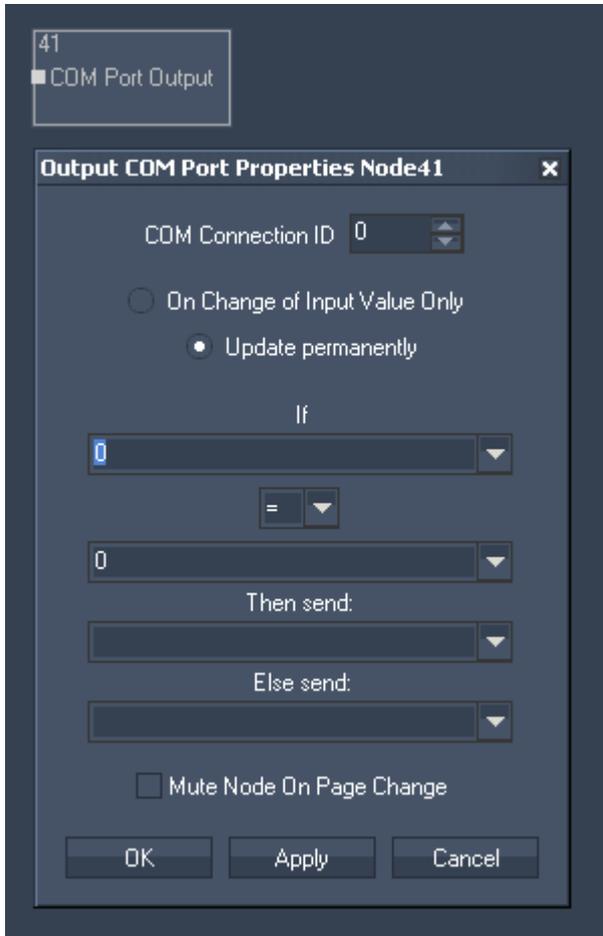
Value:

Please choose the input source that should be given out via this Bar Graph.

Tick the checkbox to Mute Node on Page Change.

11.3.2.7.4 COM PORT MESSAGE

The Com Port Message value acts like an if node, the incoming data can be compared and depending on the true or false result a dedicated ASCII or Byte packet can be sent to the local COM Port. Set up its ID in the [Connection Manager](#).



Node Properties:

COM Connection ID:
Enter the COM Port Connection ID.

Update:
Choose if the output should be updated either "On Change of Input Value Only" or permanently.

If:
Choose the first input node from list or enter numeric value. This input will be compared to the second input.
Choose the Operator.
Choose the second input node from list or enter numeric value.

Then send
If the operation is True, this input node value or entered numeric value will be given out as Output Value.

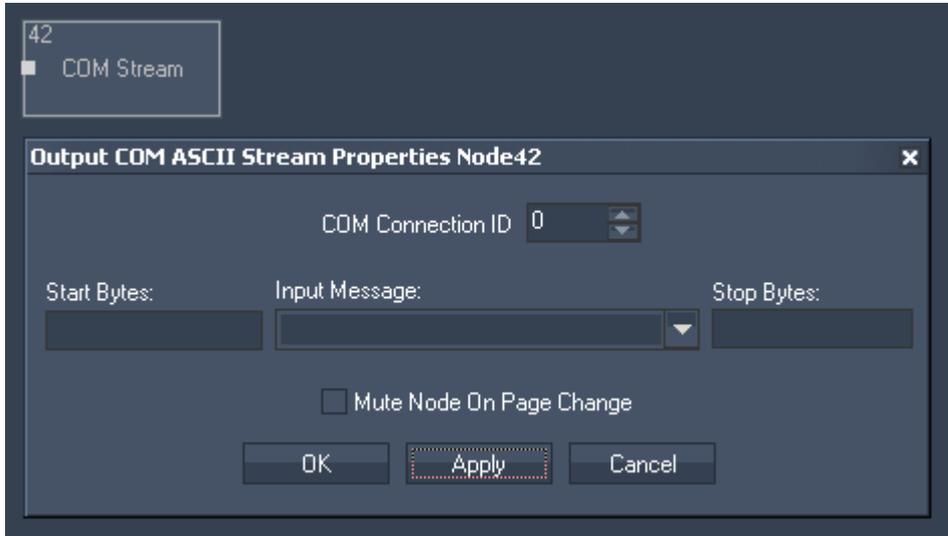
Else send
If the operation is False, this input node value or entered numeric value will be given out as Output Value.

Tick the checkbox to Mute Node on Page Change.

11.3.2.7.5 COM PORT ASCII STREAM

The Com Port ASCII Stream output node allows to send ASCII values over the local COM Port connection.

Set up the COM Port Connection in the [Connection Manager](#).



Node Properties:

COM Connection ID:
Enter the COM Port Connection ID.

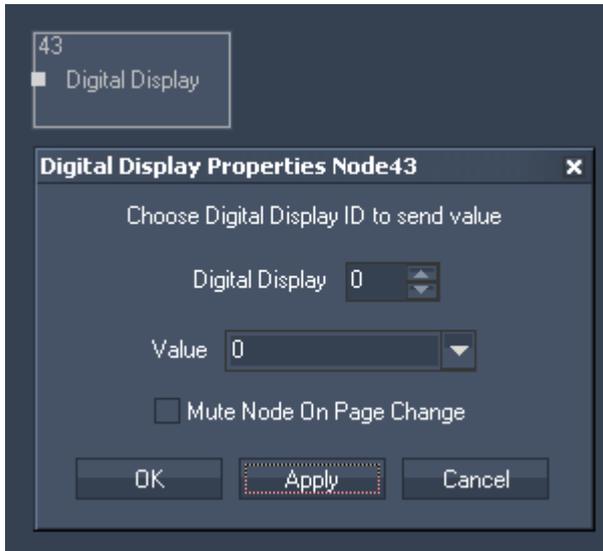
Start and Stop Bytes:
Enter Start and Stop Bytes that should frame the message.
Enter these values as string, dec or hex value. Please refer to [Syntac TCP- / UDP- / Serial messages](#).

Input Message:
Please choose the input source that should be given out via this COM Port Output Node.

Tick the checkbox to Mute Node on Page Change.

11.3.2.7.6 DIGITAL DISPLAY

The Digital Display output node allows to assign incoming source values to a [Digital Display](#).



Node Properties:

Digital Display:

Please enter the ID of the Digital Display.

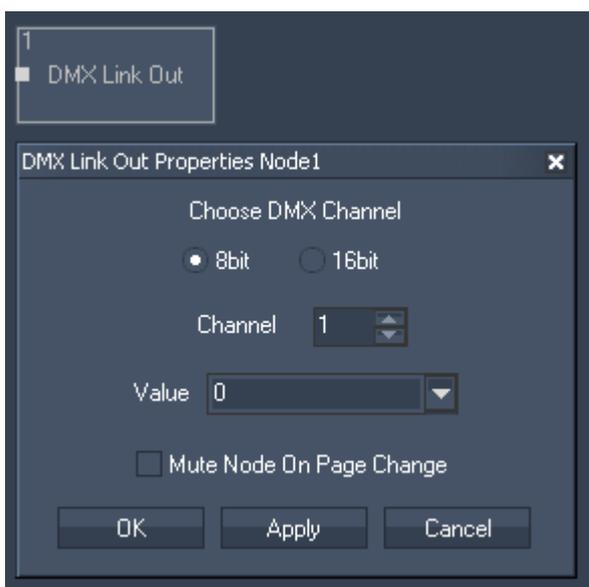
Value:

Please choose the input source that should be given out via this Bar Graph.

Tick the checkbox to Mute Node on Page Change.

11.3.2.7.7 DMX LINK OUT

The DMX Link output node allows to send out DMX data via the coolux DMX Link Out interface (interface is still in development).



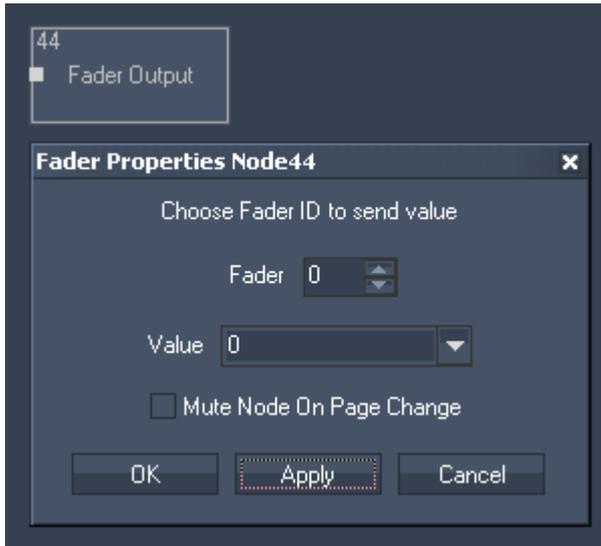
Node Properties:

DMX Channel:
Choose the channel and if it is a 8bit or 16bit value.

Value:
Please choose the input source that should be given out via this DMX Link Output Node.

11.3.2.7.8 FADER

The Fader output value allows to remote control any fader based on it's ID within Widget Designer project.



Node Properties:

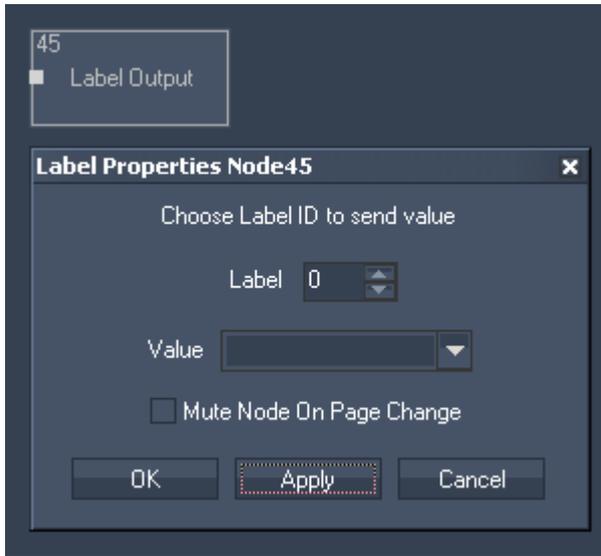
Fader:
Please enter the ID of the Fader.

Value:
Choose the input source that should remote control the fader.

Tick the checkbox to Mute Node on Page Change.

11.3.2.7.9 LABEL

The Label output value allows to display any input value to a label inside the Widget Designer.



Node Properties:

Fader:

Please choose the Label ID.

Value:

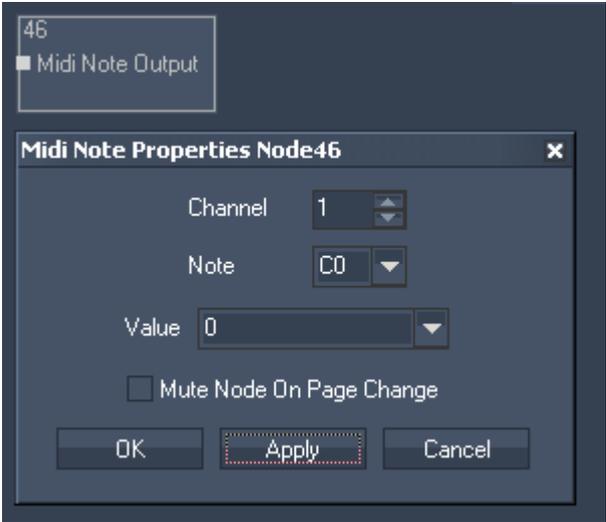
Please choose the input source that should be displayed to the label.

Tick the checkbox to Mute Node on Page Change.

11.3.2.7.10 MIDI NOTE ON/OFF

The Midi Note On/Off node allows to send Midi Note on/off values to a given note on a given Midi Channel.

The Midi connection needs to be enabled in the [Connection Manager](#).



Node Properties:

Channel:
Please choose the Midi Channel.

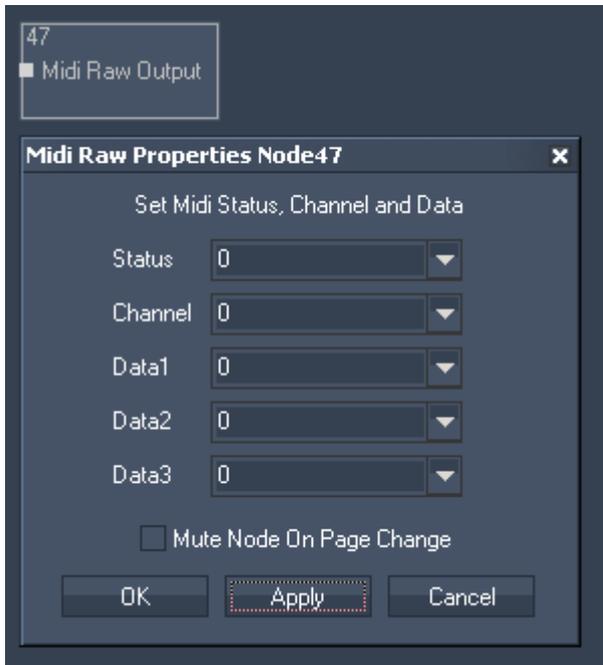
Note:
Please choose the Midi Note.

Value:
Please choose the input source. Its values will be sent as Midi Note on/off values.

Tick the checkbox to Mute Node on Page Change.

11.3.2.7.11 MIDI RAW MESSAGE

The Midi Raw Message node allows to map individual input source values to all 5 midi control bytes. The Midi connection needs to be enabled in the [Connection Manager](#).



Node Properties:

Status:

Choose an input source from the list or enter a numeric value.

Channel:

Choose an input source from the list or enter a numeric value.

Data1:

Choose an input source from the list or enter a numeric value.

Data2:

Choose an input source from the list or enter a numeric value.

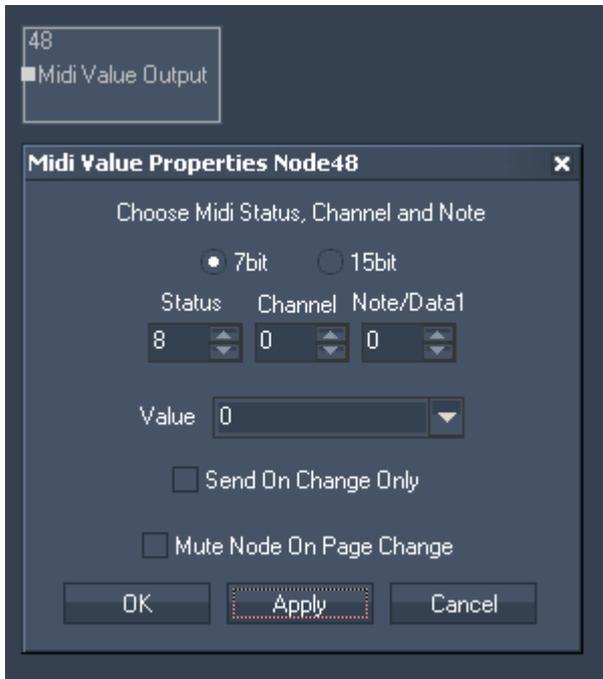
Data3:

Choose an input source from the list or enter a numeric value.

Tick the checkbox to Mute Node on Page Change.

11.3.2.7.12 MIDI VALUE

The Midi Value output node allows to send a 7 or 15bit value on a given Midi Channel.
The Midi connection needs to be enabled in the [Connection Manager](#).



Node Properties:

Please choose if you want to send a 7 or 15bit value.

Status:

Enter the Midi Status.

Channel:

Enter the Midi Channel.

Note/Data1:

Enter the Midi Note / Data1.

Value:

Choose the Input Source from the list to send on this Midi Channel.

Tick the first checkbox to Send on change Only.

Tick the second checkbox to Mute Node on Page Change.

11.3.2.7.13 MOUSE

The Mouse output node allows to remote control the local mouse and map input values to emulate mouse clicks and mouse motion.

New feature from WD Rev 130 on: the Mouse Output Node only moves the mouse when input value has changed.



Node Properties:

Enable the parameter of your local mouse that you want to remote control by ticking its checkbox.

Please note:

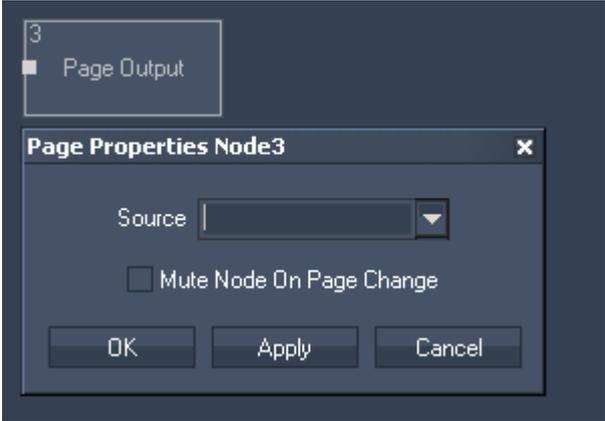
The values for Mouse X and Mouse Y range from 0 to the max. value of your screen resolution. The values for all other parameters have to be either 0 (False) or 1 (True).

Tick the checkbox to Mute Node on Page Change.

11.3.2.7.14 PAGE

The Page output node allows to execute a page change inside WD via an input source.

Please note that the input coming from another node needs to be written exactly like the page name you want to change to (case sensitive)!



Node Properties:

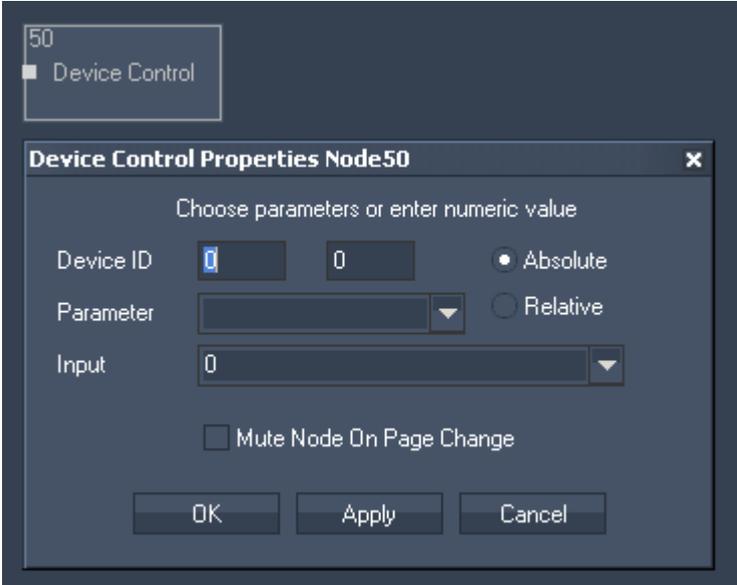
Source:

Choose the input source from the list that should provide the page names.

Tick the checkbox to Mute Node on Page Change.

11.3.2.7.15 PB DEVICE CONTROL

The Device node allows to control any Pandoras Box Device with any parameter name in both, absolute or relative mode.



Node Properties:

Device ID:

Enter the Device ID, eg. 1 in the first text field and 2 in the second text field. This will control Layer 2 of Site 1.

Absolute / Relative:

Choose absolute or relative mode. In absolute mode the PB device will take the input value, in relative mode the input value will be added or subtracted to the PB device parameter's value.

Parameter:
Choose the parameter you want to control from the list.

Input:
Choose the input source from the list that should provide the values.

Tick the checkbox to Mute Node on Page Change.

11.3.2.7.16 PB LAYER CONTROL

The Layer output node allows to map any input or filter data to any layer parameter value.



Node Properties:

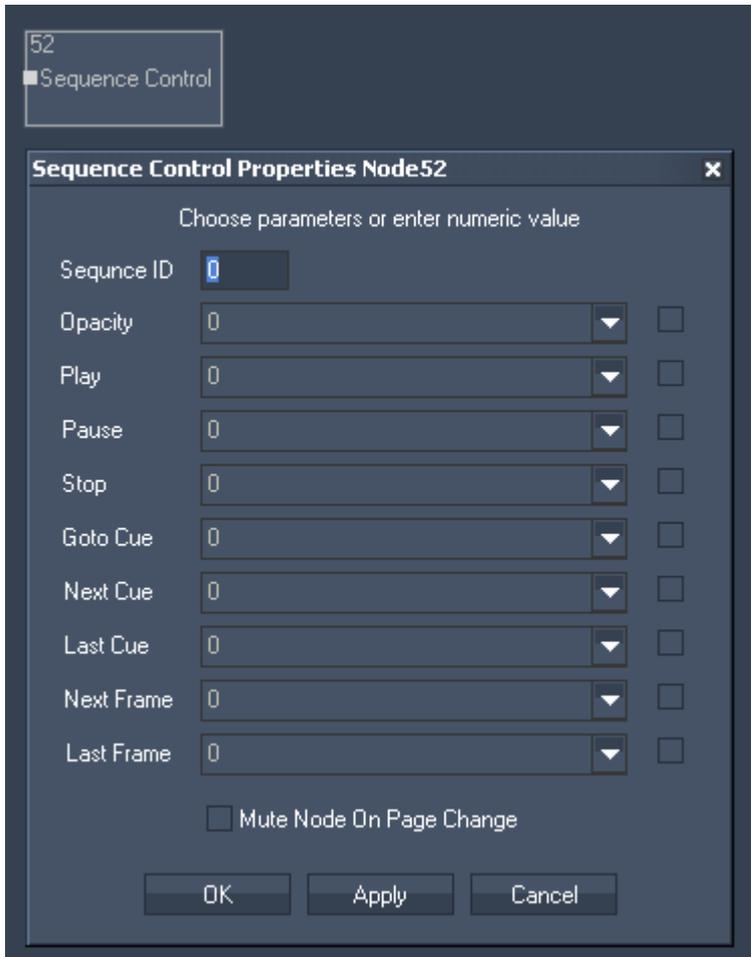
Layer ID:
Enter the Layer ID, eg. 1 in the first text field and 2 in the second text field. This will control Layer 2 of Site 1.

Parameter:
Enable all parameters you want to control by ticking its checkbox. Choose the input source for the parameter from the list.

Tick the checkbox to Mute Node on Page Change.

11.3.2.7.17 PB SEQUENCE CONTROL

The Sequence Control output node allows to map any input or filter data to any sequence parameter value.



Node Properties:

Sequence ID:
Enter the Sequence ID.

Parameter:
Enable all parameters you want to control by ticking its checkbox. Choose the input source for the parameter from the list.

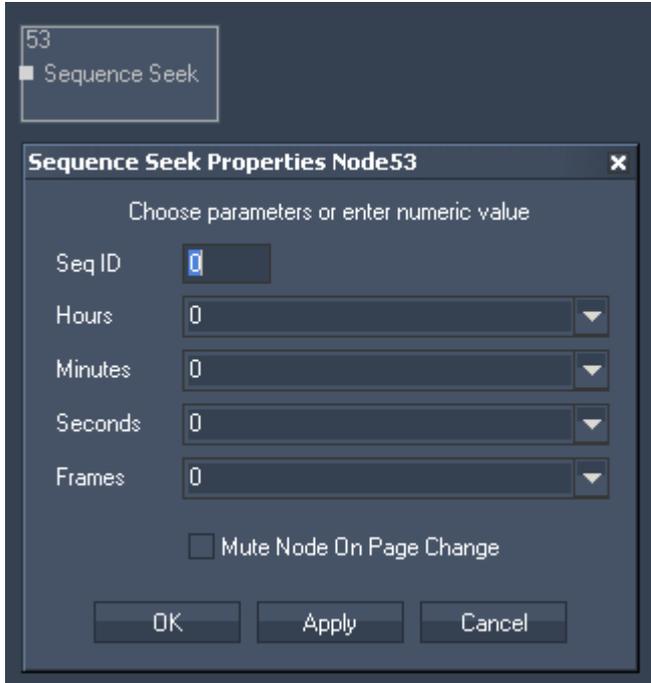
The parameters accept different value ranges:

Opacity	0 to 255
Play, Pause, Stop	0=false, 1=true
GotoCue	Cue ID
Next/Last Cue and Next / Last Frame	0=false, 1=true

Tick the checkbox to Mute Node on Page Change.

11.3.2.7.18 PB SEQUENCE SEEK

The Sequence Seek output node allows to map any input or filter data in order to set any sequence to any timecode.



Node Properties:

Sequence ID:
Enter the Sequence ID.

Hours:
Choose the input source from the list.

Minutes:
Choose the input source from the list.

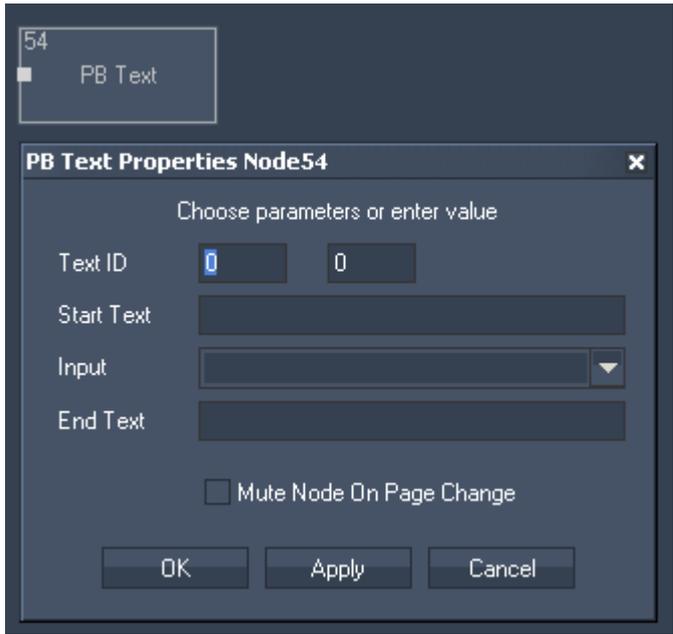
Seconds:
Choose the input source from the list.

Frames:
Choose the input source from the list.

Tick the checkbox to Mute Node on Page Change.

11.3.2.7.19 PB TEXT

The PB Text output node allows to route any input or filter data to a PB Text Asset.



Node Properties:

Text ID:
Enter the Text Asset's DMX File and Folder ID. Set up this Text ID in Pandoras Box.

Start Text:
Enter any text the Text Asset should start with.

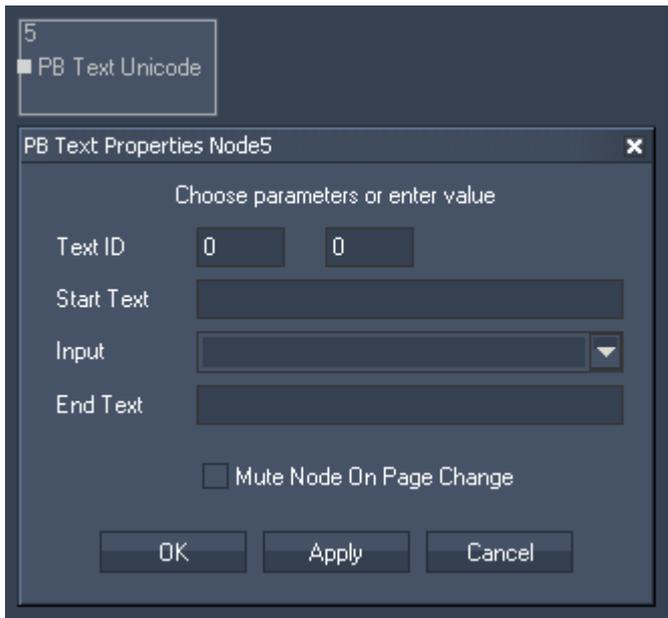
Input:
Choose the input source from the list.

End Text:
Enter any text the Text Asset should end with.

Tick the checkbox to Mute Node on Page Change.

11.3.2.7.20 PB TEXT UNICODE

The PB Text Unicode output node allows to send textstrings in any language format to Pandoras Box text assets.



Node Properties:

Text ID:
Enter the Text Asset's DMX File and Folder ID. Set up this Text ID in Pandoras Box.

Start Text:
Enter any text the Text Asset should start with.

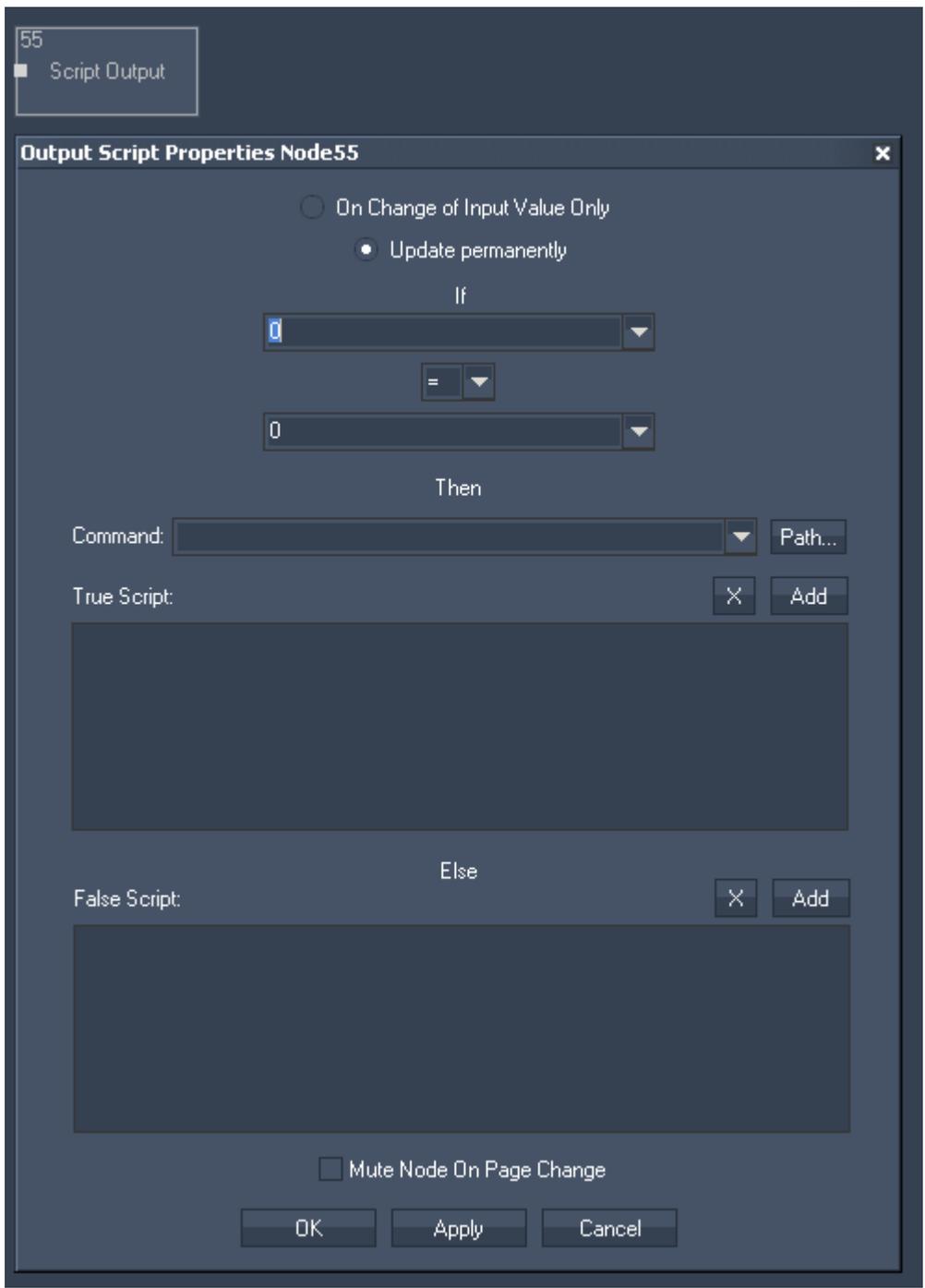
Input:
Choose the input source from the list.

End Text:
Enter any text the Text Asset should end with.

Tick the checkbox to Mute Node on Page Change.

11.3.2.7.21 SCRIPT

The Script output node acts like an if node, the incoming data can be compared and depending on the true or false result a dedicated script can be executed within Widget Designer.



Node Properties:

Update:

Choose if the output should be updated either "On Change of Input Value Only" or permanently. It is recommended for performance reasons to choose "Update on input value change only".

If:

Choose the first input node from list or enter numeric value. This input will be compared to the second input.

Choose the Operator.

Choose the second input node from list or enter numeric value.

Command:

In this script section you may enter any script from the command dropdown list box. Press “Add” to copy the selected script into the True Script or False script textbox. Multiple scripts can be executed by delimiting every script with a carriage return at the end of each script command. To delete a script text box entirely, click on the X button above each script. See here a list of all [scripts](#).

True script

If the operation is True, the True script will be executed.

False script

If the operation is False, the Else script will be executed.

Tick the checkbox to Mute Node on Page Change.

11.3.2.7.22 SERIAL LINK

The Serial Link output node connects to a serial link via the connection managers TCP ID. Incoming values can be compared to send ASCII or Byte packets to any of the four serial ports of the connected Serial Link. All 24 GPI contact closures can be mapped and assigned to input values as well 0 is off, 1 is contact closed.



Node Properties:

TCP Connection ID:
 Enter the TCP Connection ID. The TCP Connections can be found and setup in the [Connection Manager](#).

Update:
 Choose if the output should be updated either "On Change of Input Value Only" or permanently. It is recommended for performance reasons to choose "Update on input value change only".

If:

Choose the first input node from list or enter numeric value. This input will be compared to the second input.

Choose the Operator.

Choose the second input node from list or enter numeric value.

Then send:

If the operation is True, the True script will be executed. You have the possibility to assign a different true send command for each Serial Link port.

Else send:

If the operation is False, the Else script will be executed. You have the possibility to assign a different else send command for each Serial Link port.

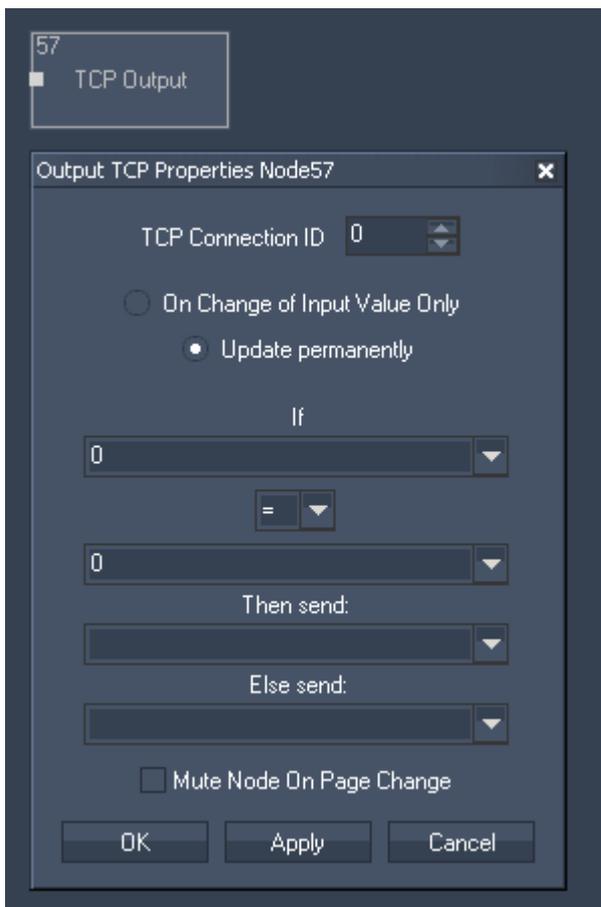
GPI Outputs:

All 24 GPI contact closures can be mapped and assigned to input values as well 0 is off, 1 is contact closed.

Tick the checkbox to Mute Node on Page Change.

11.3.2.7.23 TCP MESSAGE

The TCP Message value acts like an if node. The incoming data can be compared and depending on the true or false result a dedicated ASCII or Byte packet can be sent to the TCP connection setup by the its ID in the [Connection Manager](#).



Node Properties:

TCP Connection ID:
Enter the TCP Connection ID.

Update:
Choose if the output should be updated either "On Change of Input Value Only" or permanently.

If:
Choose the first input node from list or enter numeric value. This input will be compared to the second input.
Choose the Operator.
Choose the second input node from list or enter numeric value.

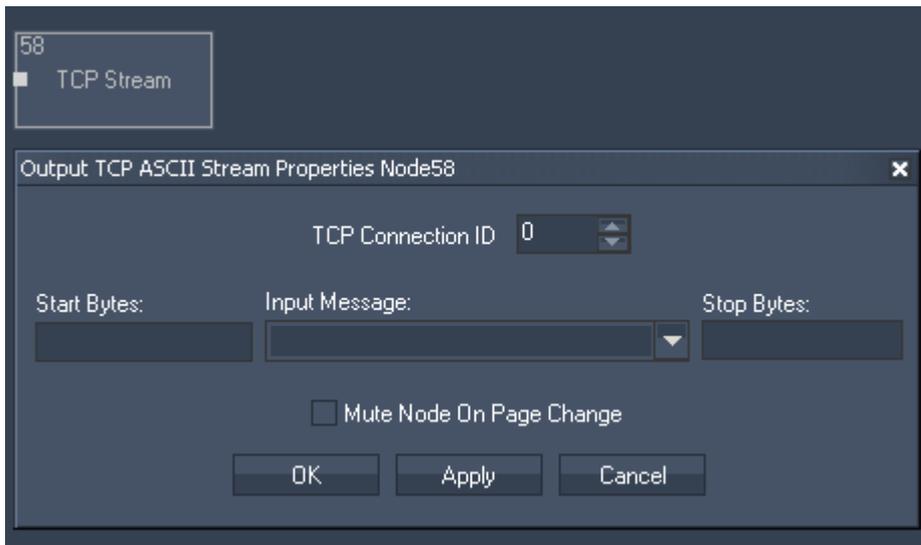
Then send
If the operation is True, this input node value or entered numeric value will be given out as Output Value.

Else send
If the operation is False, this input node value or entered numeric value will be given out as Output Value.

Tick the checkbox to Mute Node on Page Change.

11.3.2.7.24 TCP ASCII STREAM

The TCP ASCII Stream output node allows to send ASCII values over a TCP connection.
Set up the TCP Connection in the [Connection Manager](#).



Node Properties:

TCP Connection ID:
Enter the TCP Connection ID.

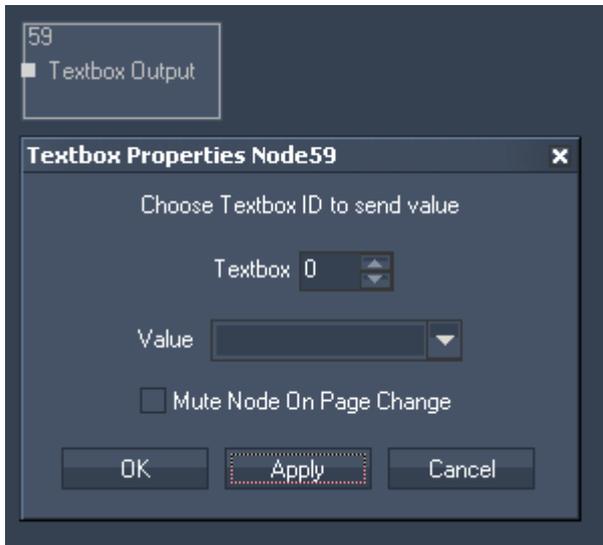
Start and Stop Bytes:
Enter Start and Stop Bytes that should frame the message.
Enter these values as string, dec or hex value. Please refer to [Syntac TCP- / UDP- / Serial messages](#).

Input Message:
Please choose the input source that should be given out via this TCP Output Node.

Tick the checkbox to Mute Node on Page Change.

11.3.2.7.25 TEXTBOX

The Textbox output node allows to send incoming texts to a textbox within Widget Designer.



Node Properties:

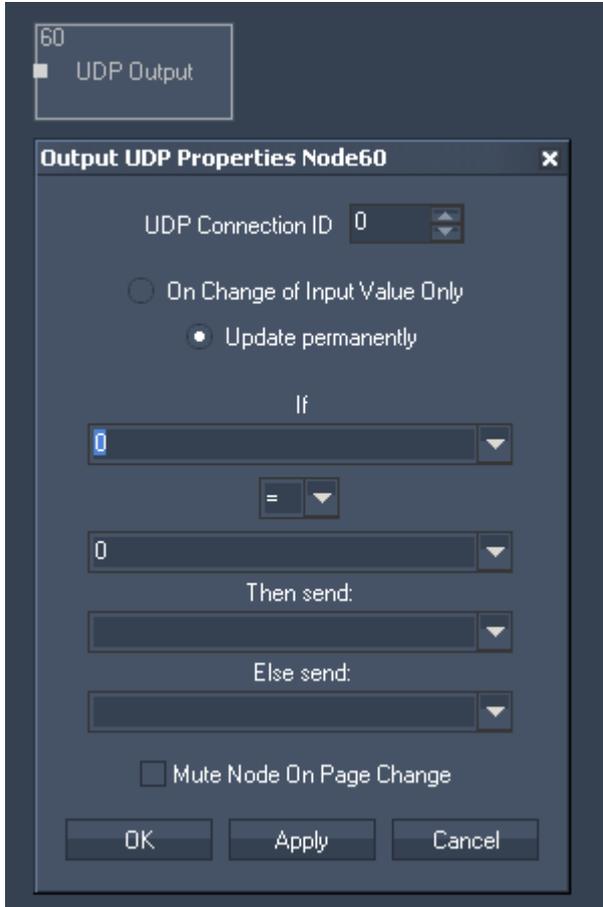
Textbox ID:
Enter the Textbox ID the values should be sent to.

Value:
Please choose the input source.

Tick the checkbox to Mute Node on Page Change.

11.3.2.7.26 UDP MESSAGE

The UDP Message value acts like an if node. The incoming data can be compared and depending on the true or false result a dedicated ASCII or Byte packet can be sent to the UDP connection setup by the its ID in the [Connection Manager](#).



Node Properties:

UDP Connection ID:

Enter the UDP Connection ID.

Update:

Choose if the output should be updated either "On Change of Input Value Only" or permanently.

If:

Choose the first input node from list or enter numeric value. This input will be compared to the second input.

Choose the Operator.

Choose the second input node from list or enter numeric value.

Then send

If the operation is True, this input node value or entered numeric value will be given out as Output Value.

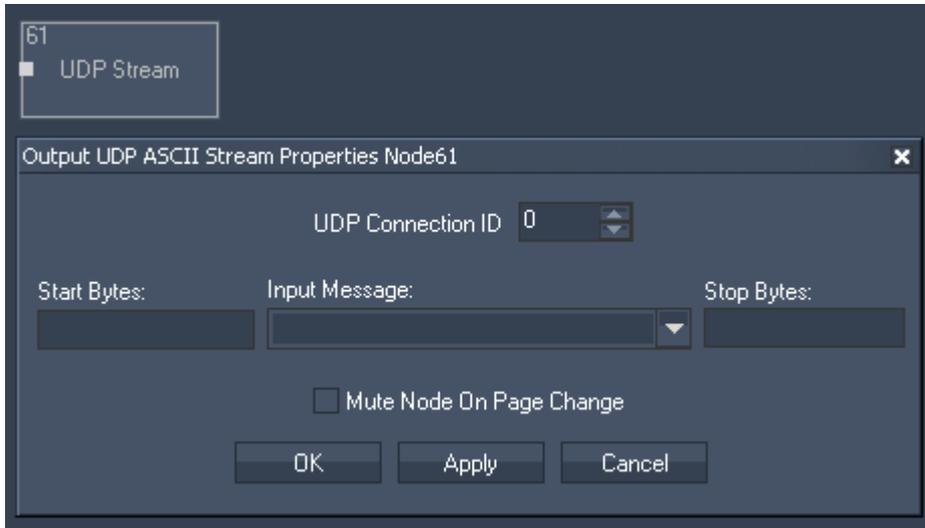
Else send

If the operation is False, this input node value or entered numeric value will be given out as Output Value.

Tick the checkbox to Mute Node on Page Change.

11.3.2.7.27 UDP ASCII STREAM

The UDP ASCII Stream output node allows to send ASCII values over an UDP connection. Set up the UDP Connection in the [Connection Manager](#).



Node Properties:

TCP Connection ID:
Enter the UDP Connection ID.

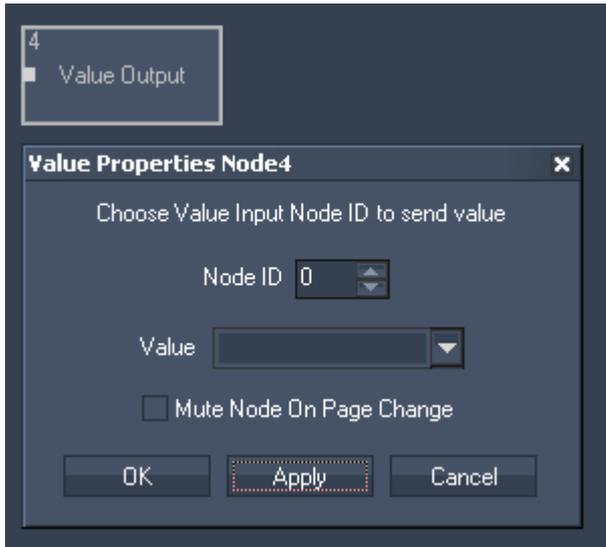
Start and Stop Bytes:
Enter Start and Stop Bytes that should frame the message.
Enter these values as string, dec or hex value. Please refer to [Syntac TCP- / UDP- / Serial messages](#).

Input Message:
Please choose the input source that should be given out via this UDP Output Node.

Tick the checkbox to Mute Node on Page Change.

11.3.2.7.28 VALUE

The Value output node allows to easily change the value of a [Value input node](#).



Node Properties:

Node ID:

Enter the ID of the Value Input Node whose value you want to change.

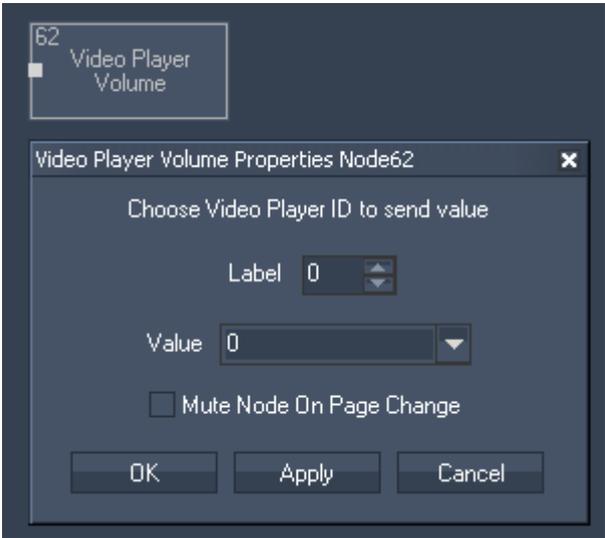
Value:

Choose the input source that should be routed to the specified Value Input Node.

Tick the checkbox to Mute Node on Page Change.

11.3.2.7.29 VIDEO PLAYER VOLUME

The Video Player Volume output node allows to control the Volume of the Video Player integrated within Widget Designer.



Node Properties:

Video Player ID:
Enter Video Player ID.

Value:
Choose the input source that should remote control the Video Player Volume.

Tick the checkbox to Mute Node on Page Change.

11.3.2.8 SCRIPT NODES

[COM SCRIPT](#)

The COM script node allows to receive either ASCII or Byte values over a local COM port connection. Any input data can be linked to directly execute dedicated scripts.

[TCP SCRIPT](#)

The TCP script node allows to receive either ASCII or Byte values over a local TCP connection. Any input data can be linked to directly execute dedicated scripts.

[UDP SCRIPT](#)

The UDP script node allows to receive either ASCII or Byte values over a local UDP connection. Any input data can be linked to directly execute dedicated scripts.

[PHIDGET IR SCRIPT](#)

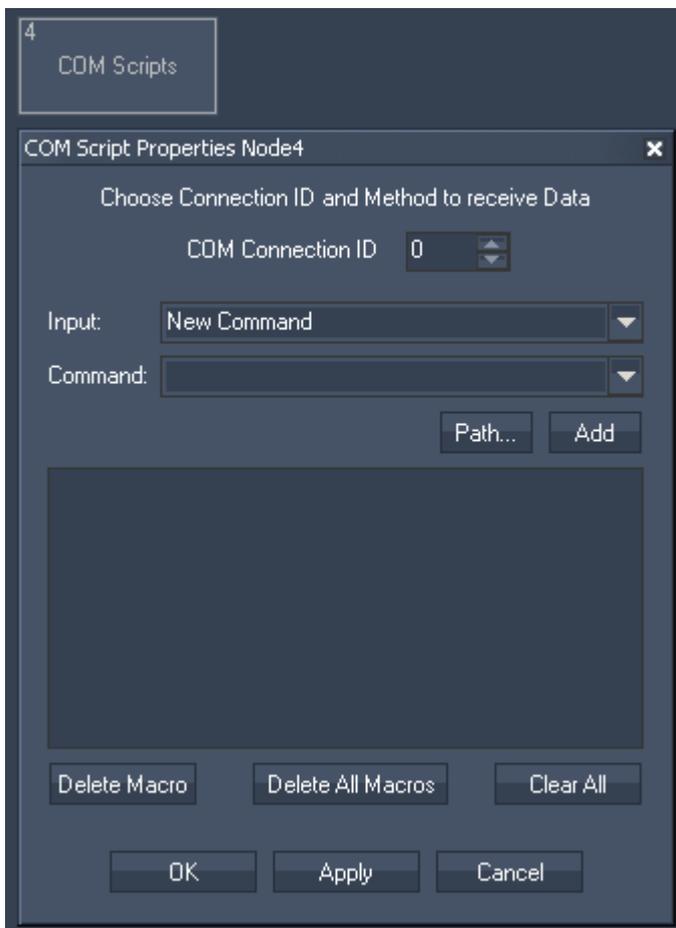
The Phidget IR script node allows to link scripts to incoming IR Codes.

[PHIDGET RFID SCRIPT](#)

The Phidget RFID script node allows to link scripts to incoming RFID Codes.

11.3.2.8.1 COM SCRIPTS

The COM script node allows to receive either ASCII, decimal or hexadecimal values over a local COM port connection. Any input data can be linked to directly execute dedicated macro scripts within WD. The COM Port connection needs to be enabled in the [Connection Manager](#).



Node Properties:**COM Connection ID:**

Enter the ID of the [COM Port Connection](#).

Input:

Please enter the string of the incoming data for which you want a command to be executed.
Enter the value in ASCII, hexadecimal, decimal or mixed.

Example:

Use [d13] to enter one or multiple decimal values.

Use [h0D] to enter one or multiple hexadecimal values.

Use [CR] to enter ASCII symbols.

Mixed values are also possible:

[d13 h0D CR]Example String[CR].

Command:

Please choose the command from the list, that should be linked with this incoming data.

You may enter any [script](#) from the command dropdown list box. Press "Add" to copy the selected script from the list box into the dedicated script textbox.

Multiple scripts can be executed by delimiting every script with a carriage return at the end of each script command. See here a list of all [scripts](#).

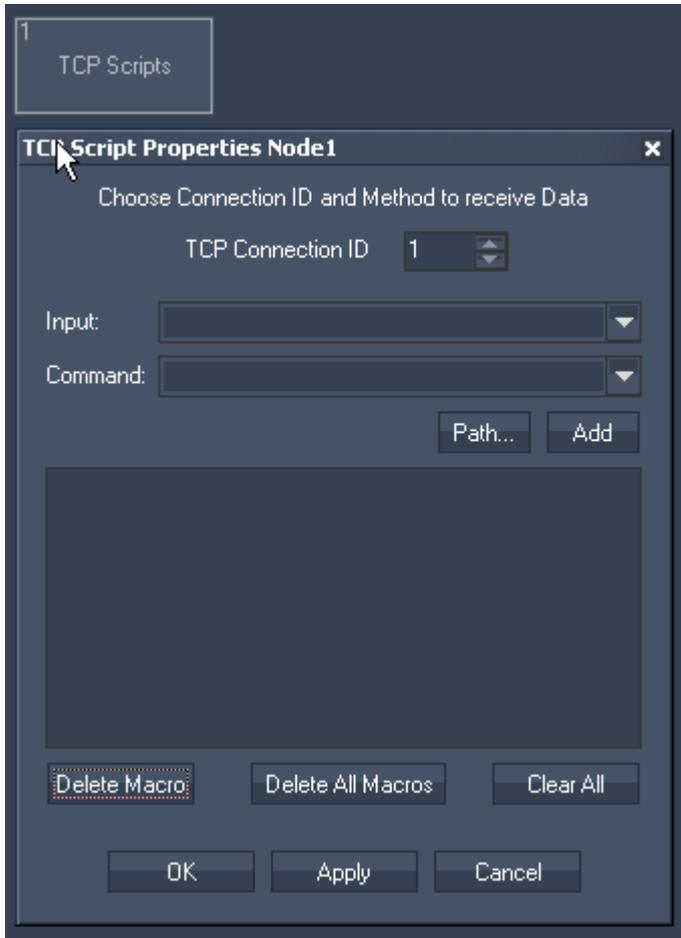
Use [Delete Macro] to delete the selected macro script.

Use [Delete All] to delete all macro scripts.

Use [Clear All] to clear the script textbox of the selected macro.

11.3.2.8.2 TCP SCRIPTS

The TCP script node allows to receive either ASCII, decimal or hexadecimal values over a local TCP connection. Any input data can be linked to directly execute dedicated macro scripts within WD. The TCP connection needs to be enabled in the [Connection Manager](#).



Node Properties:

TCP Connection ID:

Enter the ID of the [TCP Port connection](#).

Input:

Please enter the string of the incoming data for which you want a command to be executed. Enter the value in ASCII, hexadecimal, decimal or mixed.

Example:

- Use [d13] to enter one or multiple decimal values.
- Use [h0D] to enter one or multiple hexadecimal values.
- Use [CR] to enter ASCII symbols.

Mixed values are also possible:

[d13 h0D CR]Example String[CR].

Command:

Please choose the command from the list, that should be linked with this incoming data.

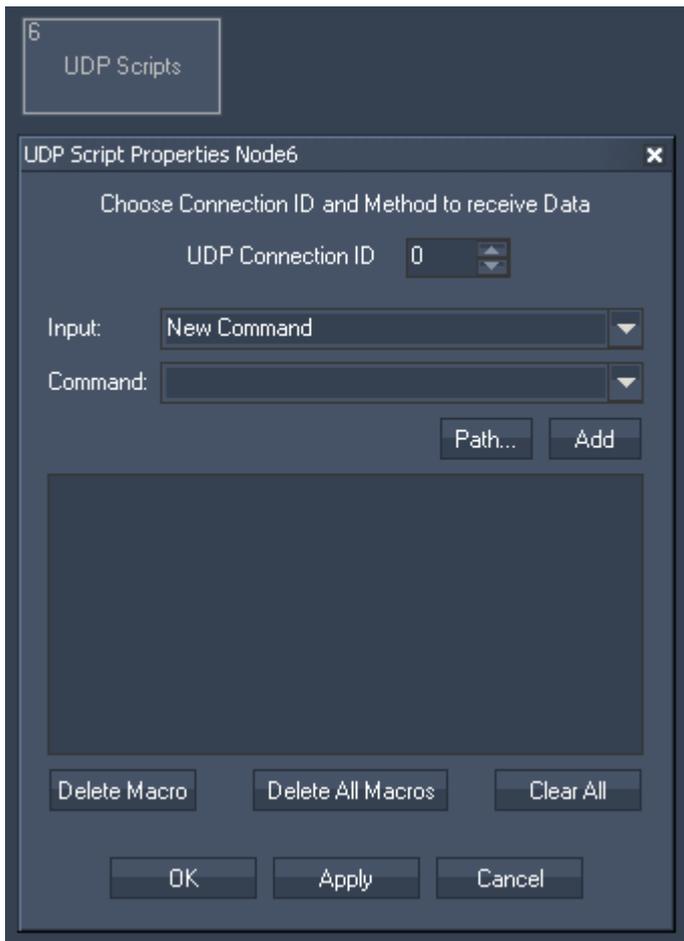
You may enter any [script](#) from the command dropdown list box. Press “Add” to copy the selected script from the list box into the dedicated script textbox.

Multiple scripts can be executed by delimiting every script with a carriage return at the end of each script command. See here a list of all [scripts](#).

- Use [Delete Macro] to delete the selected macro script.
- Use [Delete All] to delete all macro scripts.
- Use [Clear All] to clear the script textbox of the selected macro.

11.3.2.8.3 UDP SCRIPTS

The UDP script node allows to receive either ASCII, decimal or hexadecimal values over a local UDP connection. Any input data can be linked to directly execute dedicated macro scripts within WD. The UDP connection needs to be enabled in the [Connection Manager](#)



Node Properties:

UDP Connection ID:
Enter the ID of the [UDP Port connection](#).

Input:
Please enter the string of the incoming data for which you want a command to be executed.
Enter the value in ASCII, hexadecimal, decimal or mixed.

Example:
Use [d13] to enter one or multiple decimal values.
Use [h0D] to enter one or multiple hexadecimal values.
Use [CR] to enter ASCII symbols.

Mixed values are also possible:

[d13 h0D CR]Example String[CR].

Command:

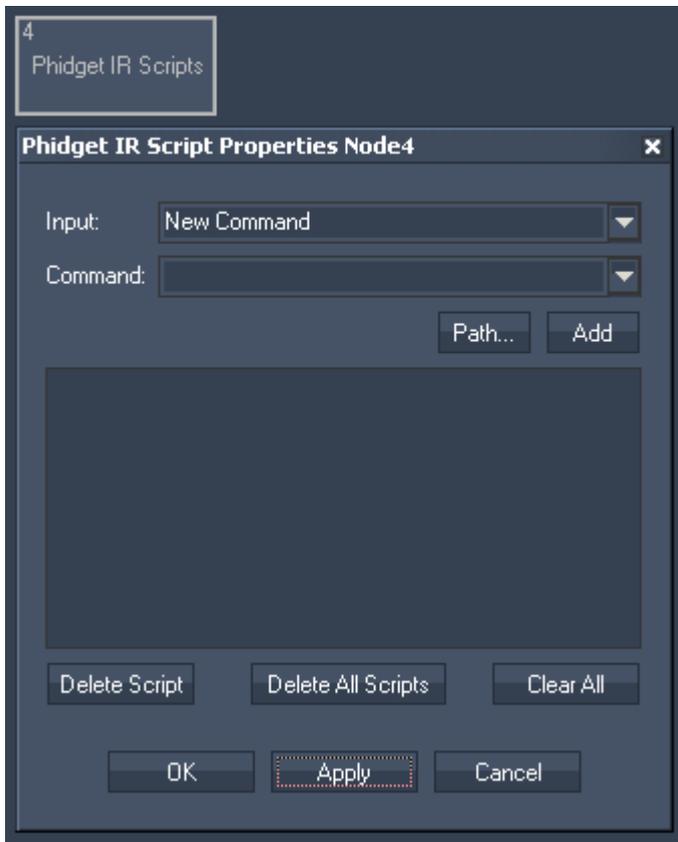
Please choose the command from the list, that should be linked with this incoming data.

You may enter any [script](#) from the command dropdown list box. Press “Add” to copy the selected script from the list box into the dedicated script textbox.
Multiple scripts can be executed by delimiting every script with a carriage return at the end of each script command. See here a list of all [scripts](#).

- Use [Delete Macro] to delete the selected macro script.
- Use [Delete All] to delete all macro scripts.
- Use [Clear All] to clear the script textbox of the selected macro.

11.3.2.8.4 PHIDGET IR SCRIPTS

The Phidget IR script node allows to link scripts to incoming IR Codes.
Please set up the [Phidget IR Receiver Transmitter Tool](#) first in order to enable the IR controller.



Node Properties:

Input:

Please enter the incoming data string you want a command to be executed.

Command:

Please choose the command from the list, that should be linked with this incoming data.

You may enter any [script](#) from the command dropdown list box. Press “Add” to copy the selected script from the list box into the dedicated script textbox.
Multiple scripts can be executed by delimiting every script with a carriage return at the end of each script command. See here a list of all [scripts](#).

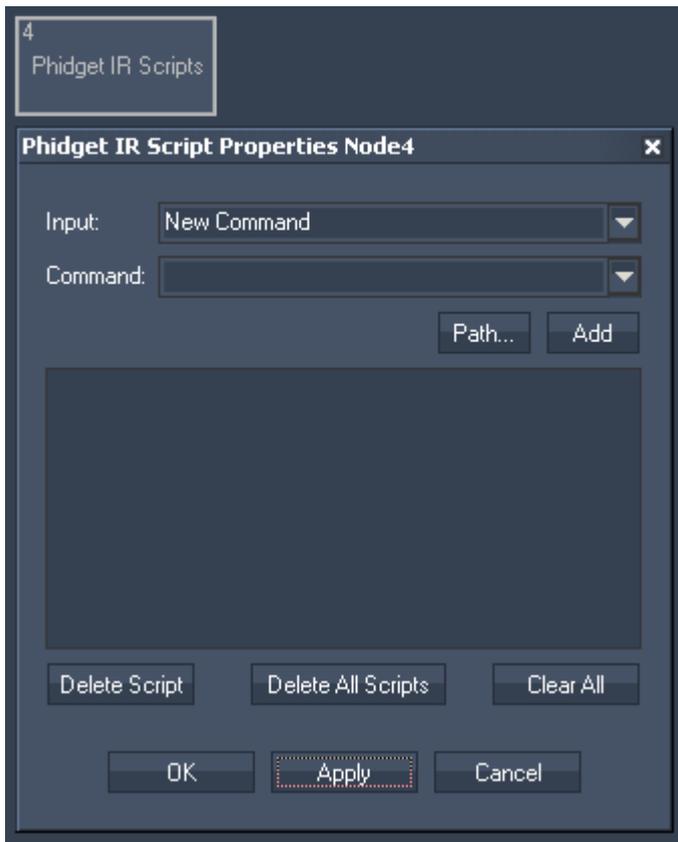
Use [Delete Script] to delete the selected macro script.
 Use [Delete All Scripts] to delete all macro scripts.
 Use [Clear All] to clear the script textbox of the selected macro.

11.3.2.8.5 PHIDGET RFID SCRIPTS

The Phidget RFID script node allows to link scripts to incoming RFID Codes.
 Please set up the [Phidget RFID Tool](#) first in order to enable the RFID controller.

Please note:

It is possible that the Phidgets RFID do work only under Win7.
 App hang has occurred on XP when a RFID Tool and RFID Script Node Property Window is open at the same time



Node Properties:

Input:

Please enter the incoming data string you want a command to be executed.

Command:

Please choose the command from the list, that should be linked with this incoming data.

You may enter any [script](#) from the command dropdown list box. Press “Add” to copy the selected script from the list box into the dedicated script textbox.
 Multiple scripts can be executed by delimiting every script with a carriage return at the end of each script command. See here a list of all [scripts](#).

Use [Delete Script] to delete the selected macro script.
 Use [Delete All Scripts] to delete all macro scripts.
 Use [Clear All] to clear the script textbox of the selected macro.

11.3.3 BUTTONS

Choose between various kind of buttons:

[Full Size, Half Size and Quarter Size Buttons:](#)

The Button Control can be created with 3 default sizes full, half and quarter to directly control Pandoras Box layers or sequences as well as Widget Designer page changes.

[Custom Script Buttons:](#)

The Custom Script Button control is the most flexible button control. With this control you can set up any button style and any clickable user interaction. Over 150 scripts are available to remote control all important Pandoras Box features as well as Widget Designer interface elements and much more.

[Script Timer](#)

The Script Timer control lets you execute scripts after a certain amount of time. This can be done once or continuously.

[Media Control](#)

The Media Panel control is designed to create thumbnail button tables based on the thumbnail downloads of the CITP feature of Pandoras Box.

[Cue Control](#)

The Cue Control is designed to easily get access over the sequence control of Pandoras Box.

[Image Loader](#)

The Image Loader control is designed to easily exchange an image file that is added to the Pandoras Box project with any other image file.

[Video Snapshot](#)

The Video Snapshot control is designed to easily exchange an image file within a Pandoras Box project by a Video Snapshot from your attached Video Input.

[Art-Net Snapshot](#)

The Art-Net Snapshot button is designed to record a full Art-Net DMX universe state, with the ability to record from Universe A and output to Universe B.

[Art-Net Recorder](#)

The Art-Net Recorder button is designed to record a full Art-Net DMX universe over a certain time, with the ability to record from Universe A and output to Universe B.

[Scroller Horizontal / Vertical](#)

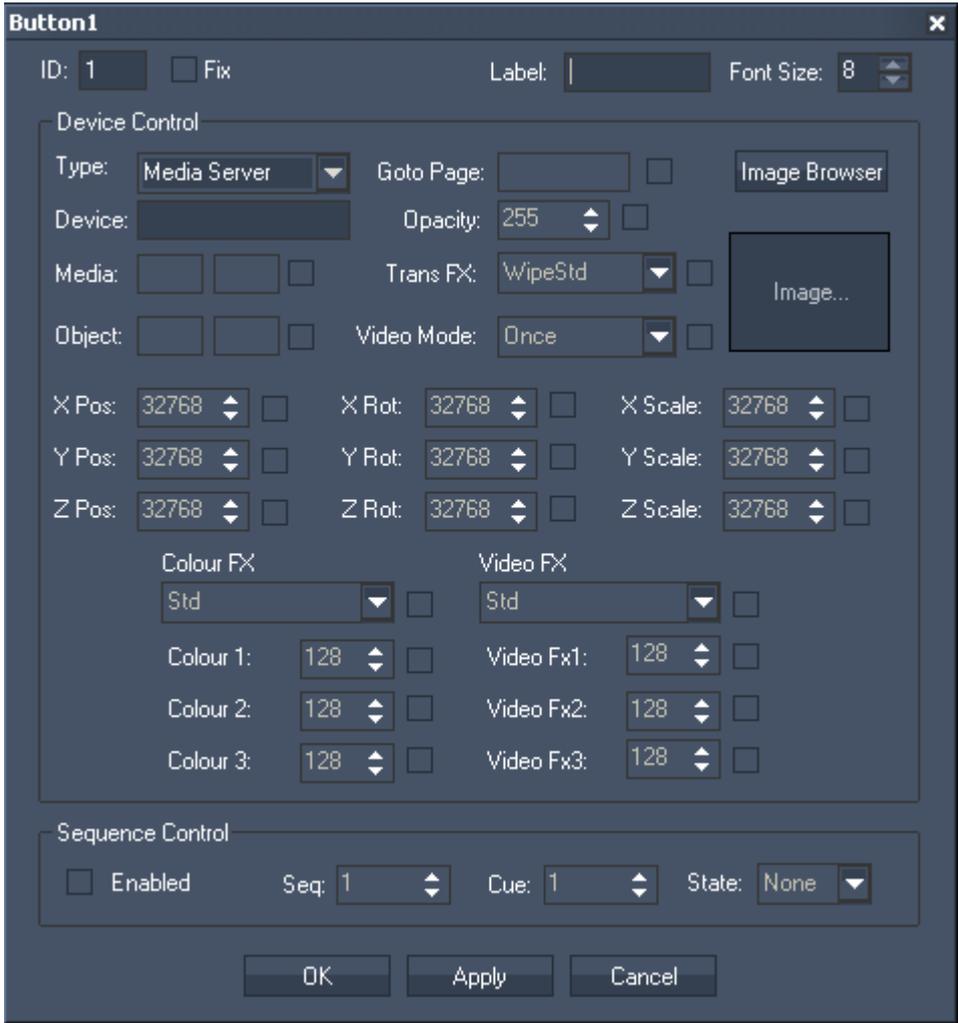
[FlipSwitch Horizontal / Vertical](#)

11.3.3.1 FULL, HALF AND QUARTER SIZE BUTTONS

The Button Control can be created with 3 default sizes full, half and quarter to directly control Pandoras Box layers or sequences as well as Widget Designer page changes.



To edit the button parameters simply right-click on the desired button control and choose the menu entry "Item Properties" or double-click on it when being in Create / Move Mode ([ALT+M]). The Button Property Dialog opens up.



ID:
The Button's ID may be changed by entering a new one in the textfield top left.

Fix:
When the option "Fix" is checked, the Label will be displayed on every page.

Label:
To change and set a particular text to be displayed on the button, enter the new text in the label text field.

Font Size:
The font size can be changed as well.

Device Control

In the Device Control section you may choose between Pandoras Box Server and Player. This setting will load the particular FX lists into the FX dropdown lists.

To control one or multiple devices, enter the site and device ID into the device text field. For example Server1 Layer1 and Server2 Layer1 enter "1.1 2.1"

All parameter settings come with a checkbox to determine if this parameter should be affected by this button control or not. To activate and set a parameter value, please make sure that the according checkbox is checked as well.

To change to a specific page within WD simply check the checkbox next to the "Goto Page" text field and enter the page name as it being labeled and displayed in the main context menu.

By clicking on the image field the [CITP thumbnail browser](#) will open. This feature, available from Pandoras Box version 4.5 on, helps to directly access and select the media that was downloaded to Widget Designer.

Please note: If no media is shown in the thumbnail browser, please go to the IP configuration first and download all indexed media from the connected Pandoras Box Master System. Please also make sure that your media is being indexed with Folder and File ID's.

Once a media is chosen through the thumbnail browser, the media ID will automatically be assigned to the media text fields. Once you click "OK" or "Apply", the thumbnail will displayed on your button control as well.

If you wish to choose a different image or icon from your local hard disc for the button, click on the image browser to select and assign any jpeg, png or bitmap file. When choosing custom images from your hard drive, be aware that large scale images may affect your Widget Designer's performance. The best practice is to choose images according to the button's size.

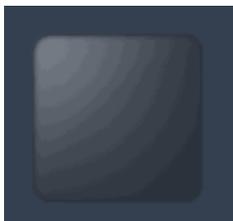
Sequence Control

In the Sequence Control Section you can set up one sequence to be controlled as well. Make sure to enable this control in order to send the commands to Pandoras Box.

If you wish to control only the transport modes Play, Pause and Stop without any cues you may choose Cue 0 or any non existing cue of the selected Pandoras Box sequence.

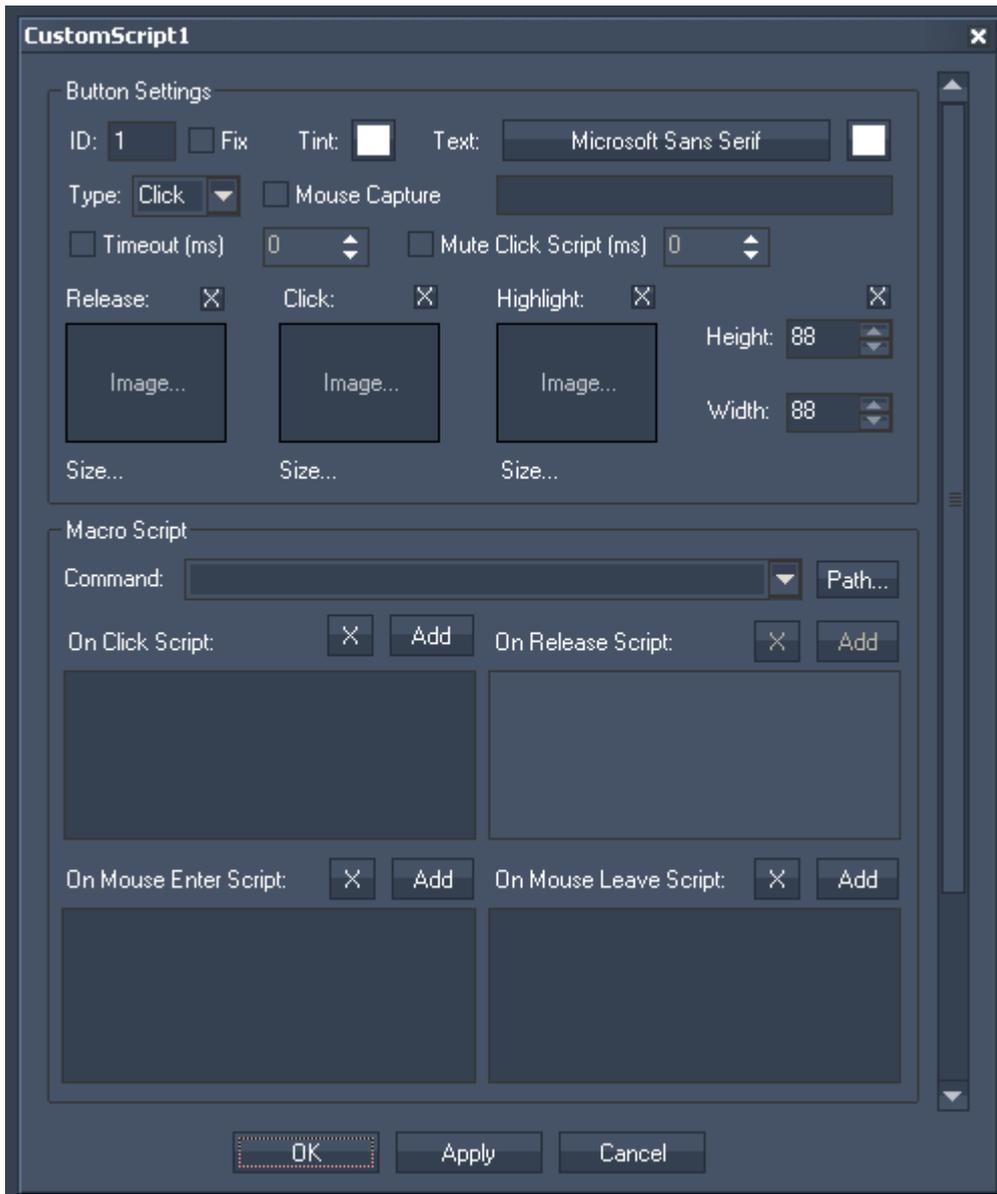
11.3.3.2 CUSTOM SCRIPT BUTTON

The Custom Script Button control is the most flexible button control. With this control you can set up any button style and any clickable user interaction. Over 150 scripts are available to remote control all important Pandoras Box features as well as Widget Designer interface elements and much more.



To edit the Custom Script Button parameters simply right-click on the desired Custom Script Button control and choose the menu entry "Item Properties", press [ALT+P] whilst the mouse is hovering above it or double-click on it when being in Create / Move Mode ([ALT+M]).

The Custom Script Button property dialog opens up.



The property dialog is divided into three sections: the Button Settings, the Macro Scripts and (when you scroll down) Network Broadcasting.

Button Settings

ID:

In the Button Settings the Button's ID may be changed by entering a new one.

Fix:

When the option "fix" is checked, the CS Button will be available from every page.

Tint:

Custom Script Buttons can be coloured by selecting a tint colour, this applies only to the default button images.

Type:

You may set the button type to be Click, Flash or Toggle.

Mouse Capture:

Custom Script Buttons allow to capture a mouse left click even when WD GUI is in the background, as

well as Mouse Enter and Mouse Leave events. This is useful when WD is used on the same machine as Pandoras Box Players or Servers.

Timeout (ms):

The timeout setting can be used to call the click script after a given timeout. The timeout is always restarted upon mouse enter on the control.

This feature is particularly useful for AirScan or touch applications where the user can only position the mouse but not cause a click with the input device.

Mute Click Script:

Set a specific time in milliseconds for a Custom Script click script to be muted (not executed).

This protects a Custom Script button from accidental double clicks.

The button's text can be set as well as its font and colour.

Three images can be assigned to the different states of the button.

“Release” refers to no click or not toggled.

“Click” is on press or toggled.

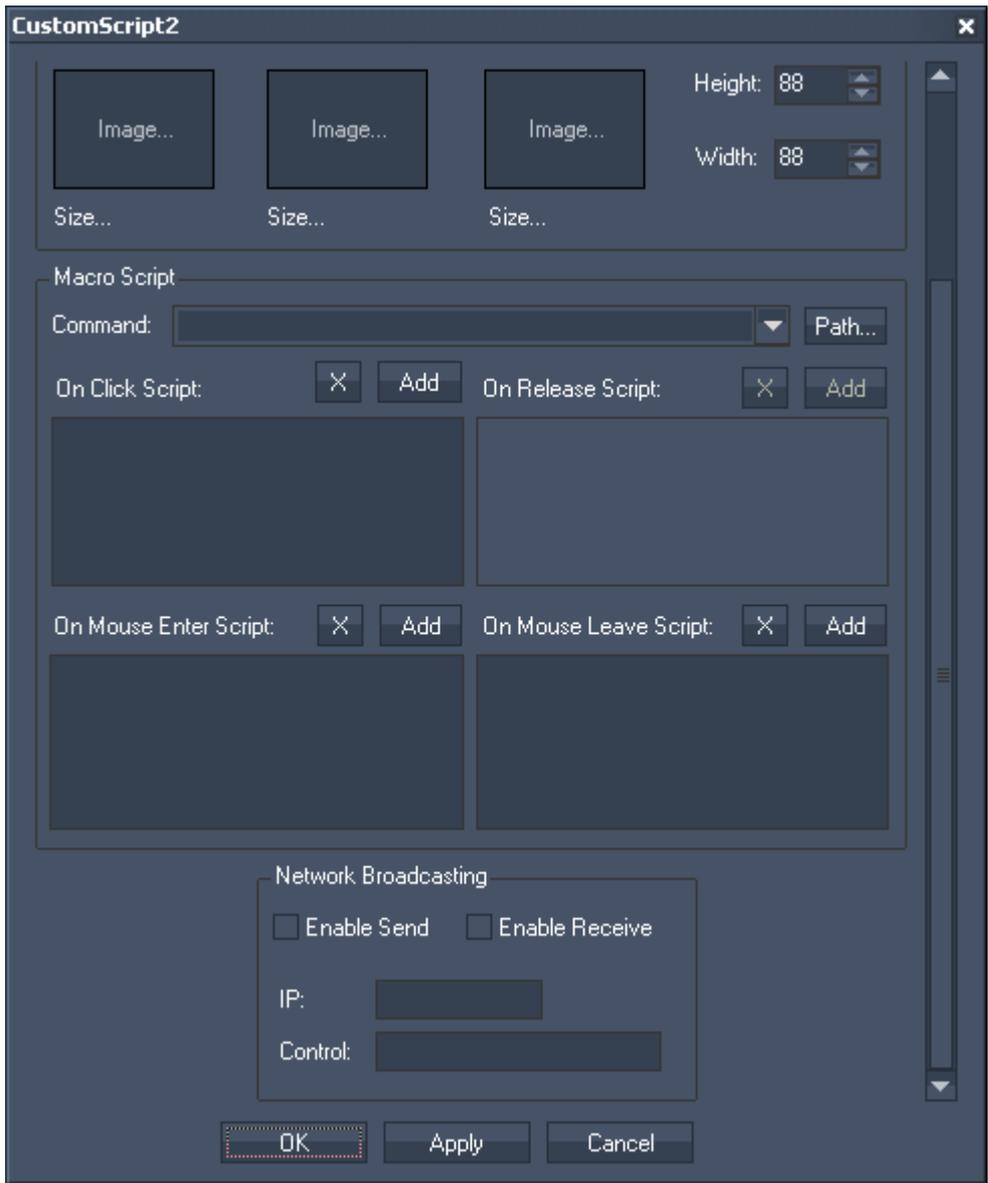
“Highlight” can be used to draw a png with alpha over either the click or release image.

Scripts

In the Macro Script section you may enter any script from the command dropdown list box. Press “Add” to copy the selected script from the list box into the dedicated script textbox. Multiple scripts can be executed by delimiting every script with a carriage return at the end of each script command. To delete a script text box entirely, click on the X button above each script.

See here a list of all [scripts](#).

Network Broadcasting



The NBS (Network Broadcast Service) allows to transmit and update Faders, Labels and CustomScript Buttons across multiple WD Designers instances on the network. To activate this service, please refer to the [IP Configuration!](#)

Sending values:

To send the CustomScript Buttons state (clicked or released) as broadcast into the network, you only have to check "Enable Send".

Receiving values:

To receive values from other customscript buttons, please check "Enable Receive".

Now you have to specify which item should update your CustomScript Button:
 Enter the IP address of the computer you want to listen to. This could be the local computer (to control the CustomScript Button through another CustomScript Button on the same Widget Designer) or a different computer in the network. If you do not want to specify the computer but want to listen to all computers in the network, enter "255.255.255.255".
 As next step specify the CustomScript Button you want to take the status from. This could be eg "CustomScript1" or " CustomScript2").

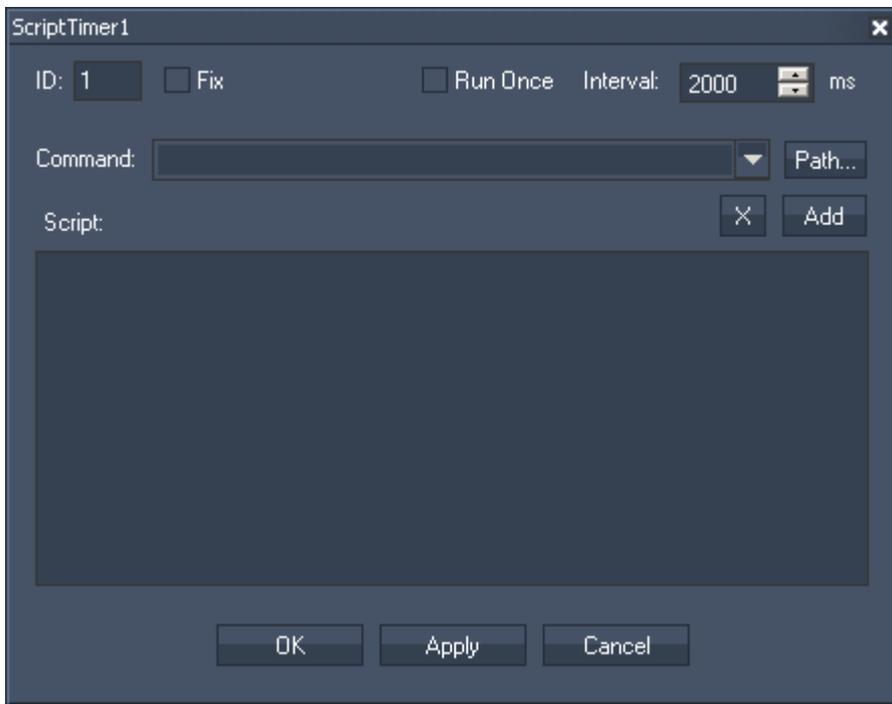
11.3.3.3 SCRIPT TIMER

The Script Timer control lets you execute scripts after a certain amount of time. This can be done once or continuously.



By the first click on the Sript Timer it will be started. A second click on it stopps it again.

To edit the Script Timer's parameters simply right-click on the desired Script Timer control and choose the menu entry "Item Properties", press [ALT+P] whilst the mouse is hovering above it or double-click on it when beeing in Create / Move Mode ([ALT+M]). The Script Timer Property Dialog opens up.



ID:

The Script Timer's ID may be changed by entering a new one in the text field top left.

Fix:

When the option "Fix" is checked, the Script Timer will be displayed on every page.

Run Once:

When "Run Once" is enabled, the Script Timer will execute the script once after the Interval Time is expired and then stops again.

When "Run Once" is disabled (by default) the Script Timer will execute the script continuously in the Interval you entered in the text field to the right (in ms).

Interval:

Enter here the Interval time in ms, after which the Script Timer executes the scripts once or continuously.

Script:

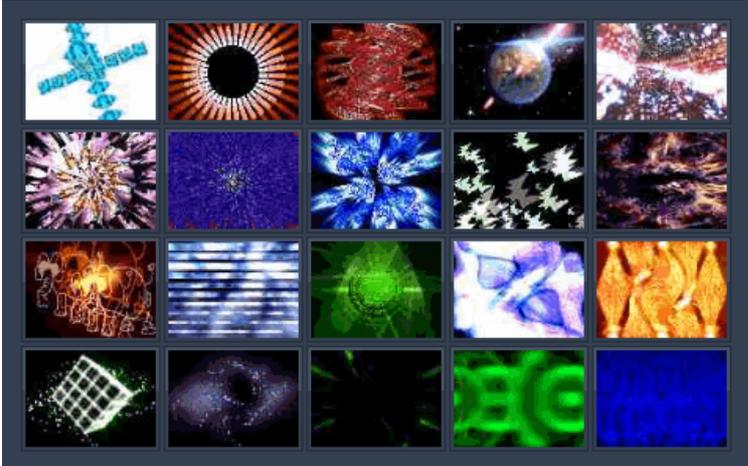
In the Macro Script section you may enter any script from the command dropdown list box. Press "Add" to copy the selected script from the list box into the dedicated script textbox. Multiple scripts can be executed by delimiting every script with a carriage return at the end of each script command. See here a list of all [scripts](#).

To control the Script Timer via script, please use the following ones:

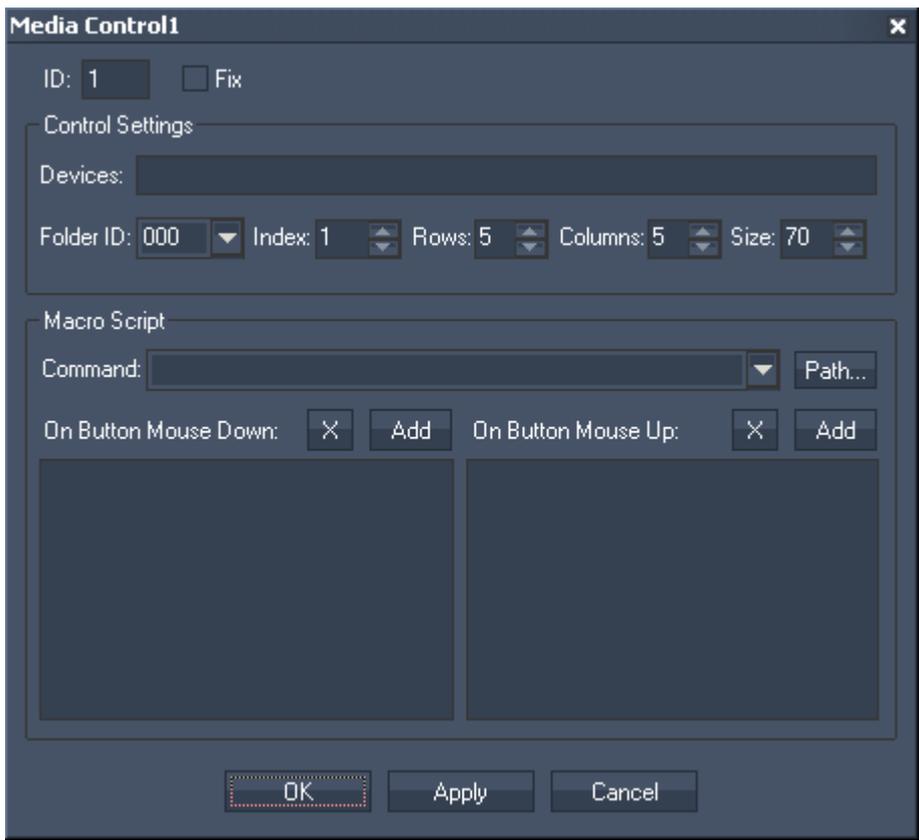
- [WDScriptTimerStart,'ID'](#)
- [WDScriptTimerStop,'ID'](#)
- [WDScriptTimerInterval,'ID','Value'](#)
- [WDScriptTimerRunOnce,'ID'](#)
- [WDScriptTimerRunContinuous,'ID'](#)

11.3.3.4 MEDIA CONTROL PANEL

The Media Panel control is designed to create thumbnail button tables based on the thumbnail downloads of the CITP feature of Pandoras Box.



To edit the Media Panel parameters simply right-click on the desired Media Panel control and choose the menu entry "Item Properties", press [ALT+P] whilst the mouse is hovering above it or double-click on it when being in Create / Move Mode ([ALT+M]). The Media Panel Property Dialog opens up.



ID:
The Media Control's ID may be changed by entering a new one in the textfield top left.

Fix:
When the option "Fix" is checked, the Media Control will be displayed on every page.

Control Settings:
The Control Settings section lets you design and set up the Media Control Panel.

Devices:
To assign the media files to one or multiple devices, enter the site and device ID into the device text field.
Example: To assign the media files to Layer1 of Server1 and Layer1 of Server2 enter "1.1 2.1"

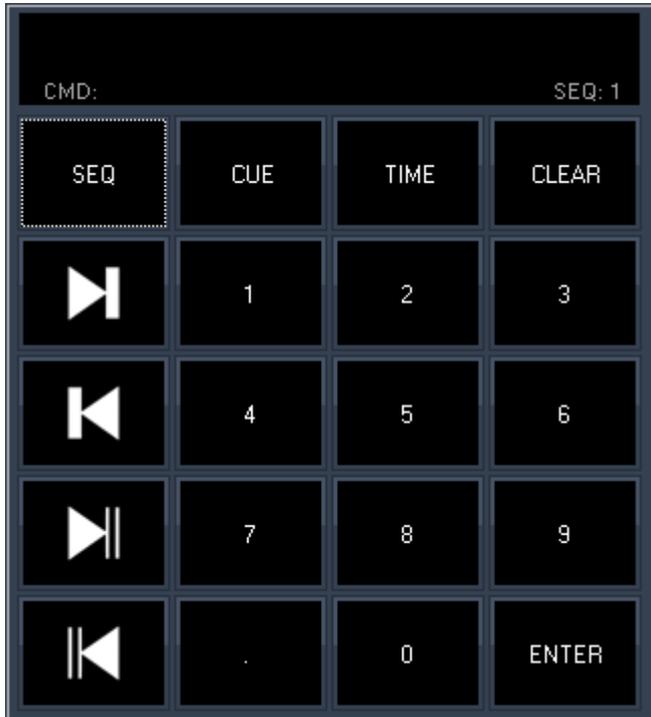
Folder ID, Index, Rows and Columns:
The media control is automatically built based on the selected FolderID, the start index of the files as well as the rows and columns count.

Size:
The size sets the width of every thumbnail button.

Macro Script:
In the Macro Scripts section you may enter custom scripts that will be assigned to all buttons of the Media Panel. This way you can assign an additional action to every media change. See here a list of all [scripts](#).

11.3.3.5 CUE CONTROL

The Cue Control is designed to easily get access over the sequence control of Pandoras Box.



Sequence

By default the Cue Control is assigned to Sequence 1 (displayed down right in the command window). To change the sequence you want to control, please press [SEQ+SeqID+ENTER], eg. SEQ+2 will control Seq. 2 as long as you do not change the sequence.

Cues

To jump to the next / last Cue or frame in the sequence, use the arrow buttons on the left.

To jump to a dedicated Cue, please press

[CUE+CueID+ENTER], eg [CUE+5+ENTER] and the nowpointer jumps to Cue 5.

As long as you do not press another command like SEQ, TIME or CLEAR entering any number + ENTER will be interpreted as "jump to Cue xx".

Time

To jump to a specific timecode, please press

[TIME+hh:mm:ss:ff+ENTER], eg [TIME+1041513+ENTER] lets the nowpointer jumps to the timecode 1:04:15:13.

A more simple way to enter the timecode is to just enter the last numbers different from 0, eg. [TIME+213+ENTER] lets the nowpointer jumps to the timecode 0:00:02:13.

As long as you do not press another command like SEQ, CUE or CLEAR entering any number + ENTER will be interpreted as "jump to Timecode xx".

Clear

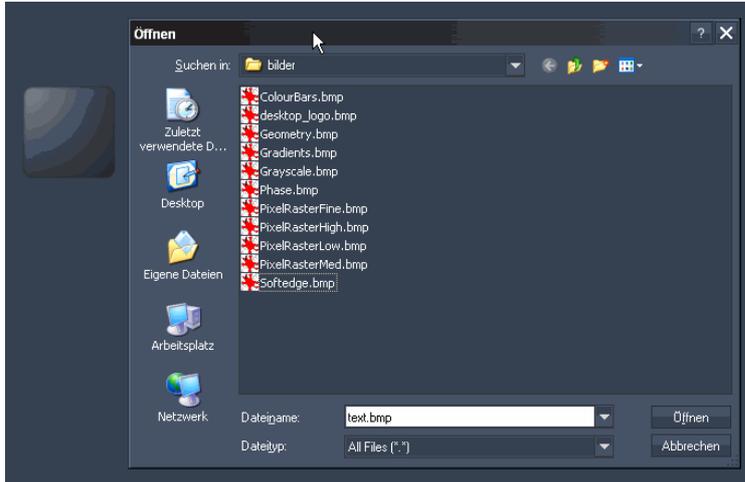
Press [Clear] to clear the current entered values.

11.3.3.6 IMAGE LOADER

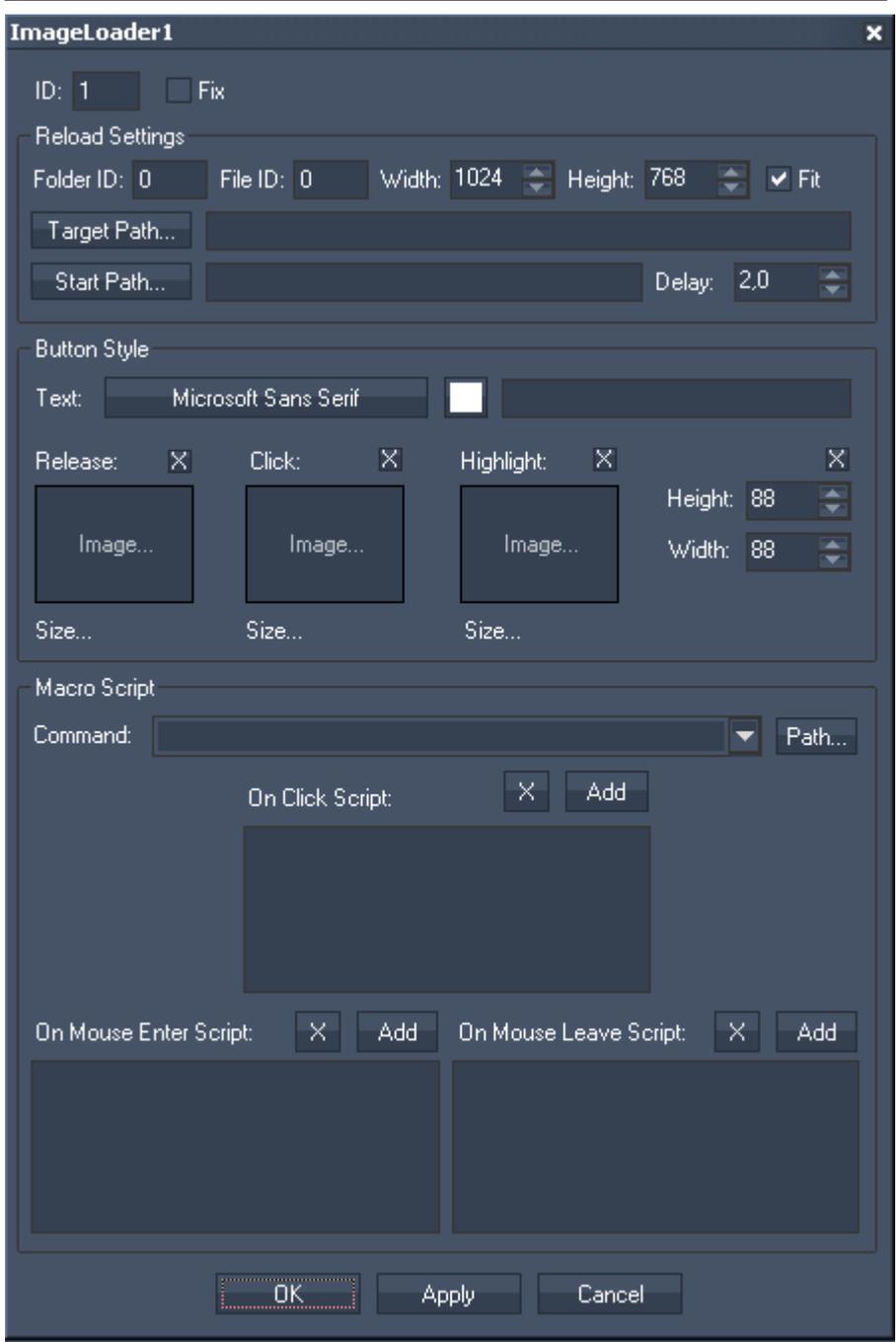
The Image Loader control is designed to easily exchange an image file that is added to the Pandoras Box project with any other image file on your pc. An interesting application for this could be e.g. if pictures of the audience are made and by button click are displayed on a Pandoras Box output.

Click on the Image Loader Button and a Windows explorer opens at the locations, from where you want to sent image files to Pandoras Box.

The newly loaded image file will automatically spread to all connected clients.



To edit the Image Loader parameters simply right-click on the Image Loader button and choose the menu entry "Item Properties", press [ALT+P] whilst the mouse is hovering above it or double-click on it when being in Create / Move Mode ([ALT+M]). The Image Loader Property Dialog opens up.



ID:
The Image Loader’s ID may be changed by entering a new one in the text field top left.

Fix:
When the option “Fix” is checked, the Image Loader Button will be displayed on every page.

The Image Loader Property dialog is divided into three sections.

Reload Settings

Folder and File ID:
Enter here the File and Folder ID of the image in Pandoras Box, to which the new image should be loaded.

Width, Height, Fix:

You may enter the Width and Height the image should get. Press Fit to enable this size option, otherwise the image will be fitted to the size of the original image file inside Pandoras Box.

Target Path:

Press [Target Path...] and browse to the image file which should be exchanged through the new loaded images.

Start Path:

Press [Start Path...] and choose or create a folder, from where you later choose the new image files, that should be transfered to Pandoras Box.

Delay:

The Delay between copying the new image to the original image file and loading it inside Pandoras Box is set to 2,0 secs. This delay is set to be sure that the copy process is finished before the image is loaded into Pandoras Box. This value can be edited by entering a new delay time.

Button Style

In the Button Style you may set up the button's text as well as its font and colour.

Three images can be assigned to the different states of the button.

“Release” refers to no click.

“Click” is on press.

“Highlight” can be used to draw a png with alpha over either the click or release image.

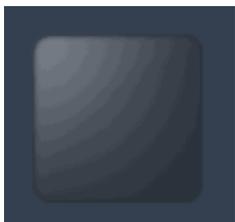
You may also set the Buttons Height and Width.

Scripts

In the Macro Script section you may enter any script from the command dropdown list box. Press “Add” to copy the selected script from the list box into the dedicated script textbox. Multiple scripts can be executed by delimiting every script with a carriage return at the end of each script command. To delete a script text box entirely, click on the X button above each script. See here a list of all [scripts](#).

11.3.3.7 VIDEO SNAPSHOT

The Video Snapshot control is designed to easily exchange an image file within a Pandoras Box project by a Video Snapshot from your attached Video Input.



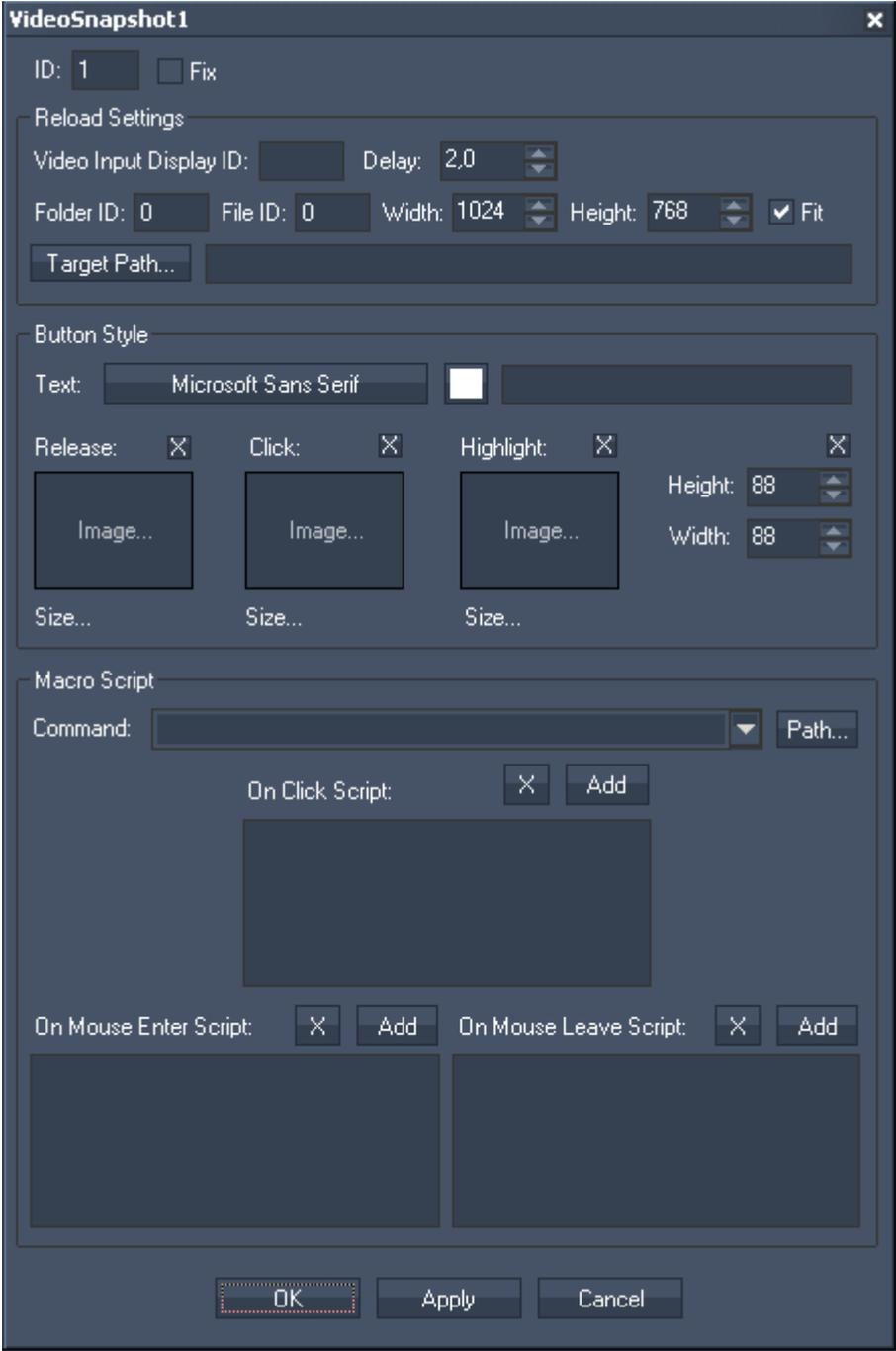
A click on the Video Snapshot Button and the created snapshot is immediately send to an image file within Pandoras Box.

The newly loaded image file will automatically spread to all connected clients.

To send a Video Snapshot to Pandoras Box, you need to

1. have an image file added into Pandoras Box project with assigned [File and Folder ID](#).
2. create a [Video Input Display](#) and enter the Video Input ID of your Video Source.
3. set up the Video Snapshot Properties, see below.

To edit the Video Snapshot parameters simply right-click on the Video Snapshot button and choose the menu entry "Item Properties", press [ALT+P] whilst the mouse is hovering above it or double-click on it when beeing in Create / Move Mode ([ALT+M]). The Video Snapshot Property Dialog opens up.



ID:
The Video Snapshot's ID may be changed by entering a new one in the textfield top left.

Fix:
When the option "Fix" is checked, the Video Snapshot Button will be displayed on every page.

The Video Snapshot Property dialog is divided into three sections.

Reload Settings
Video Input Display ID:
Enter the [Video Input Display](#) ID the Video Snapshot should be taken from.

Delay:

The Delay between copying the new image to the original image file and loading it inside Pandoras Box is set to 2,0 secs by default. This delay is set to be sure that the copy process is finished before the image is loaded into Pandoras Box. This value can be edited by entering a new delay time.

Folder and File ID:

Enter the File and Folder ID of the image in Pandoras Box, to which the video snapshot should be loaded.

Width and Height:

You may enter the Width and Height the image should get. Press Fit to enable this size option, otherwise the image will be fitted to the size of the original image file inside Pandoras Box.

Target Path:

Press [Target Path...] and browse to the image file which should be exchanged by the newly loaded video snapshot.

Button Style

In the Button Style you may set up the button's text as well as its font and colour.

Three images can be assigned to the different states of the button.

“Release” refers to no click.

“Click” is on press.

“Highlight” can be used to draw a png with alpha over either the click or release image.

You may also set the Buttons Height and Width.

Scripts

In the Macro Script section you may enter any script from the command dropdown list box. Press “Add” to copy the selected script from the list box into the dedicated script textbox. Multiple scripts can be executed by delimiting every script with a carriage return at the end of each script command. To delete a script text box entirely, click on the X button above each script.

See here a list of all [scripts](#).

11.3.3.8 ART-NET SNAPSHOT

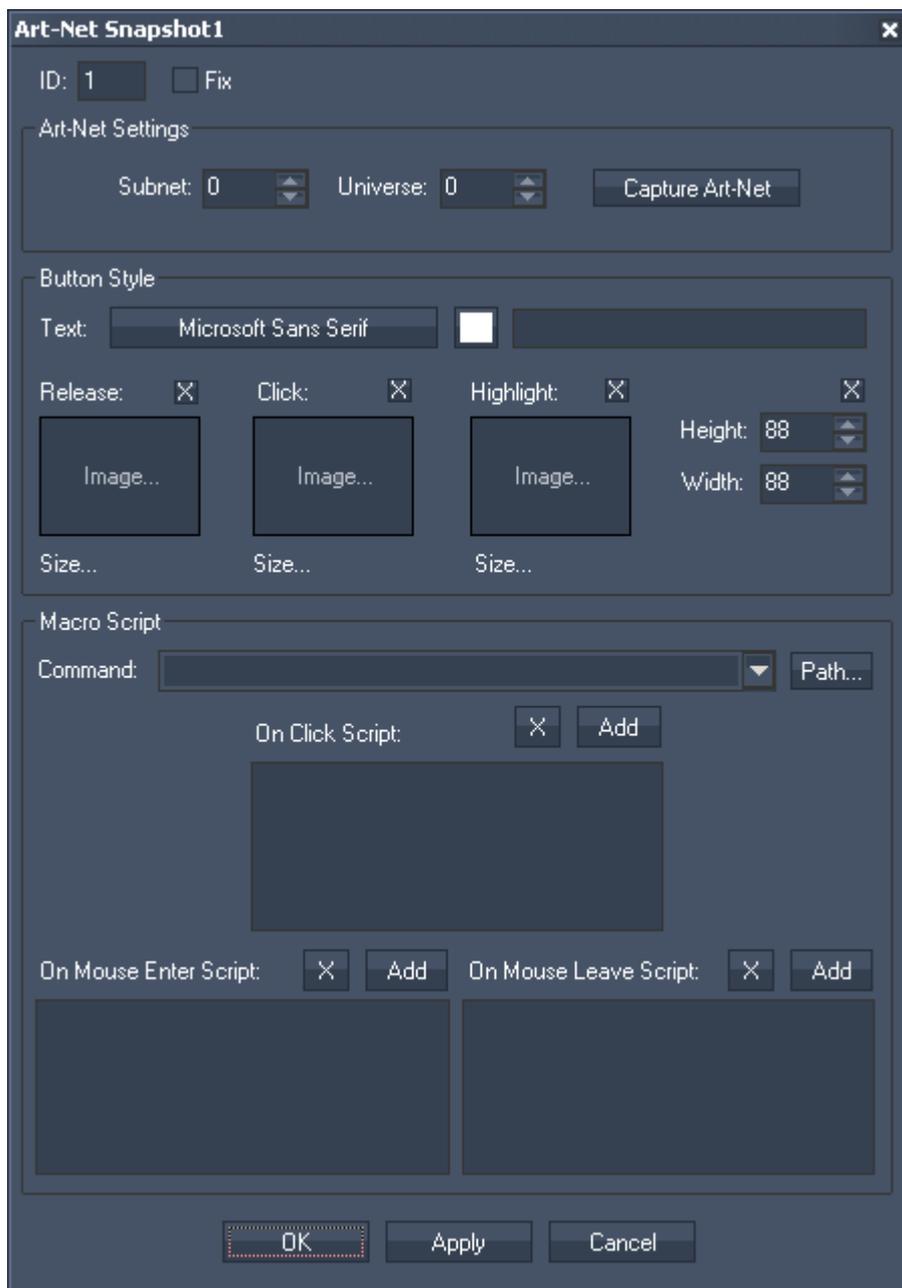
The Art-Net Snapshot button is designed to record a full Art-Net DMX universe state, with the ability to record from Universe A and output to Universe B.

A click on the Art-Net Snapshot Button and the captured Art-Net values are send out to the specified Universe.

Please note:

In order to use the Art-Net Snapshot button Art-Net Input and Art-Net Output needs to be enabled in the [Connection Manager!](#)

To edit the Art-Net Snapshot parameters simply right-click on the Art-Net Snapshot button and choose the menu entry "Item Properties", press [ALT+P] whilst the mouse is hovering above it or double-click on it when beeing in Create / Move Mode ([ALT+M]). The Art-Net Snapshot Property Dialog opens up.



ID:

The Art-Net Snapshot's ID may be changed by entering a new one in the textfield top left.

Fix:

When the option "Fix" is checked, the Art-Net Snapshot Button will be displayed on every page.

The Art-Net Snapshot Property dialog is divided into three sections.

Art-Net Settings:**Subnet and Universe:**

Enter the Subnet and Universe the Art-Net values should be captured from.

[Capture Art-Net]:

Press [Capture Art-Net] and the current state of the specified Universe will be recorded.

To send out these Art-Net values on the same Universe, close the Item Properties dialog and just press the Art-Net Snapshot Button.

To send out these Art-Net values on a different Universe, do it as following:

Enter the Subnet and Universe the Art-Net values should be captured from.

Press [Capture Art-Net] and the current state of the specified Universe will be recorded.

Now change the Art-Net settings to the Universe on which you want to send out the recorded Art-Net values (do NOT press [Capture Art-Net] again) and press [OK] or [Apply] at the bottom of the Item Properties dialog. Close this dialog and click on the Art-Net Snapshot Button.

Button Style

In the Button Style you may set up the button's text as well as its font and colour.

Three images can be assigned to the different states of the button.

"Release" refers to no click.

"Click" is on press.

"Highlight" can be used to draw a png with alpha over either the click or release image.

You may also set the Buttons Height and Width.

Scripts

In the Macro Script section you may enter any script from the command dropdown list box. Press "Add" to copy the selected script from the list box into the dedicated script textbox. Multiple scripts can be executed by delimiting every script with a carriage return at the end of each script command. To delete a script text box entirely, click on the X button above each script.

See here a list of all [scripts](#).

To execute the ArtNet Snapshot Button via script instead of clicking the button, please use the following one:

[WDArtNetSnapshotActivate,'ID'](#).

11.3.3.9 ART-NET RECORDER

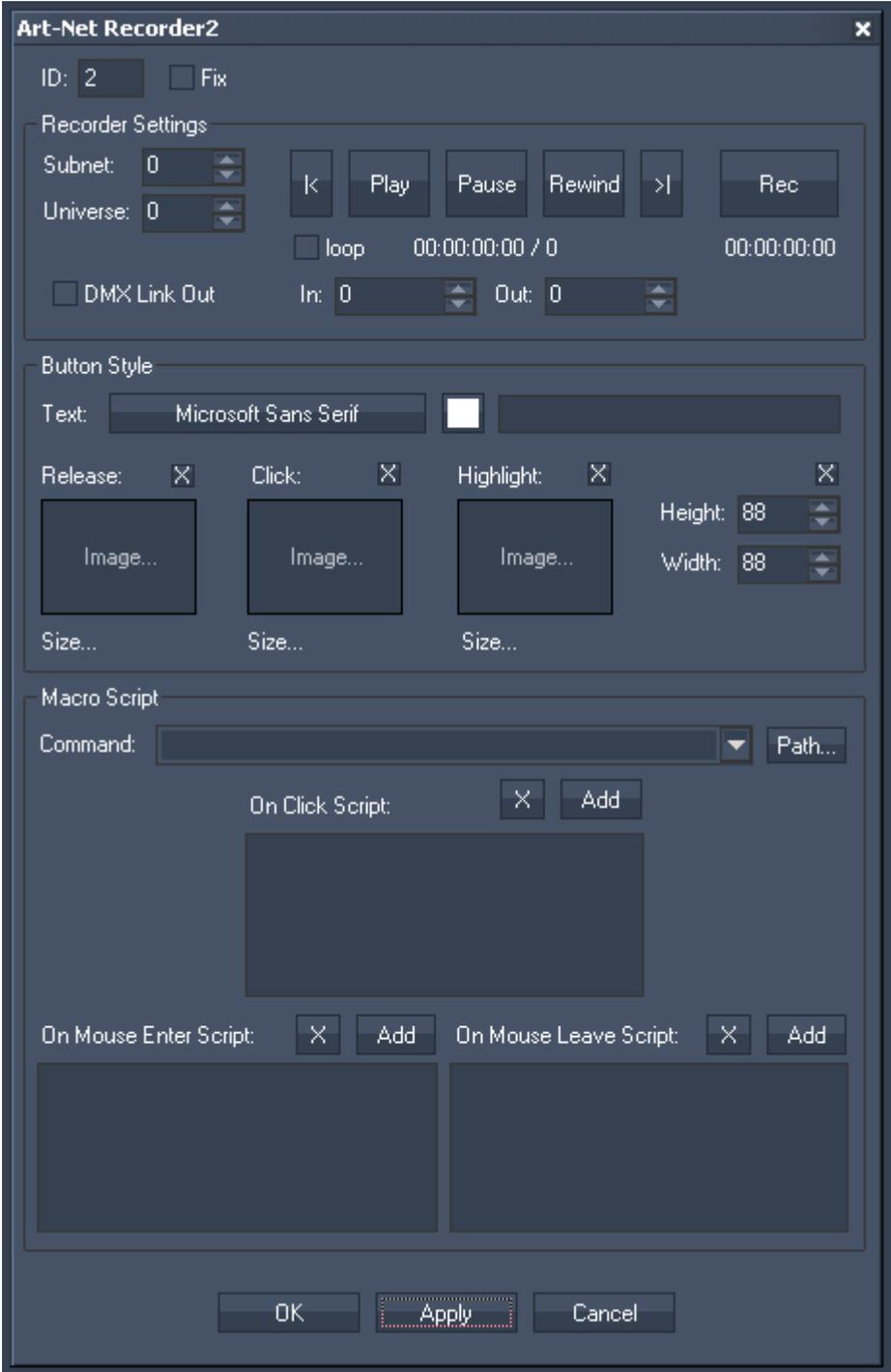
The Art-Net Recorder button is designed to record a full Art-Net DMX universe over a certain time, with the ability to record from Universe A and output to Universe B.

A click on the Art-Net Snapshot Recorder and the captured Art-Net sequence is send out to the specified Universe.

Please note:

In order to use the Art-Net Recorder Art-Net Input and Art-Net Output needs to be enabled in the [Connection Manager](#)!

To edit the Art-Net Recorder parameters simply right-click on the Art-Net Recorder button and choose the menu entry "Item Properties", press [ALT+P] whilst the mouse is hovering above it or double-click on it when beeing in Create / Move Mode ([ALT+M]). The Art-Net Recorder Property Dialog opens up.



ID:
The Art-Net Recorder's ID may be changed by entering a new one in the textfield top left.

Fix:
When the option "Fix" is checked, the Art-Net Recorder Button will be displayed on every page.

The Art-Net Recorder Property dialog is divided into three sections.

Recorder Settings:

Subnet and Universe:

Enter the Subnet and Universe the Art-Net values should be recorded from.

[Rec]:

Press [Rec] and the specified Universe will be recorded until you press the button again, that meanwhile changes its name to [Stop].

To send out the Art-Net values on the same Universe they were recorded from, close the Item Properties dialog and just press the Art-Net Recorder Button.

To send out these Art-Net values on a different Universe, do it as following:

Enter the Subnet and Universe the Art-Net values should be captured from.

Press [Rec] and the current state of the specified Universe will be recorded.

Press [Stop] to stop the recording.

Now change the Art-Net settings to the Universe on which you want to send out the recorded Art-Net values (do NOT press [Rec] again) and press [OK] or [Apply] at the bottom of the Item Properties dialog. Close this dialog and click on the Art-Net Snapshot Button.

[>] and [<]:

With these two buttons you may browse through the recorded ArtNet sequence step by step.

[Play]:

Press [Play] to play the recorded ArtNet sequence.

[Pause]:

Press [Pause] to pause the recorded ArtNet sequence.

[Rewind]:

Press [Rewind] to bring the sequence to its Inpoint.

[Loop]:

Activate this checkbox and the ArtNet sequence will be looped instead of played once.

In & Out:

Here you may define an In- and Output different from the originally recorded sequence. To cut off 2 seconds from the beginning of the recording, enter "50" as inpoint (25 frames = 1 second).

[DMX Link Out]:

To play the recorded Universe via the DMX Link Out, activate this checkbox.

Please note that "DMX LINK Out" needs to be enabled in the [Connection Manager](#).

Button Style

In the Button Style you may set up the button's text as well as its font and colour.

Three images can be assigned to the different states of the button.

"Release" refers to no click.

"Click" is on press.

"Highlight" can be used to draw a png with alpha over either the click or release image.

You may also set the Buttons Height and Width.

Scripts

In the Macro Script section you may enter any script from the command dropdown list box. Press "Add" to copy the selected script from the list box into the dedicated script textbox. Multiple scripts can be executed by delimiting every script with a carriage return at the end of each script command. To delete a script text box entirely, click on the X button above each script.

See here a list of all [scripts](#).

To control the ArtNet Recorder via script, please use the following ones:

[WDArtNetRecorderPlay,'ID'](#),

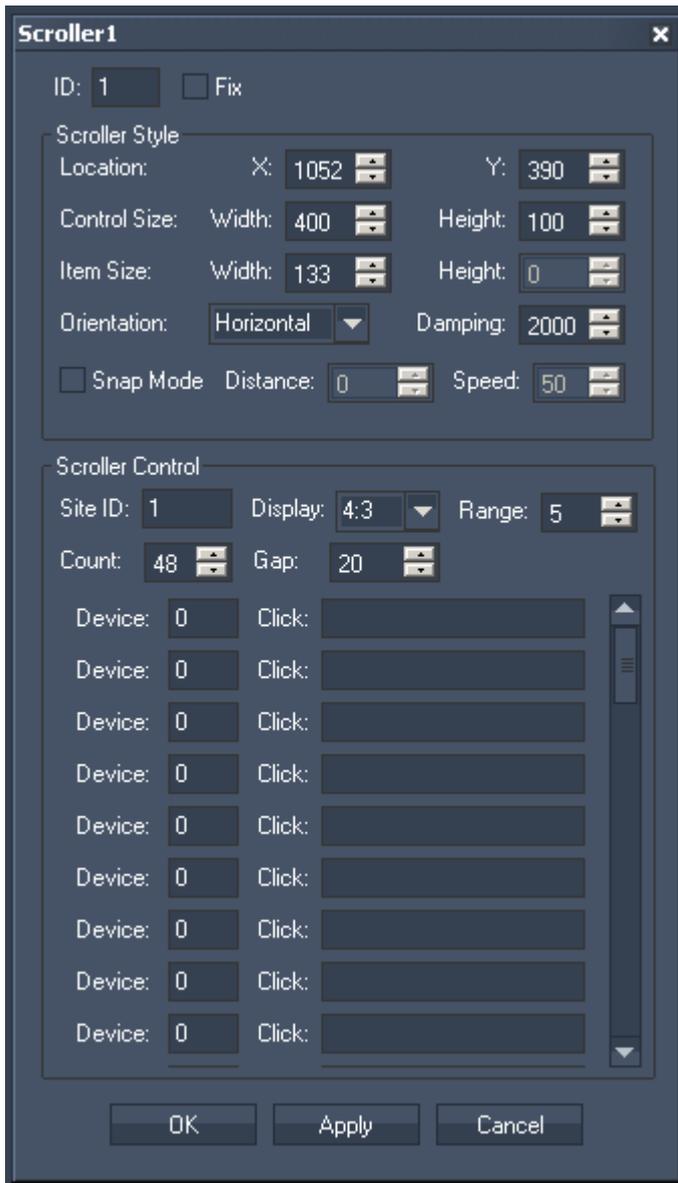
[WDArtNetRecorderPause,'ID'](#),
[WDArtNetRecorderRewind,'ID'](#),
[WDArtNetRecorderLoop,'ID'](#),
[WDArtNetRecorderPlayOnce,'ID'](#),
WDArtNetRecorderGotoFrame,'ID','Frame'.

11.3.3.10 SCROLLER HORIZONTAL / VERTICAL

The Scroller control lets you execute scripts after a certain amount of time. This can be done once or continuously.



To edit the Scroller's parameters simply right-click on the desired Scroller control and choose the menu entry "Item Properties", press [ALT+P] whilst the mouse is hovering above it or double-click on it when being in Create / Move Mode ([ALT+M]). The Scroller Property Dialog opens up.



The property dialog is divided into two sections: the Scroller Style and the Scroller Control.

ID:

The Scroller's ID may be changed by entering a new one in the text field top left.

Fix:

When the option "Fix" is checked, the Scroller will be displayed on every page.

Scroller Style:

Location:

To position the scroller enter here the Scroller's X and Y Position (in px) or move it manually with the mouse over the WD user interface when being in Move-Mode [ALT+M].

Control Size:

To adjust the Scroller's size enter the desired values (in px) for Width and Height. Or scale the Scroller manually with the mouse at its corner down right when being in Move-Mode [ALT+M].

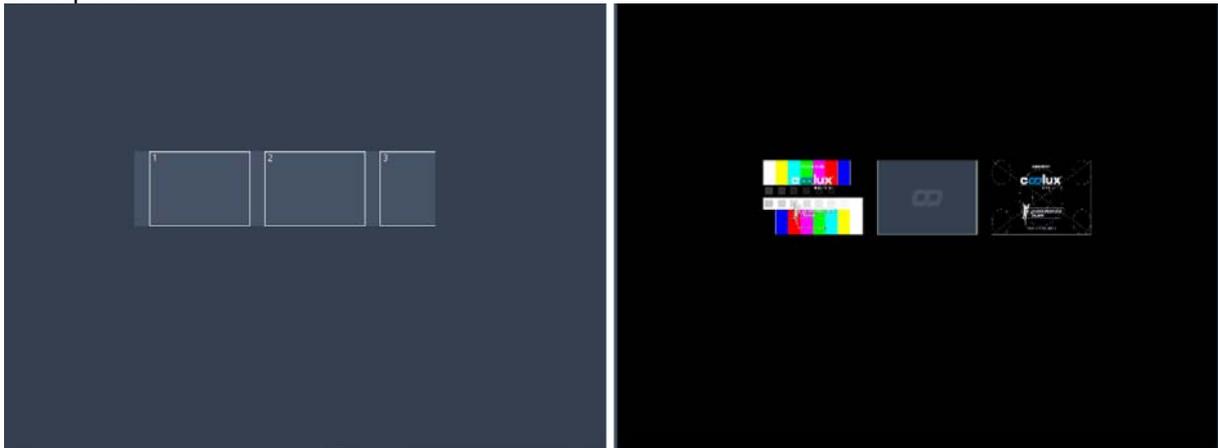
Item Size:

Choose here how wide an item on the scroller should be. According to the width of the items you may see more or less items on the Scroller's interface. The Height of an item can't be influenced here – it always refers to the Height of the Scroller's Size itself. To adjust the Height please change the Height for the Control Size.

Relation of the Control / Item Size and the layers in Pandoras Box:

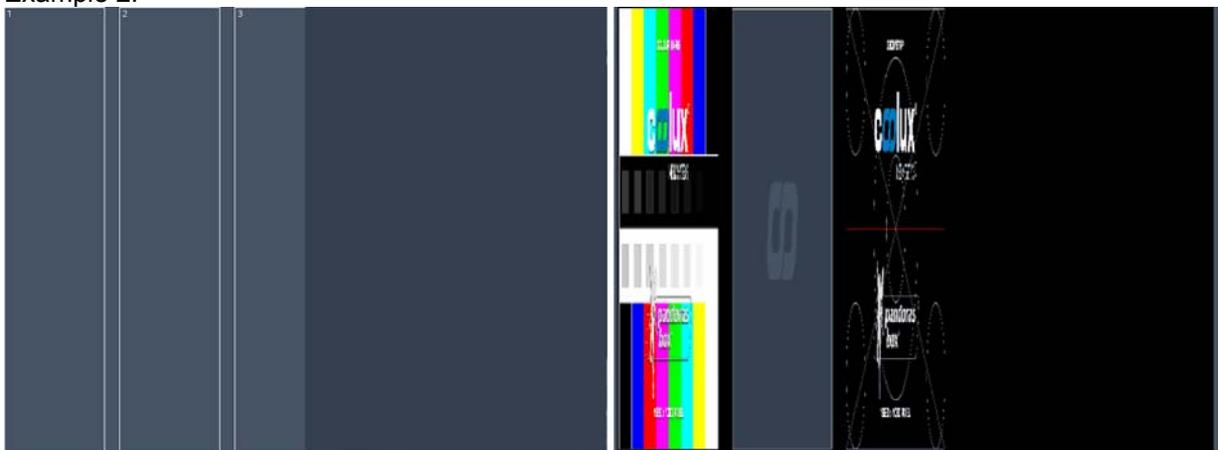
The size of an item influences the size of a layer inside Pandoras Box. To have a layer in Pandoras Box (that is controlled via an Scroller Item) covering the whole output, the Scroller size has to cover the whole Height of the WD interface. The Width of the Scroller does not necessarily have to cover the whole width of the WD interface as long as the Item's width gets the width resolution of the WD interface.

Example 1:



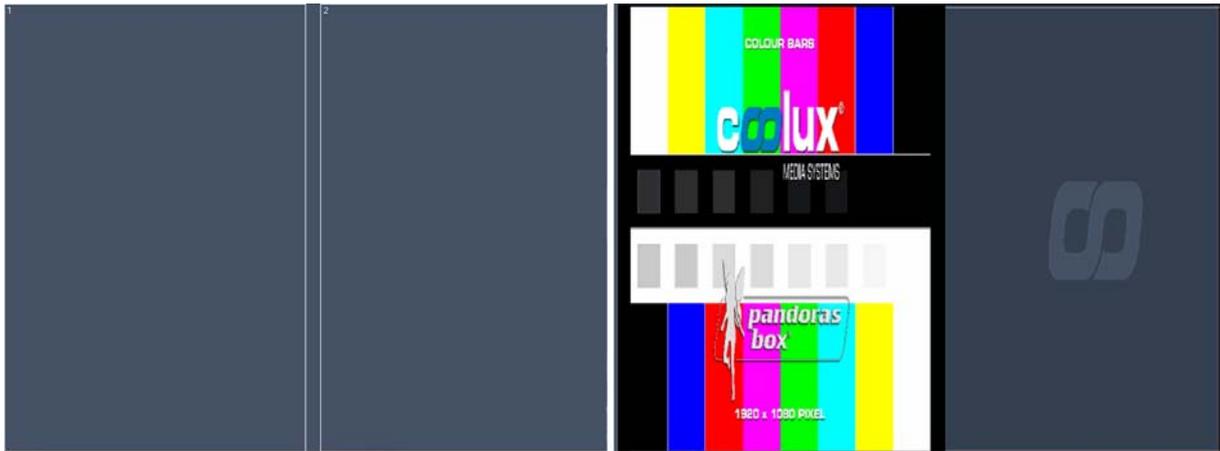
The Scroller in this example controls layers 1 through 3 in Pandoras Box. As you see the relation between the Scroller's size and the size of the whole WD interface is reflected in the Pandoras Box output.

Example 2:



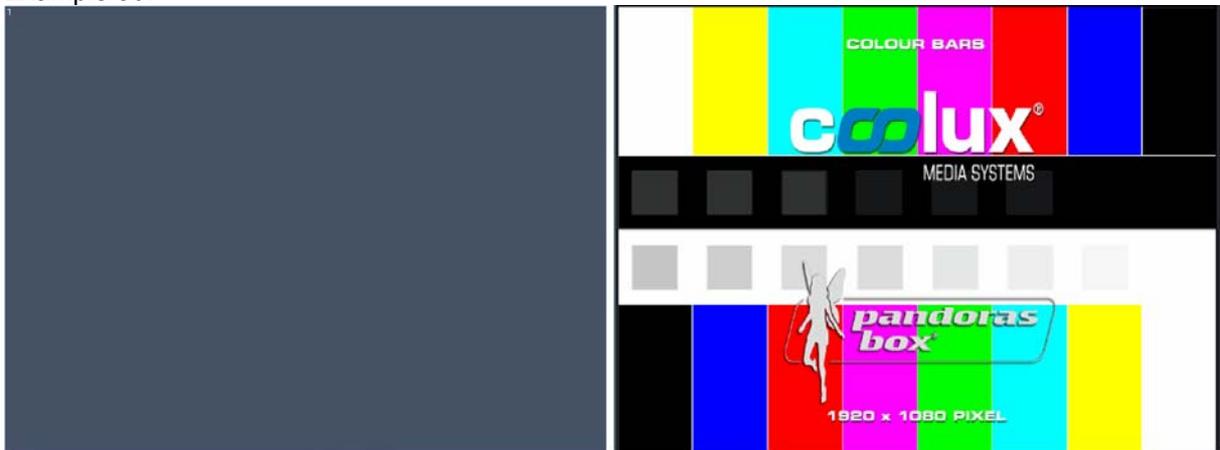
The Scroller's location is now set to X/Y = 0/0 and the Scroller's Height got the same Height the WD interface covers (without adjusting any width value). To bring the layer in Pandoras Box to aspect ratio, at least the Width of the Scroller's Items has to be adjusted to the Width of the WD interface, see next example.

Example 3a:



The Scroller now covers the whole WD interface. The Item's Width is set to half of the Scroller's Width.

Example 3b:



The Scroller covers the whole WD interface. The Item's Width is set to the Scroller's Width.

Orientation:

The Scroller can work horizontally and vertically, you may change its orientation here.

Damping:

The damping value influences the acceleration of the follow-up movement when the Scroller is released. The default value is set to 2000. The minimum value is 0 (no follow-up movement), the maximum value is 10000 (longest follow-up movement).

Snap Mode

Without the Snap Mode enabled the Items will be moved over the Scroller as far as you scroll the Scroller. When the Snap Mode is enabled and an Item is eg. moved about half of its width to the left, the Scroller will automatically go on scrolling until the next Item snaps at the Scroller's left border.

→ Distance:

The distance value (in px) defines how far you have to scroll the scroller until the snap mode snaps to the next Item. By default it is set to 0, so each small movement to the left or to the right will activate the snap mode to snap to the next Item to the left or to the right. If the distance is set to eg. the value 100, you have to scroll the scroller about 100 px to the left / right to let the snap mode snap to the next item to the left/right.

→ Speed:

The speed value defines how fast the scroller is scrolled to the next item when the snap mode is being activated: 100= max. speed, 1 = min. speed.

Scroller Control:

Site ID:

Enter here the Site ID of the site in Pandoras Box the Scroller should be linked to.

Display:

Please choose here the aspect ratio of the Pandoras Box output. This is important to bring the layers in Pandoras Box to the correct aspect ratio, according to the Scroller Item sizes.

Range:

The range value defines how far a selected Scroller Item has to be moved in order to generate a click on it, see explanation under Device / Click. The default value is 5, that means that within moving the Item 5 pixels to the left / right the Item won't be clicked. This range function is useful not to activate an item by fault.

Count:

Set here the amount of Items visible in the Scroller and controllable in Pandoras Box.

Gap:

You may increase or decrease the gap between each Item by entering a new value (in px). It ranges from 0 (=no gap) up to 2048 (=max. gap).

Device / Click:

Set here the PB Layer ID (Device ID) which should be linked to each Item inside the Scroller.

Example:



Here the Count is set to 3, so only 3 Items are visible inside the Scroller and only 3 layers in PB can be controlled through the Scroller Items.

The devices are set so that

- Item 1 controls Layer 3 of site 1,
- Item 2 controls Layer 4 of site 1,
- Item 2 controls Layer 5 of site 1.

To execute a script when an Item is clicked please enter the script in the Click text field.

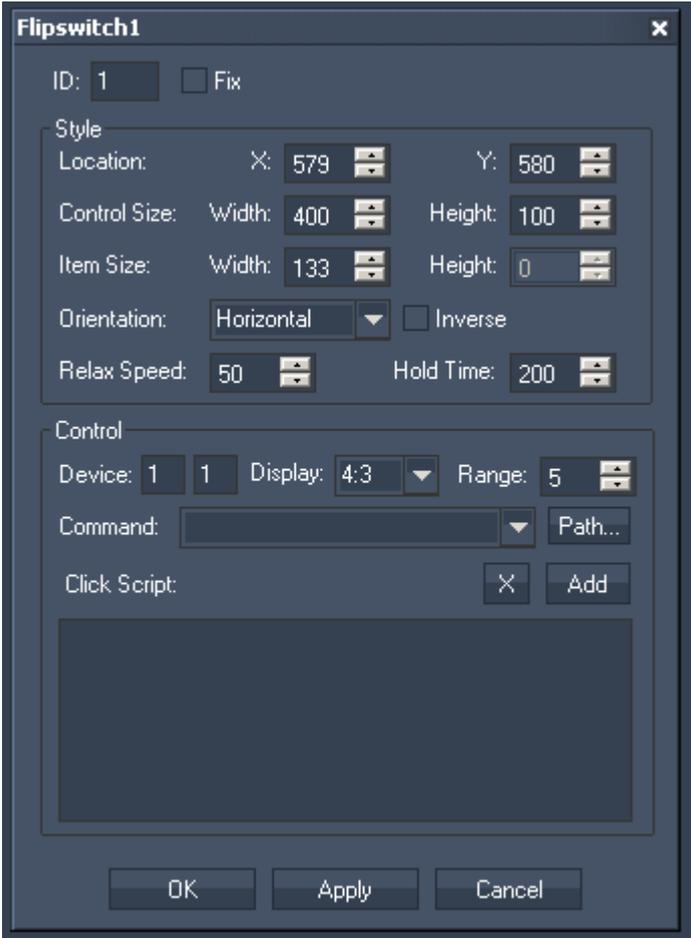
Multiple scripts can be executed by delimiting every script with a carriage return at the end of each script command. See here a list of all [scripts](#).

To reset the Scroller via script (bringing it back to display the first Item), please use the following one: [WDSrollerReset,'ID'](#)

11.3.3.11 FLIPSWITCH



To edit the Flipswitch's parameters simply right-click on the desired Flipswitch control and choose the menu entry "Item Properties", press [ALT+P] whilst the mouse is hovering above it or double-click on it when being in Create / Move Mode ([ALT+M]). The Flipswitch Property Dialog opens up.



The property dialog is divided into two sections: Style and Control.

ID:
The Flipswitch's ID may be changed by entering a new one in the text field top left.

Fix:
When the option "Fix" is checked, the Flipswitch will be displayed on every page.

Flipswitch Style:

Location:
To position the Flipswitch enter here the Flipswitch 's X and Y Position (in px) or move it manually with the mouse over the WD user interface when being in Move-Mode [ALT+M].

Control Size:

To adjust the Flipswitch's size enter the desired values (in px) for Width and Height. Or scale the Flipswitch manually with the mouse at its corner down right when being in Move-Mode [ALT+M].

Item Size:

Choose here how wide the handle-item on the Flipswitch should be. The height of an the item can't be influenced here – it always refers to the Height of the Flipswitch's Size itself. To adjust the height please change the height for the Control Size.

Relation of the Control / Item Size and the linked layer in Pandoras Box:

The size of the handle item influences the size of the linked layer inside Pandoras Box. To have the layer in Pandoras Box (that is controlled via the handle item) covering the whole output, the Scroller size has to cover the whole height of the WD interface. The width of the Scroller does not necessarily have to cover the whole width of the WD interface as long as the Item's width gets the width resolution of the WD interface.

Orientation:

The Flipswitch can work horizontally and vertically, you may change its orientation here.

Inverse:

Tick the checkbox to bring the Flipswitch Item to the opposite border of the Control.

Relax Speed:

The Relax Speed defines how fast the Flipswitch Item will move back to its default position after it was moved and the Click Script was NOT executed. The default value for the Relax Speed is 50. Decrease this value to get a slower move, increase it to quicken it.

Hold Time:

The Hold Time (in ms) defines how long the Item will stay on the position where the click script will be executed before it jumps back to its default position.

Flipswitch Control:**Device ID:**

Set here the PB Layer ID (Device ID) which should be linked to the Flipswitch.

Example:

With the Device ID 1 | 1 the Layer 1.1 in PB will be controlled.

Display:

Please choose here the aspect ratio of the Pandoras Box output. This is important to bring the layers in Pandoras Box to the correct aspect ratio, according to the Flipswitch Item size.

Range:

The range value defines how far the Flipswitch Item has to be moved to the opposite border (in pixels). The default value is 5, that means that within moving the Item 5 pixels to the border opposite the Flipswitch Item the click script will be executed. This range function is useful to define how far the Flipswitch Item has to be moved to execute the script.

Click Script:

To execute a script when the Flipswitch Item is moved into the click-area, please enter the script in the Click Script field.

Multiple scripts can be executed by delimiting every script with a carriage return at the end of each script command. See here a list of all [scripts](#).

11.3.4 ANALOG CLOCK

Use this control to display the current time via an Analog Clock.



To edit the Analog Clock parameters simply right-click on the Analog Clock control and choose the menu entry "Item Properties", press [ALT+P] whilst the mouse is hovering above it or double-click on it when being in Create / Move Mode ([ALT+M]). The Analog Clock Property Dialog opens up.



ID:
The Analog Clock's ID may be changed by entering a new one in the textfield top left.

Fix:
When the option "Fix" is checked, the Analog Clock will be displayed on every page.

You may design your Analog Clock using different colours for Background, Center, Hours, Minutes, Seconds, Major Ticks, Minor Ticks and Labels.

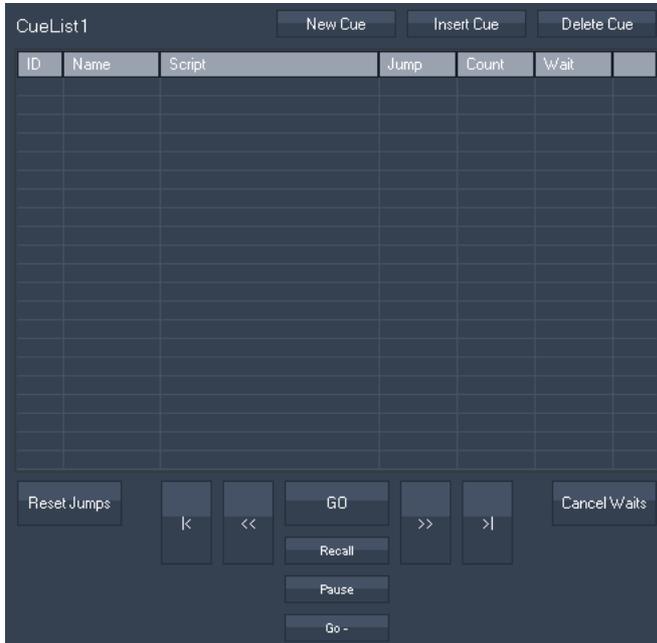
Tick the checkboxes to hide / display the mentioned units.

You may also label the clock by entering a name in the textfield down left.

11.3.5 CUE LIST

Use this Cuelist control for Scripts with Jump Cues & Auto Follow Wait times.

The CueList Control allows you to create and control your own Cuelist which contains any kind of script commands.
 This might be a good choice if you want to execute scripts which follow on other actions or commands but still to be able to control it by the buttons and commands at every time.
 This type of programming is similar to the way lighting desks work.



[New Cue]:
 Adds a new Cue at the end of the CueList.

[Insert Cue]:
 Adds a new Cue at the current position of the CueList. The ID gets a decimal number between the previous and the next Cue ID.

[Delete Cue]:
 Deletes the selected Cue in the CueList.

Cue Parameter:
 For every cue you may set a Script, a Jump, Count or Wait time. To do this please rightclick into the desired textfield, enter your text and press [ENTER]. All entries may be edited later on again, including Cue ID and Name.

ID: the Cuelist is sorted by the cue IDs. To reposition a Cue in the Cuelist, change its ID.

Name: the Cue's name is automatically set to Cue#, eg. Cue2.

Script: enter the script that should be executed.

Jump: if you want to jump to a specific cue after the current one, enter the ID of the Cue to jump to. If this should happen endless, don't enter a count number!

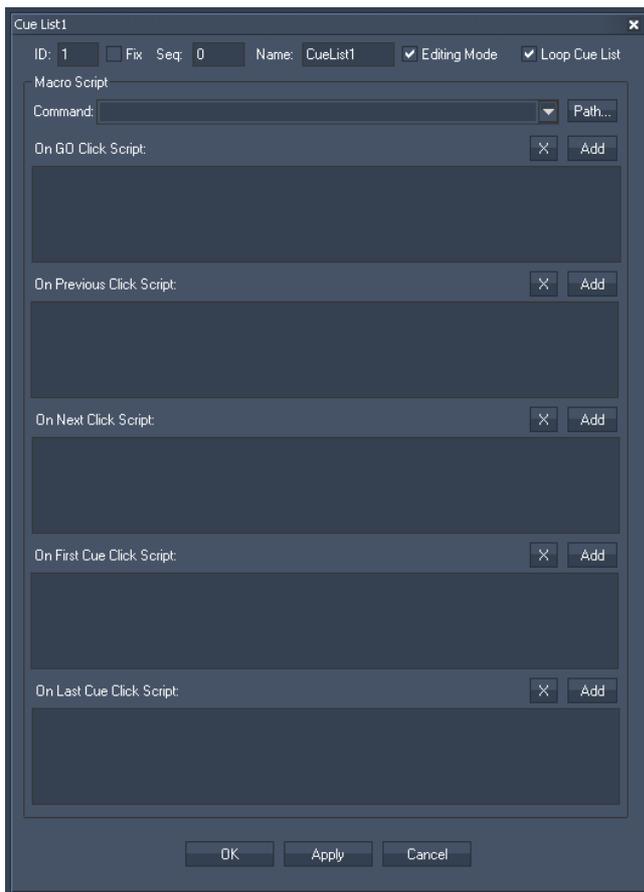
Count: If you want to limit the amount of jumps set a count value here. After this value is reached the jump won't be executed any more until you reset the jump count.

Wait: Insert a wait time in seconds before the next Cue (or jump) is executed automatically. To abort the Wait time press [Cancel Waits].

Cue Control:
[Go]: starts the next Cue (= [WDCueListGo,'ID'](#))

- [Recall]: recall the current Cue (= [WDCueListRecall,'ID'](#))
- [Pause]: pauses the Cuelist (= [WDCueListPause,'ID'](#))
- [Go-]: goes one step back in the Cuelist (= [WDCueListGo-,'ID'](#))
- [<]: goes to first cue without executing it (= [WDCueListFirstCue,'ID'](#))
- [<<]: steps back cue by cue without executing it (= [WDCueListPrevCue,'ID'](#))
- [>>]: steps forward cue by cue without executing it (= [WDCueListNextCue,'ID'](#))
- [>]: goes to the last cue without executing it (= [WDCueListLastCue,'ID'](#))
- [Reset Jumps]: set's the Counter back to zero (= [WDCueListResetJumps,'ID'](#))
- [Cancel Waits]: Cancels the current Wait time but does not continue executing the CueList (= [WDCueListCancelWaits,'ID'](#))

To edit the CueList parameters simply right-click on the CueList control and choose the menu entry "Item Properties", press [ALT+P] whilst the mouse is hovering above it or double-click on it when being in Create / Move Mode ([ALT+M]). The CueList Property Dialog opens up.



ID:
The CueList's ID may be changed by entering a new one in the textfield top left.

Fix:
When the option "Fix" is checked, the CueList will be displayed on every page.

Seq:
Enter here the ID of the sequence which should be controlled.

Name:
Enter here the Cuelist's name that will be displayed on top of the control.

Editing Mode:
When this option is disabled the Cues in the Cuelist can't be edited anymore.

Loop CueList:

If this option is checked the Cuelist will automatically be continued at the beginning when it reaches its end.

Scripts

In the Macro Script section you may enter any script from the command dropdown list box to one of the On-Buttons-Click-Scripts.

Press "Add" to copy the selected script from the list box into the dedicated script textbox. Multiple scripts can be executed by delimiting every script with a carriage return at the end of each script command. To delete a script text box entirely, click on the X button above each script.

See here a list of all [scripts](#).

These scripts will let you control the cuelist, eg. through a Custom Script Button:

- [WDCueListGo,'ID'](#)
- [WDCueListPause,'ID'](#)
- [WDCueListGo-,'ID'](#)
- [WDCueListRecall,'ID'](#)
- [WDCueListGotoCue,'ID','Cue'](#)
- [WDCueListPrevCue,'ID'](#)
- [WDCueListNextCue,'ID'](#)
- [WDCueListFirstCue,'ID'](#)
- [WDCueListLastCue,'ID'](#)
- [WDCueListResetJumps,'ID'](#)
- [WDCueListCancelWaits,'ID'](#)

11.3.6 DIGITAL CLOCK

Use this control to display the current time via a Digital Clock.



To edit the Digital Clock parameters simply right-click on the Digital Clock control and choose the menu entry "Item Properties", press [ALT+P] whilst the mouse is hovering above it or double-click on it when being in Create / Move Mode ([ALT+M]). The Digital Clock Property Dialog opens up.



ID:
The Digital Clock's ID may be changed by entering a new one in the textfield on the top.

Fix:
When the option "Fix" is checked, the Digital Clock will be displayed on every page.

You may design your Digital Clock using different colours for Background, Inside, Glow and Inactive.

11.3.7 DISPLAYS

[Angular Display](#)

The Angular Display allows to show any numeric value that is routed to the [Angular Display Output Node](#).

[Bar Graph](#)

The Bar Graph allows to show any numeric value that is routed to the [Bar Graph Output Node](#).

[Digital Display](#)

The Digital Display allows to show any numeric value that is routed to the [Digital Display Output Node](#).

[Motion Mask](#)

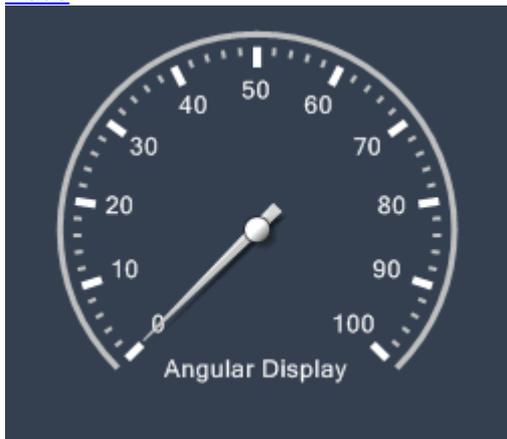
The Motion Mask Display allows to use a DirectShow Video input to create a soft motiondetected Mask.

[Video Input Display](#)

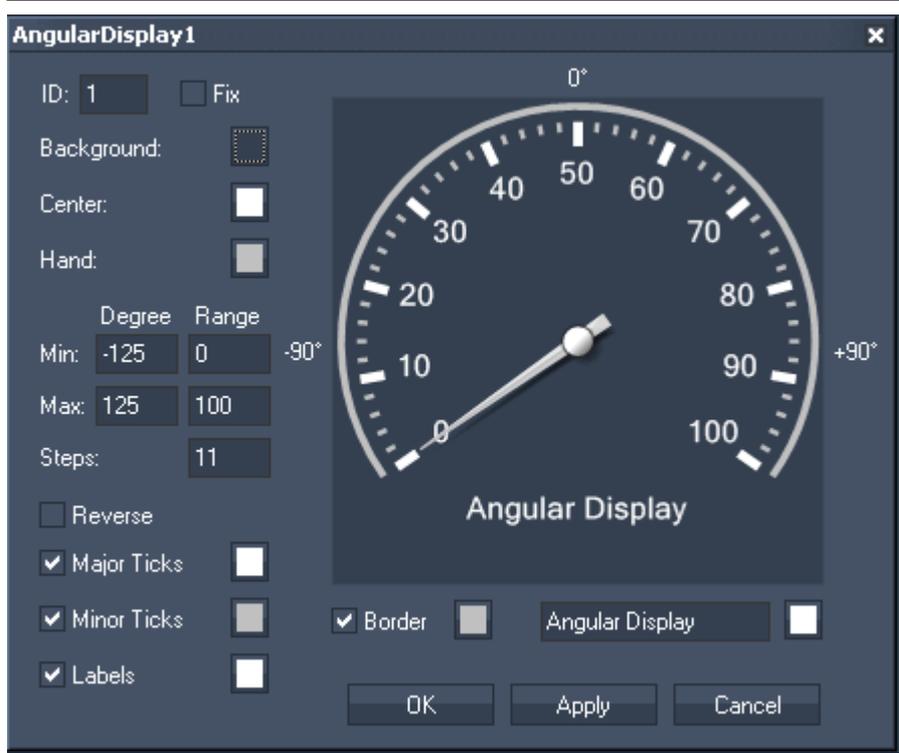
Use the Video Input Display to display a video source on the WD user interface or to send a [Video Snapshot](#) to Pandoras Box.

11.3.7.1 ANGULAR DISPLAY

The Angular Display allows to show any numeric value that is routed to the [Angular Display Output Node](#).



To set up the Angular Display's properties, simply right-click on the Angular Display and choose the menu entry "Item Properties", press [ALT+P] whilst the mouse is hovering above it or double-click on it when being in Create / Move Mode ([ALT+M]). The Angular Display Property dialog opens up.



D:
The Angular Display' ID may be changed by entering a new one in the textfield top left.

Fix:
When the option "Fix" is checked, the Angular Display will be displayed on every page.

You may design your Angular Display using different colours for Background, Center and Hand.

Set Min and Max for Degree and Range to change the display's size and range. Enter the amount of steps for your range.
To flip the display, check "Reverse".

You may set different colours for Major Ticks, Minor Ticks, Labels and Border. Tick the checkboxes to hide / display these options.
Tick the checkboxes to hide / display Major Ticks, Minor Ticks, Labels and Border.

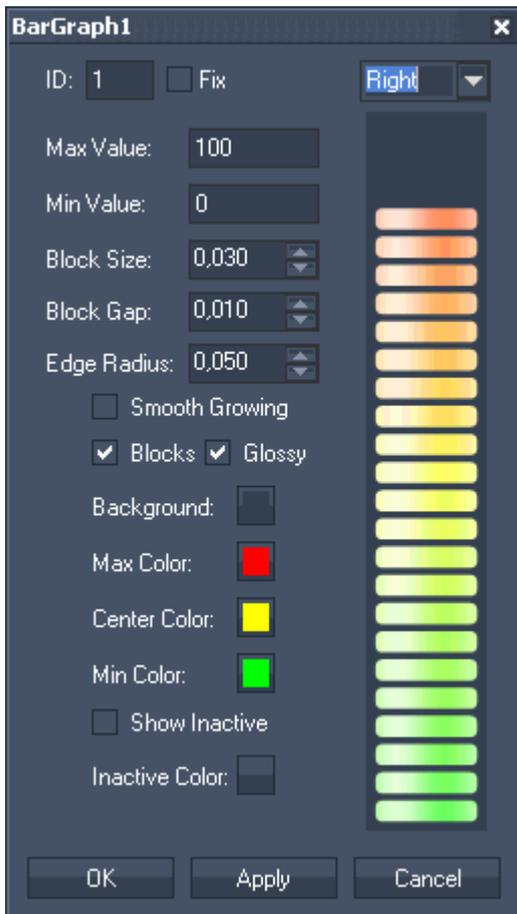
You may also label the display by entering a name in the textfield down right.

11.3.7.2 BAR GRAPH

The Bar Graph allows to show any numeric value that is routed to the [Bar Graph Output Node](#).



To set up the Bar Graph's properties, simply right-click on the Bar Graph and choose the menu entry "Item Properties", press [ALT+P] whilst the mouse is hovering above it or double-click on it when being in Create / Move Mode ([ALT+M]). The Bar Graph Property dialog opens up.



ID:
The Bar Graph's ID may be changed by entering a new one in the textfield top left.

Fix:
When the option "Fix" is checked, the Bar Graph will be displayed on every page.

Set the orientation of the Bar Graph to up, down, left or right.

Enter the Maximum and Minimum Value that should be displayed. You may also want to edit the Block Size and Block Gap as well as the Edge Radius.

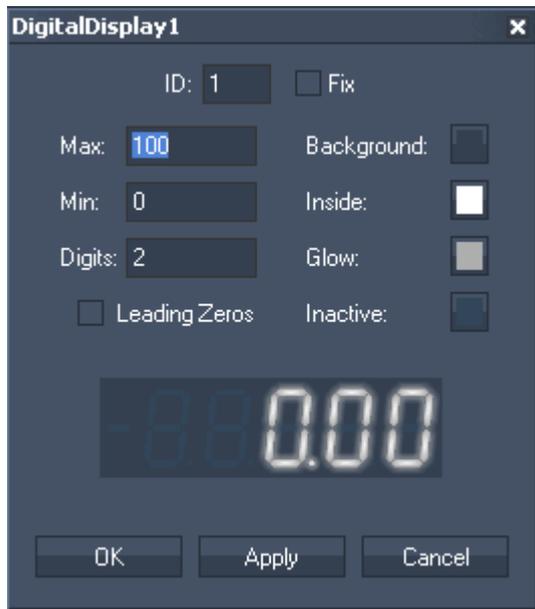
Design the Bar Graph for your own needs by choosing different type of colours (for background, Max-, Center- and Min Colour).

11.3.7.3 DIGITAL DISPLAY



The Angular Display allows to show any numeric value that is routed to the [Digital Display Output Node](#).

To set up the Digital Display simply right-click on the display and choose the menu entry "Item Properties", press [ALT+P] whilst the mouse is hovering above it or double-click on it when being in Create / Move Mode ([ALT+M]). The Digital Displays Property dialog opens up.



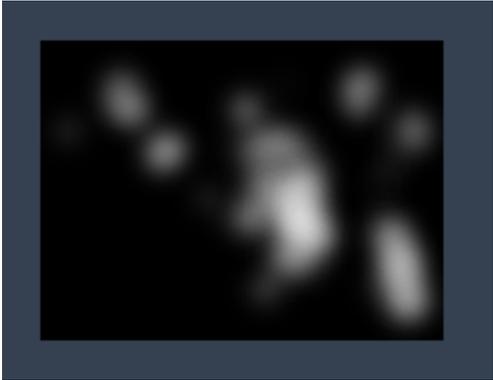
ID:
The Digital Display's ID may be changed by entering a new one in the textfield on the top .

Fix:
When the option "Fix" is checked, the Digital Display will be displayed on every page.

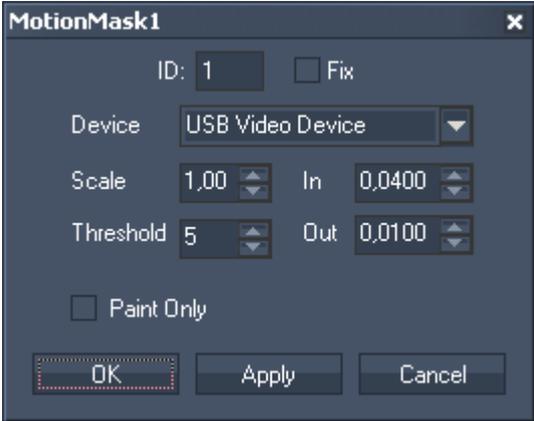
Set the value range for incoming data using Max and Min. Enter the amount of digits.
The option "Leading Zeros" fills all empty digits with zeros if amount of digits is smaller than the maximum, eg "7" will be displayed as "007" if maximum value is set to 100.
You may design your Digital Display using different colours for Background, Inside, Glow and Inactive.

11.3.7.4 MOTION MASK

The Motion Mask Display allows to use a DirectShow Video input to create a soft motiondetected Mask.



To set up the Motion Mask Display's simply right-click on the display and choose the menu entry "Item Properties", press [ALT+P] whilst the mouse is hovering above it or double-click on it when beeing in Create / Move Mode ([ALT+M]). The Motion Mask Displays Property dialog opens up.



ID:
The Display's ID may be changed by entering a new one in the textfield top left.

Fix:
When the option "fix" is checked, the Motion Mask will be available from every page.

Device:
Choose your DirectShow Video device from the list.

Scale:
The Scale is set to 100 by default. When decreasing this scale value the motion clouds get finer, when increasing it the motion clouds get softer.

Threshold:
This value defines how wide the movement in front of the camera has to be to be detected and displayed as motion cloud. Setting it down will detect smaller movements as well, setting it up will only detect wider movements.

In:
The In-value defines how soft the motion clouds will be displayed. The smaller this value is the softer the cloud comes in.

Out:
The Out-value defines how soft the motion clouds will disappear from the motion mask display. The smaller this value is the softer they disappear.

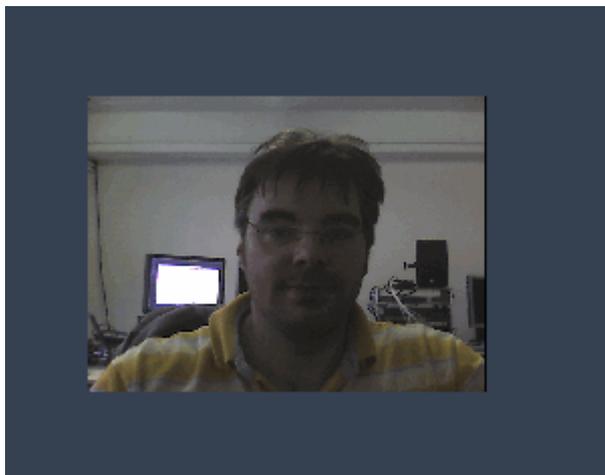
Paint Only:
Check this small box if you don't want the motion clouds to disappear after they have been displayed.

These scripts will let you control the motion mask display from outside, eg. by executing them through a Custom Script Button:

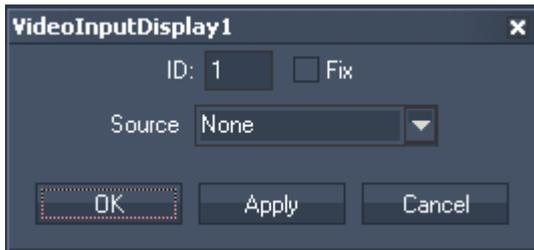
- [WDMotionMaskSetScale,'ID','Value'](#)
- [WDMotionMaskSetInValue,'ID','Value'](#)
- [WDMotionMaskSetOutValue,'ID','Value'](#)
- [WDMotionMaskSetThreshold,'ID','Value'](#)
- [WDMotionMaskSetPaintOnly,'ID','Bool'](#)

11.3.7.5 VIDEO INPUT DISPLAY

Use the Video Input Display to display a video source on the WD user interface or to send a [Video Snapshot](#) to Pandoras Box.



To set up the Video Input Display's simply right-click on the display and choose the menu entry "Item Properties", press [ALT+P] whilst the mouse is hovering above it or double-click on it when beeing in Create / Move Mode ([ALT+M]). The Video Input Displays Property dialog opens up.



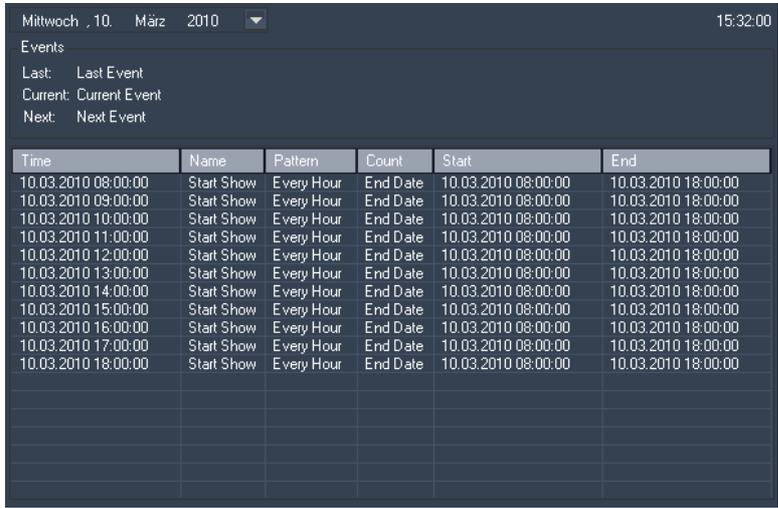
ID:
The Display's ID may be changed by entering a new one in the textfield top left.

Fix:
When the option "Fix" is checked, the Video Input Display will be displayed on every page.

Choose a Video Source from the list.

11.3.8 EVENT VIEWER

The Event Viewer allows you to monitor all events created with the [Event Tool](#).



To see the events on different dates, please choose a date from the dropdown list on the top.

11.3.9 FADER CONTROLS

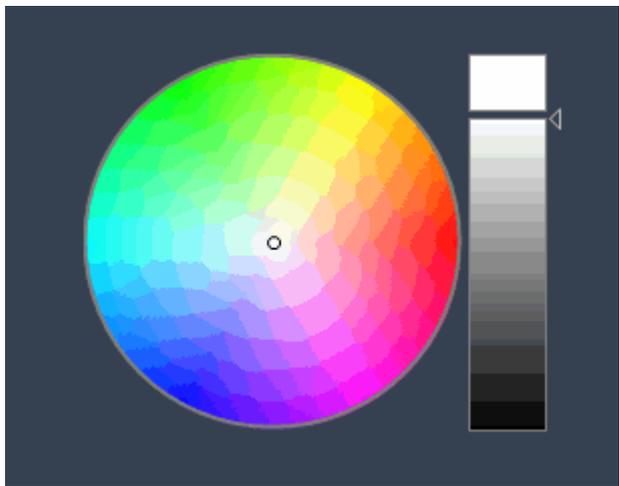
A fader can be created to control Pandoras Box device parameters or sequence parameters.

Choose between five kinds of faders:

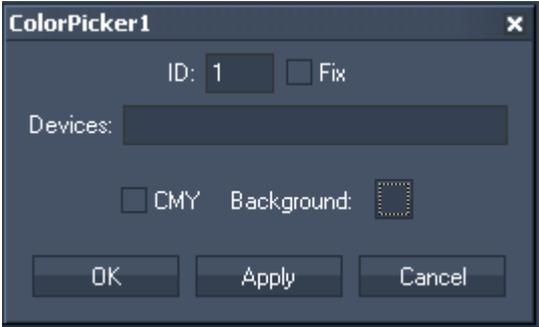
- [Colour Picker](#)
- [Encoder](#)
- [Fader Vertical / Horizontal](#)
- [Wheel Vertical / Horizontal](#)

11.3.9.1 COLOUR PICKER

The Colour picker allows you to choose a RGB / CMY colour and its brightness. The values of this RGB / CMY colour can be transferred to the Colour FX faders on a layer in Pandoras Box.



To edit the Colour Picker parameter simply right-click on the Colour Picker control and choose the menu entry "Item Properties", press [ALT+P] whilst the mouse is hovering above it or double-click on it when being in Create / Move Mode ([ALT+M]). The Colour Picker property dialog opens up.



ID:
The Colour Picker's ID may be changed by entering a new one in the textfield on the top.

Fix:
When the option "Fix" is checked, the Colour Picker will be displayed on every page.

Devices:
Enter single or multiple devices the Colour Picker should effect. Seperate multiple devices with a space character.
Use a comma or period to delimit the site from a layer ID.
Single entry: 1,1 or 1.1
Multiple entries: 1.1 1.2 1.3

11.3.9.2 ENCODER

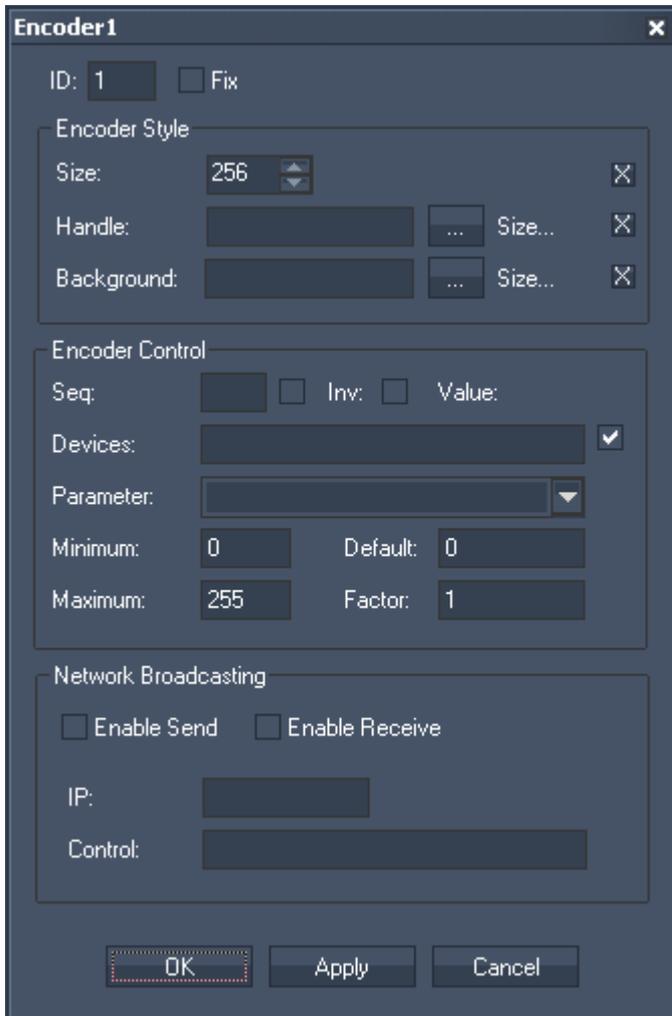
An Encoder can be created to control Pandoras Box device parameters or a sequence opacity.



To create an encoder right-click anywhere on the empty main background window and go to "Create"->"Fader Controls"->"Encoder".
Once you have clicked on the last menu item the mouse cursor will change to a crosshair icon. This icon tells you that you are in "CREATE" mode.

To create one or multiple encoders just left click anywhere on the empty main background window and you will see a new encoder being assigned and displayed.
The encoder may now be clicked on and rotated left or right.
Now you will need to set up the properties of the newly built encoder control.

To edit the encoder's parameters simply right-click on the desired encoder control and choose the menu entry "Item Properties", press [ALT+P] whilst the mouse is hovering above it or double-click on it when being in Create / Move Mode ([ALT+M]). The encoder property dialog opens up.



ID:
The Encoder's ID may be changed by entering a new one in the textfield top left.

Fix:
When the option "Fix" is checked, the Encoder will be displayed on every page.

The Encoder Property dialog is divided into three sections:

Encoder Style

In the Encoder Style section you can set the size of the control as well as defining custom images to be used for the encoder's background and handle.

Encoder Control

The Encoder Control section lets you choose to either control Pandoras Box sequences (Sequence Opacity) or devices (any parameter of a layer). To change from sequence to device control mode, simply check the checkbox next to the device text field.

To control one or multiple devices please enter the according site and device ID of the layers you would like to control with this fader.

For example: To control Layer 1 of Server 1 and 2 please enter "1.1 2.1" in the device text field

Next choose any parameter from the dropdown list to define which parameters to be controlled by the fader.

If the parameter list does not show the desired parameter (in case that you use a custom device) simply type in the name of the parameter here.

If you want to create encoders that control more than one parameter at once, you may also enter multiple parameter names in the parameter dropdown textbox.

For example: To control xyz scale with one fader please enter "X SCALE,Y SCALE,Z SCALE"

To define the exact value ranges of the encoder you may want to change or enter your desired value in the minimum and maximum fields.

The default value represents the start value of the encoder and the invert checkbox allows you to change the direction of the encoder.

The factor is set to 1 by default. If you increase this value eg. to 2, the encoder will increase / decrease its value twice as high with the same rotation.

Please note: When you are in the sequence mode, currently only the opacity of one sequence can be controlled.

Network Broadcasting

The NBS (Network Broadcast Service) allows to transmit and update Faders, Labels and CustomScript Buttons across multiple WD Designers instances on the network.

To activate this service, please refer to the [IP Configuration!](#)

Sending values:

To send the encoders values as broadcast into the network, you only have to check "Enable Send".

Receiving values:

To receive values from other encoders, please check "Enable Receive".

Now you have to specify which item should update your encoder:

Enter the IP address of the computer you want to listen to. This could be the local computer (to control the encoder through another item on the same Widget Designer) or a different computer in the network. If you do not want to specify the computer but want to listen to all computers in the network, enter "255.255.255.255".

As next step specify the item you want to take the values from. This could eg be "Encoder1" or "Encoder2"

Once all values are set, the ancoder is ready to be used or edited at any time.

If you want to control the Encoder i.e. via a custom script button, these scripts are available:

[WDEncoderGoUp,'ID','Value'](#)

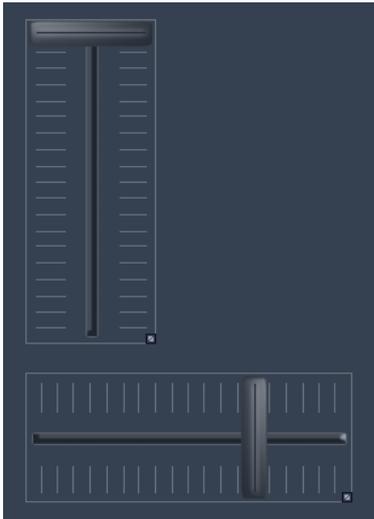
[WDEncoderGoDown,'ID','Value'](#)

[WDEncoderValue,'ID','Value'](#)

[WDEncoderFactor,'ID','Value'](#)

XYPannel now under Panels!

11.3.9.3 FADER VERTICAL / HORIZONTAL



A fader can be created to control Pandoras Box device parameters or a sequence opacity.

To create a fader right-click anywhere on the empty main background window and go to "Create"->"Fader"->"Vertical".

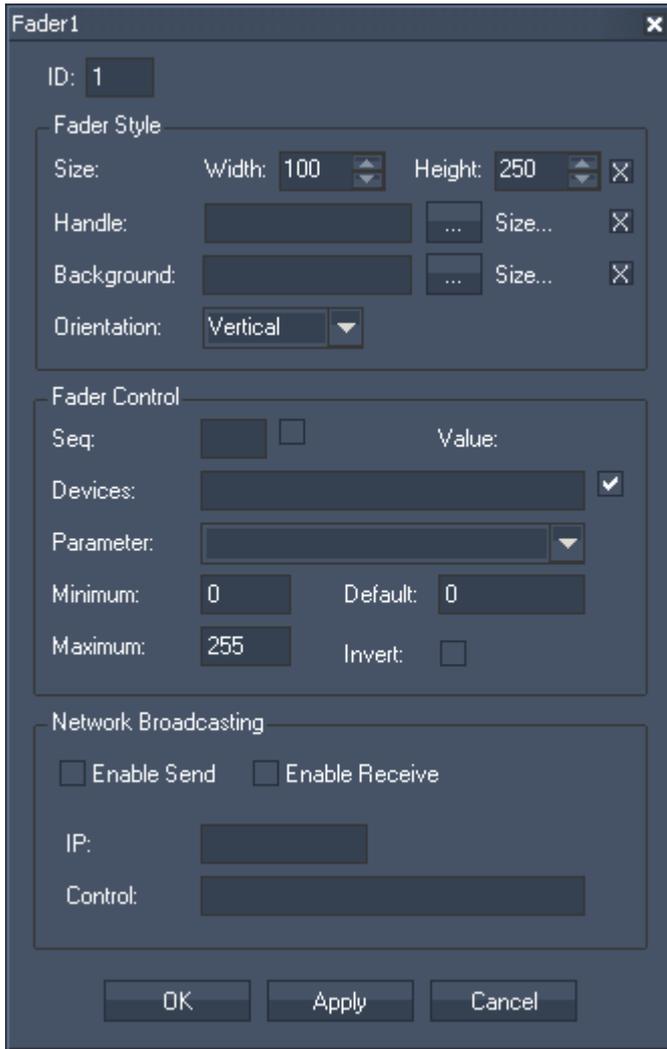
Once you have clicked on the last menu item the mouse cursor will change to a crosshair icon. This icon tells you that you are in "CREATE" mode.

To create one or multiple faders just left click anywhere on the empty main background window and you will see a new fader being assigned and displayed.

The fader may now be clicked on and moved up and down.

Now you will need to set up the properties of the newly built fader control.

To edit the fader's parameters simply right-click on the desired fader control and choose the menu entry "Item Properties", press [ALT+P] whilst the mouse is hovering above it or double-click on it when being in Create / Move Mode ([ALT+M]). The Fader Property dialog opens up.



The Fader's ID may be changed by entering a new one in the textfield top left.

The Fader Property dialog is divided into three sections:

Fader Style

In the Fader Style section you can set the size of the control as well as defining custom images to be used for the fader's background and handle. The orientation can also be changed from vertical to horizontal.

Fader Control

The Fader Control section lets you choose to either control Pandoras Box sequences or devices (layers).

To change from sequence to service control mode, simply check the checkbox next to the device text field.

To control one or multiple devices please enter the according site and device ID of the layers you would like to control with this fader.

For example: To control Layer 1 of Server 1 and 2 please enter "1.1 2.1" in the device text field

Next choose any parameter from the dropdown list to define which parameters to be controlled by the fader.

If the parameter list does not show the desired parameter (in case that you use a custom device) simply type in the name of the parameter here.

If you want to create faders that control more than one parameter at once, you may also enter multiple parameter names in the parameter dropdown textbox.

For example: To control xyz scale with one fader please enter "X SCALE,Y SCALE,Z SCALE"

To define the exact value ranges of the fader you may want to change or enter your desired value in the minimum and maximum fields.

The default value represents the start value of the fader and the invert checkbox allows you to change the direction of the fader.

Please note: When you are in the sequence mode, currently only one sequence can be controlled.

Network Broadcasting

The NBS (Network Broadcast Service) allows to transmit and update Faders, Labels and CustomScript Buttons across multiple WD Designers instances on the network.

To activate this service, please refer to the [IP Configuration!](#)

Sending values:

To send the faders values as broadcast into the network, you only have to check "Enable Send".

Receiving values:

To receive values from other faders, please check "Enable Receive".

Now you have to specify which item should update your fader:

Enter the IP address of the computer you want to listen to. This could be the local computer (to control the fader through another item on the same Widget Designer) or a different computer in the network. If you do not want to specify the computer but want to listen to all computers in the network, enter "255.255.255.255".

As next step specify the item you want to take the values from. This could eg be "Fader1" or "Fader2"

Once all values are set, the fader is ready to be used or edited at any time.

11.3.9.4 WHEEL VERTICAL / HORIZONTAL

A Wheel can be created to control Pandoras Box device parameters or the sequence opacity.



To create a wheel right-click anywhere on the empty main background window and go to "Create"->"Fader Controls"->"Wheel Vertical" or "Wheel Horizontal".

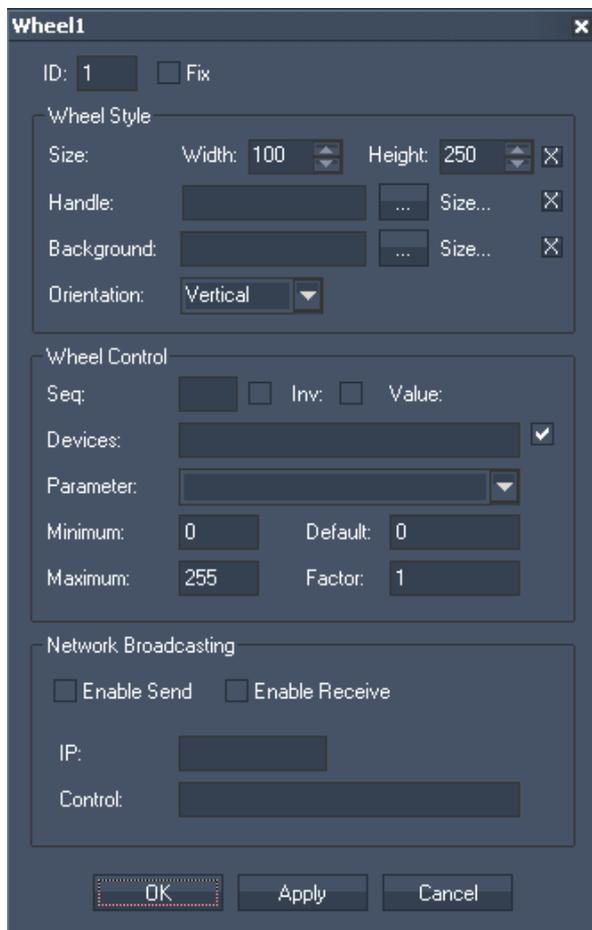
Once you have clicked on the last menu item the mouse cursor will change to a crosshair icon. This icon tells you that you are in "CREATE" mode.

To create one or multiple wheels just left click anywhere on the empty main background window and you will see a new wheel being assigned and displayed.

The wheel may now be clicked on and moved up and down.

Now you will need to set up the properties of the newly built wheel control.

To edit the wheel's parameters simply right-click on the desired wheel control and choose the menu entry "Item Properties", press [ALT+P] whilst the mouse is hovering above it or double-click on it when being in Create / Move Mode ([ALT+M]). The encoder property dialog opens up.



ID:

The Wheel's ID may be changed by entering a new one in the textfield top left.

Fix:

When the option "Fix" is checked, the Wheel will be displayed on every page.

The Wheel Property dialog is divided into three sections:

Wheel Style

In the Wheel Style section you can set the size of the control as well as defining custom images to be used for the wheel's background and handle.

Wheel Control

The Wheel Control section lets you choose to either control Pandoras Box sequences (Sequence Opacity) or devices (any parameter of a layer).

To change from sequence to device control mode, simply check the checkbox next to the device text field.

To control one or multiple devices please enter the according site and device ID of the layers you would like to control with this fader.

For example: To control Layer 1 of Server 1 and 2 please enter "1.1 2.1" in the device text field

Next choose any parameter from the dropdown list to define which parameters to be controlled by the fader.

If the parameter list does not show the desired parameter (in case that you use a custom device) simply type in the name of the parameter here.

If you want to create wheels that control more than one parameter at once, you may also enter multiple parameter names in the parameter dropdown textbox.

For example: To control xyz scale with one fader please enter "X SCALE,Y SCALE,Z SCALE"

To define the exact value ranges of the wheel you may want to change or enter your desired value in the minimum and maximum fields.

The default value represents the start value of the wheel and the invert checkbox allows you to change the direction of the wheel.

The factor is set to 1 by default. If you increase this value eg. to 2, the wheel will increase / decrease its value twice as high with the same movement.

Please note: When you are in the sequence mode, currently only the opacity of one sequence can be controlled.

Network Broadcasting

The NBS (Network Broadcast Service) allows to transmit and update Faders, Labels and CustomScript Buttons across multiple WD Designers instances on the network.

To activate this service, please refer to the [IP Configuration!](#)

Sending values:

To send the wheel's values as broadcast into the network, you only have to check "Enable Send".

Receiving values:

To receive values from other wheels, please check "Enable Receive".

Now you have to specify which item should update your wheel:

Enter the IP address of the computer you want to listen to. This could be the local computer (to control the encoder through another item on the same Widget Designer) or a different computer in the network. If you do not want to specify the computer but want to listen to all computers in the network, enter "255.255.255.255".

As next step specify the item you want to take the values from. This could eg be "Wheel1" or "Wheel2"

Once all values are set, the ancoder is ready to be used or edited at any time.

If you want to control the Wheel i.e. via a custom script button, these scripts are available:

[WDWheelGoUp,'ID','Value'](#)

[WDWheelGoDown,'ID','Value'](#)

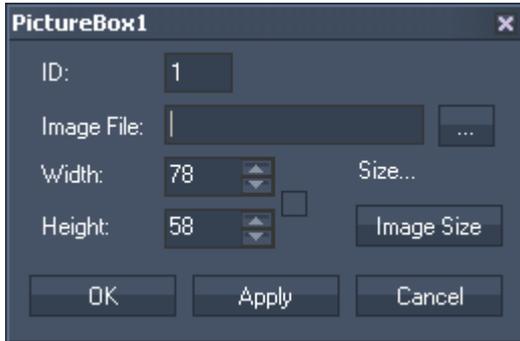
[WDWheelValue,'ID','Value'](#)

[WDWheelFactor,'ID','Value'](#)

11.3.10 IMAGE

The Image control lets you add text labels to your userinterface.

To edit the Image parameters simply right-click on the desired Image control and choose the menu entry "Item Properties", press [ALT+P] whilst the mouse is hovering above it or double-click on it when beeing in Create / Move Mode ([ALT+M]). The Image Property Dialog opens up.



The Image's ID may be changed by entering a new one in the textfield top left.

In the property dialog of the Image you assign a jpg, png or bitmap from your local harddrive.

Once the image is loaded you can change the size.

Use the checkbox to lock the aspect ratio between width and height.

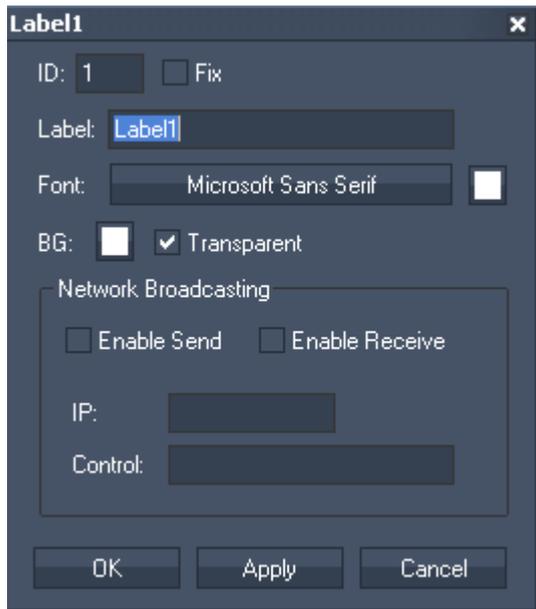
The files native resolution can be assigned by clicking "Image Size"

11.3.11 LABEL

The Label control lets you add text labels to your user interface.



To edit the Label parameters simply right-click on the desired Label control and choose the menu entry "Item Properties", press [ALT+P] whilst the mouse is hovering above it or double-click on it when beeing in Create / Move Mode ([ALT+M]). The Label Property Dialog opens up.



ID:
The Label's ID may be changed by entering a new one in the textfield top left.

Fix:
When the option "Fix" is checked, the Label will be displayed on every page.

Label:
Edit the label text by entering it in the text field.

Font:
Edit the label font and the font size by clicking on the button with the current font.
To change the label text colour click in the small box on the right side.

BG:
The background colour is transparent by default. If you want to underlay the text with a colour, uncheck "Transparent" and choose a colour for the background by clicking in the small box.

Network Broadcasting
The NBS (Network Broadcast Service) allows to transmit and update Faders, Labels and CustomScript Buttons across multiple WD Designers instances on the network.
To activate this service, please refer to the [IP Configuration!](#)

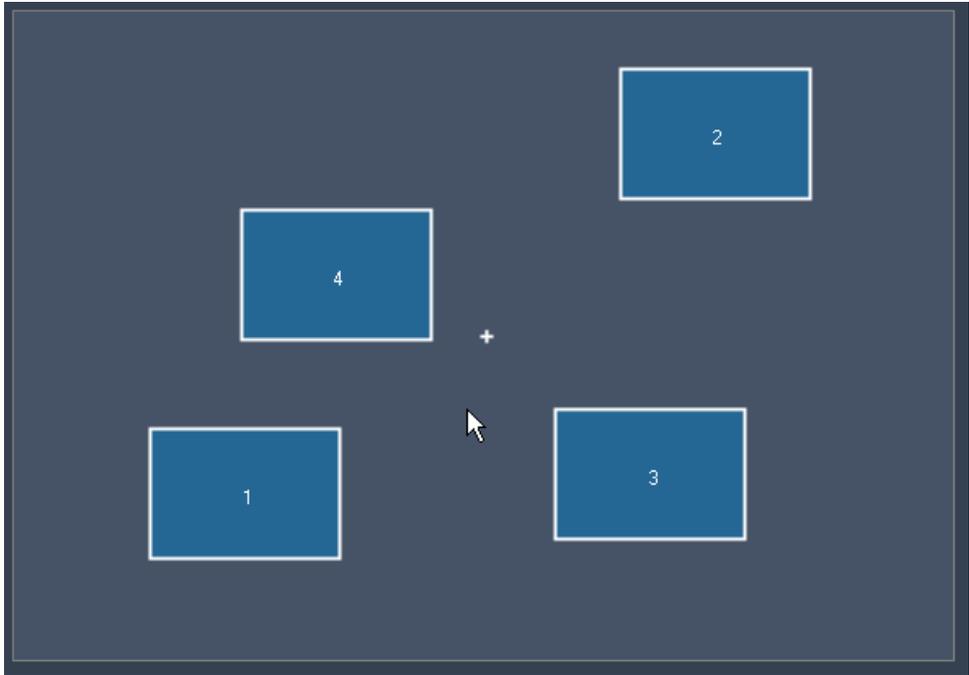
Sending values:
To send the labels values as broadcast into the network, you only have to check "Enable Send".

Receiving values:
To receive values from other faders, labels or customscript buttons, please check "Enable Receive".
Now you have to specify which item should update your label:
Enter the IP address of the computer you want to listen to. This could be the local computer (to control the fader through another item on the same Widget Designer) or a different computer in the network. If you do not want to specify the computer but want to listen to all computers in the network, enter "255.255.255.255".
As next step specify the item you want to take the values from. This could be a fader (eg "Fader1" or "Fader2"), a label (eg "Label1" or "Label2"), or a custom script button (eg "CustomScript1" or "CustomScript2" – you will be able get its status: 1/0).

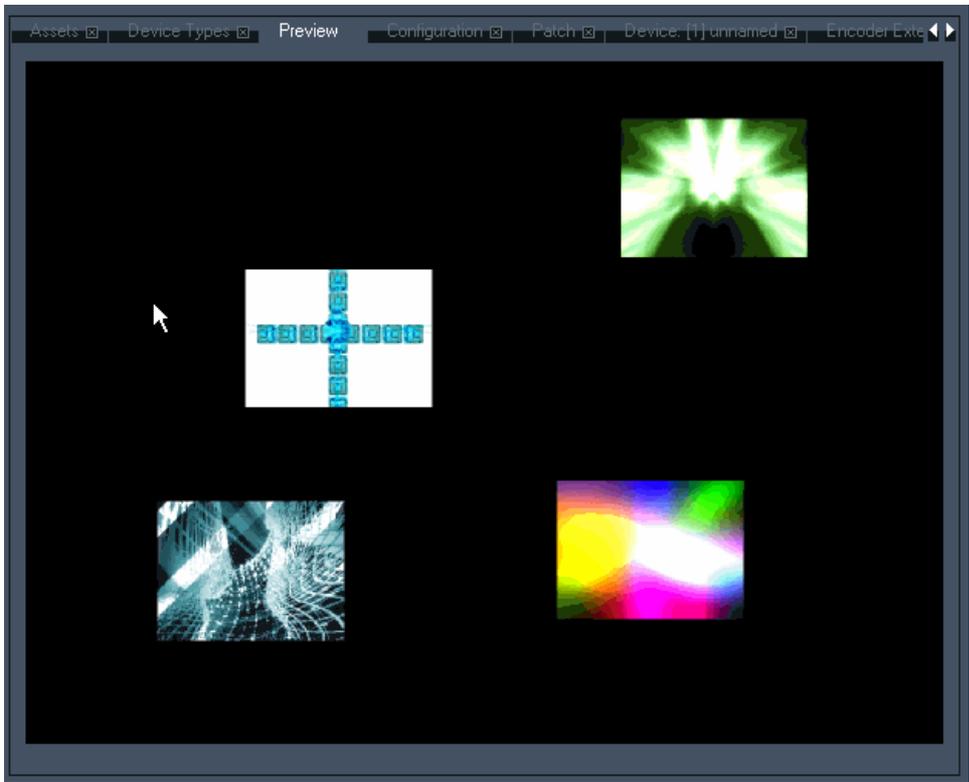
11.3.12 PANEL

11.3.12.1 MULTITOUCH

The MultiTouch Panel allows direct control of up to 48 layers in PB as interactive touch surfaces.

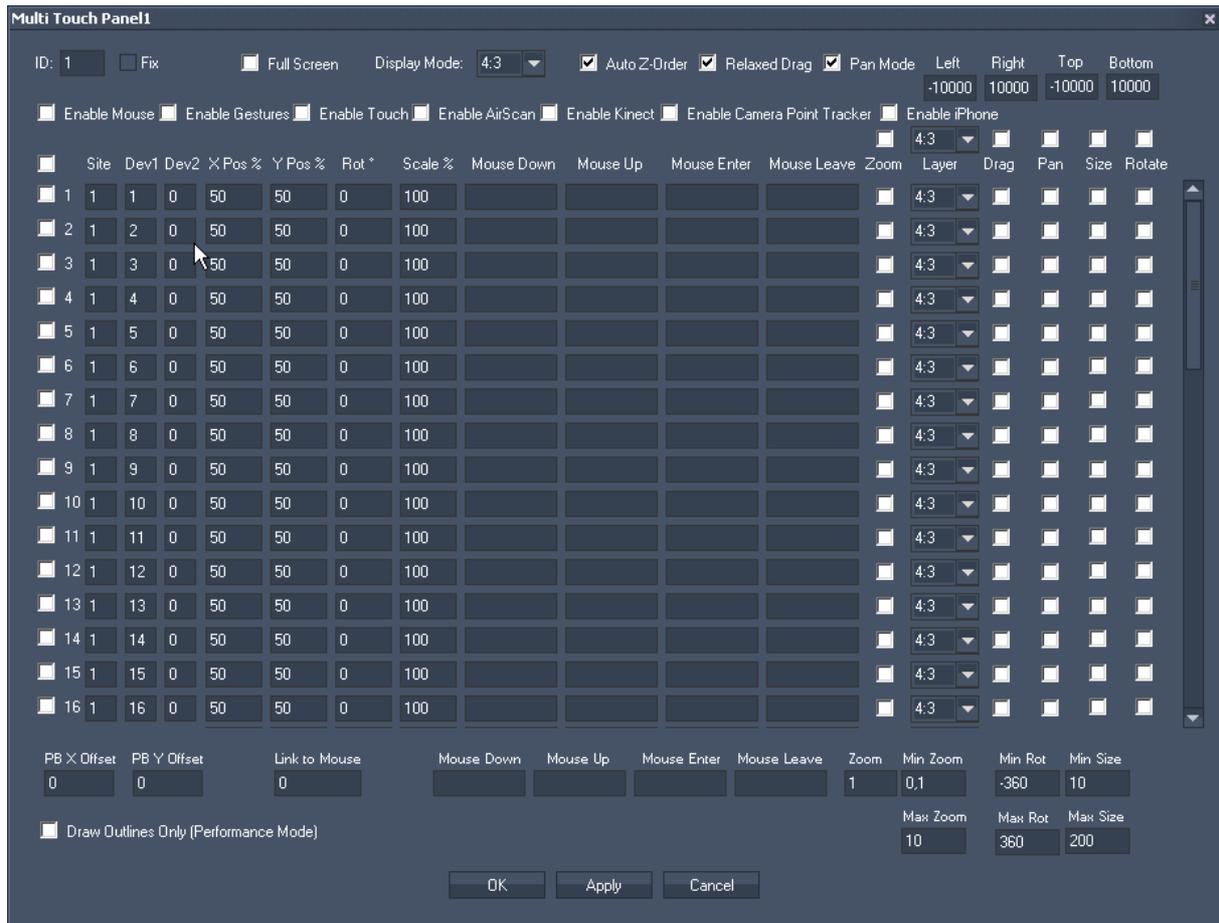


Any changes done to these items in the MultiTouch Panel (in the example above numbered 1-4), like moving, scaling or rotating them will be applied to the Layers in Pandoras Box as well:



To set up the properties of the MultiTouch Panel simply right-click in the GUI and choose the menu entry "Item Properties", press [ALT+P] whilst the mouse is hovering above it or double-click on it when being in Create / Move Mode ([ALT+M]). The MultiTouch Dialog opens up. Don't worry if this takes a bit longer than opening the Item Properties of other controls.

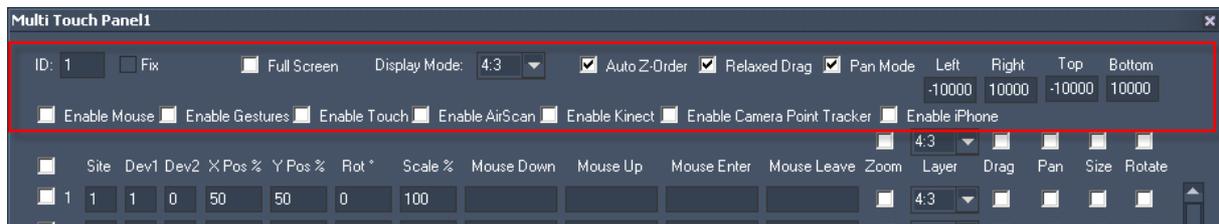
Item Properties:



The Item Properties dialog is divided into three different areas:

- A). Panel Settings,
- B). Device Settings and
- C). PB Settings.

A) PANEL SETTINGS



ID:

The MultiTouch Panel's ID may be changed by entering a new one in the text field top left.

Fix:

When the option "Fix" is checked, the MultiTouch Panel will be displayed on every page inside WD.

Fullscreen:

Check this option to let the MultiTouchPanel cover the full screen of your WD computer.

Display Mode:

Please choose between the Display Modes 4:3, 16:9 and 16:10, according to the aspect ratio of your

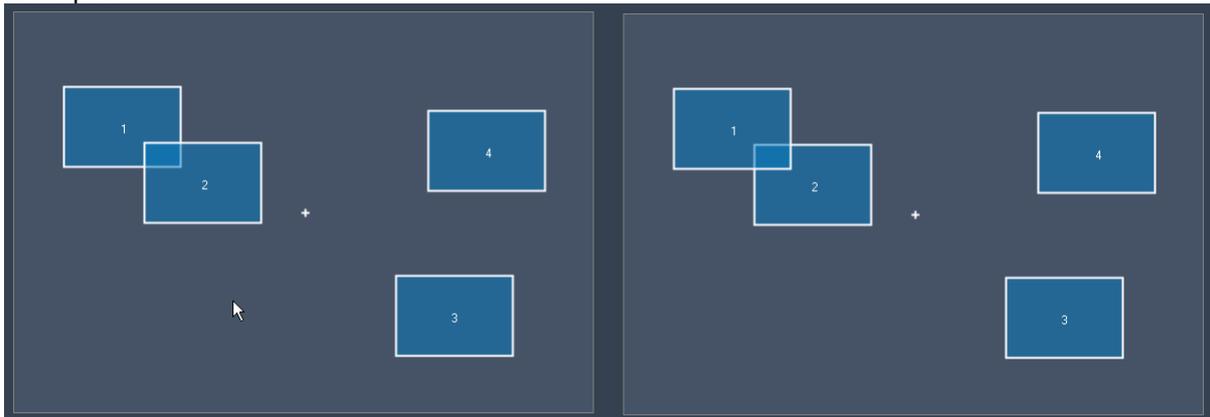
WD computer screen. This is needed to have the devices in the correct aspect ratio inside the MultiTouch Panel.

Auto Z-Order:

When this option is checked, the selected item inside the MultiTouch Panel will automatically be placed in front of other items inside Pandoras Box (if one item overlays another one). This option influences the Z Position of the layer in PB the devices are linked to. Do not use Auto Z-Order, if you have assigned non-default Z Positions to the layers manually.

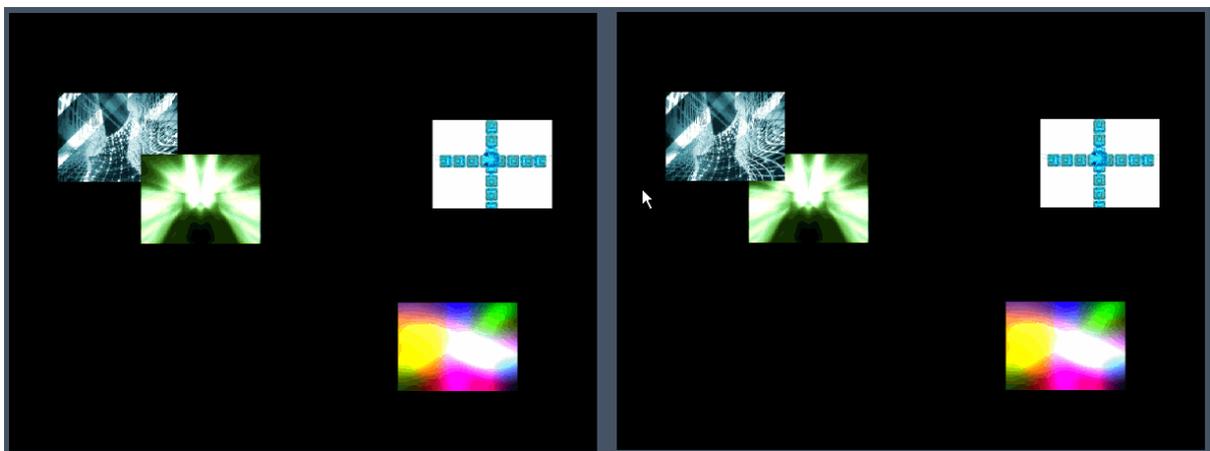
Please note: this option is not working when controlling PB Players, as there is no Z Position available for Player devices.

Example:



Left: Item2 is in front of Item1.

Right: After selecting Item1 the Z Order changes and Item2 is behind Item1.

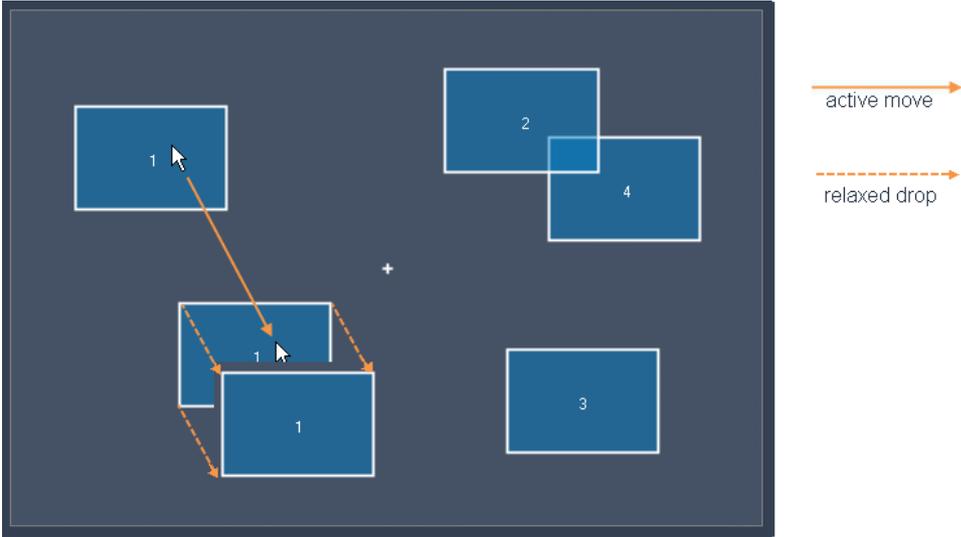


Left and right: see this effect in PB.

Relaxed Drop:

When Relaxed Drop is enabled, an item will not stop hard at a position to which it was dragged, but it will run out smoothly depending on the dragging speed. This option is active by default.

Example:



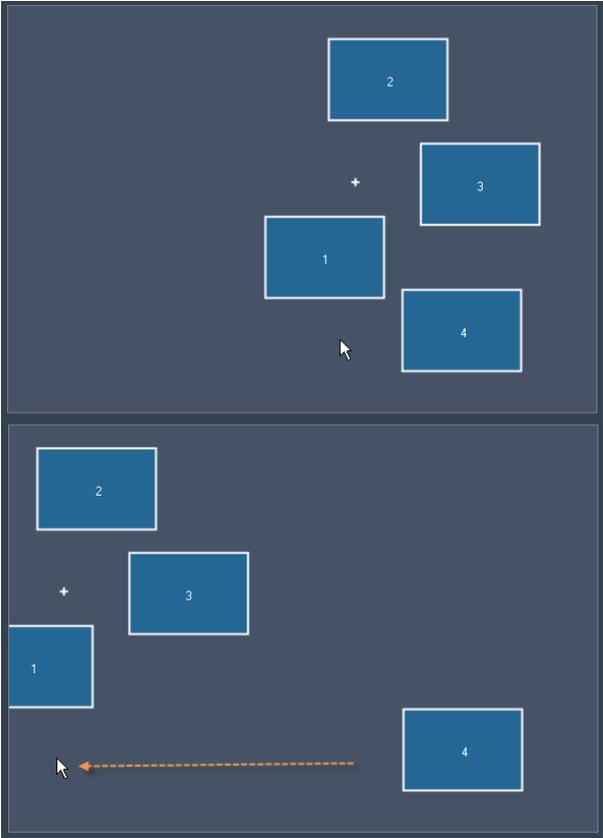
Pan Mode:

The Pan Mode needs to be checked if you want to move items on the Multitouch area or out of it by clicking in the background and proceed a move there. This will then apply to all items that have the Pan option enabled.

Please note:

Pan is only working when option [Enable Mouse] is checked inside the Multitouch Panel and when your device (Mouse, Kinect, Airscan, Multitouchdevice etc.) controls the mouse of your WD computer.

Example:



Pan-Mode is enabled for the Multitouch Panel and for the Items 1, 2 and 3, but not for Item4.

The two pictures show the result after clicking in the panels background and moving the mouse over to the left side:

Item4 stays at its previous position while the Items 1,2 and 3 are moved to the left side as well.

The little + in the panel's background shows you the PAN position.

Left / Right / Top / Bottom:

The values inside the text fields define how many percent the MultiTouch area can be moved in each direction when PAN is enabled.

Example:

If you change the value for Top and Bottom to 0 (%) you wont be able to move the Multitouch area up and down, but only to the left and right side.

Devices to control the Multitouch Panel:

Important Notice regarding Multi-Touch Input on Win7:

The Tablet Service must be active in order for Win7 to provide the multi touch data.

Enable Mouse:

Enable the mouse input if you want to use the mouse to control the multitouch items.

Please note:

The Mouse Input needs to be enabled when you want to use the Pan Mode!

Enable Gestures:

Enable this option if you want to use Synaptics Touch Pads and Wacom Bamboo Devices.

Enable Touch:

Enable this option if you want to use touch devices like (Multi-)Touch Monitors.

Enable AirScan:

Enable this option if you want to use the [Airsan](#).

Enable Kinect:

Enable this option if you want to use the [Kinect](#).

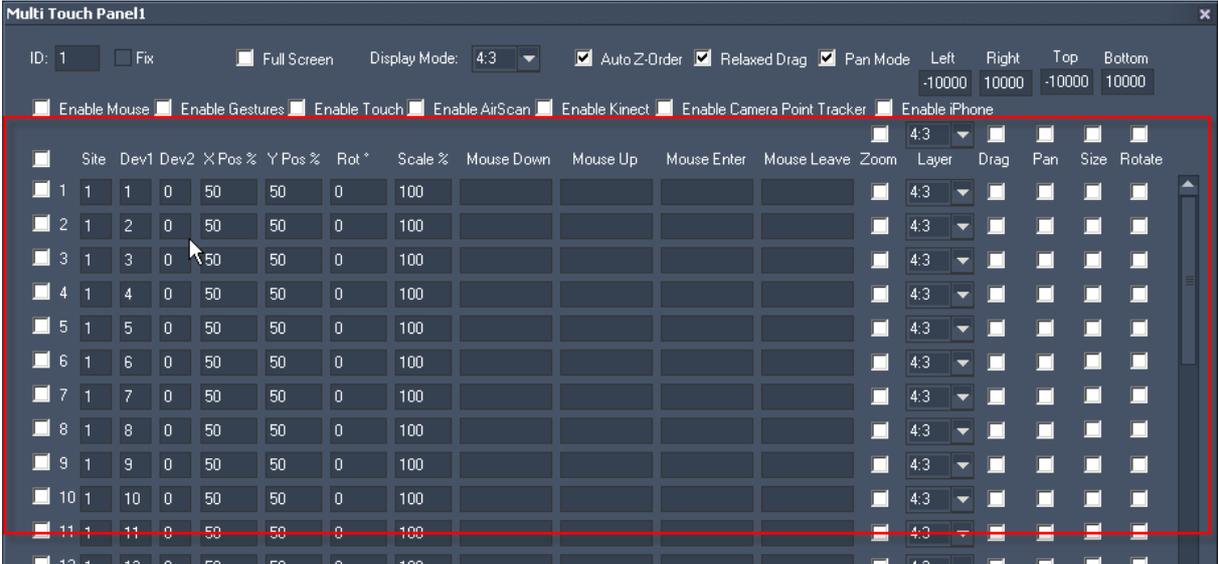
Enable Camera Point Tracker:

Enable this option if you want to use the [Camera Point Tracker](#).

Enable iPhone:

Enable this option if you want to use your iPhone with the Widget Designer Remote App to control the multitouch items.

B. Device Settings:



Checkbox in front of each line:

To enable items in the MultiTouch Panel, that will control a layer in Pandoras Box, you have to check the small box in front of a line. To enable all possible 48 items at once, check the small box that is located above all others.

Device (Site/Dev1/Dev2):

To link a Multitouch Item to a layer in Pandoras Box, enter the Site ID (Site) and the Layer ID (Dev1). Example: If Multitouch item 1 should control Layer 2 of site 1 (number in front of the Layer is 1.2), please enter 1 in the first text field and 2 in the second one.

You may link a second layer to the same Multitouch Item – for example a shadow that is on a separate layer – enter the Layer ID into the Dev2 text field.

Example: If Multitouch item 1 should control Layer 4 and 5 of site 1, please enter 1 | 4 | 5.

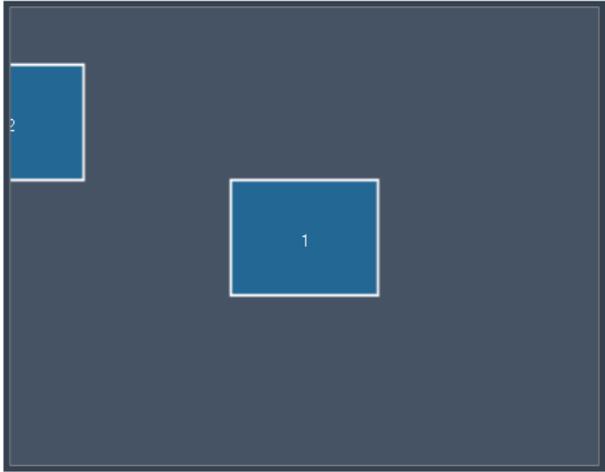
X Pos and Y Pos:

The X and Y position values are percentaged values.

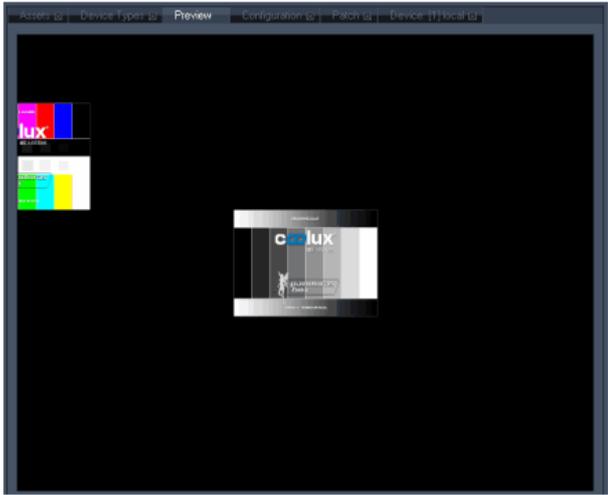
Example:

Having an item (1) inside the MultiTouch Panel with the value 50 for X and Y Position means that its center point is located at 50% of the whole Panel's X and Y range. The center point of an item (2) with the values X=0 and Y=25 is, according to this, located leftmost and in the upper quarter of the panel, see image below at the left side.

As the whole MultiTouch Panel (no matter up to which size you scale it) always represents the visible PB output area (if no Cam Z Position is changed) these values will be transferred 1:1 to the PB fullscreen output, see image below at the right side.



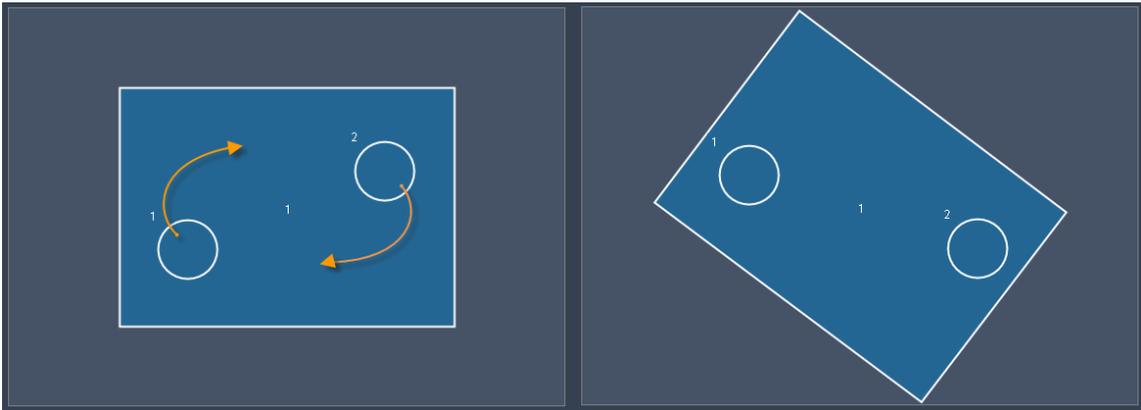
a) MultiTouch Panel:
Item 1 is located in 50,50 (X,Y), Item 2 in 0,25 (X,Y).



b) Pandoras Box Output:
The two layers match perfectly to the items' position and scaling just as in the MultiTouch Panel.

Rotate:

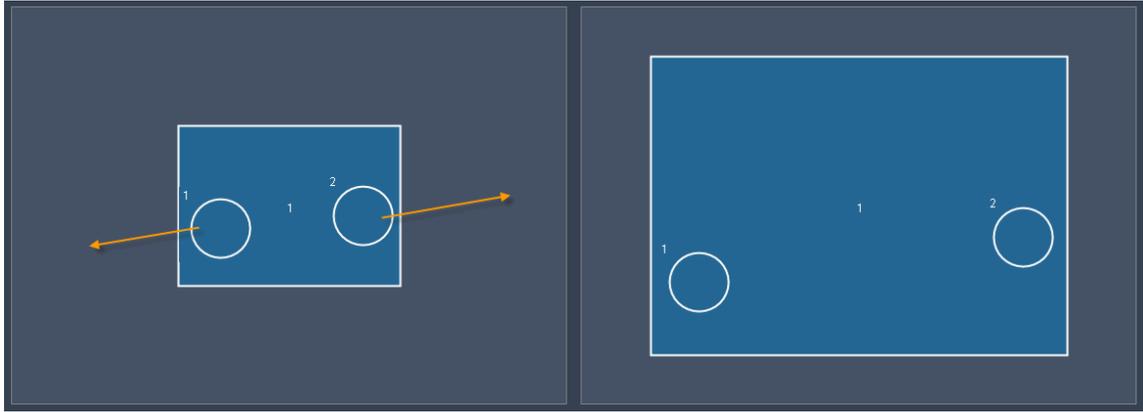
The rotation value of an item (in °) can be entered manually in this text field.
The interactive rotation of an item will be achieved when using a multi-point / -touch device.
Enter the Item with two touch points and change the angle between them, see picture below.
Please note: the option [Rotate] has to be enabled for this Item!



Scale:

The scale of an item (in %) refers, same as the position values, to the whole MultiTouch Panel area and therefore to the PB Output area. The item in the example below (left side) has the scaling value 30, so it covers 30% of the width and the height. An item with the scaling value 100 covers the whole screen.

The interactive scaling of an item will be achieved when using a multi-point / -touch device.
Enter the Item with two touch points and change the distance between them, see picture below.
Please note: the option [Size] has to be enabled for this Item!



Mouse Down / Up / Enter / Leave:

The MultiTouch Panel offers script processing for different mouse interactions.
 "Mouse Down" is processed when a mouse left button down click on the item is done.
 "Mouse Up" is processed when a mouse left button up click on the item is done.
 "Mouse Enter" is processed when the mouse cursor enters the item.
 "On Mouse Leave" is processed when the mouse cursor leaves the item.

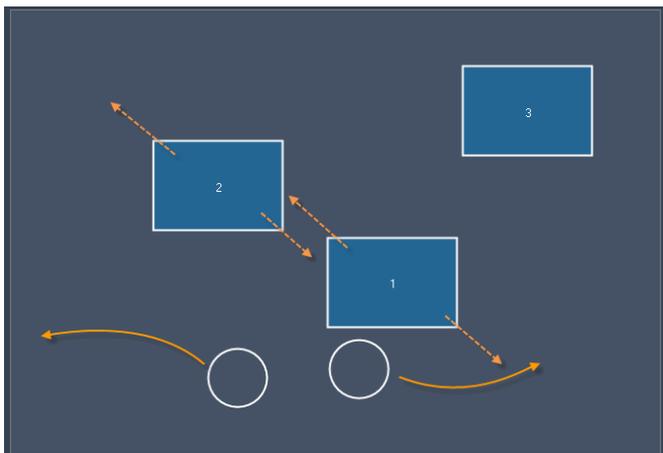
Any script that is available from the [script list](#) may be used, just enter it in the textfield. Multiple scripts can be executed by delimiting every script with a carriage return at the end of the script command. As these small text fields do not offer a good overview when using multiple scripts, working with [macros](#) is a good option.

Zoom:

The Zoom option applies to the whole Multitouch Panel and to all Items that have the Zoom option enabled.

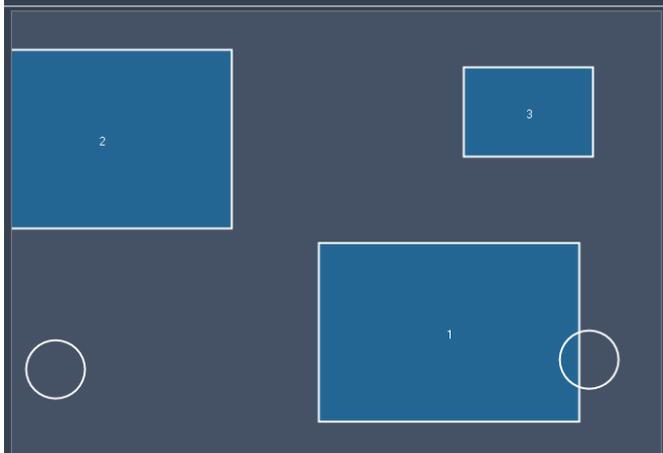
The interactive zooming will be achieved when using a multi-point / -touch device.
 Enter the Multitouch Panel with two touch points and change the distance between them.
 Please note: this only works for Items that have the option [Zoom] enabled. All other items will keep their original size.

Example:



Item 1 and 2 have the Zoom option enabled, Item 3 doesn't.

So after zooming the Multitouch Area with two touch points, the zoom is applied to Item 1 and Item 2. Item 2 keeps its former size.



The Zoom factor may be changed via Script as well:

[WDMultiTouchSetZoom,'ID','Zoomfactor'](#)

Layer:

Please choose the Aspect Ratio for the item (4:3, 16:9 or 16:10), according to the aspect ratio of the file assigned to the layer. This is needed to display the media file with its correct aspect ratio in Pandoras Box.

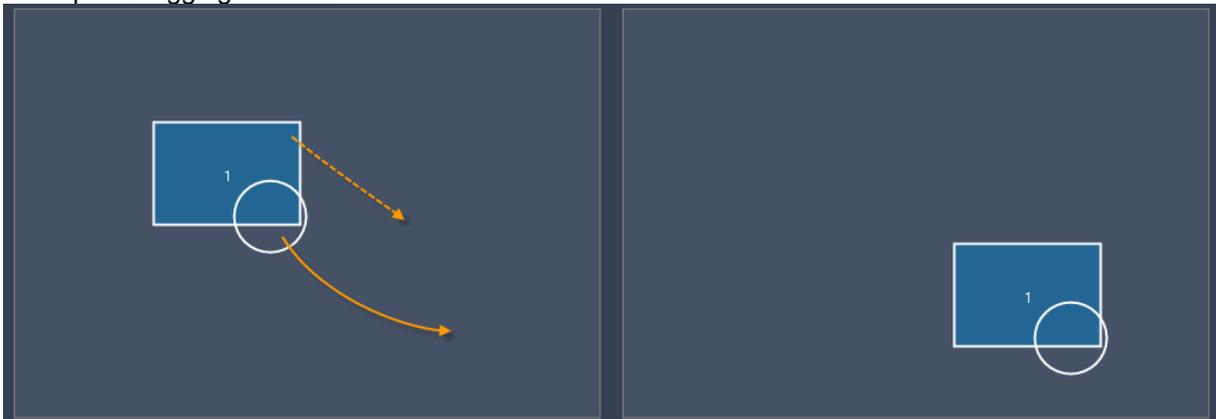
If all media files on the layers in Pandoras Box have the same aspect ratio just check the small box on top to apply this aspect ratio to all items.

Drag:

To move an item on the MultiTouch Panel you need to have the mouse clicked on this Item or place a touch point on it. Moving the mouse / touch point will drag the Item. See example below.

Please note: The option Drag needs to be enabled for the Item.

Example: Dragging an Item.



Pan:

Enable Pan if you want to move an item on the MultiTouch area or out of it by clicking in the background and proceeding a move there (instead of moving the item itself directly). This allows to move several items that have the Pan option enabled at once.

The Pan Mode in the Panel Settings as well as [Enable Mouse] needs to be checked!

--> See an example for Pan in the section "A. Panel Settings"!

Size:

Enable Size if you want to scale an item with a support device that provides two (mouse-)points (eg. the AirScan) instead of a single touch (eg. the mouse). By changing the distance between the two points you will increase or decrease the item's scaling when the item is selected.

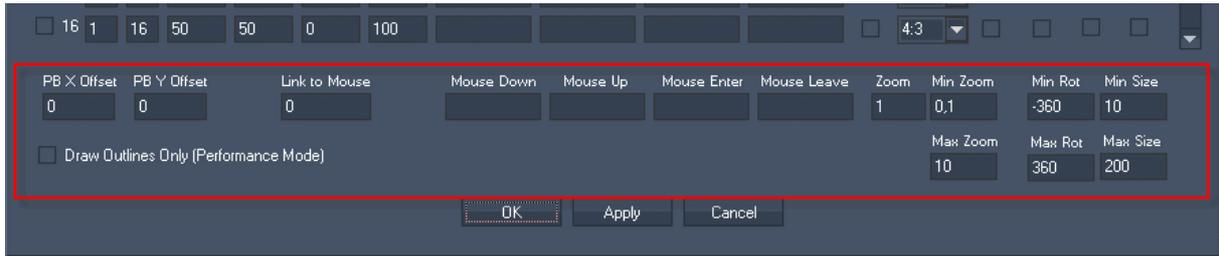
--> See an example for Size in the section "B. Device Settings" under the cue "Scale"!

Rotate:

Enable Rotate if you want to rotate an item with a support device that provides two (mouse-)points (eg. the AirScan) instead of a single touch (eg. the mouse). By changing the angle between the two points you will rotate the item clockwise or anti-clockwise when the item is selected.

--> See an example for Rotate in the section "B. Device Settings"!

PB Settings



PB X Offset / PB Y Offset:

If you need an offset for the X or Y position of all items in Pandoras Box please enter it here. The values correspond to the position values used in Pandoras Box.

Example:

Item 1 is on position 50 (this corresponds to the X Pos value 32768 in PB, when being in non-centered mode). Entering a PB X Offset of 200 changes this X Pos value from 32768 to 32968 in PB – the item in the MultiTouch Panel stays at the same position.

Link To Mouse:

The value 0 means that no MultiTouch item is linked to the mouse. If you change this value to eg. 1, Item 1 will be linked to the mouse until this entry is changed (manually or via script). As long as the item is linked to the mouse, it will follow the mouse over the MultiTouch Area although Drag is disabled.

Relevant for this feature the following script commands may be executed, from within the MultiTouch Panel or from other controls like eg. CustomScript Buttons:

- [WDMultiTouchLinkToMouse,'ID','ItemID'](#)
- [WDMultiTouchLinkItemToMouse,'ID'](#)
- [WDMultiMouseLinkPlay,'ID'](#)
- [WDMultiMouseLinkLoop,'ID'](#)
- [WDMultiMouseLinkPause,'ID'](#)
- [WDMultiMouseLinkStop,'ID'](#)

Mouse Down / Up / Enter / Leave:

The MultiTouch Panel offers script processing for different mouse interactions, valid for the whole MultiTouch area:

- “Mouse Down” is processed when a mouse left button down click on the panel is done.
- “Mouse Up” is processed when a mouse left button up click on the panel is done.
- “Mouse Enter” is processed when the mouse cursor enters the panel.
- “On Mouse Leave” is processed when the mouse cursor leaves the panel.

Any script that is available from the [script list](#) may be used, just enter it in the textfield. Multiple scripts can be executed by delimiting every script with a carriage return at the end of each script command. As these small text fields do not offer a good command overview when using multiple scripts, working with [macros](#) is a good option.

Zoom:

Here you may change the Zoom factor that will be applied to all items having the Zoom option enabled.

The factor can be changed via script ([WDMultiTouchSetZoom,'ID','Zoomfactor'](#)) as well.

Min / Max Zoom:

These adjustable values will allow you to limit the minimum and maximum zoom factor (in %).

--> See an example for using the Zoom in the section “B. Device Settings”!

Min / Max Rot:

The values (in degree) for minimum and maximum rotation allows you to set the amount of degrees the items are allowed to be turned. This function is limited to maximum +/- 360 degree.

--> See an example for Rotate in the section "B. Device Settings"!

Min / Max Size:

Enter new values here (in %) in order to change the minimum and maximum size an item is allowed to have.

--> See an example for Size in the section "B. Device Settings" under the cue "Scale"!

See here the list of scripts that all influence the MultiTouch Panel:

[WDMultiTouchStoreDefaults,'ID'](#)

[WDMultiTouchApplyDefaults,'ID'](#)

[WDMultiTouchSetZoom,'ID','Zoomfactor'](#)

[WDMultiTouchSetPan,'ID','X','Y'](#)

[WDMultiTouchSetActive,'ID','ItemID'](#)

[WDMultiTouchSetInactive,'ID','ItemID'](#)

[WDMultiTouchSetDevice,'ID','ItemID','SiteID','DeviceID'](#)

[WDMultiTouchSetPos,'ID','ItemID','Xpos','Ypos'](#)

[WDMultiTouchSetRot,'ID','ItemID','Rot'](#)

[WDMultiTouchSetScale,'ID','ItemID','Scale'](#)

[WDMultiTouchEnableZoom,'ID','ItemID'](#)

[WDMultiTouchDisableZoom,'ID','ItemID'](#)

[WDMultiTouchEnableDrag,'ID','ItemID'](#)

[WDMultiTouchDisableDrag,'ID','ItemID'](#)

[WDMultiTouchEnablePan,'ID','ItemID'](#)

[WDMultiTouchDisablePan,'ID','ItemID'](#)

[WDMultiTouchEnableSize,'ID','ItemID'](#)

[WDMultiTouchDisableSize,'ID','ItemID'](#)

[WDMultiTouchEnableRotate,'ID','ItemID'](#)

[WDMultiTouchDisableRotate,'ID','ItemID'](#)

[WDMultiTouchLayerMode,'ID','ItemID','LayerMode'](#)

[WDMultiTouchDisplayMode,'ID','DisplayMode'](#)

[WDMultiTouchEnableZorder,'ID'](#)

[WDMultiTouchDisableZorder,'ID'](#)

[WDMultiTouchLinkToMouse,'ID','ItemID'](#)

[WDMultiTouchLinkItemToMouse,'ID'](#)

[WDMultiMouseLinkPlay,'ID'](#)

[WDMultiMouseLinkLoop,'ID'](#)

[WDMultiMouseLinkPause,'ID'](#)

[WDMultiMouseLinkStop,'ID'](#)

[WDMultiTouchItemPlay,'ID','ItemID'](#)

[WDMultiTouchItemLoop,'ID','ItemID'](#)

[WDMultiTouchItemPause,'ID','ItemID'](#)

[WDMultiTouchItemStop,'ID','ItemID'](#)

[WDMultiTouchRefresh,'ID'](#)

[WDMultiTouchEnableMouse,'ID'](#)

[WDMultiTouchDisableMouse,'ID'](#)

[WDMultiTouchEnableGestures,'ID'](#)

[WDMultiTouchDisableGestures,'ID'](#)

[WDMultiTouchEnableTouch,'ID'](#)

[WDMultiTouchDisableTouch,'ID'](#)

[WDMultiTouchEnableAirScan,'ID'](#)

- [WDMultiTouchDisableAirScan,'ID'](#)
- [WDMultiTouchEnableKinect,'ID'](#)
- [WDMultiTouchDisableKinect,'ID'](#)
- [WDMultiTouchEnableCamera,'ID'](#)
- [WDMultiTouchDisableCamera,'ID'](#)
- [WDMultiTouchEnableIphone,'ID'](#)
- [WDMultiTouchDisableIphone,'ID'](#)

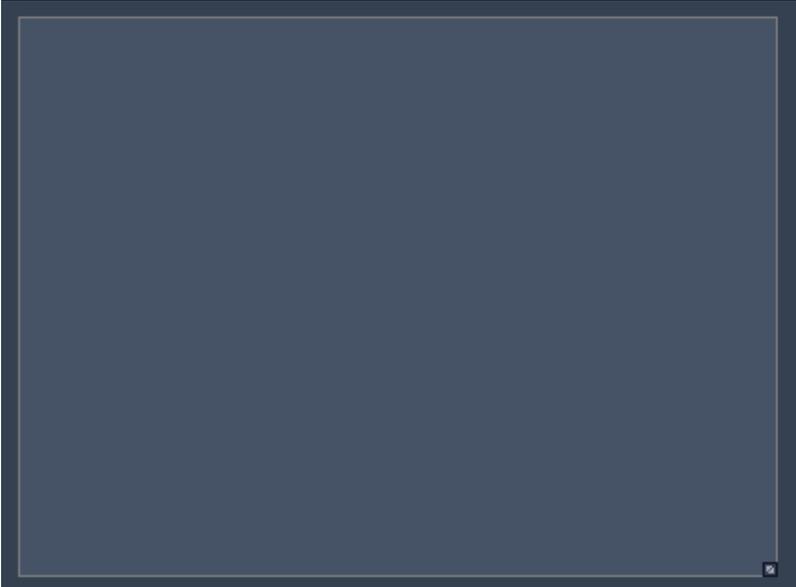
11.3.12.2 XY PANEL

The XY Panel represents a graphical touch pad with relative or absolute value controls.

To create an XY Panel right-click anywhere on the empty main background window and go to "Create"->"Panel"->"XY Panel"

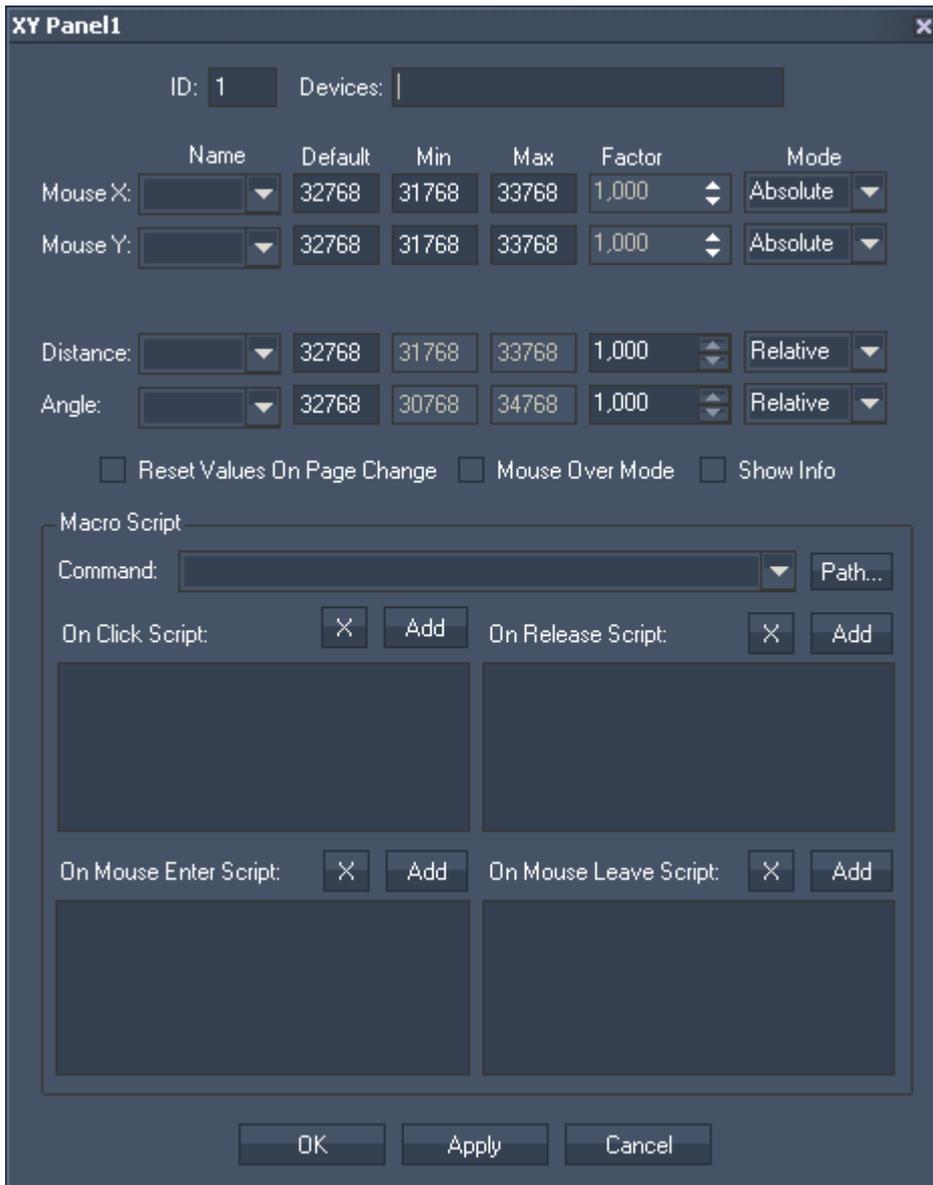
Once you have clicked on the last menu item the mouse cursor will change to a crosshair icon. This icon tells you that you are in "CREATE" mode.

To create one or multiple XY Panels just left click anywhere on the empty main background window and you will see a new panel being assigned and displayed.



The XY Panel can now be used by clicking inside of the panel region and dragging the mouse around.

Next you will need to set up the properties of the newly built XY Panel control. To edit the XY Panel parameters simply right-click on it and choose the menu entry "Item Properties", press [ALT+P] whilst the mouse is hovering above it or double-click on it when being in Create / Move Mode ([ALT+M]). The XY Panel Property Dialog opens up.



The XY Panel's ID may be changed by entering a new one in the textfield top left.

To assign the XY Panel to one or multiple Pandoras Box devices enter the site and device ID in the device text field.

For example to control Server 1 Layer 1 and Server 2 Layer 2 enter "1.1 2.2"

You may assign different parameters to the X and Y axis by choosing the parameters from the dropdown list.

Default values are sent on page enter when the option "Reset Values On Page Change" is checked. Depending on the mode you can either set a minimum or maximum value for absolute parameter control.

If you choose to use the relative mode then you might apply a factor to affect the strength of the value increment based on the mouse input motion.

The parameter's distance and angle are reserved for the AirScan & iPhone multi-touch input.

Check "Mouse over Mode" if you want the panel to react on any mouse motion independent of the left mouse button press.

This is in particular useful and depending on the settings of the attached touch screen driver.

“Show info” allows you to display the current values of the panel.

Macro Script

The XY Panel offers [script](#) processing for different mouse interactions.

“On Click” is processed when a mouse left button down click on the panel control is being performed by the user.

“On Release” is processed when a mouse left button up click on the panel control is being performed by the user.

“On Mouse Enter” is processed when the mouse cursor enters the panel control.

“On Mouse Leave” is processed when the mouse cursor leaves the panel control.

11.3.12.3 DRAWING CANVAS

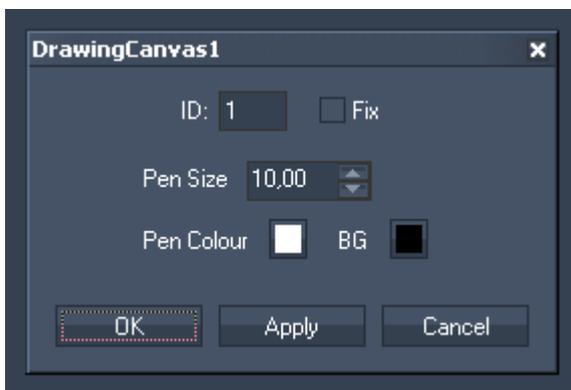
The Drawing Canvas lets you draw with the mouse. It can be used as creative item on the WD interface on the one hand. But the more interesting feature is to use it as live input in Pandoras Box, so that you will be able to paint on screen from within Widget Designer.

Please note that a Direct show capture device like the coolux DVI capture card needs to be installed on the Pandoras Box server/player in order to use it as live picture / mask.



Item Properties:

To design the Pen and Background colours simply right-click on the Drawing Canvas control and choose the menu entry "Item Properties", press [ALT+P] whilst the mouse is hovering above it or double-click on it when being in Create / Move Mode ([ALT+M]). The item property dialog opens up.



ID:

The Panel's ID may be changed by entering a new one in the textfield top left.

Fix:

When the option “Fix” is checked, the Drawing Canvas will be available on every page.

Pen Size:

Choose here a different pen size by entering it or by using the arrows up and down.

Pen Colour:

You may change the pen colour by clicking in the small coloured box. A new window opens where fixed colours or user defined ones are available.

BG:

You may change the background colour by clicking in the small coloured box. A new window opens where fixed colours or user defined ones are available.

Clearing the drawing Canvas interface

To remote control the Drawing Canvas from scripts eg in a Custom Script Button, the following scripts are available:

[WDDrawingCanvasClear,'ID'](#)

[WDDrawingCanvasSetPenSize,'ID','Size'](#)

[WDDrawingCanvasSetPenCol,'ID','R','G','B'](#)

[WDDrawingCanvasSetBGCol,'ID','R','G','B'](#)

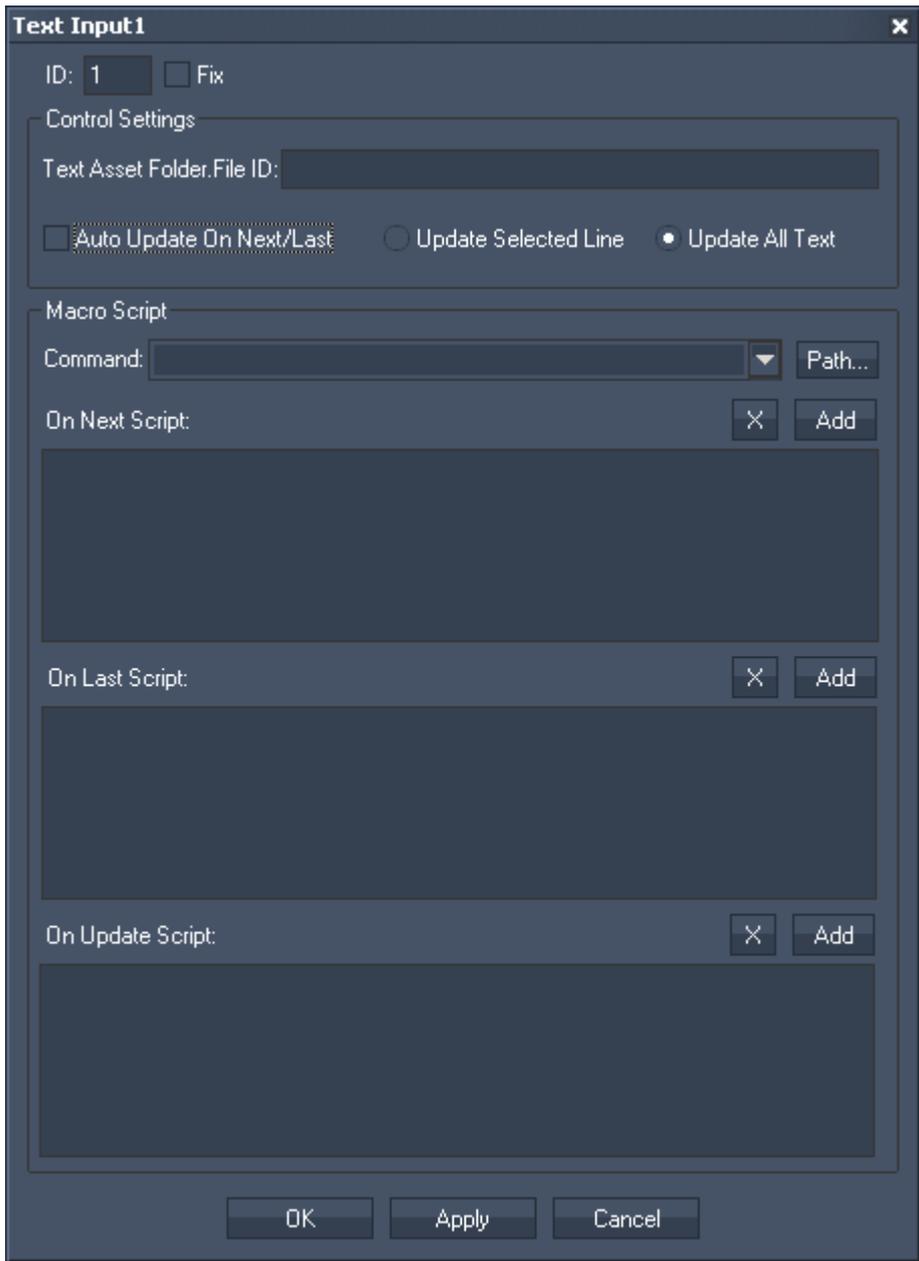
11.3.13 TEXT INPUT

The Text Input control lets you add an editable text to remote control text assets within Pandoras Box.

Depending on the configuration of the Text Input control you may update dedicated text assets by clicking on the Last Line and Next Line button. This way you may continuously update text assets line by line or update the entire textbox contents to the text asset on all connected Pandoras Box Client systems.



To edit the Text Input parameters first switch to "MOVE" mode and then right-click on the desired Text Input control and choose the menu entry "Item Properties", press [ALT+P] whilst the mouse is hovering above it or double-click on it when being in Create / Move Mode ([ALT+M]). The Text Input Property Dialog opens up.



ID:
The Text Input's ID may be changed by entering a new one in the textfield top left.

Fix:
When the option "Fix" is checked, the Text Input will be available on every page.

Control Settings:
Define one or multiple Text Assets in PB this Text Input should be linked to. To do this please enter the Folder and File ID's.
Example:
To assign the Text Input to Server 1 Layer 1 and Server 1 Layer 2, enter: "1,1 1,2".

Auto Update On Next/Last:
This option will send the text contents directly upon button press.

Update Selected Line / Update All Text:
Choose between these two options to update only by line or complete text.

Furthermore you may want to link specific [scripts](#) to the Next/Last Line and Update button press.

To control the Text Input from eg a CustomScript Button, the following scripts may be used:

- [WDTextInputClear,'ID'](#)
- [WDTextPanelReset,'PanelID'](#)
- [WDTextPanelNext,'PanelID'](#)
- [WDTextPanelLast,'PanelID'](#)
- [WDTextPanelGotoLine,'PanelID','SourceTextboxID'](#)
- [WDTextPanelUpdate,'PanelID'](#)

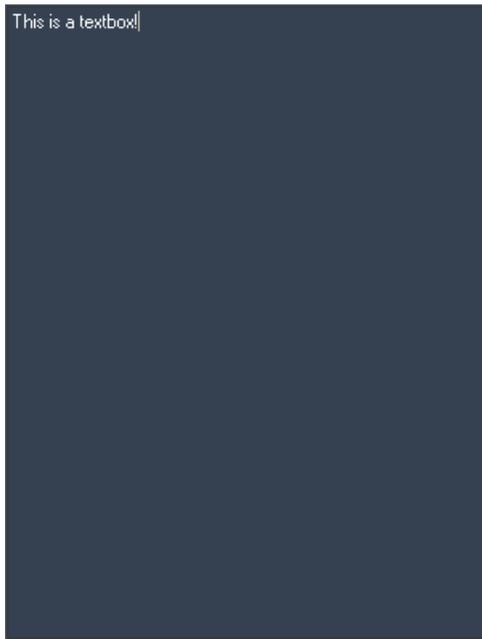
11.3.14 TEXTBOX

The Textbox control allows you to add an editable text to remote control text assets within Pandoras Box via the [Textbox Input Node](#) and the [PB Text Output Node](#).

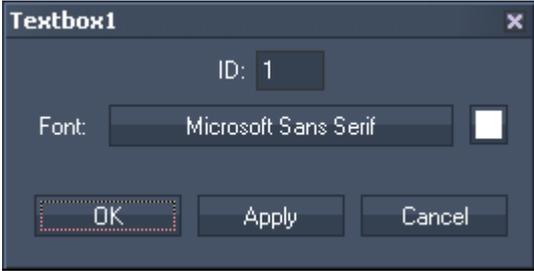
You may as well use this control as a Post-It on the WD User Interface.

The following scripts allow to use a Textbox to generate dynamic scripts to be executed at any given time:

- [WDTextboxAppend,'ID','Value'](#)
- [WDTextboxNewline,'ID'](#)
- [WDTextboxExecuteAsScript,'ID'](#)

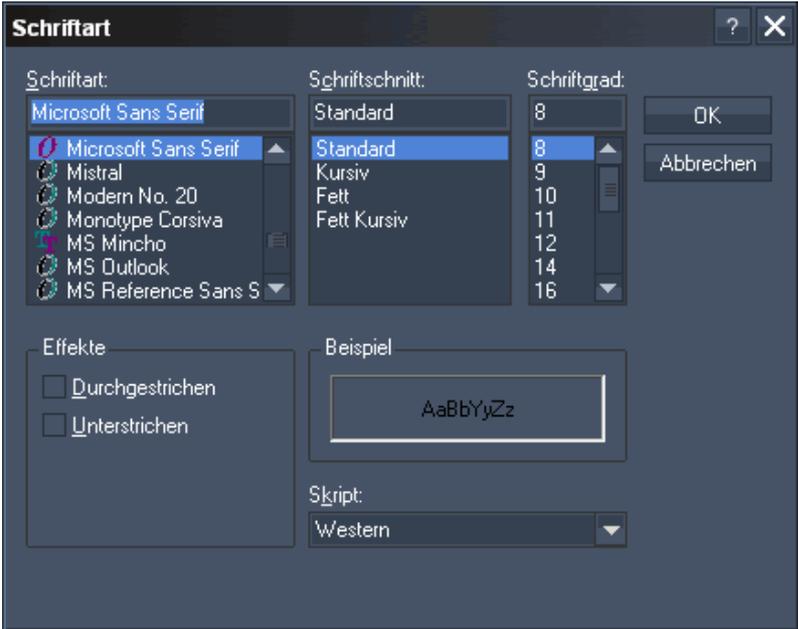


To edit the Textbox's font and colour, first switch to "MOVE" mode and then right-click on the desired Textbox control and choose the menu entry "Item Properties", press [ALT+P] whilst the mouse is hovering above it or double-click on it when being in Create / Move Mode ([ALT+M]). The Textbox Property Dialog opens up.



The Text Box's ID may be changed by entering a new one in the textfield on the top.

Click on the Font button and in the upcoming pop-up window you may choose the font.



Click in the little box next to the font button and choose a colour from the upcoming pop-up window.



To change the text of a Textbox eg. via a CustomScript Button, the following scripts are available:

- [WDTextboxClear,'TXTBoxID'](#)
- [WDTextboxAddTextFromLabel,'TXTBoxID','LabelID'](#)
- [WDTextboxAddTextFromTextbox,'TXTBoxID','TXTBoxSourceID'](#)
- [WDTextboxAppend,'ID','Value'](#)
- [WDTextboxNewline,'ID'](#)
- [WDTextboxExecuteAsScript,'ID'](#)

To link the Textbox to a Textasset in Pandoras Box, please use a Text Box Input Node and connect it to a PB Text output node.

11.3.15 TIMECODE

The Timecode control displays the timecode sent or received via a connected SMPTE Link device. Set up the SMPTE Link device in the [Connection Manager](#). You may also route the sent / received SMPTE Timecode via the [SMPTE Input Node](#) within the WD Node System.



To design the timecode colours simply right-click on the Timecode control and choose the menu entry "Item Properties", press [ALT+P] whilst the mouse is hovering above it or double-click on it when being in Create / Move Mode ([ALT+M]). The Timecode property dialog opens up.



The Timecode's ID may be changed by entering a new one in the textfield on the top.

It allows you to choose the colour for the timecodes

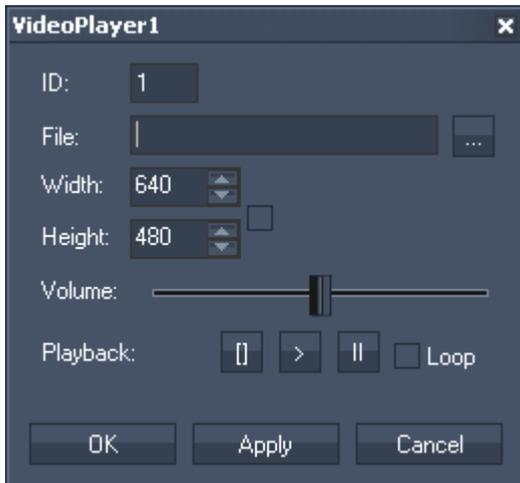
- background,
- inside,
- glow,
- Inactive,
- background cell.

11.3.16 VIDEO PLAYER

The Video Player control lets you add a borderless Windows Media Player control to your interface.



To edit the Video Player parameters first switch to "MOVE" mode and then right-click on the desired Video Player control and choose the menu entry "Item Properties", press [ALT+P] whilst the mouse is hovering above it or double-click on it when being in Create / Move Mode ([ALT+M]). The Video Player Property Dialog opens up.



The Video Player's ID may be changed by entering a new one on the top.

In the property dialog you can choose the file and set the size, volume and transport controls of the file.

Please note:

In order to control the Video Player control within your interface it is a best practice to create dedicated [custom script buttons](#) or use [scripts](#) in general to control the Video Player Control. The Video Player related scripts are:

- [WDVideoFile,'ID','File'](#)
- [WDVideoControl,'ID','Play'](#)
- [WDVideoControl,'ID','Loop'](#)
- [WDVideoControl,'ID','Pause'](#)
- [WDVideoControl,'ID','Stop'](#)
- [WDVideoSetVolume,'ID','Value'](#)

[WDVideoVolumeUp,'ID','Value'](#)
[WDVideoVolumeDown,'ID','Value'](#)

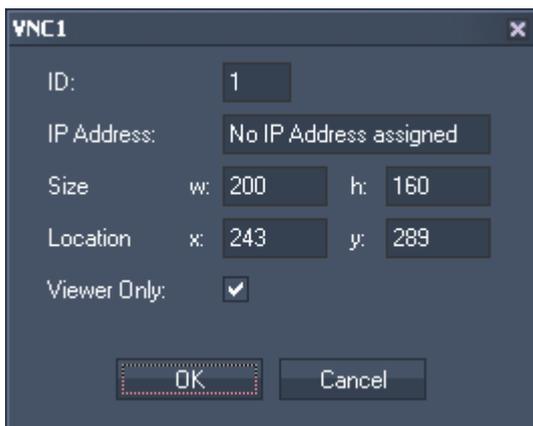
Please note that only those files can be played that are supported by your system. If additional codecs are required you might need to download or install them from the codec vendor or distributor.

11.3.17 VNC PANEL

The VNC Panel control lets you host multiple VNC sessions within one page of the interface.



To edit the VNC Panel parameters right-click on the title of the desired VNC Panel control and choose the menu entry "Item Properties", press [ALT+P] whilst the mouse is hovering above it or double-click on it when being in Create / Move Mode ([ALT+M]). The VNC Panel Property Dialog opens up.



The VNC Panel's ID may be changed by entering a new one in the textfield on the top.

In the property dialog of the VNC Panel you may enter the desired IP address to connect to as well as the width, height and location of the control.

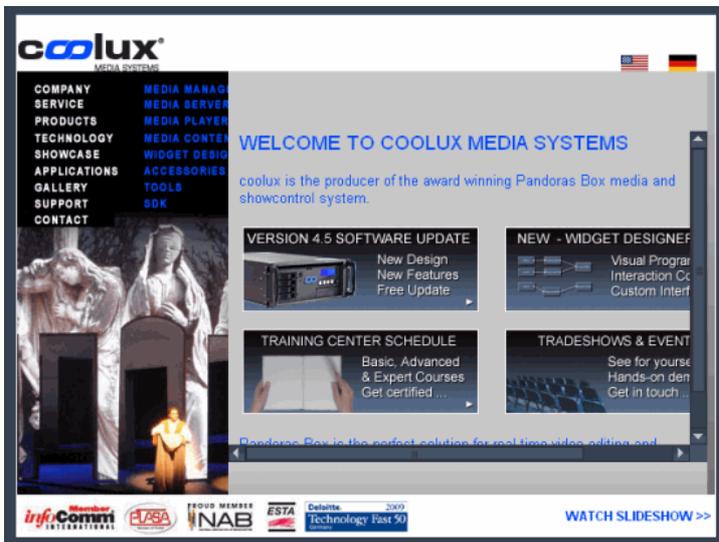
If you only want to use the VNC Panels for service purposes you may set the Viewer Only mode where the mouse will not interface with the VNC Panel Control.

After setting the Properties, the VNC Viewer will display the connected device.



11.3.18 WEBBROWSER

The Webbrowser control lets you add a borderless Webbrowser control to your interface.



To edit the Webbrowser parameters first switch to "MOVE" mode and then right-click on the desired Webbrowser control and choose the menu entry "Item Properties", press [ALT+P] whilst the mouse is hovering above it or double-click on it when being in Create / Move Mode ([ALT+M]). The Webbrowser Property Dialog opens up.



The Browser's ID may be changed by entering a new one in the textfield on the top.

In the property dialog you can choose the URL as well as set the size of this control.

If you want to add buttons to navigate to different URLs you may use Custom Script Buttons or scripts in general to remote control the Webbrowser control.

[Email Settings](#) (WD PRO only)

[RSS Settings](#) (WD PRO only)

[SMS Settings](#) (WD PRO only)

[Face Tracker](#) (WD PRO only)

[Motion Detector](#) (WD PRO only)

[Camera Point Tracker](#) (WD PRO only)

[Camera Tracking](#) (WD PRO only)

[Video Inputs](#) (WD PRO only)

[Phidgets](#) (WD PRO only)

11.4.1 AIRSCAN

The AirScan touch-less hardware interface is available as optional input device for Widget Designer. The AirScan is based on a rotation IR Laser field that allows to read two point multi-touch input gestures and use them for various applications within Widget Designer.

The AirScan Device itself due to its IR laser Technology should not be exposed to direct sunlight or direct tungsten lighting as this would distort the correct readout of the sensed data.

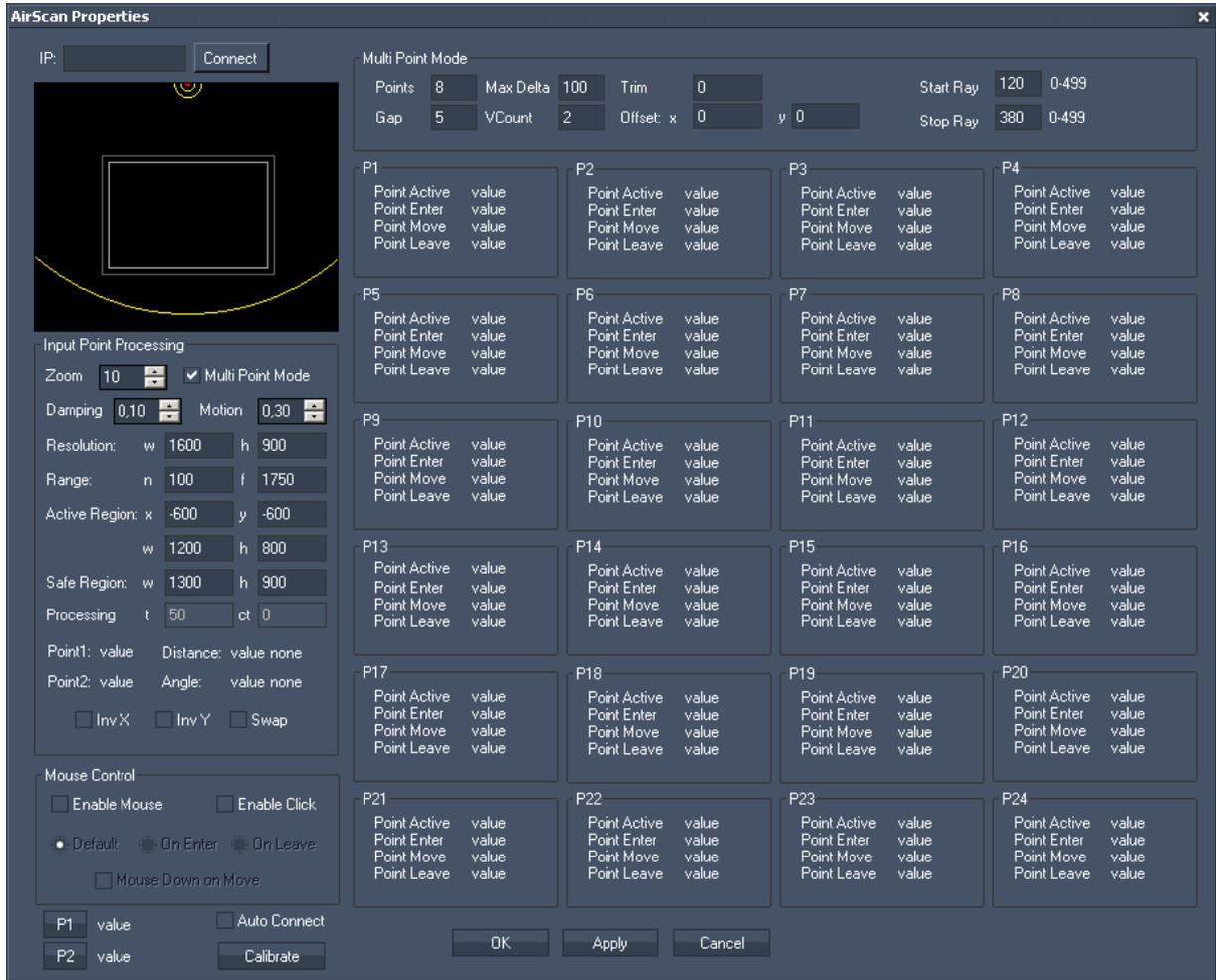
11.4.1.1 HOW TO USE THE AIRSCAN?

The AirScan can be used for any touch-less screen interaction or RP projection touch surface. The unit can be mounted above or below the screen and its recommended distance to the input screen area should be not further away then 10m or 30ft. Longer distances can be set up, but will lead to a less accurate readout.

The AirScan measures every 0.36 degrees if anything has crossed the screen area.

The AirScan then transmits its data via TCP over network to Widget Designer for further data processing.

11.4.1.2 AIRSCAN TOOL SETUP



In the AirScan setup tool you set up and connect to the IP address of the unit.

Once connected you will see a yellow outline of the laser field. The input screen rectangle needs to be placed between a minimum and maximum range. All setup parameter related to the Airscan values are set in millimeters.

Once you got your touch data into the system you can map the first point to the local mouse and use one or more additional multi-touch points with a Multitouch Panel or an XY Panel.

The Airscan Tool is divided into three sections:

- [Input Point Processing](#),
- [Mouse Control](#),
- [Multipoint Mode](#) and the
- [Point Read-out](#).

11.4.1.2.1 INPUT POINT PROCESSING

Zoom:

Use the zoom factor to zoom in / out the AirScan field.

Multi Point Mode:

The Multi Point Mode is checked by default, it allows to detect up to 24 points. With this mode the performance and precision of point detection is enhanced compared to the previous detection mode (that only allowed to detect two points).

To use the multi-point read-out for further processing, please use the [Airscan Multi-Point Input Node](#). When not using the Multi Point Mode, please use the [Airscan Input Node](#) for further processing.

Damping:

As you can see in the AirScan setup tool there is also a damping filter value. This value is important as the IR readout of the AirScan can have noticeable noise that is filtered out with this prediction based damping.

The damping factor is set by default to 0,10. You can change this setting from 0,1 = maximum damping up to 1 = no damping.

Motion:

The Dynamic Motion Damping improves the stability of the touch point in motion and stabilizes the points when they are not moving. It is set by default to 0,3. Its value ranges from 0 (max. smoothness) to 1 (no motion filtering).

Resolution:

Enter here the resolution of your Widget Designer GUI (width and height).

Range:

The Range is defined through n (near field) and f (far field) in mm.

Beyond this range no airscan position data will be transferred to the Widget Designer. Please be sure that the Active Field (the white rectangle) is positioned within the near and far field.

Active Region:

X&Y - The coordinates x and y define the position of the Active Region in relation to the AirScans position in mm. Please enter the size of the region for W (Width) and H (Height) in mm.

W&H - Enter here the size of the Active Region (width and height) in mm.

Safe Region:

The Safe Region makes the detection of points on the border of the active region more robust.

Enter values in mm for X&Y, ideally the Safe Region is a bit bigger than the Active Region.

Processing (only used when the older mode for only 2 point detection is chosen):

t (Threshold) is equivalent to the angle-ray-count to the distance between point 1 and 2.

ct (count) is the maximum ray count per point.

Inv X / Inv Y / Swap

Use these options if the Airscan is not located above the active field.

If the Airscan position is eg. below the active field, check Inv Y to receive correct Y Position data.

11.4.1.2.2 MOUSE CONTROL

Enable Mouse

Check this option if the Point1 input data should control the mouse of your WD computer.

Enable Click

If this option is checked the mouse cursor generates clicks. Use the tick boxes to define when the click should be executed.

Default generates mouse down on enter and mouse up on leave.

On Enter: the click is generated on enter.

On Leave: the click is generated on leave.

Another option to generate a click on a [custom script button](#) is not to use "Enable Click" but to use the buttons timeout settings. When positioning the mouse cursor over a button for eg. 500 ms a mouse click is executed automatically.

Mouse Down on Move

If this option is checked, left mouse down on move is always active.

Auto Connect:

Check this option to automatically connect to the AirScan (once the connection to the AirScan is established) after a disconnect or restart of the Widget Designer.

[P1], [P2]:

These buttons enable an intuitive calibration of the Active Region.

[P1] captures the coordinates of the upper left corner .

[P2] captures the coordinates of the lower right corner.

Both corner orientations refer to the view in the AirScan Tool.

How to do the Auto-Calibration?

Interrupt the Airscan field at the position of the first corner, press [P1]. You will see the corner's position (x/y in px) next to the button. Now interrupt the Airscan field at the position of the second corner, press [P2]. When this is done, press [calibrate] and the position values will be transferred into the Active Region Settings. Please note: the Safe Region has to be adjusted manually!

11.4.1.2.3 MULTI POINT MODE

The Multi Point Mode is used by default unless you disable this function in the Input Point Processing.

Points:

Enter here the amount of points that should be detected and provided for further processing.

Gap:

The default value for the Gap is 5. This means that within 5 rays distance of a detected point all other interrupts will be discarded.

Max Delta:

The default value for Max Delta is 100. The Max Delta function determines the maximum speed for Multi touch Point Tracking.

VCount (Validation Count)

The Validation Count defines the amount of rays that have to be interrupted in order to validate a touch point. The default value is 2.

Trim:

Trim allows to minimize errors on Point enter, with this value a number of scans will be ignored until the point motion processing is activated. The default value for Trim is 0.

Offset X&Y:

This offset allows to run the Widget Designer on a secondary screen. If you're doing so please enter here the pixel offset for x and y.

Example: resolution of primary and secondary screen is 1024x768, WD runs on the secondary screen, enter x=1025 and y=0.

Start Ray:

The Airscan sends out 500 Rays over 180° clockwise. If you want to discard more or less than 120 rays (default value) up from the start, enter the new value here (0-499).

Stop Ray:

The Airscan sends out 500 Rays over 180° clockwise. By default all rays up from ray 380 are discarded. If you want to discard more or less rays, enter the new value here (0-499).

11.4.1.2.4 POINT READ-OUT

This section shows the status for up to 24 points.

Generally the first ray interrupt will be displayed as P1, second one as P2 and so on.

Each point will be tracked until it is removed out of the Airscan Field. So if there are P1 and P2 detected and P1 is removed, P2 stays P2 and does not changes its ID to be P1.

Point Active (true or false)

A point turns active as soon as there is a ray interrupt started inside the Active Region of the Airscan. As long as the interrupt stays within the Safe Region, the point stays active. If the interrupt started out of the Active Region or if there is no interrupt, the Point's status turns to False.

Point Enter

If there is an interrupt detected inside the Safe Region (whether it is active or not), the value for the X & Y position of a Point where it entered the AirScan field will be displayed here.

Point Move

As long as the value for Point Enter is true (1), the X and Y position of this Point will be displayed here.

Point Leave:

The last valid X & Y position of a Point while leaving the AirScan field will be displayed here.

To use this point read-out for further processing, please use the [Airscan Multi-Point Input Node](#).

To control the Airscan via script, please use the following ones:

- [WDAirScanMouseEnabled](#)
- [WDAirScanMouseDisabled](#)
- [WDAirScanMouseClickedEnabled](#)
- [WDAirScanMouseClickedDisabled](#)
- [WDAirScanMouseClickedDefault](#)
- [WDAirScanMouseClickedOnEnter](#)
- [WDAirScanMouseClickedOnLeave](#)
- [WDAirScanMouseDownOnMoveEnabled](#)
- [WDAirScanMouseDownOnMoveDisabled](#)
- [WDAirScanMultiPointModeEnabled](#)
- [WDAirScanMultiPointModeDisabled](#)
- [OpenAirscanProperties](#)

11.4.2 KINECT

The Kinect hardware interface is available as optional input device for Widget Designer. It can be used for capturing up to 8 filtered and tracked points/regions of interest.

Use the Kinect Tool to control PB via the [Multitouch Panel](#), to control the mouse of your WD computer in order to eg. proceed button click or process the data you get out of the [Kinect Input Node](#).

Originally designed for Xbox the Kinect Sensor features a Colour Camera and a so called Depth Camera. The Depth Sensor (640x480@30fps) delivers a distance value per pixel (0-2047 units). It has an angular field of view of 57° horizontally and of 43° vertically.

The Depth Camera is used to determine motion at specific distances; it can read distance data between 1.2 - 3.5m distance quite well.

A motorized pivot is capable of tilting the sensor as much as 27° either up or down.

Important Notice Regarding Kinect Device usage:

Kinect driver from codelaboratories is still an early version and seems to run stable on WIN7 only. When the Kinect Device is connected to a Win7 system there might be a driver conflict when using Logitech USB cameras at the same time.

Please install the Plattform driver first in order to use Kinect within Widget.

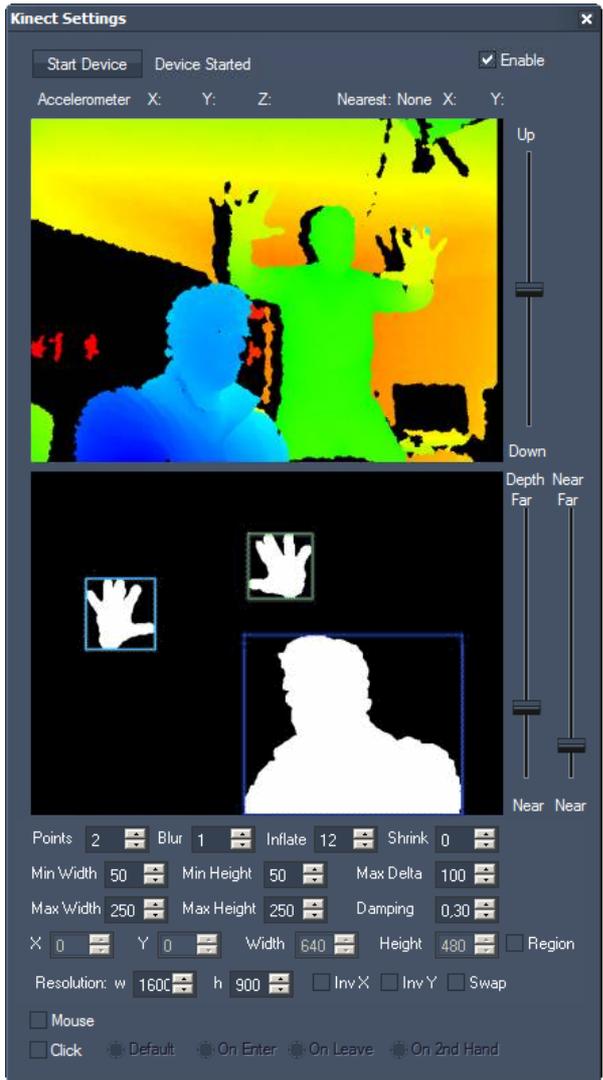
The Kinect must be plugged in for the Driver to work other wise it will terminate the WD application when no device is attached.

Current Kinect Driver for Win 7 64bit Systems:

<http://www.coolux.de/root/downloads/support/Widgets/CL-NUI-Platform-1.0.0.1210.zip>

This driver **MUST** be used in order to work with the Kinect device.

Please note: Do not use the Kinect Dialog in Show mode (the rendering of the Depth Camera requires too much system performance).



Starting and adjusting the device:

To start the kinect device, tick the [enable]-checkbox and press the button [Start Device]. Now you should see the coloured camera image in the upper image field.

Depth camera image:

The different colours symbolize different distances from the sensor (eg. blue=very near, orange=far).

Motorized Pivot:

Use the fader next to the upper camera image to bring the Kinect's sensor in the right position by tilting it up and down.

Binary camera image:

In this image every item that is detected by the camera inbetween a certain distance range will be shown as white parts on a black background. To define which distance range should be taken, use the faders "Depth" and "Near" next to the binary camera image.

Depth and Near Faders:

With these faders please define the distance range from which the points should be detected. Move the Depth-Fader up or down to define the farthest point of the distance range. Move the Near-Fader up or down to define the nearest point of the distance range. The Near-Fader always has to be lower than the Depth-Fader.

Points:

By default two points will be detected. Change this value to decrease it down to one point or increase it to get up to eight points.

If you choose Points=0, a Fullscreen Mask in Kinect Dialog is shown - currently built-in for evaluation purposes.

Image processing settings

Blur:

Use this option to smooth the detected areas, so that rough pixels become smooth spots (0 = minimum blur, 15 = maximum blur).

Please be aware that this takes more performance!

Inflate:

This option inflates the detected areas (0 = minimum inflation, 15 = maximum inflation).

Shrink:

The result of the (eventually blurred and inflated) areas will be shrunked when using this option (0 = minimum shrinking, 15 = maximum shrinking).

Please note:

There are no recommendations which values would be best to enter for Blur, Inflate and Shrink. It depends on your setup and especially the lighting conditions.

Points detection

Min Width / Max Width:

Define which minimum and maximum width (in pixels) a spot should have to be detected as point. The pixel sizes are related to the Kinect's camera resolution of 640x480 px.

Min Height / Max Height:

Define which minimum and maximum height (in pixels) a spot should have to be detected as point. The pixel sizes are related to the Kinect's camera resolution of 640x480 px.

Max Delta:

The Max Delta value defines how far a point is allowed to move (in px, related to the Kinects resolution of 640x480 px) between two frames in order to still be detected as point.

Damping:

The damping allows to reduce noisy input values. The damping factor is set by default to 0,3. This setting can be changed from 0,1 = maximum damping up to 1 = no damping.

Region:

If it is necessary for a good point detection to use only a certain region of the Kinect's point of view, please check the option "Region". Every movement outside this region will not be executed.

Width / Height:

Choose the region's size by entering the values (px) for Width and Height. Please note that due to the Kinect's Camera resolution the maximum region size is 640x480 px.

X/Y:

The region's top left pixel is located in 0/0 (X/Y) by default. To move the region to a different position please enter the according X/Y position here.

Resolution:

Please enter here the resolution of your monitor. This is needed to adopt the positions of the detected points to fit to your screen.

Inv X:

Check "Inv X" if you need to invert the X axis.

Inv Y:
Check "Inv Y" if you need to invert the Y axis.

Swap:
Check "Swap" if you need to swap the X and Y axis, eg. when the Kinect is turned about 90°.

Mouse Control

Mouse:
Enable the mouse if Point1 input data should control the mouse of your WD computer.

Click:
If this option is checked the mouse cursor generates clicks. Use the tick boxes to define when the click should be executed.

- Default generates mouse down on enter and mouse up on leave.
- On Enter: the click is generated on enter.
- On Leave: the click is generated on leave.
- On 2nd Hand: the click is generated as soon as a 2nd point (through the 2nd hand) is detected.

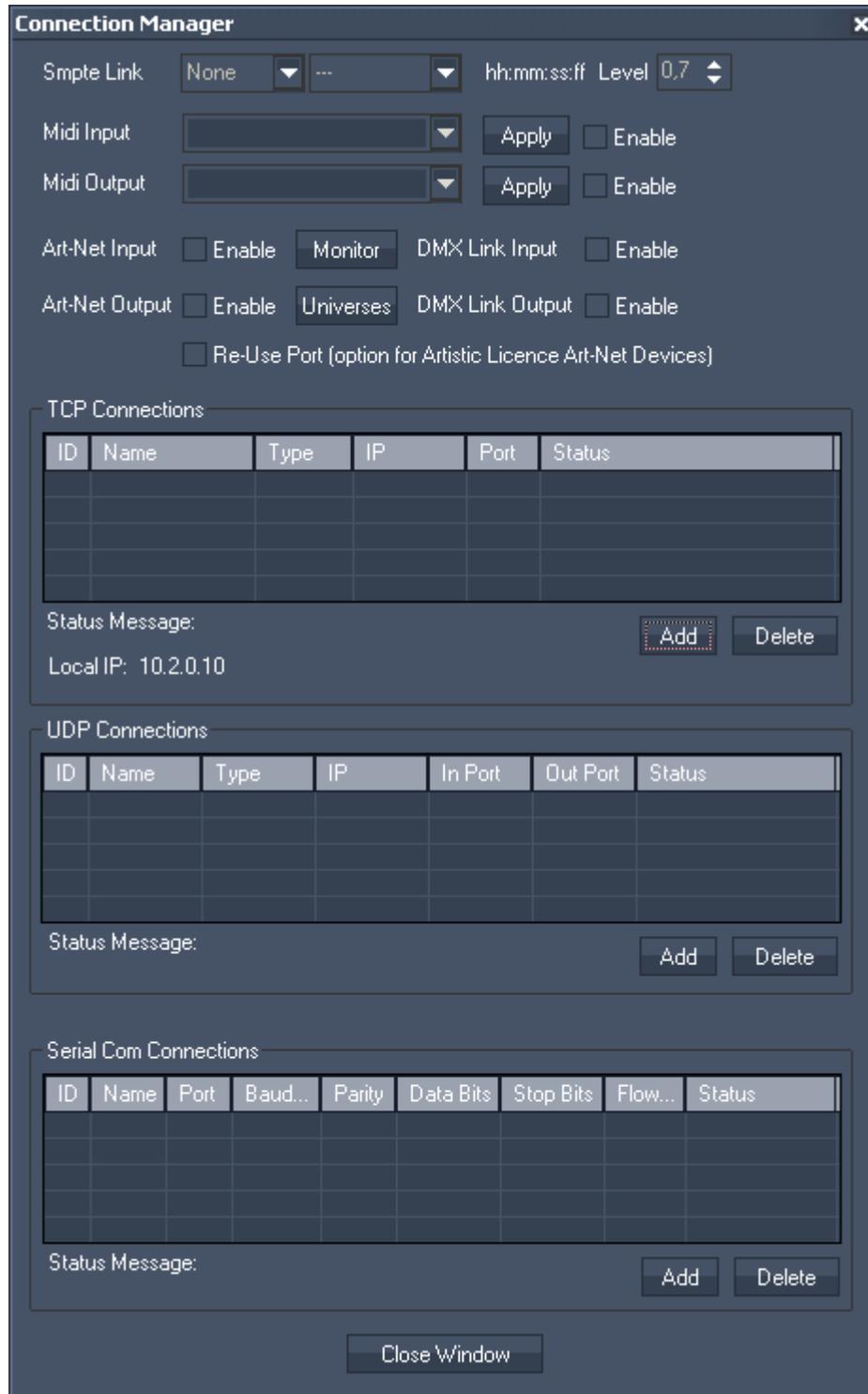
Another option to generate a click on a [custom script button](#) is not to use "Enable Click" but to use the buttons timeout settings. When positioning the mouse cursor over a button for eg. 500 ms a mouse click is executed automatically.

To change the Kinect settings from e.g. a custom script button, these scripts are available:

- [KinectStart](#)
- [KinectEnable](#),
- [KinectDisable](#),
- [KinectSetTilt,'-8000>+8000'](#),
- [KinectSetDepthThreshold,'0-2047'](#),
- [KinectSetNearThreshold,'0-2047'](#),
- [KinectSetPoints,'1-8'](#),
- [KinectSetBlur,'0-15'](#),
- [KinectSetInflate,'0-15'](#),
- [KinectSetShrink,'0-15'](#),
- [KinectSetMinWidth,'value'](#),
- [KinectSetMinHeight,'value'](#),
- [KinectSetMaxWidth,'value'](#),
- [KinectSetMaxHeight,'value'](#),
- [KinectSetMaxDelta,'value'](#),
- [KinectSetDamping,'Value'](#),
- [KinectMouseModeDefault](#),
- [KinectMouseModeOnEnter](#),
- [KinectMouseModeOnLeave](#),
- [KinectMouseModeOn2ndHand](#),
- [KinectMouseModeEnable](#),
- [KinectMouseModeDisable](#),
- [KinectEnableClick](#),
- [KinectDisableClick](#),
- [OpenKinectDialog](#).

11.4.3 CONNECTION MANAGER

The Connection Manager is the tool to setup all main input and output communication protocols.



All connections and protocols set up here are accessible to any script and user control as well as Nodes for in and output communication.

SMPTE Link

When a SMPTE Link device is connected to the WD computer, choose if you want to send or receive SMPTE timecode.

Choose the framerate from the second dropdown list if you are sending timecode.

In the textfield next to the framerate you will see the current timecode. When you are in send mode, it allows you to enter the timecode start time manually.

Use the "[Timecode](#)" control to display the current timecode on the WD userinterface. The SMPTE Link device can be controlled via [scripts](#).

You may also route the sent / received SMPTE Timecode via the [SMPTE Link Input Node](#) within the WD Node System.

Midi In- and Output

For Midi input and output connect and install a windows compatible midi device with the Widget Designers computer first in order to access and choose the device in the Connection Manager.

Art-Net

ArtNet can be used both as input and output. Since Art-Net can technically transmit up to 256 DMX Universes you might be cautious about the amount of Universes to be sent and managed from one Widget Designer System.

By default if you enable Art-Net output, there are no values being sent until you use either an Art-Net output node or use the Art-Net output scripts.

Once a particular DMX channel is sent on a given Art-Net Subnet and Universe, Widget Designer will store that universe as output universe and constantly update this Universe.

To display the Art-Net data send in your network, click on [\[Art-Net Monitor\]](#).

If you wish to stop sending specific Universes to the network you can open the Art-Net Universe List from the connection Manager and remove a Universe from the output list by right-clicking on the desired Subnet and Universe to delete the entry.



You may also use scripts to deactivate a certain Subnet and Universe from being updated constantly anywhere where scripts are applicable in the user interface.

Reuse Port:

When reuse Port is checked Artistic Licence devices that require a reuse UDP port option are supported.

DMX-Link

WD supports DMX Input data via the coolux DMX Link. To use this function, activate the checkbox "Enable".

You may receive and process the incoming DMX data via the DMX Link Input node.

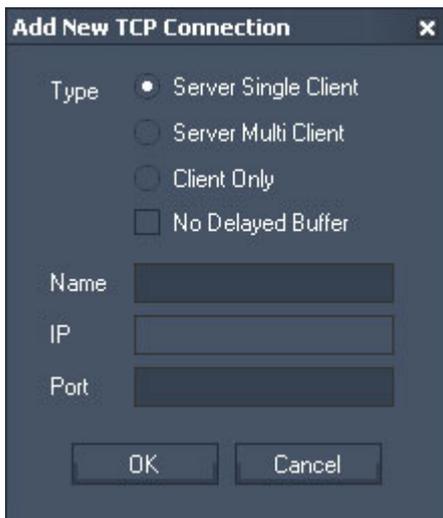
DMX Output is supported as well, but the DMX interface is still in development.

TCP/UDP & COM Port connections

The TCP/UDP & COM Port connections are all setup in a similar way as you may want to manage multiple connections to hardware or software devices via any of the three protocols.

TCP

To create a new TCP connection press [Add] in the TCP section.



In a TCP environment a computer or device (such as a router or projector) can be set up as either Client or Server.

The reason for these two types of modes is related to the way how a connection should be established between two devices. A Server waits for incoming connections while a Client can only connect to a Server.

Widget Designer offers the option to create a connection type where Widget Designer as TCP server can receive data packets from multiple Clients at the same time.

Every time a packet is send via a Server with Multi Client the data is sent to all connected Clients at the same time.

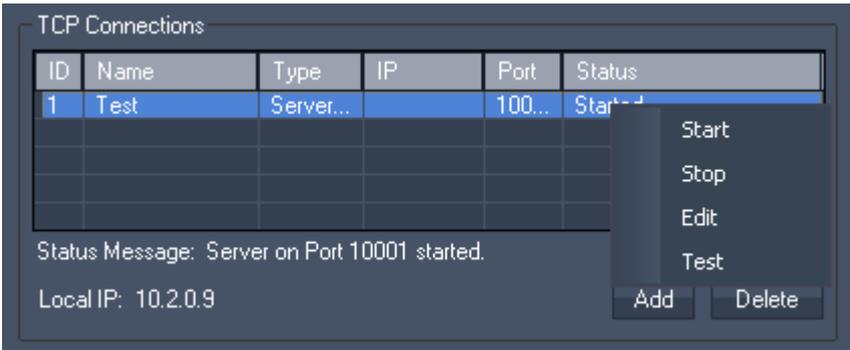
If you need to constantly stream data via TCP output nodes, it is recommended to enable No Delayed Buffer so that the packets are not concatenated and sent immediately.

When setting up a TCP Server connection you will only need to specify the listening Port.

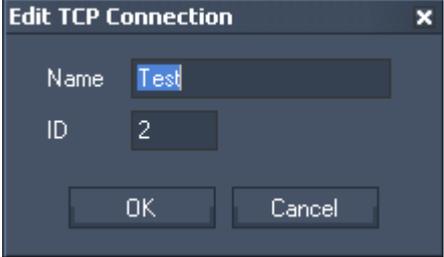
When creating a Client connection you will need to provide the TCP port and IP address of the TCP Server that you would like to connect to.

The Name property of the connection is only internal to the Connection Manager to let you label the connection with logical names for a better overview of multiple connections. Once the connection is created you will find the ID in the TCP list table. This ID will be required by scripts and nodes to hook to this connection to either send or receive data.

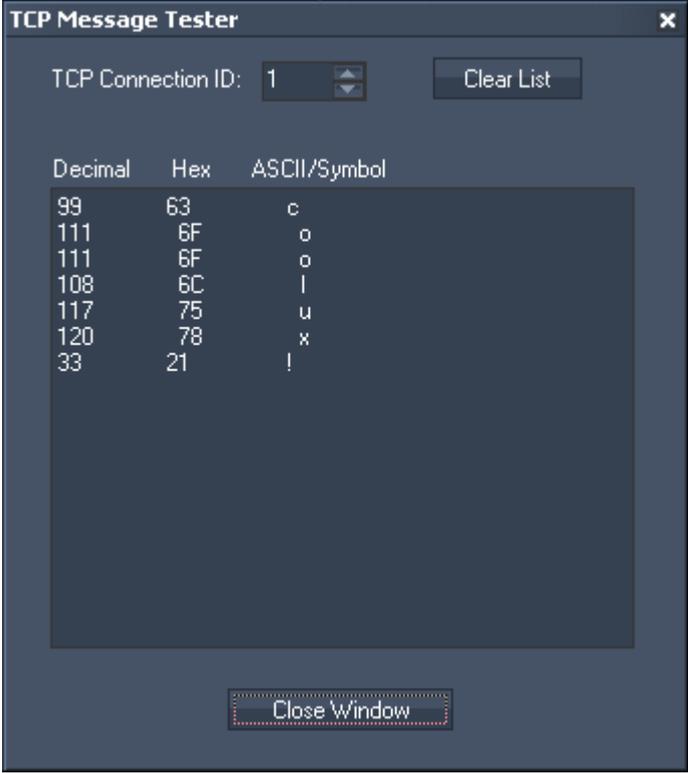
After you created a TCP connection, it will be displayed in the TCP Connection list. If you do a rightclick on this TCP connection, you will be able to manually Start, Stop, Edit and Test this connection.



Choose "Edit" to change the Connection ID:

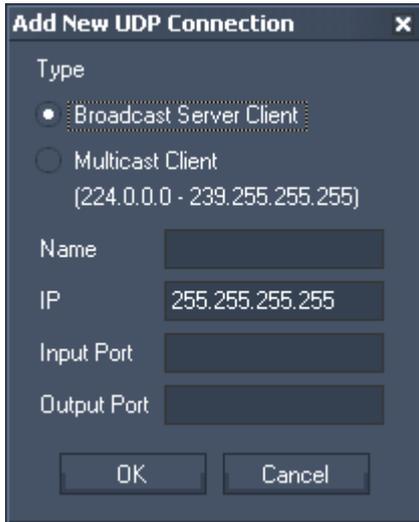


Choose "Test" and the TCP Message Tester opens. It displays the incoming UDP message as Decimal, Hex and ASCII/Symbol.



UDP

To create a new UDP connection press Add in the UDP section.



UDP Broadcast

The UDP connections are by default set up as broadcast connections. A UDP connection does not require a dedicated IP address or a Server to connect to (with IP 255.255.255.255 the data will be send as broadcast into the whole network).

When sending Broadcast packets to the network, all UDP receivers that listen to the sending Port of Widgets Designers UDP connection will process the packets they receive. This way a UDP connection can be used for both sending and receiving UDP packets from the network.

Please make sure to choose different Ports for Input and Output.

UDP Unicast

You may want to send a UDP message as Unicast to a specified destination, eg. to the device with the IP address 192.168.5.5. To do this, keep the type "Broadcast Server Client" but change the Broadcast IP 255.255.255.255 to the desired one.

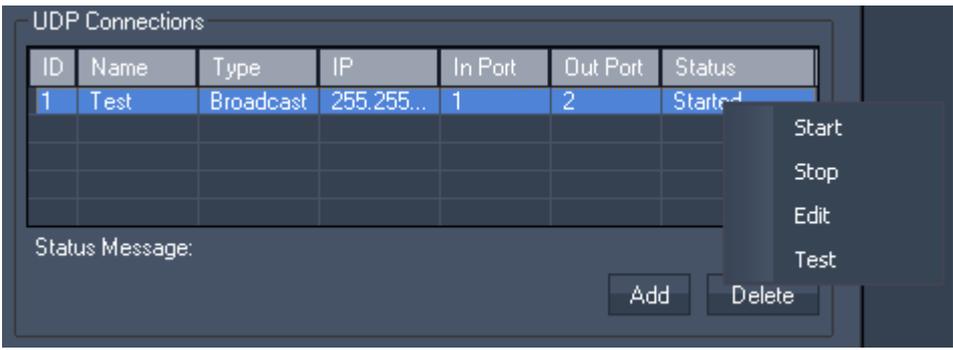
Please make sure to choose different Ports for Input and Output.

UDP Multicast

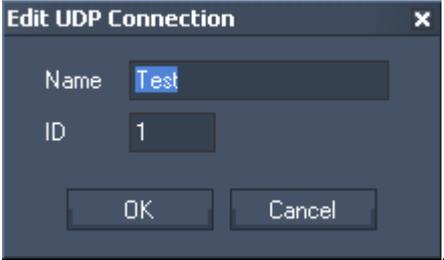
In an UDP multicast there is one Master sending messages to a specified port and multicast IP (within the Multicast IP range: 224.0.0.0 – 239.255.255.255) and any Client may listen to this multicast IP. Check "Multicast Client" to listen to a multicast IP, enter the Multicast IP (within the Multicast IP range: 224.0.0.0 – 239.255.255.255) and specify the Input Port. There is no Output Port as only a Master is able to send messages into this IP.

The Name property of the connection is only internal to the Connection Manager to let you label the connection with logical names for a better overview of multiple connections. Once the connection is created you will find the ID in the UDP list table. This ID will be required by scripts and nodes to hook to this connection to either send or receive data.

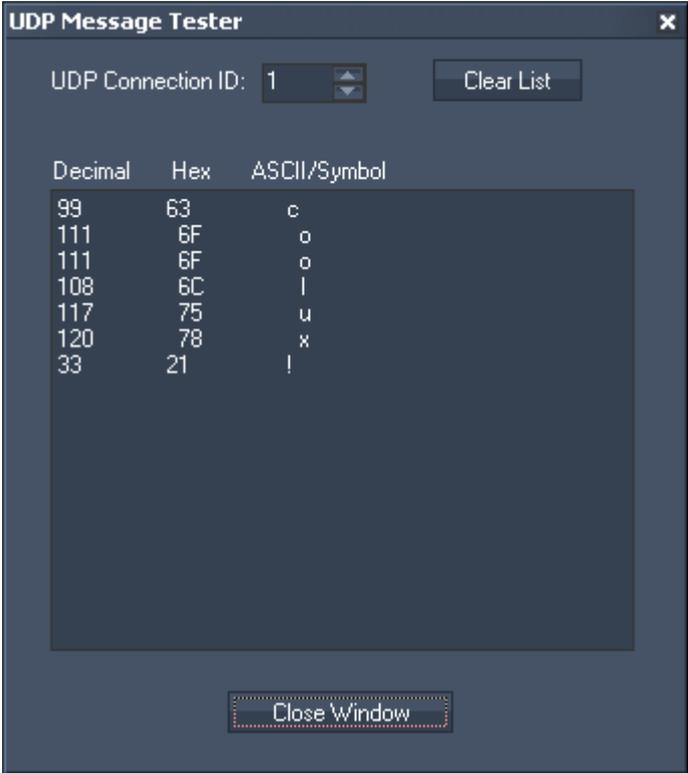
After you created a UDP connection, it will be displayed in the UDP Connection list. If you do a rightclick on this UDP connection, you will be able to manually Start, Stop, Edit or Test this connection.



Choose "Edit" to change the Connection ID:

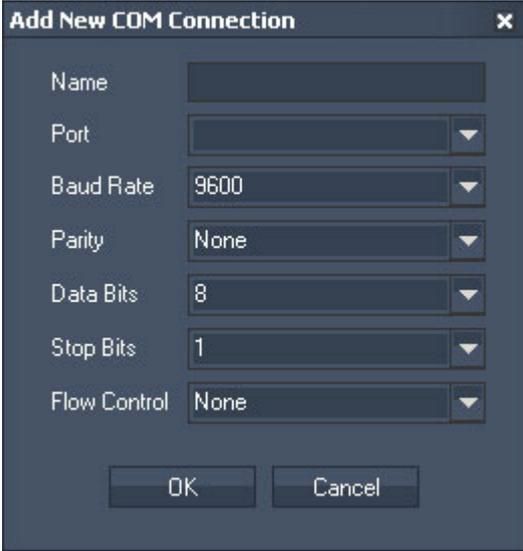


Choose "Test" and the UDP Message Tester opens. It displays the incoming UDP message as Decimal, Hex and ASCII/Symbol.



COM Port

To create a new COM Port connection press Add in the COM section.

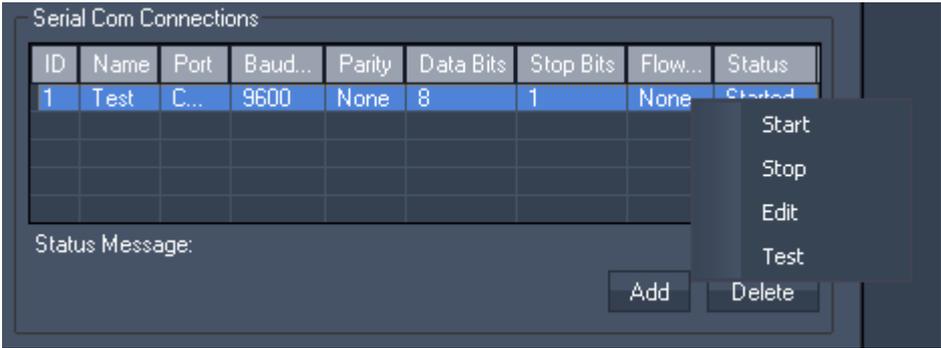


Any local Com Port will be listed in the Port drop-down list. Windows supports up to 255 comports that can be either local ports or virtualized ports that are connected via network. A couple of manufacturers offer network based virtual Com Port extensions that can also be assigned here.

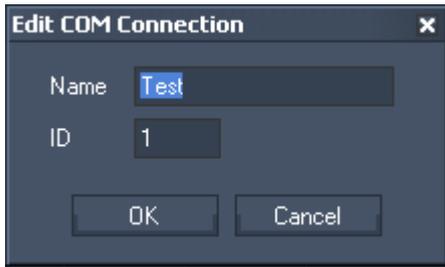
To setup a Com Port connection you will need to make sure that all the settings as seen above need to match the attached device settings 1:1. If the settings are not set correctly to the connected devices settings you may end up receiving corrupt or no data on this connection.

The Name property of the connection is only internal to the Connection Manager to let you label the connection with logical names for a better overview of multiple connections. Once the connection is created you will find the ID in the UDP list table. This ID will be required by scripts and nodes to hook to this connection to either send or receive data.

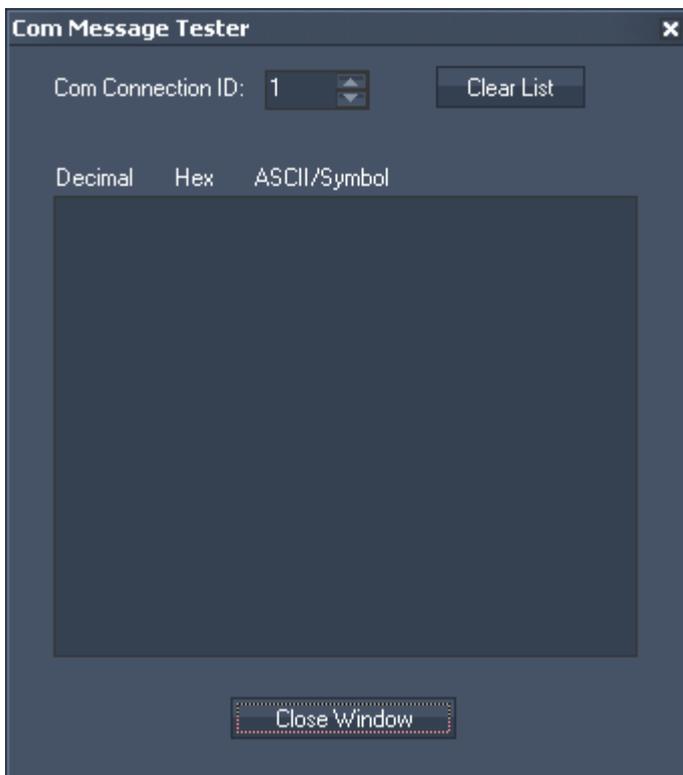
After you created a COM connection, it will be displayed in the COM Connection list. If you do a rightclick on this COM connection, you will be able to manually Start, Stop, Edit and Test this connection.



Choose "Edit" to change the Connection ID:

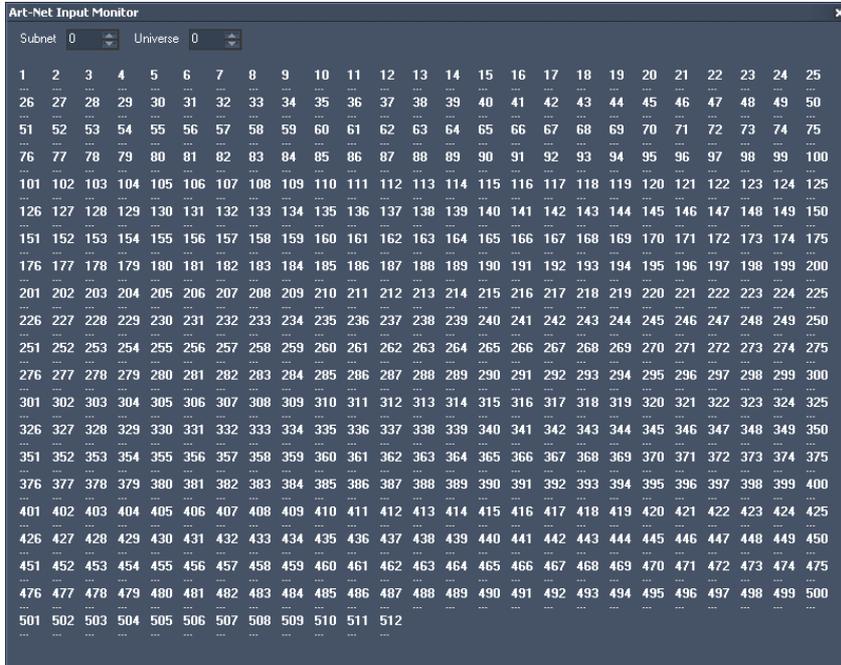


Choose "Test" and the Com Message Tester opens. It displays the incoming COM message as Decimal, Hex and ASCII/Symbol.



11.4.4 ART-NET MONITOR

The Art-Net Monitor can be a very useful tool if you would like to monitor Art-Net data on the Network or simply find out if the DMX channels you are looking for have the right values. Choose Subnet and Universe on top of the tools window.



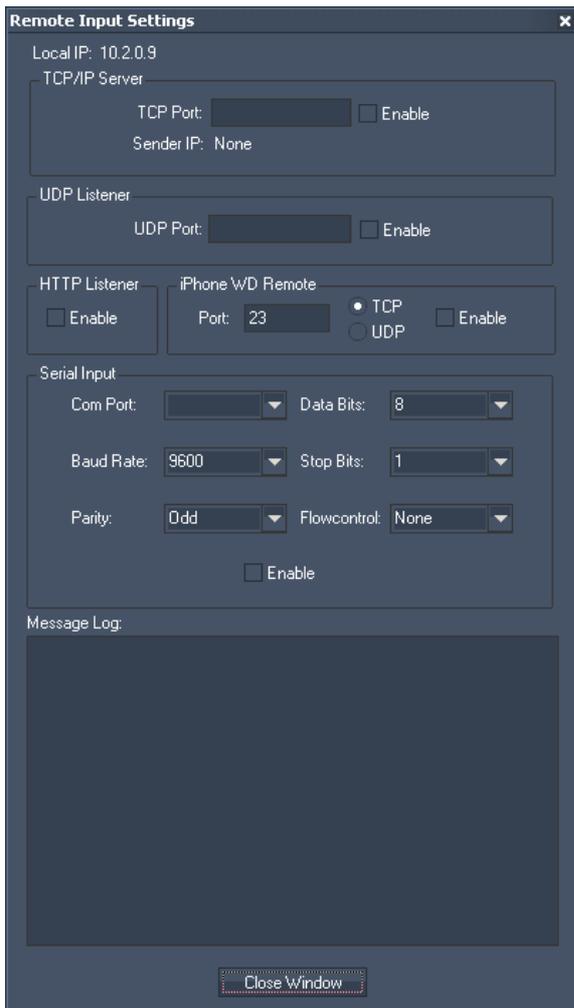
11.4.5 REMOTING

The Remoting Tool allows you to setup a TCP/IP Server, UDP and HTTP-Listener, the iPhone WD Remote and a Serial Input without using the Connection Manager and nodes for incoming communication.

Any incoming data will directly be executed as [script](#) when the syntax of WD scripts is used. The messages received will be displayed in the message log.

Please note:

All incoming script data have to be set into brackets ().



TCP

In a TCP environment a computer or device (such as a router or projector) can be set up as either Client or Server.

The reason for these two types of modes is related to the way how a connection should be established between two devices. A Server waits for incoming connections while a Client can only connect to a Server.

The Remoting tool in Widget Designer offers the option to create a connection type where Widget Designer as TCP server can receive data packets from multiple Clients at the same time.

When setting up a TCP Server connection you will only need to specify the listening Port. Press [Enable] to start the TCP Server.

UDP

The UDP connection is by default set up as broadcast connection. An UDP connection does not require a dedicated IP address or a Server to connect to.

When setting up a UDP Listener connection you will only need to specify the listening Port. Press [Enable] to start the UDP Server.

HTTP Listener

The HTTP Listener allows you to use a webbrowser or link to send commands to Widget Designer.

Use this syntax:

`http://WD_IP_Address'/(Commandstring)`

Example:

`http://192.168.1.20/(FaderUp,2,2000)`

iPhone WD Remote (available soon)

Use the Coolux iPhone App (not released yet) to connect via TCP or UDP to the Widget Designer.

Enter the same port that is set up in the iPhone and check [Enable].

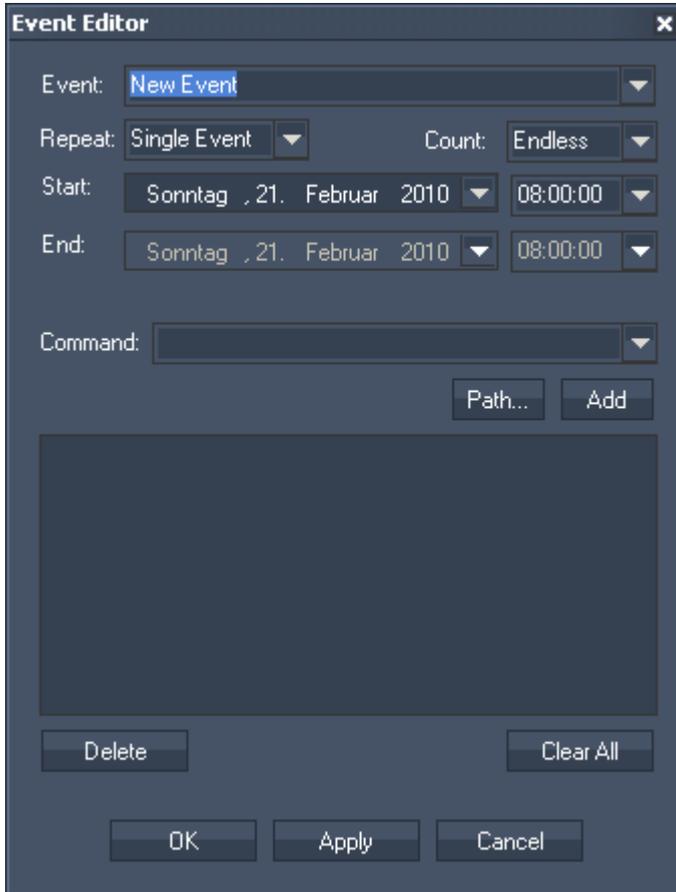
Serial Input

Any local Com Port will be listed in the Port drop-down list. Windows supports up to 255 comports that can be either local ports or virtualized ports that are connected via network. A couple of manufacturers offer network based virtual Com Port extensions that can also be assigned here.

To setup a Com Port connection you will need to make sure that all the settings as seen above need to match the attached device settings 1:1. If the settings are not set correctly to the connected devices settings you may end up receiving corrupt or no data on this connection.

11.4.6 EVENTS

The Event Editor allows you to execute commands at a certain time or repeated in a certain time interval.



Enter the Event's name in the Event text field or choose an existing Event from the list to view and edit it.

Set up the Repeat option. Choose a Single Event or a repeat time interval: every minute, hour, day, week, month or year.

If the Count should end at a certain time, please choose "End Date" from the Count list. Then the End Date lists will be enabled.

Choose a Start date from the calendar list and the start time. If you need a start time that differs from the options in the time list, please enter it manually.

If the Count has an End Date, please also choose end date and time from the list below.

In the Command section you may enter any script from the command dropdown list box.

Press "Add" to copy the selected script from the list box into the script textbox.

Multiple scripts can be executed by delimiting every script with a carriage return at the end of each script command.

To delete a script, select it and click on [Delete]. To clear all scripts from the script textbox, press [Clear All].

11.4.7 KEYBOARD INPUT

Widget Designer supports multiple hardware Keyboard interfaces. You may setup any keyboard interface with scripts to define the custom button actions.

To setup any Keyboard input click on the desired button that you want to setup and enter the script into the text field. To store the script for the button press apply or close to apply and exit the editor.

See here the list of optional keypads:

The [Shortcut Editor](#) allows you to customize keyboard shortcuts for direct script control.

The [Jog Shuttle](#) unit that is also provided for Pandoras Box Manager systems lets you setup a second page of controls by using the switch on the top right hand side of the controller.

Similar to the Jog Shuttle controller a [58 Keys](#) interface is available without the jog control but more control buttons instead. Two pages can be setup independently.

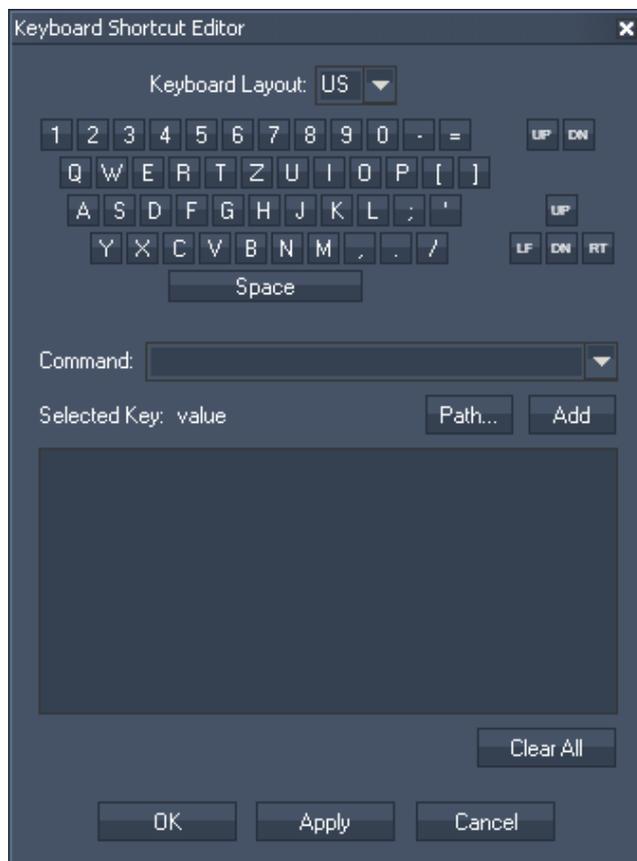
A Keyboard interface with [84 Keys](#) on 8 pages is also available to be customized for your needs.

A Keyboard interface with [128 Keys](#) on 8 pages is also available to be customized for your needs.

You may use the [Logitech Presenter R400](#) as well to execute scripts when pressing its buttons.

11.4.7.1 SHORTCUT EDITOR

Widget Designer supports customizable keyboard shortcuts for direct script control.



Please choose the Keyboard Layout (US or DE) from the list.
Now select the key that should be assign with a command either by clicking on it in the Keyboard Shortcut Editor or by pressing the key on your keyboard.

The key will be displayed above the textfield, eg: Selected Key: W.

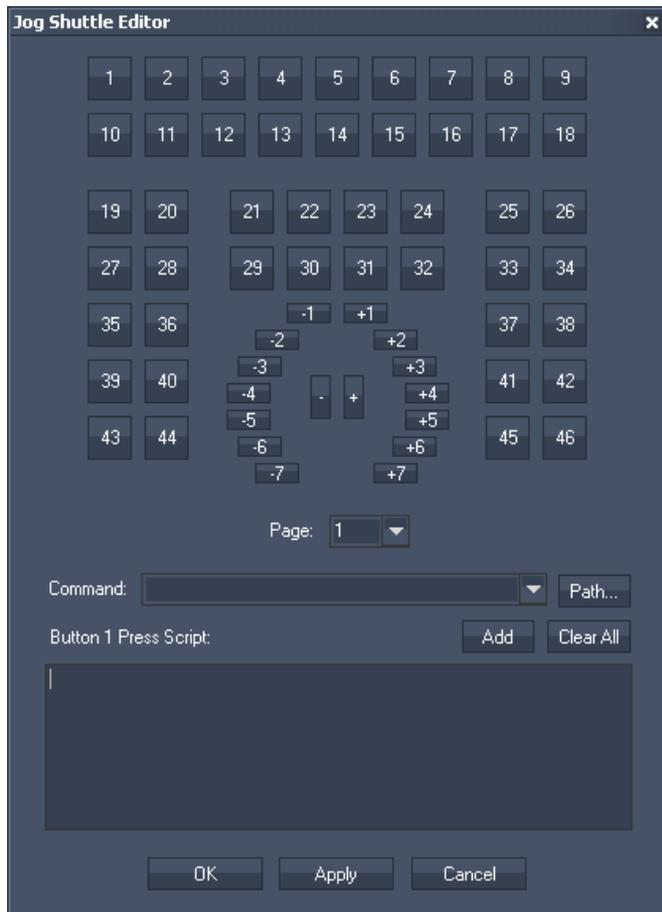
In the textbox you may enter any script from the command dropdown list box. Press “Add” to copy the selected script from the list box into the textbox. Multiple scripts can be executed by delimiting every script with a carriage return at the end of each script command. To delete a script text box entirely, select it and use [Del] on your keyboard or press [Clear All].
See here a list of all [scripts](#).

If you want to disable / enable the keyboard shortcuts you set up, please use the following scripts:

[WDKeyboardShortcutsDisable](#)

[WDKeyboardShortcutsEnable](#)

11.4.7.2 JOG SHUTTLE



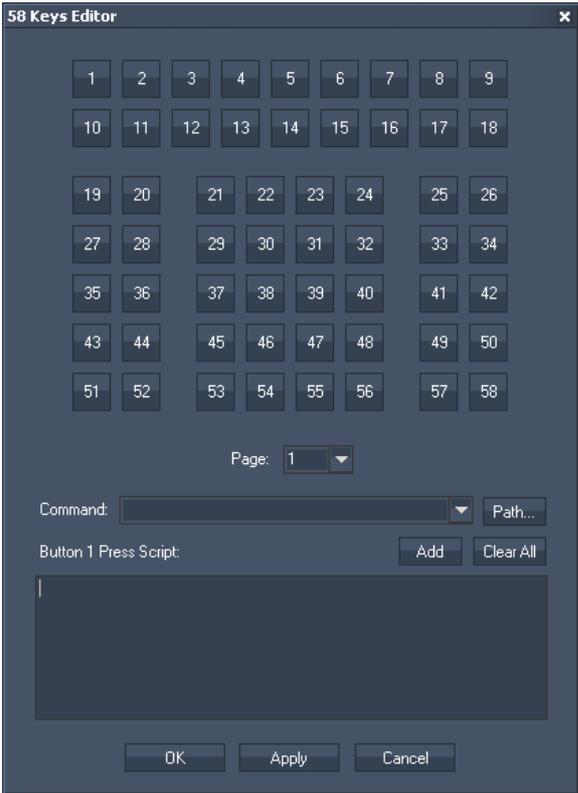
Please note:

All buttons on Page 1 will execute the additional script as well as the default command that is send to a Pandoras Box Master running on the WD computer. Page 2 does not send any commands by default to a Pandoras Box Master.

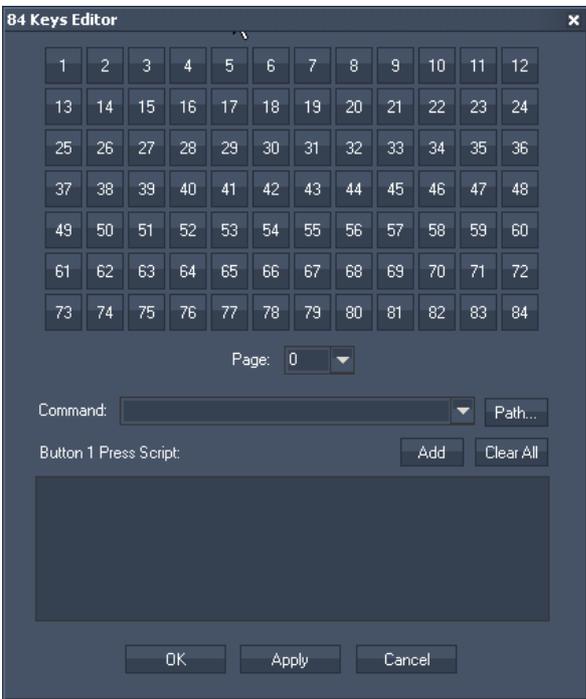
For example:

Button 1 on Page 1 lets the nowpointer jump to Cue 1 by default and also executes a command you added.

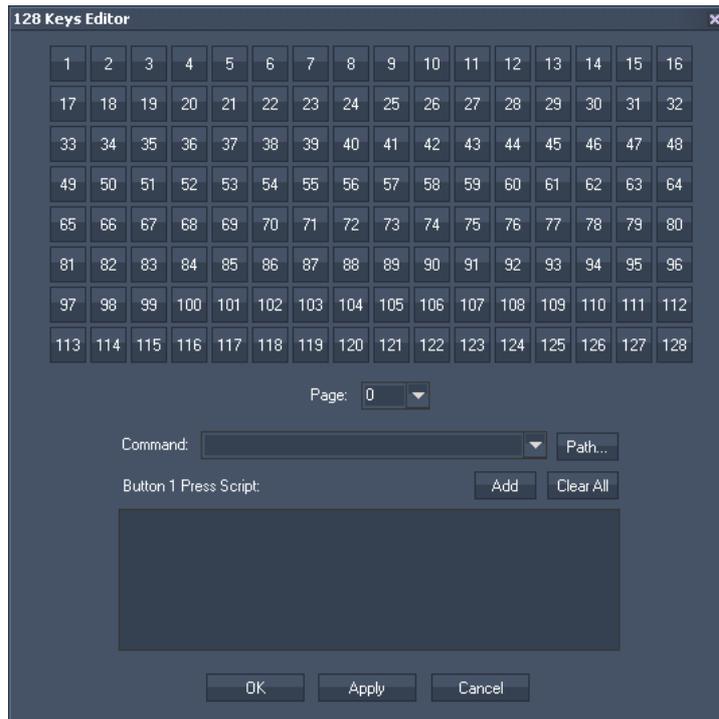
11.4.7.3 58 KEYS



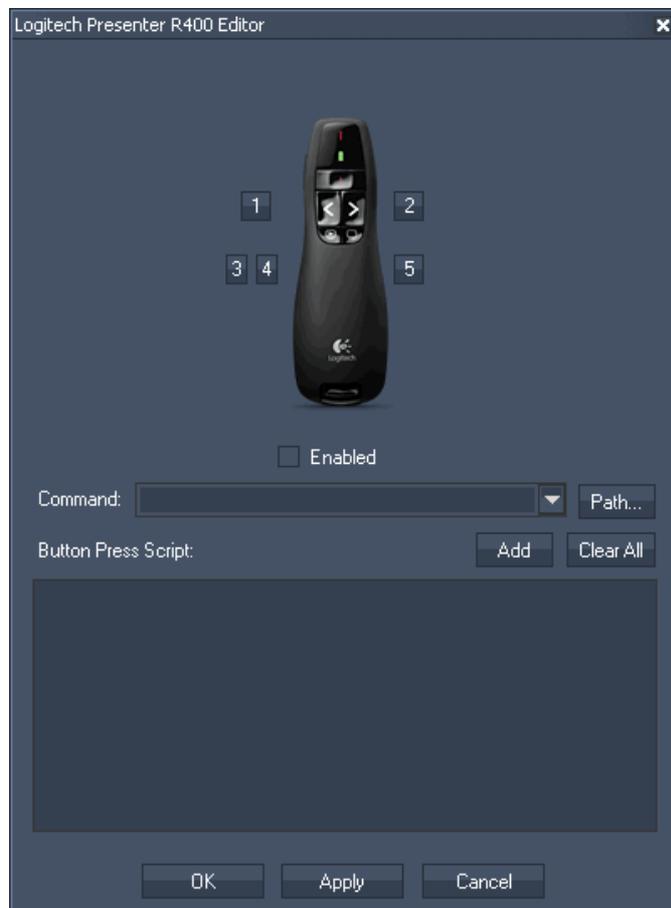
11.4.7.4 84 KEYS



11.4.7.5 128 KEYS



11.4.7.6 LOGITECH PRESENTER R400

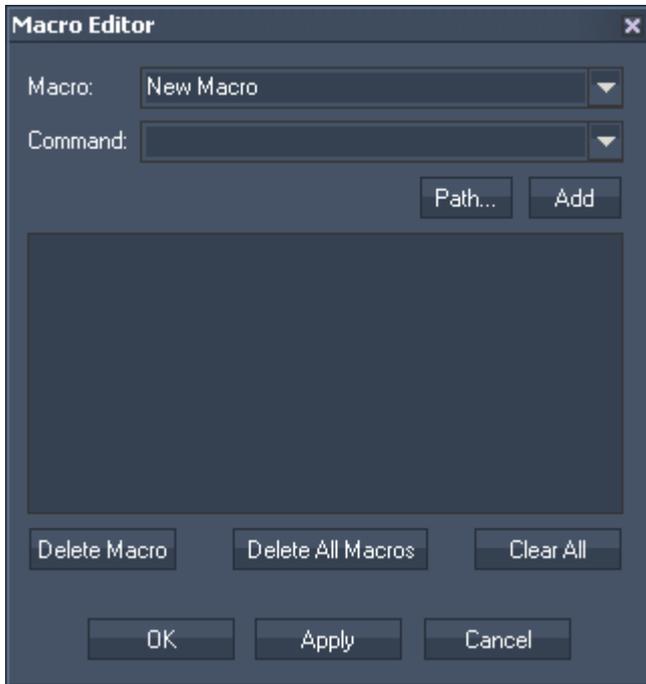


Enabled:
Check the small box to enable the Logitech Presenter.

To enable / disable the Logitech Presenter eg. from a CustomScript Button, the following scripts are available:

11.4.8 MACRO

The Macro Editor lets you store any script into a single Macro command. Using macros is very helpful when a script combination is called in several controls. You will save time entering and editing these scripts.



Enter the name for a new macro or choose an existing one from the list.

In the Macro Script section you may enter any script from the command dropdown list box. Press “Add” to copy the selected script from the list box into the dedicated script textbox. Multiple scripts can be executed by delimiting every script with a carriage return at the end of each script command. See here a list of all [scripts](#).

To delete a macro, choose it from the dropdown list and press [Delete Macro], to delete all macros press [Delete All Macros]. To clear all scripts assigned to a macro, press [Clear All].

Please be aware that if you recursively call the same Macro from its own script you might create a deadlock and Widget Designer might stop responding.

It is recommended not to use recursive Macros even though there are no boundaries in Widget Designer to prevent you from doing this.

To call a Macro from eg. a Custom Script Button, use this command:
[WDMacro,'MacroName'](#)

11.4.9 MIDI INPUT

Choose between these Midi Inputs:

[Midi Notes](#)

You may choose to setup Midi Notes On/Off commands by using the Midi Note Editor.

[Midi Messages](#)

If you require to intercept any Midi Message you may use the Midi Message Editor.

MIDI DEVICE SUPPORT

If you wish to use an additional Midi Interface to control Widget Designer you may choose one of these supported midi devices to map its buttons and fader to scripts, parameters and value ranges.

[AKAI APC40](#)

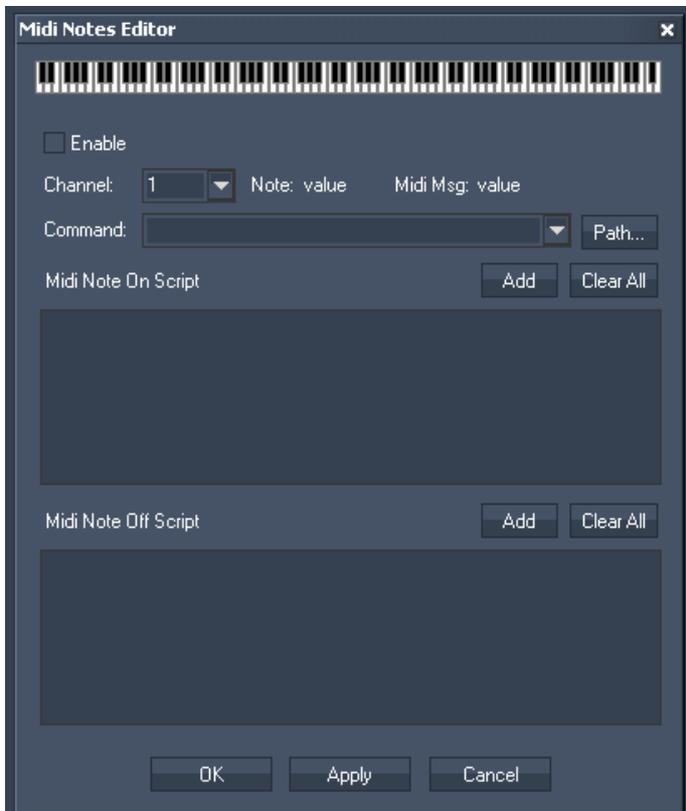
[BCD 2000](#)

[BCF 2000](#)

11.4.9.1 MIDI NOTES EDITOR

Widget Designer supports standard Windows Midi Devices.

You may choose to setup Midi Notes On/Off commands by using the Midi Note Editor.



In order to receive any Midi Note Message please first setup the Midi Input device in the [Connection Manager](#).

Tick the checkbox [Enable] to activate the Midi Notes Editor and remove the check if you want to disable incoming Midi Notes again.

Once this is up and running you will be able to see the incoming Midi Note messages in the Midi Note editor.

Scripts

You may enter any script from the command dropdown list box as Midi Note On and/or Midi Note Off Script. Press "Add" to copy the selected script from the list box into the dedicated script textbox.

Multiple scripts can be executed by delimiting every script with a carriage return at the end of each script command. To delete a script text box entirely, click [Clear All] above each script.

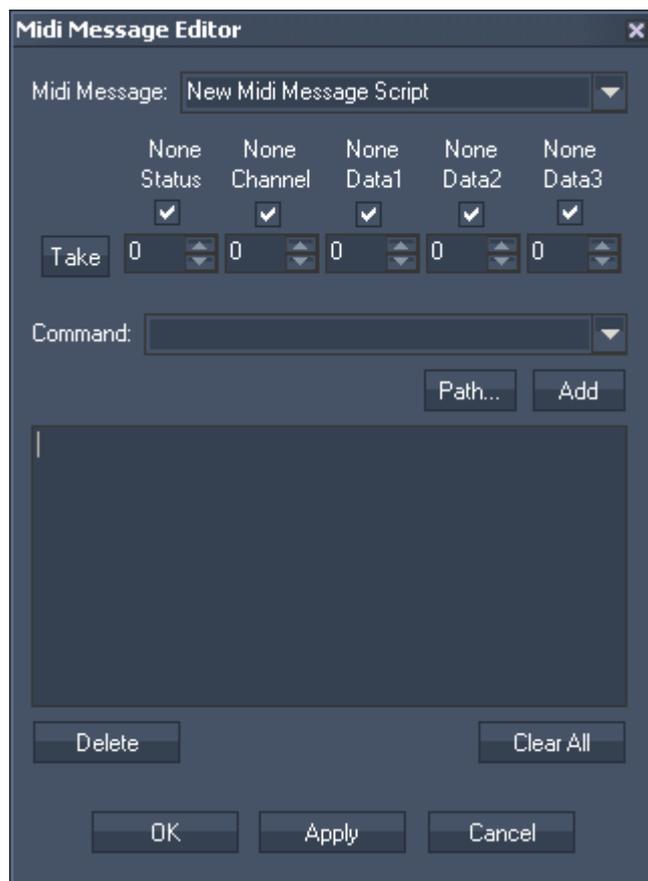
See here a list of all [scripts](#).

If you would like to setup the Midi Note On/Off scripts offline, just click on the graphical piano to choose the desired note and enter the desired Note On and/or Note Off script.

Press Apply to store the script for this note.

11.4.9.2 MIDI MESSAGE EDITOR

If you require to intercept any Midi Message you may use the Midi Message Editor.



In order to receive any Midi Note Message, please first setup the Midi Input device in the [Connection Manager](#).

With the Midi Message Editor you can filter out specific Midi Data and store the scripts like a Macro into a List of Midi Message Scripts. This list you can store for your Widget Designers project.

Use the checkboxes to define if you wish the script to ignore or filter the related Midi Data.

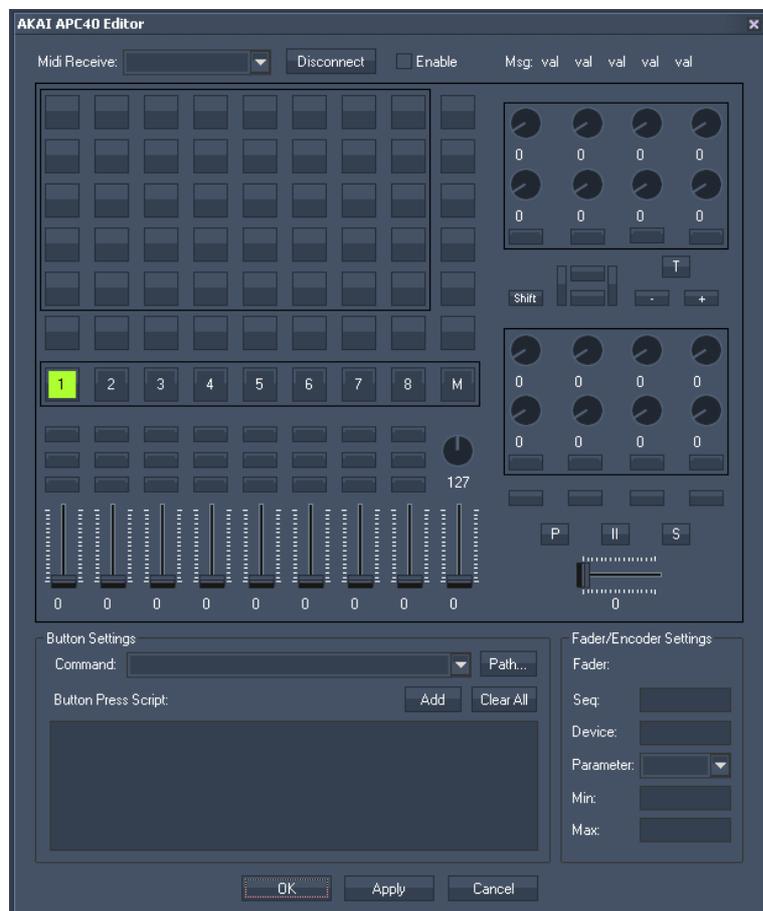
Use the [Take] button to grab the incoming Midi Data values and store them with the [script](#) as Midi Message Script.

To Store a new Midi Message Script enter a new Name in the top dropdown list and press [Apply] or [OK].

If you wish to delete an existing Midi Message Script, pick the Midi Message Script to delete from the top dropdown list and press the Delete button.

11.4.9.3 AKAI APC40

If you wish to use an additional Midi Interface to control Widget Designer you may choose a AKAI APC40 to map its buttons and fader to [scripts](#), parameters and value ranges.



The AKAI APC40 allows to use a separate Midi input device which is set up in the top section of the AKAI APC40 Editor:

To enable the Midi Input for the AKAI APC 40 board please choose your Midi Receive Device from the list and press [Apply].

Tick the checkbox [Enable] to enable the AKAI APC 40 board and remove the check if you want to disable the device again.

Once connected to the AKAI APC40 you may press a button or move a control to let Widget Designer intercept and give you access to the Controls [scripts](#) or Fader Encoder Settings.

To change any setting press on the control, enter your values and press [Apply].

11.4.9.4 BEHRINGER BCD 2000

If you wish to use an additional Midi Interface to control Widget Designer you may choose a Behringer BCD 2000 to map its buttons and fader to scripts, parameters and value ranges.



The BCD 2000 allows to use a separate Midi input device which is set up in the top section of the BCD 2000 Editor:

To enable the Midi Input for BCD 2000 board please choose your Midi Receive Device from the list and press [Apply].

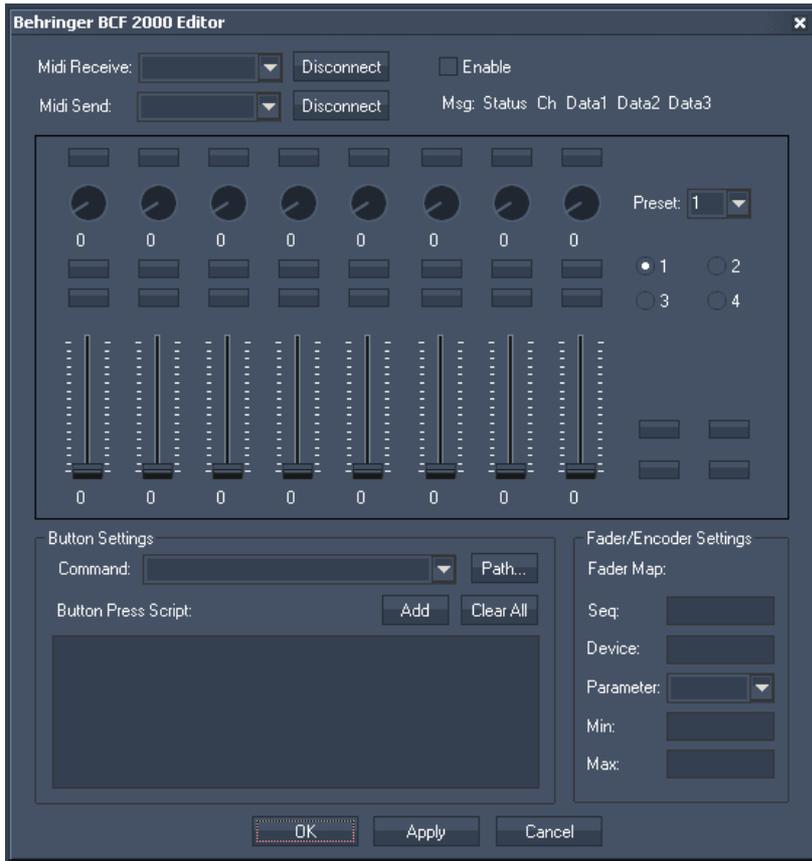
Tick the checkbox [Enable] to enable the BCD 2000 board and remove the check if you want to disable the device again.

Once connected to the BCD 2000 you may press a button or move a control to let Widget Designer intercept and give you access to the Controls [scripts](#) or Fader Encoder Settings.

To change any setting press on the control, enter your values and press Apply.

11.4.9.5 BEHRINGER BCF 2000

If you wish to use an additional Midi Interface to control Widget Designer you may choose a Behringer BCF 2000 to map its buttons and fader to scripts, parameters and value ranges.



The BCF 2000 allows to use a separate Midi input device which is setup in the top section of the BCF 2000 Editor.

Since the BCF 2000 is a freely programmable Midi Interface you will need to use the Learn function of the BCF 2000 to store the Midi value from WD into the unit.

To do this first set up the Midi Send Device in Order to receive the values in the BCF2000:
 To enable the Midi Input for the BCF 2000 board please choose your Midi Send Device from the list and press [Apply].
 Tick the checkbox [Enable] to enable the BCF 2000 board and remove the check if you want to disable the device again.

To store the faders, encoders and buttons you will need to select the desired page in both the BCF 200 Editor and on the BCF 2000 Control itself.

Once this is done, hold the learn button on the BCF and press or move any control item to go to the learn mode. Now click or click and drag any fader in the BCF 2000 Editor with the mouse until the BCF 2000 LCD Menu reads "Good".

To store [scripts](#) or a value range for the individual control, click on the controls and enter your values and confirm with [Apply] or [OK] to store the value in Widget Designer.

11.4.10 VARIABLES

Use the Variable List to view all existing variables, their type and value.



To refresh the list, please rightclick in the tool and choose [Refresh Llist].
 To delete a variable, please rightclick on its line and choose [Delete].

See here the list of scripts that refer to variables:

Scripts to create variables and use them:

[VString,Name,Value](#) - declares a variable of type string (ASCII text).

[VInt,Name,Value](#) - declares a variable of type integer (number without decimal places).

[VDouble,Name,Value](#) - declares a variable of type double (number with decimal places).

Once a variable is declared you can use it by its alias name where ever you can assign a value as input to a script.

[VDelete,Name](#)

[VDeleteAll](#)

[VValue,VarName,Value](#) - assign a value to an existing variable.

[VGetNodeVal,VarName,NodeID,ParamID](#) - assing a value from a node parameter to a given variable by using its name as reference

[VGetFaderVal,VarName,FaderID](#) - assing a value from a fader to a given variable by using its name as reference

[VGetLabelText,VarName,LabelID](#) - assing a text value from a label to a given variable by using its name as reference

Assign the result of a math operation to a given variable:

[VMultiply,VarName,Var1,Var2](#)

[VDivide,VarName,Var1,Var2](#)

[VAdd,VarName,Var1,Var2](#)

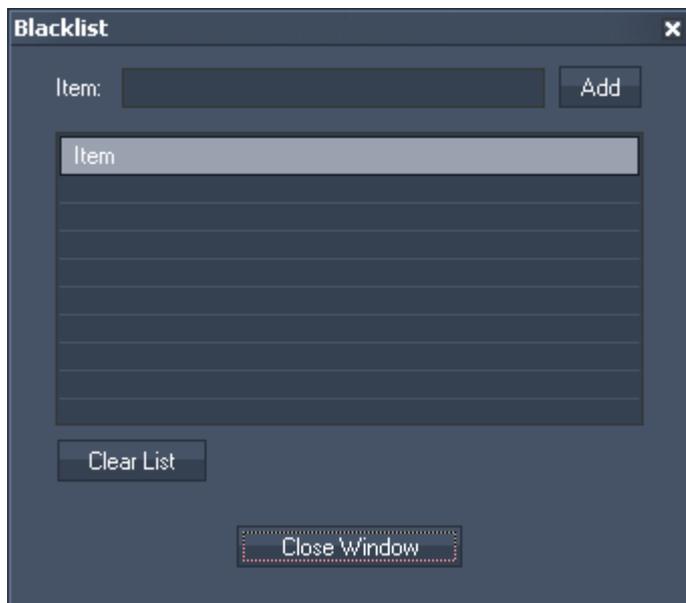
[VSubtract,VarName,Var1,Var2](#)

[VPow,VarName,Var1,Var2](#)

[V.Sqrt,VarName,Var1](#)

11.4.11 BLACKLIST

Use the blacklist for filtering incoming [Emails](#), [SMS](#) and [RSS feeds](#) for specific words.

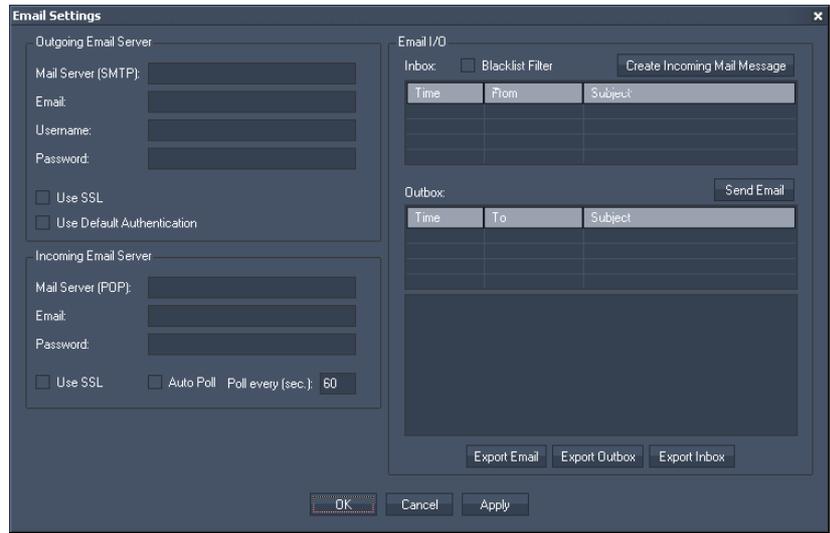


Enter the keywords one after another in the Item text field. Apply each keyword by pressing [Add].

To clear a single keyword from the list, right-click on this entry and choose "Delete".
To clear the whole list, use the button [Clear List].

11.4.12 EMAIL SETTINGS

The Email Settings is the tool to setup all incoming and outgoing Email communication. To process the incoming emails inside Widget Designer, also use the Email scripts "EmailSend,'To','Subject','Message'" and "EmailSendAtt,'To','Att','Subject','Message'", see [scripts](#). [Email Input Node](#). To process any data inside Widget Designer to send via Email, also use the dedicated .



Outgoing Email Server

Please enter all relevant information for your SMTP Mail Server settings, such as

- Mail Server (SMTP),
- Email Address,
- Username,
- Password.

Tick the checkbox "Use SSL" to use SSL (Secure Socket Layer).
 Tick the checkbox "Use Default Authentication" to use default authentication.

Incoming Email Server

Please enter all relevant information for your POP Mail Server settings, such as

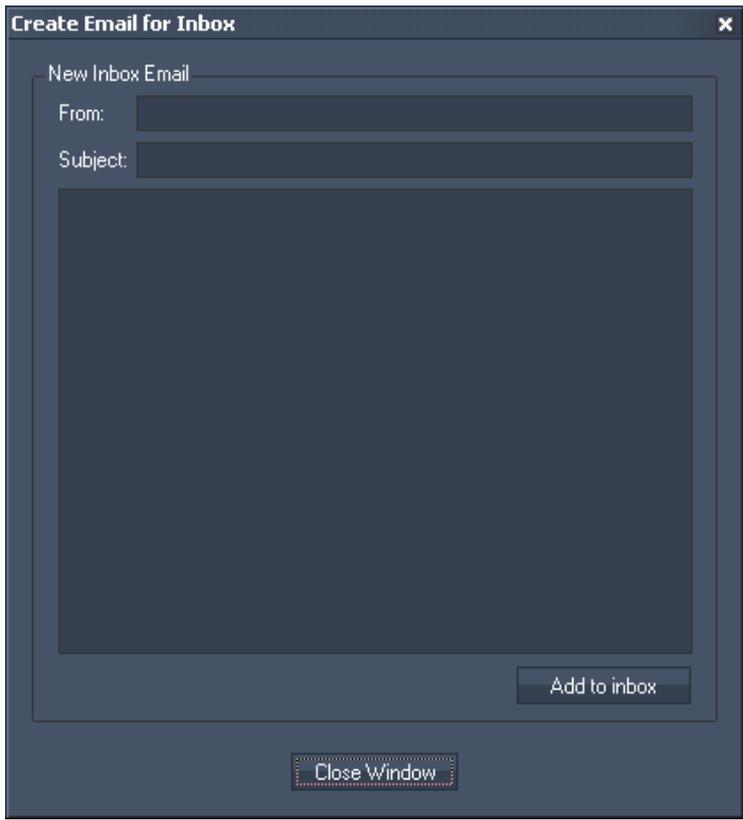
- Mail Server (POP),
- Email Address,
- Password.

Tick the checkbox "Use SSL" to use SSL (Secure Socket Layer).
 Tick the checkbox "Auto Poll" to automatically poll your email account. Enter the interval time in the text field aside.
 If Auto Poll is not checked, your Email account will only be polled once when pressing Apply.

Email I/O

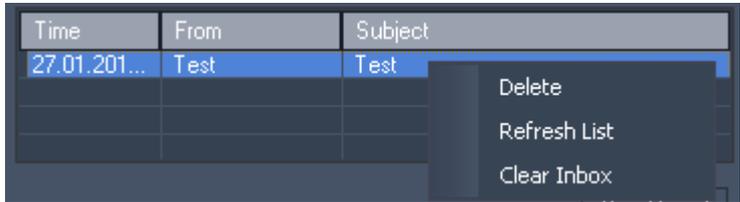
Inbox:
 To use the [Blacklist](#) filter, please check this option.

Click on "Create Incoming Mail Message" to get an email message without polling it from the mail server.
 The following pop-up window opens:



Click "Add to inbox" to receive this email in your inbox, click on Close Window if you do not want to send the email.

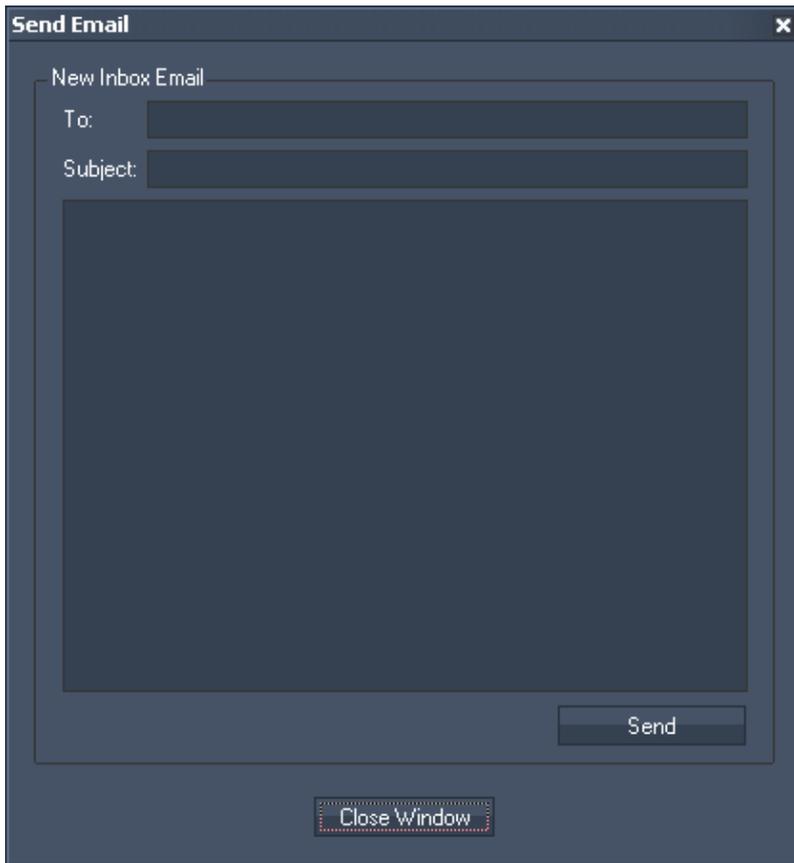
If you right-click on an email in your inbox, you have the opportunities to:



- Delete this mail,
- Refresh the Inbox List,
- Clear the Inbox.

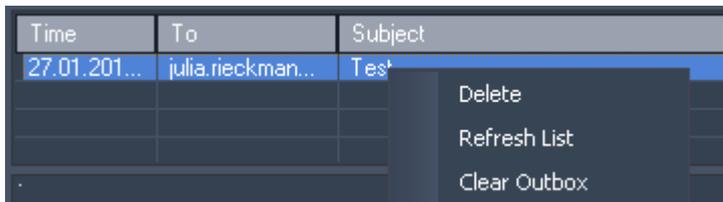
Outbox:
In the Outbox all emails sent will be listed.

Click on "Send Email" to create an email directly in the outbox. The following pop-up window opens:



Enter the receiver, subject and message and press "Send" to send this email or directly "Close Window" to leave this dialogue.

If you right-click on an email in your outbox, you have the opportunities to:



- Delete this mail,
- Refresh the Outbox List,
- Clear the Outbox.

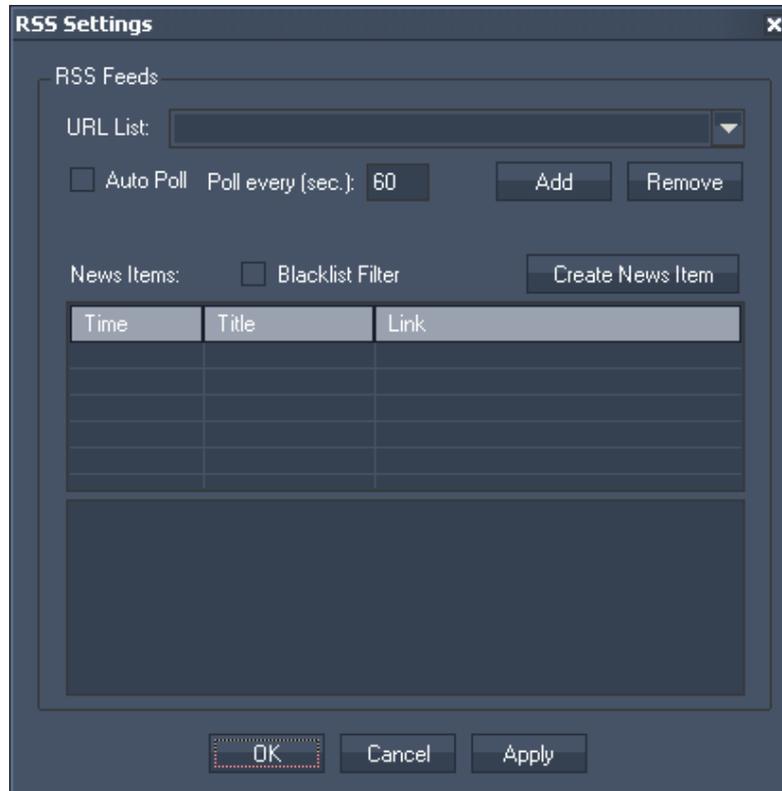
Export Email:
Exports all emails addresses listed in the inbox into a text file.

Export Outbox:
Exports all emails listed in the outbox into a text file.

Export Inbox:
Exports all emails listed in the inbox into a text file.

11.4.13 RSS SETTINGS

The RSS Settings is the tool to setup and create all RSS feeds.
 To process the incoming RSS feed inside Widget Designer, also use the [RSS Input Node](#).



URL List:

Enter a new URL manually in the text field or choose one from the list.
 To add an URL to the list, press [Add] after you entered it into the text field. Click [Remove] to remove this entry from the list.

Check "Auto Poll" and enter the Poll interval in seconds to automatically poll the RSS Feed. If this option is unchecked the RSS Feed will only be polled once when pressing [Apply] or [OK].

To use a prepared [Blacklist](#) for filtering the RSS Feeds for specific words, please check the option Blacklist Filter.

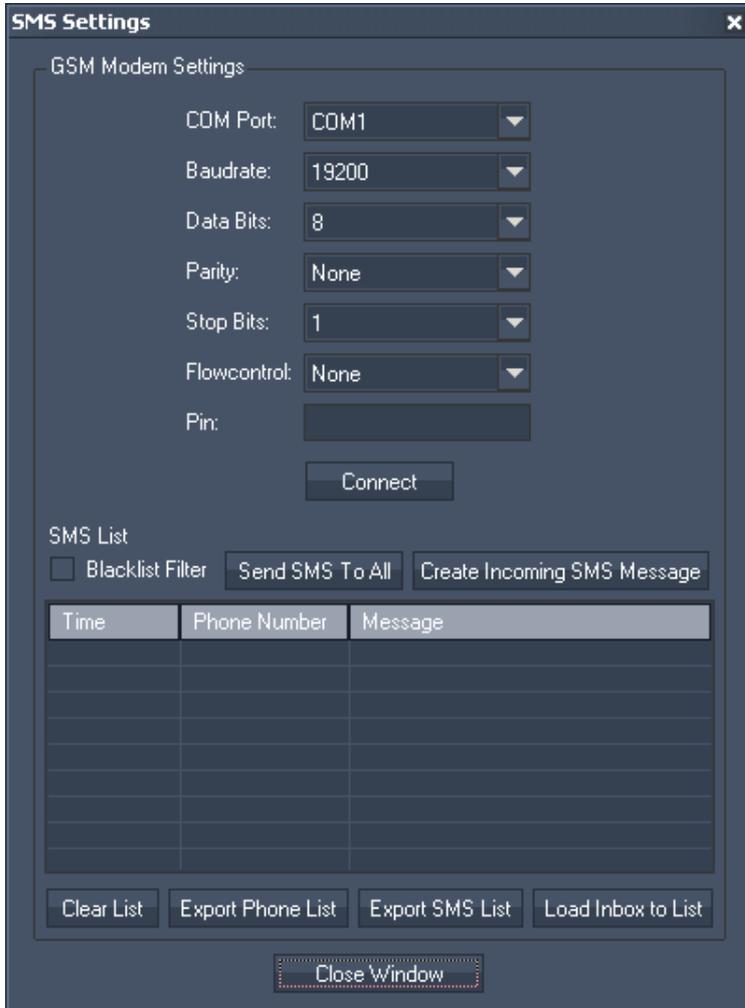
All received RSS Feeds will be displayed in the incoming RSS list.

Create new Items:

Click on this button create a RSS feed manually.
 In the upcoming dialog enter the link that should be displayed, a title and the RSS message text.
 Press [Add to RSS List] to transfer it to the incoming RSS list.

11.4.14 SMS SETTINGS

Setup your GSM modem in this tool to be able to receive and send SMS via the Widget Designer.



GSM Modem Settings:

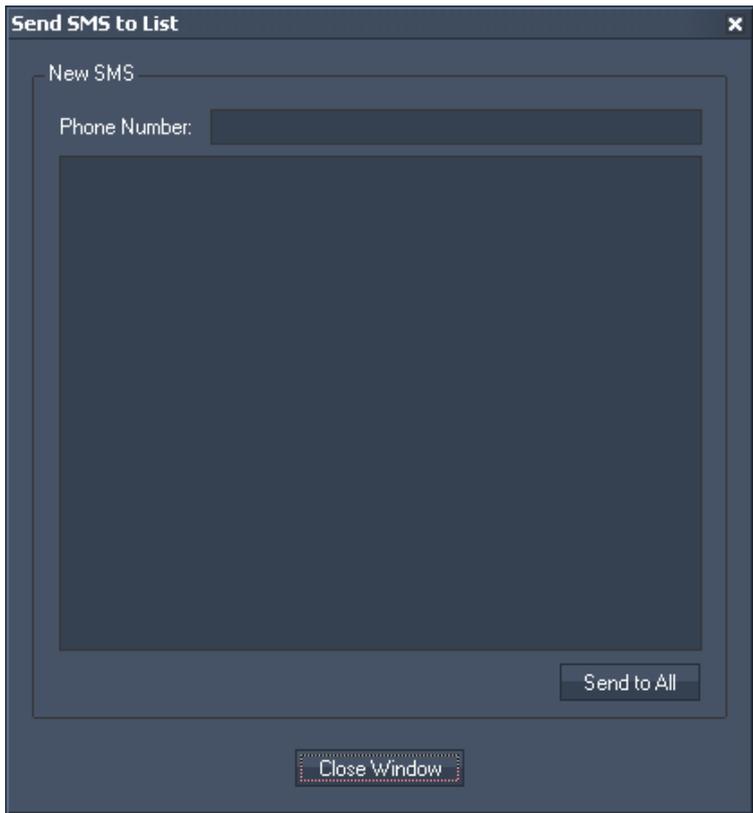
Choose the COM Port, Baudrate, Data Bits, Parity, Stop Bits and the Flowcontrol. Enter the Pin for the GSM Modem and press [Connect].

Blacklist Filter

To use a prepared [Blacklist](#) for filtering the incoming SMS for specific words, please check the option Blacklist Filter.

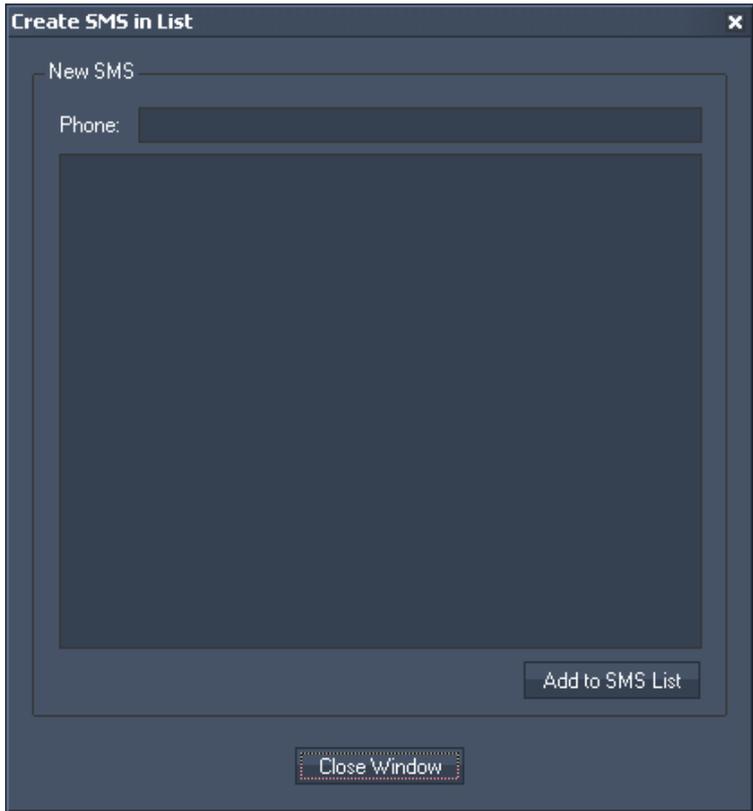
Send SMS To All:

Click on this Button to send a SMS message to all Phone numbers in the SMS List. The following pop-up window opens:



Additionally to all Phone numbers in the SMS list, the new SMS can be send to any number entered in the textfield next to Phone Number.
Enter the SMS text in the textbox.

Create Incoming SMS Message:
Click on "Create Incoming SMS Message" to create a SMS message without polling it via the GSM Modem.
The following pop-up window opens:



Enter the phone number that should appear as faked SMS sender in the textfield.

Use the textbox to enter the SMS text.

Push [Add to SMS List] to add this entry to the SMS Inbox list.
 If you want to discard this entry, just press [Close Window] without adding it.

Clear List:
 Click this button to clear the SMS List.

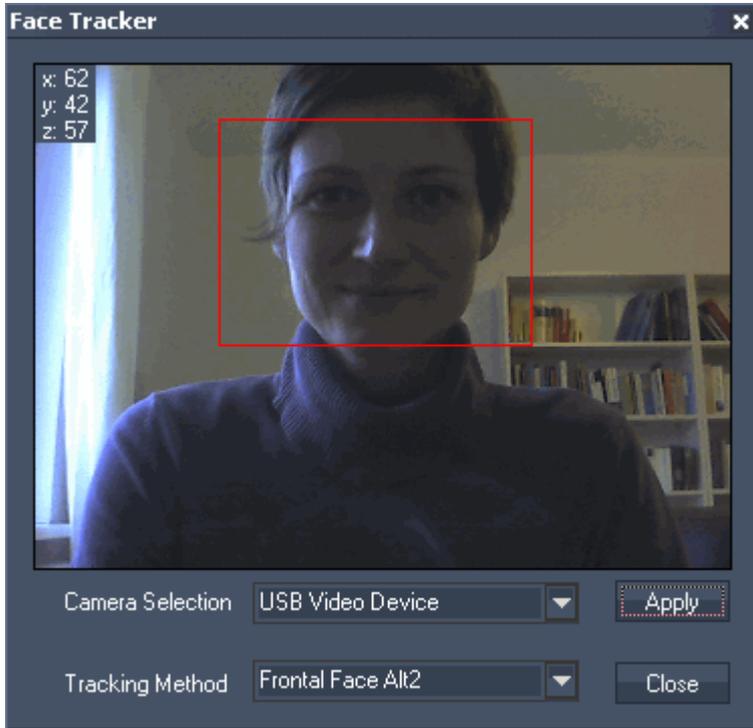
Export Phone List:
 Click this button to export all SMS sender's phone numbers to a text file.

Export SMS List:
 Click this button to export all SMS (phone number and message text) to a text file.

Load Inbox to List:
 Load all SMS from your SIM Card into the Inbox.

11.4.15 FACE TRACKER

The Face Tracker Tool tracks a detected face and outputs its position data via the Face Tracking Input Node for further processing.



Choose your DirectShow Camera Device from the Dropdown List and press [Apply.]

Choose the Tracking Method from the 2nd dropdown list. The following modes are available:

- Frontal Face Alt
- Frontal Face Alt_Tree
- Frontal Face Alt2 (default)
- Full Body
- Lower Body
- Upper Body

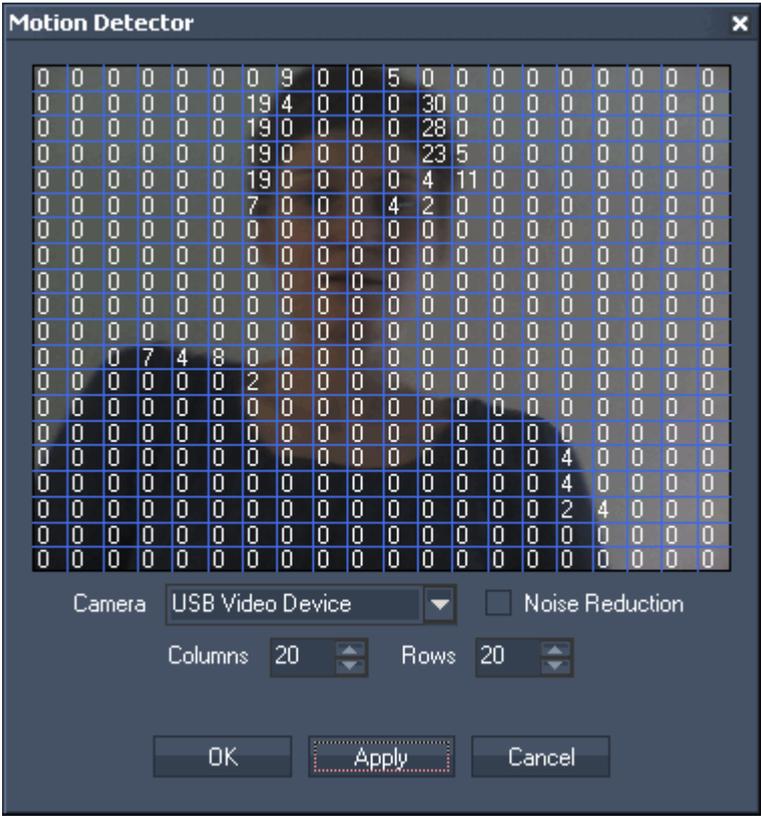
As soon as the Face Tracker detects a face / body, it will be surrounded by an red rectangle. The position data of this rectangle (x,y,z) is displayed top left of the Window.

To use this data for further processing, please refer to [Facetracking Input Node](#).

11.4.16 MOTION DETECTOR

The Motion Detector Tool lets you divide a video input into any amount of columns and rows. It displays the colour difference per segment caused by moving objects and outputs this data via the [Motion Detector Input Node](#) for further processing.

Please note:
This tool as well as the other video processing tools inside WD needs a lot of RAM and CPU power!



Camera:
Choose your DirectShow Camera Device from the Dropdown List.

Noise Reduction:
Check this option to apply a noise reduction on the video input.

Columns:
Enter here the amount of columns the video input should be divided in.

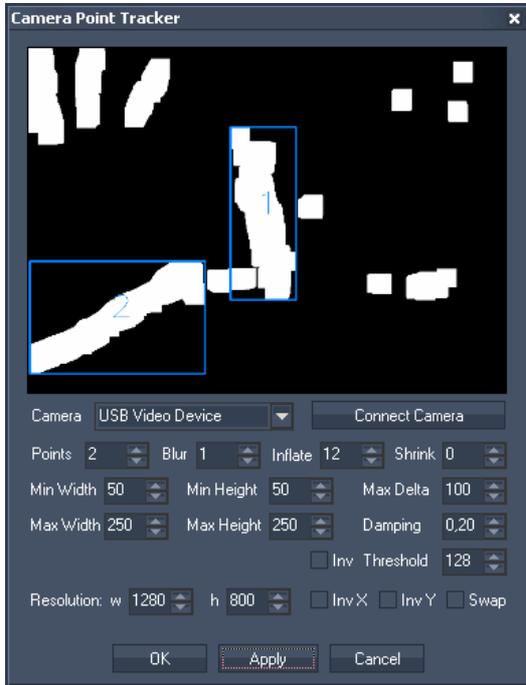
Rows:
Enter here the amount of rows the video input should be divided in.

The values inside the single segments display the colour difference caused by moving objects.

To use these values for further processing, please refer to [Motion Detector Input Node](#).

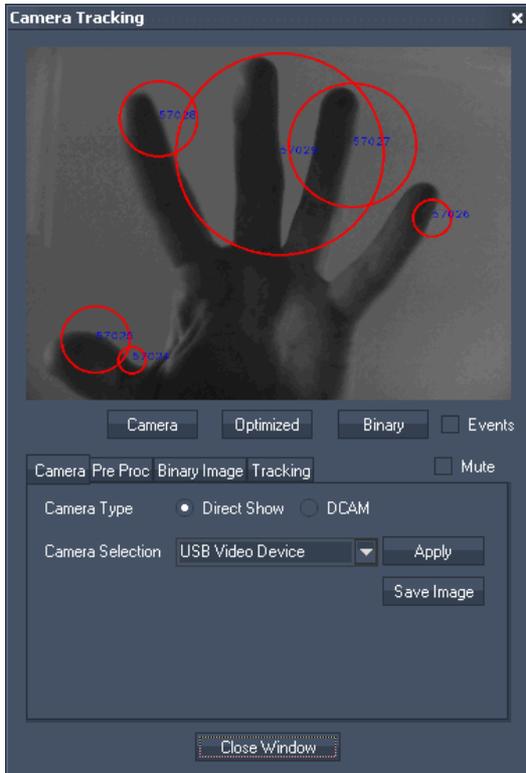
11.4.17 CAMERA POINT TRACKER

The camera point tracker supports up to 99 objects / points.



Description will follow soon!

11.4.18 CAMERA TRACKING

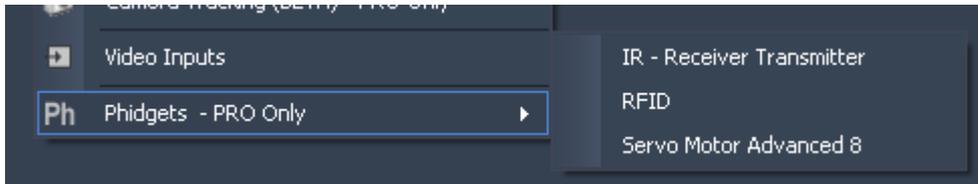


Description will follow soon!

11.4.19 PHIDGETS

Phidgets are a set of "plug and play" building blocks for low cost USB sensing that can be controlled via the Widget Designer amongst others. The Phidgets are available via www.phidgets.com.

The following Phidgets are implemented already:



[IR – Receiver Transmitter](#)

This Tool allows sending and receiving of IR Codes, eg. to and from an old remote control. Received IR Codes can be learned and stored with an Alias name to be used in scripts to retransmit the code.

[RFID](#)

The RFID (Radio Frequency Identification) Phidget reads RFID tags that are brought in close proximity to the reader and returns the tag identification number.

[Servo Motor Advanced 8](#)

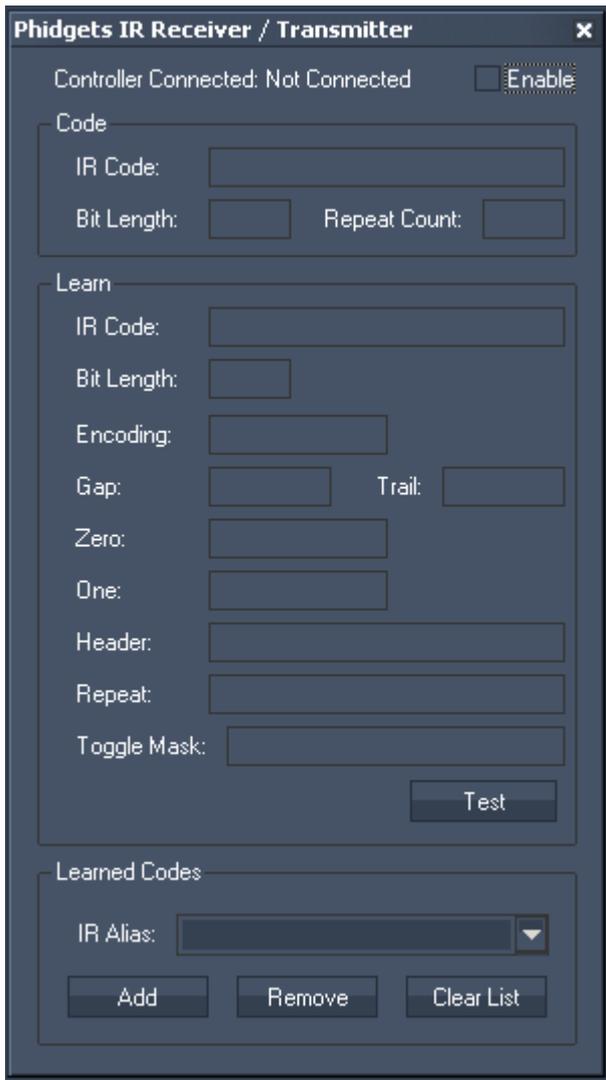
The Phidget Advanced Servo provides an interface to control 8RC analog servo motors.

11.4.19.1 IR – RECEIVER TRANSMITTER

(P/N 1055 – PhidgetIR)

This Tool allows sending and receiving of IR Codes, eg. to and from an IR remote control. Received IR Codes can be learned and stored with an Alias name to be used in scripts to retransmit the code.

This way any remote control IR code can be recorded and send via scripts.



The following scripts are available:

- [PHIREnable](#),
- [PHIRDisable](#),
- [PHIRSend,'IRAlias'](#).

To link scripts to incoming IR Codes, please use the [Phidget IR Script Node](#).

11.4.19.2 RFID

(P/N 2002 - PhidgetRFID Kit)

The RFID (Radio Frequency Identification) Phidget reads RFID tags that are brought in close proximity to the reader.



To enable the RFID Phidget Controller, please activate the checkbox.

The following scripts are available to enable/disable the RFID Phidget Controller:

[PHRFIDEnable](#),
[PHRFIDDisable](#).

To link scripts to incoming RFID Codes, please use the [Phidget RFID Script Node](#).

Please note:

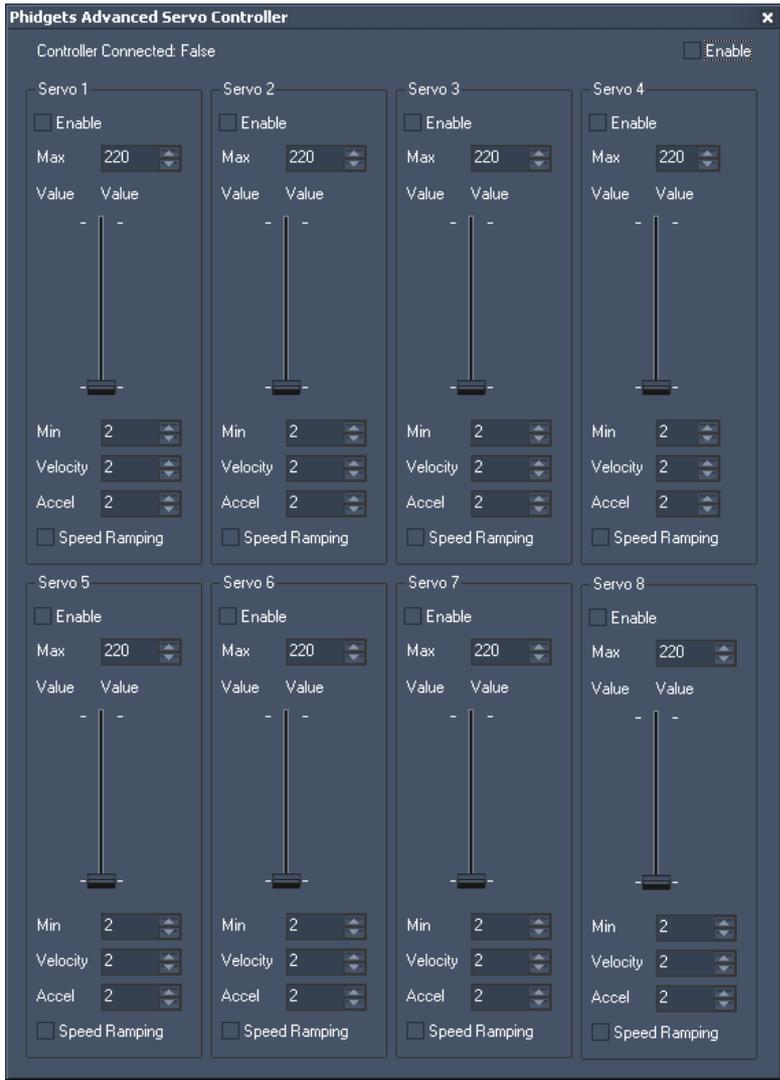
It is possible that the Phidgets RFID do work only under Win7.

App hang has occurred on XP when a RFID Tool and RFID Script Node Property Window is open at the same time

11.4.19.3 SERVO MOTOR ADVANCED 8

(P/N 1061 - PhidgetAdvancedServo 8-Motor)

The Phidget Advanced Servo provides an interface to control 8RC analog servo motors.



To enable the Advanced Servo Controller, please activate the checkbox top right.

The following scripts are available to enable/disable the motors and to change their acceleration, maximum velocity and position.

- [PHAdvServoEnable,'ID'](#),
- [PHAdvServoDisable,'ID'](#),
- [PHAdvServoSetPosition,'ID','Pos'](#),
- [PHAdvServoSetVelocity,'ID','Pos'](#),
- [PHAdvServoSetAcceleration,'ID','Pos'](#),
- [PHAdvServoSpeedRampingOn,'ID'](#),
- [PHAdvServoSpeedRampingOff,'ID'](#).

11.5 SCRIPTS

The built-in script command language allows you to create customized routines of commands. The scripts can be found in the Main Windows Properties as Startup Script or in the User Control to assign additional actions to a button click or other interaction.

When using scripts you will often need to specify a numeric ID for a certain element that you would like to control or send values to.

For example to set the opacity of Layer 1 on Server 1 to 128 you will need the following script:
`DeviceSetParam,SiteID,DeviceID,ParamName,AbsoluteValue`

Since this is only a template of the script, you will need to enter the numeric values for the SiteID, DeviceID, AbsoluteValue and the ParamName as plain text.

The correct script for this example would be written like this:
`DeviceSetParam,1,1,Opacity,128`

Please keep in mind:

WD Scripts can be written in upper or lower case style or mixed, with one exception:

Wherever you need to specify text-based parameters such as Opacity, the entry is case sensitive and must not have additional blanks (space characters).

Please note:

All scripts support variable names as input values!

PARAMETER LIST

Parameter	Value range
Opacity	0-255
Trans FX	0-244 (PB MS)
X Pos	0-65535
Y Pos	0-65535
Z Pos	0-65535
X Rot	0-65535
Y Rot	0-65535
Z Rot	0-65535
X Scale	0-65535
Y Scale	0-65535
Z Scale	0-65535
Video Mode	0 Stop
	64 Play Once 1:1 Speed
	128 Pause
	192 Play Loop 1:1 Speed
Colour Fx	0-66 (PB MS)
Colour 1	0-255
Colour 2	0-255
Colour 3	0-255
Video Fx	0-221 (PB MS)
Fx 1	0-255
Fx 2	0-255

Fx 3	0-255
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Please note:
 If you want to set the Audio Playback Mode for a Sonic Emotion Device you have to use the parameter Video Mode as well!

SCRIPT LIST:

[DeviceSetParam,SiteID,DeviceID,ParamName,AbsoluteValue](#)
[DeviceSetParamRelative,SiteID,DeviceID,ParamName,RelativeValue](#)
[DeviceSetMedia,SiteID,DeviceID,FolderID,FileID](#)
[DeviceSetMesh,SiteID,DeviceID,FolderID,FileID](#)

[DeviceSetParamInSelection,ParamName,AbsoluteValue](#)
[DeviceSetParamRelativeInSelection,ParamName,RelativeValue](#)

[ActivateAll](#)
[ActivateSite,SiteID](#)
[ActivateDevice,SiteID,DeviceID](#)
[ActivateParam,SiteID,DeviceID,ParamName](#)

[ClearAllActive](#)
[ClearActiveSite,SiteID](#)
[ClearActiveDevice,SiteID,DeviceID](#)
[ClearActiveParam,SiteID,DeviceID,ParamName](#)

[ResetAll](#)
[ResetSite,SiteID](#)
[ResetDevice,SiteID,DeviceID](#)
[ResetParam,SiteID,DeviceID,ParamName](#)

[ClearSelection](#)

[SeqSetTimecode,SeqID,HH,MM,SS,FF](#)
[SeqGotoCue,SeqID,CueID](#)
[SeqNextCue,SeqID](#)
[SeqLastCue,SeqID](#)
[SeqNextFrame,SeqID](#)
[SeqLastFrame,SeqID](#)
[SeqSetState,SeqID,Play](#)
[SeqSetState,SeqID,Pause](#)
[SeqSetState,SeqID,Stop](#)

[SeqSetCuePlayMode,'SeqID','CueID','Play/Pause/Stop/Jump/Wait'](#)
[SeqSetNextCuePlayMode,'SeqID','Play/Pause/Stop/Jump/Wait'](#)
[SeqSetIgnoreNextCue,'SeqID'](#)
[SeqSetDoNotIgnoreNextCue,'SeqID'](#)

[SeqSetTimecodeMode,SeqID,None](#)
[SeqSetTimecodeMode,SeqID,Send](#)
[SeqSetTimecodeMode,SeqID,Receive](#)
[SeqSetTimecodeOffset,SeqID,HH,MM,SS,FF](#)
[SeqSetTimecodeStopAction,SeqID,Stop](#)
[SeqSetTimecodeStopAction,SeqID,Pause](#)
[SeqSetTimecodeStopAction,SeqID,Continue](#)

[SeqStoreActive,SeqID](#)
[SeqStoreActiveToTime,SeqID,HH,MM,SS,FF](#)

[SeqContentAtTime,SiteID,DevID,SeqID,Hours,Minutes,Seconds,Frames,FolderID,FileID](#)

[ResourceSetText,FolderID,FileID,Text](#)
[ResourceCreateText,FolderID,FileID,Text](#)
[ResourceSetTextUnicode,FolderID,FileID,Text](#)

[ResourceSetTextSize,FolderID,FileID,Width,Height](#)
[ResourceSetTextFullSize,FolderID,FileID](#)
[ResourceSetTextCentered,FolderID,FileID](#)
[ResourceSetTextStyle,FolderID,FileID,Font,Size,Style,Alignment,Red,Green,Blue](#)

[ResourceGetTextFromLabel,LabelID,FolderID,FileID](#)
[ResourceGetTextFromLabelUnicode,LabelID,FolderID,FileID](#)
[ResourceGetTextFromTextbox,TextboxID,FolderID,FileID](#)
[ResourceGetTextFromTextboxUnicode,LabelID,FolderID,FileID](#)

[ResourceAdd,Path,SiteID,FolderID,FileID](#)
[ResourceSpreadAll](#)
[ResourceSpreadMedia,FolderID,FileID](#)
[ResourceSpreadMesh,FolderID,FileID](#)

[ResourceSetFrameBlending,FolderID,FileID,State\(True or False\)](#)
[ResourceSetDeinterlacing,FolderID,FileID,State\(1,2,3,4\)](#)
[ResourceSetAnisotropicFiltering,FolderID,FileID,State\(True or False\)](#)
[ResourceSetUnderscan,FolderID,FileID,State\(True or False\)](#)
[ResourceSetMpegColourSpace,FolderID,FileID,State\(True or False\)](#)
[ResourceSetAlphaChannel,FolderID,FileID,State\(True or False\)](#)

[ResourceRemoveInconsistent](#)

[ResourceRemoveMedia,FolderID,FileID](#)
[ResourceRemoveMesh,FolderID,FileID](#)

[ResourceReloadMedia,FolderID,FileID](#)
[ResourceReloadMesh,FolderID,FileID](#)

[ToggleFullScreen,SiteID](#)
[FullScreenByID,SiteID](#)
[WindowedModeByID,SiteID](#)

[PBLoadProject,Path,Name,SaveCurrent](#)
[PBLoadProject,Path,Name,DoNotSaveCurrent](#)
[PBCloseProject,SaveCurrent](#)
[PBCloseProject,DoNotSaveCurrent](#)

[DeviceAcceptDmxById,SiteID,DeviceID,On](#)
[DeviceAcceptDmxById,SiteID,DeviceID,Off](#)
[SiteAcceptDmxById,SiteID,On](#)
[SiteAcceptDmxById,SiteID,Off](#)
[DeviceSetDmxAddress,SiteID,DeviceID,DMXStart,Universe,Subnet](#)

[DeviceSetIp,'SiteID','IPAddress'](#)

[WakeOnLan,'MacAddress'](#)

PB commands:

Please note, that all PB commands will only work when the Onscreen Menu up from Rev. 34 is installed on the machines!

[PBShutDown,'IP address'](#)
[PBShutDownAll](#)

[PReboot,'IP address'](#)
[PRebootAll](#)

[PStartMaster,'IP address'](#)
[PStartMasterAll](#)

[PStartClient,'IP address'](#)
[PStartClientAll](#)

[PClose,'IP address'](#)
[PCloseAll](#)

[PSetOutput1ResolutionAll,1024 768 60](#)
[PSetOutput2ResolutionAll,1024 768 60](#)
[PDeactivateOutput2All](#)

[PSetOutput1Resolution,'IP address',1024 768 60](#)
[PSetOutput2Resolution,'IP address',1024 768 60](#)
[PDeactivateOutput2,'IP address'](#)

[PSetIP1,'IP address','NewIP','NewMask'](#)
[PSetIP1DHCP,'IP address'](#)
[PSetIP2,'IP address','NewIP','NewMask'](#)
[PSetIP2DHCP,'IP address'](#)

[PApplicationStartAll,'Filepath'](#)
[PApplicationCloseAll,'Processname'](#)

[PApplicationStart,'IP address','Filepath'](#)
[PApplicationClose,'IP address','Processname'](#)

[WDDisconnect](#)
[WDConnect,'IP','Domain'](#)

[WDAirScanMouseEnabled](#)
[WDAirScanMouseDisabled](#)
[WDAirScanMouseClickEnabled](#)
[WDAirScanMouseClickDisabled](#)
[WDAirScanMouseClickDefault](#)
[WDAirScanMouseClickOnEnter](#)
[WDAirScanMouseClickOnLeave](#)
[WDAirScanMouseDownOnMoveEnabled](#)
[WDAirScanMouseDownOnMoveDisabled](#)
[WDAirScanMultiPointModeEnabled](#)
[WDAirScanMultiPointModeDisabled](#)
[OpenAirsanProperties](#)

[WDArtNetSnapshotActivate,'ID'](#)

[WDArtNetRecorderPlay,'ID'](#)
[WDArtNetRecorderPause,'ID'](#)
[WDArtNetRecorderRewind,'ID'](#)
[WDArtNetRecorderLoop,'ID'](#)
[WDArtNetRecorderPlayOnce,'ID'](#)

[WDBrowserContent,'ID','Url'](#)

[WDButtonClick,'ID'](#)
[WDButtonText,'ID',Text](#)

[WDButtonTextColour,'ID','R','G','B'](#)

[WDColourPickerDevices,'ID',1.1 1.2 1.3](#)

[WDColourPickerBGColour,'ID','R','G','B'](#)

[WDControlShow,'ControlName'](#)

[WDControlHide,'ControlName'](#)

[WDCueListGo,'ID'](#)

[WDCueListPause,'ID'](#)

[WDCueListGo-,'ID'](#)

[WDCueListRecall,'ID'](#)

[WDCueListGotoCue,'ID','Cue'](#)

[WDCueListPrevCue,'ID'](#)

[WDCueListNextCue,'ID'](#)

[WDCueListFirstCue,'ID'](#)

[WDCueListLastCue,'ID'](#)

[WDCueListResetJumps,'ID'](#)

[WDCueListCancelWaits,'ID'](#)

[WDCustomScriptClick,'ID'](#)

[WDCustomScriptForceClick,'ID'](#)

[WDCustomScriptForceRelease,'ID'](#)

[WDCustomScriptSilentClickToggle,'ID'](#)

[WDCustomScriptSilentReleaseToggle,'ID'](#)

[WDCustomScriptSilentClickToggleAll](#)

[WDCustomScriptSilentReleaseToggleAll](#)

[WDCustomScriptText,'ID','Text'](#)

[WDCustomScriptTextColour,'ID','R','G','B'](#)

[WDDownloadThumbnails](#)

[WDDrawingCanvasClear,'ID'](#)

[WDDrawingCanvasSetPenSize,'ID','Size'](#)

[WDDrawingCanvasSetPenCol,'ID','R','G','B'](#)

[WDDrawingCanvasSetBGCol,'ID','R','G','B'](#)

[WDEncoderGoUp,'ID','Value'](#)

[WDEncoderGoDown,'ID','Value'](#)

[WDEncoderValue,'ID','Value'](#)

[WDEncoderFactor,'ID','Value'](#)

[WDFaderUp,'ID','Milliseconds'](#)

[WDFaderDown,'ID','Milliseconds'](#)

[WDFadeToValue,'ID','Seconds','Value'](#)

[WDFaderGoUp,'ID','Value'](#)

[WDFaderGoDown,'ID','Value'](#)

[WDFaderValue,'ID','Value'](#)

[WDFaderAbortAllFades](#)

[WDFaderAbortFade,'ID'](#)

[WDKeyboardShortcutsEnable](#)

[WDKeyboardShortcutsDisable](#)

[WDLablelText,'ID','Text'](#)

[WDLablelTextColour,'ID','R','G','B'](#)

[WDMacro,'MacroName'](#)

[OpenMacroEditor](#)

[WDMediaPanelSetDevices,'PanelID','Devices'](#)
[WDMediaPanelSetFolder,'PanelID','Folder'](#)
[WDMediaPanelSetNextFolder,'ID'](#)
[WDMediaPanelSetPreviousFolder,'ID'](#)
[WDMediaPanelSetIndex,'PanelID','Index'](#)
[WDMediaPanelSetLayout,'PanelID','Columns','Rows'](#)

[WDMessageBox,Title,Content](#)
[WDMacroBoxOkCancel,Title,Content,MacroName1,MacroName2](#)
[WDMacroBoxYesNo,Title,Content,MacroName1,MacroName2](#)

[WDMotionMaskSetScale,'ID','Value'](#)
[WDMotionMaskSetInValue,'ID','Value'](#)
[WDMotionMaskSetOutValue,'ID','Value'](#)
[WDMotionMaskSetThreshold,'ID','Value'](#)
[WDMotionMaskSetPaintOnly,'ID','Bool'](#)

[WDMultiTouchStoreDefaults,'ID'](#)
[WDMultiTouchApplyDefaults,'ID'](#)
[WDMultiTouchSetZoom,'ID','Zoomfactor'](#)
[WDMultiTouchSetPan,'ID','X','Y'](#)
[WDMultiTouchSetActive,'ID','ItemID'](#)
[WDMultiTouchSetInActive,'ID','ItemID'](#)
[WDMultiTouchSetDevice,'ID','ItemID','SiteID','DeviceID'](#)
[WDMultiTouchSetPos,'ID','ItemID','Xpos','Ypos'](#)
[WDMultiTouchSetRot,'ID','ItemID','Rot'](#)
[WDMultiTouchSetScale,'ID','ItemID','Scale'](#)
[WDMultiTouchEnableZoom,'ID','ItemID'](#)
[WDMultiTouchDisableZoom,'ID','ItemID'](#)
[WDMultiTouchEnableDrag,'ID','ItemID'](#)
[WDMultiTouchDisableDrag,'ID','ItemID'](#)
[WDMultiTouchEnablePan,'ID','ItemID'](#)
[WDMultiTouchDisablePan,'ID','ItemID'](#)
[WDMultiTouchEnableSize,'ID','ItemID'](#)
[WDMultiTouchDisableSize,'ID','ItemID'](#)
[WDMultiTouchEnableRotate,'ID','ItemID'](#)
[WDMultiTouchDisableRotate,'ID','ItemID'](#)
[WDMultiTouchLayerMode,'ID','ItemID','LayerMode'](#)
[WDMultiTouchDisplayMode,'ID','DisplayMode'](#)
[WDMultiTouchEnableZorder,'ID'](#)
[WDMultiTouchDisableZorder,'ID'](#)

[WDMultiTouchLinkToMouse,'ID','ItemID'](#)
[WDMultiTouchLinkItemToMouse,'ID'](#)
[WDMultiMouseLinkPlay,'ID'](#)
[WDMultiMouseLinkLoop,'ID'](#)
[WDMultiMouseLinkPause,'ID'](#)
[WDMultiMouseLinkStop,'ID'](#)

[WDMultiTouchItemPlay,'ID','ItemID'](#)
[WDMultiTouchItemLoop,'ID','ItemID'](#)
[WDMultiTouchItemPause,'ID','ItemID'](#)
[WDMultiTouchItemStop,'ID','ItemID'](#)
[WDMultiTouchRefresh,'ID'](#)

[WDMultiTouchEnableMouse,'ID'](#)
[WDMultiTouchDisableMouse,'ID'](#)
[WDMultiTouchEnableGestures,'ID'](#)
[WDMultiTouchDisableGestures,'ID'](#)
[WDMultiTouchEnableTouch,'ID'](#)

[WDMultiTouchDisableTouch,'ID'](#)
[WDMultiTouchEnableAirScan,'ID'](#)
[WDMultiTouchDisableAirScan,'ID'](#)
[WDMultiTouchEnableKinect,'ID'](#)
[WDMultiTouchDisableKinect,'ID'](#)
[WDMultiTouchEnableCamera,'ID'](#)
[WDMultiTouchDisableCamera,'ID'](#)
[WDMultiTouchEnableIphone,'ID'](#)
[WDMultiTouchDisableIphone,'ID'](#)

[WDNBSBroadcastEnable](#)
[WDNBSBroadcastDisable](#)
[WDNBSReceiveEnable](#)
[WDNBSReceiveDisable](#)

[WDNodesEnable](#)
[WDNodesDisable](#)

[WDNodeEnableOutput,'ID'](#)
[WDNodeDisableOutput,'ID'](#)

[WDNodeConnect,'SourceNodeID','TargetNodeID'](#)
[WDNodeDisconnect,'NodeID','SourceNodeID'](#)

[WDNodeSetParam,'NodeID','ParamID','Value'](#)
[WDNodeSetParam+=,'NodeID','ParamID','Value'](#)
[WDNodeSetParam-='NodeID','ParamID','Value'](#)
[WDNodeSetParam*='NodeID','ParamID','Value'](#)
[WDNodeSetParam/=,'NodeID','ParamID','Value'](#)

[WDNodeSetParamFromNodeInputValue,'NodeID','ParamID','SourceNodeID','SourceNodeInParamID'](#)
[WDNodeSetParamFromNodeOutputValue,'NodeID','ParamID','SourceNodeID','SourceNodeOutParamID'](#)
[WDNodeSetParamFromNode+=,'NodeID','ParamID','SourceNodeID','SourceNodeParamID'](#)
[WDNodeSetParamFromNode-='NodeID','ParamID','SourceNodeID','SourceNodeParamID'](#)
[WDNodeSetParamFromNode*='NodeID','ParamID','SourceNodeID','SourceNodeParamID'](#)
[WDNodeSetParamFromNode/=,'NodeID','ParamID','SourceNodeID','SourceNodeParamID'](#)

[WDNodeSetParamSource,'NodeID','ParamID','SourceNodeID','SourceNodeParamID'](#)

[WDNodeSetOutput,'NodeID','ParamID','Value'](#)
[WDNodeRefreshOutput,'NodeID'](#)

[WDPageGoto,'Default'](#)
[WDPageNext](#)
[WDPageLast](#)
[WDPageForward](#)
[WDPagePrevious](#)
[WDPageClearHistory](#)

[WDPasswordDialog,'Password'](#)

[WDRemoteTCPEnable](#)
[WDRemoteTCPDisable](#)

[WDRemoteUDPEnable](#)
[WDRemoteUDPDisable](#)

[WDRemoteHTTPEnable](#)
[WDRemoteHTTPDisable](#)

[WDRemoteCOMEnable](#)
[WDRemoteCOMDisable](#)

[WDScreenshot,'FileName'](#)
[WDScreenshotWithTime,'FileName'](#)
[WDScreenshotDialog](#)
[WDScreenshotRegion,'X','Y','Width','Height','FileName'](#)
[WDScreenshotRegionWithTime,'X','Y','Width','Height','FileName'](#)
[WDScreenshotRegionDialog,'X','Y','Width','Height'](#)

[WDScriptTimerStart,'ID'](#)
[WDScriptTimerStop,'ID'](#)
[WDScriptTimerInterval,'ID','Value'](#)
[WDScriptTimerRunOnce,'ID'](#)
[WDScriptTimerRunContinuous,'ID'](#)

[WDScrollerReset,'ID'](#)

[WDTextboxClear,'TXTBoxID'](#)
[WDTextboxAddTextFromLabel,'TXTBoxID','LabelID'](#)
[WDTextboxAddTextFromTextbox,'TXTBoxID','TXTBoxSourceID'](#)

[WDTextInputClear,'ID'](#)
[WDTextInputReset,'ID'](#)
[WDTextInputNext,'ID'](#)
[WDTextInputLast,'ID'](#)
[WDTextInputGotoLine,'ID','SourceID'](#)
[WDTextInputUpdate,'ID'](#)

[WDVideoFile,'ID','File'](#)
[WDVideoControl,'ID','Play'](#)
[WDVideoControl,'ID','Loop'](#)
[WDVideoControl,'ID','Pause'](#)
[WDVideoControl,'ID','Stop'](#)
[WDVideoSetVolume,'ID','Value'](#)
[WDVideoVolumeUp,'ID','Value'](#)
[WDVideoVolumeDown,'ID','Value'](#)

[VString,Name,Value](#)
[VInt,Name,Value](#)
[VDouble,Name,Value](#)
[VDelete,Name](#)
[VDeleteAll](#)
[VValue,VarName,Value](#)
[VGetNodeVal,VarName,NodeID,ParamID](#)
[VGetFaderVal,VarName,FaderID](#)
[VGetLabelText,VarName,LabelID](#)
[VMultiply,VarName,Var1,Var2](#)
[VDivide,VarName,Var1,Var2](#)
[VAdd,VarName,Var1,Var2](#)
[VSubtract,VarName,Var1,Var2](#)
[VPow,VarName,Var1,Var2](#)
[VSqrt,VarName,Var1](#)

[WDWait,'Seconds'](#)
[WDWaitCancelItem,ItemName](#)
[WDWaitCancelAll](#)

[WDWheelGoUp,'ID','Value'](#)

[WDWheelGoDown,'ID','Value'](#)
[WDWheelValue,'ID','Value'](#)
[WDWheelFactor,'ID','Value'](#)

[WDXYPanelResetDefault,'PanelID'](#)
[WDXYPanelSetXDefault,'PanelID','Value'](#)
[WDXYPanelSetYDefault,'PanelID','Value'](#)
[WDXYPanelSetXPosRelative,'PanelID','Value'](#)
[WDXYPanelResetXPosRelative,'PanelID'](#)
[WDXYPanelSetYPosRelative,'PanelID','Value'](#)
[WDXYPanelResetYPosRelative,'PanelID'](#)
[WDXYPanelSetDistanceRelative,'PanelID','Value'](#)
[WDXYPanelResetDistanceRelative,'PanelID'](#)
[WDXYPanelSetAngleRelative,'PanelID','Value'](#)
[WDXYPanelResetAngleRelative,'PanelID'](#)

[WDEnable](#)
[WDDisable](#)

[WDLoad,'File'](#)
[WDNew](#)
[WDClose](#)
[WDCloseSilent](#)

[WDSave](#)
[WDSaveAs](#)

[ApplicationStart,'Filepath'](#)
[ApplicationClose,'Processname'](#)

[Art-NetInputEnabled](#)
[Art-NetInputDisabled](#)

[Art-NetOutputEnabled](#)
[Art-NetOutputDisabled](#)

[Art-NetSetVal8bit,'Subnet 0-15','Universe 0-15','Channel','Value 0-255'](#)
[Art-NetSetVal16bit,'Subnet 0-15','Universe 0-15','Channel','Value 0-65535'](#)
[Art-NetDisableUniverse,'Subnet 0-15','Universe 0-15'](#)
[Art-NetDisableAllUniverses](#)
[OpenArt-NetMonitor](#)
[OpenArt-NetUniverseList](#)

[COMStart,'ID'](#)
[COMStop,'ID'](#)
[COMSend,'ID','Message'](#)
[COMSendHex,'ID','Message'](#)
[COMSendDec,'ID','Message'](#)

[DMXLinkInEnable](#)
[DMXLinkInDisable](#)
[DMXLinkInReset](#)

[DMXLinkOutSetVal8bit,'Channel','Value 0-255'](#)
[DMXLinkOutSetVal16bit,'Channel','Value 0-65535'](#)

[DMXLinkOutEnable](#)
[DMXLinkOutDisable](#)
[DMXLinkOutReset](#)

[EmailSend,'To','Subject','Message'](#)
[EmailSendAtt,'To','Att','Subject','Message'](#)

[EmailSendFromLabel,'To','Subject From LabelID','Message From LabelID'](#)
[EmailSendFromTextBox,'To','Subject From TextBoxID','Message From TextBoxID'](#)

[EmailSendDisable](#)
[EmailSendEnable](#)

[EmailServerSet,'EmailServerSmpt'](#)
[EmailAddressSet,'EmailAddress'](#)
[EmailUsernameSet,'Username'](#)
[EmailPasswordSet,'Password'](#)
[EmailUseSSL,True](#)
[EmailUseSSL,False](#)
[EmailUseDefaultAuthentication,True](#)
[EmailUseDefaultAuthentication,False](#)
[OpenEmailSettings](#)

[KeyboardKeyPress,'Keycode'](#)

[KinectStart](#)
[KinectEnable](#)
[KinectDisable](#)
[KinectSetTilt,'-8000>+8000'](#)
[KinectSetDepthThreshold,'0-2047'](#)
[KinectSetNearThreshold,'0-2047'](#)
[KinectSetPoints,'1-8'](#)
[KinectSetBlur,'0-15'](#)
[KinectSetInflate,'0-15'](#)
[KinectSetShrink,'0-15'](#)
[KinectSetMinWidth,'Value'](#)
[KinectSetMinHeight,'Value'](#)
[KinectSetMaxWidth,'Value'](#)
[KinectSetMaxHeight,'Value'](#)
[KinectSetMaxDelta,'Value'](#)
[KinectSetDamping,'Value'](#)
[KinectMouseModeDefault](#)
[KinectMouseModeOnEnter](#)
[KinectMouseModeOnLeave](#)
[KinectMouseModeOn2ndHand](#)
[KinectMouseModeEnable](#)
[KinectMouseModeDisable](#)
[KinectEnableClick](#)
[KinectDisableClick](#)
[OpenKinectDialog](#)

[LogitechPresenterR400Enabled](#)
[LogitechPresenterR400Disabled](#)

Script support for Chamsys MagicQ Remote Playback Commands (based on MagicQ default UDP Port 6553):

[MagicQActivatePlayback,'ID'](#)
[MagicQReleasePlayback,'ID'](#)
[MagicQTestPlayback,'ID'](#)
[MagicQUntestPlayback,'ID'](#)
[MagicQGoOnPlayback,'ID'](#)
[MagicQStopOnPlayback,'ID'](#)
[MagicQFastBackOnPlayback,'ID'](#)

[MagicQFastForwardOnPlayback,'ID'](#)
[MagicQChangePage,'ID'](#)
[MagicQPlaybackLevel,'ID','Level'](#)

[MidiInputEnabled](#)
[MidiInputDisabled](#)

[MidiOutputEnabled](#)
[MidiOutputDisabled](#)

[MidiSendRawMsg,'Status','Channel','Data1','Data2','Data3'](#)
[MidiSendNoteOn,'Channel 1-16','Note C0-G10','Velocity 0-127'](#)
[MidiSendNoteOff,'Channel 1-16','Note C0-G10'](#)
[MidiSendProgramChange,'Channel 1-16','Program 0-127'](#)
[MidiSendControlChange,'Channel 1-16','Control 0-127','Value 0-127'](#)

[MouseMove.xPos.yPos](#)
[MouseLeftClick](#)
[MouseRightClick](#)

[OpenConnectionManager](#)
[OpenArt-NetMonitor](#)
[OpenArt-NetUniverseList](#)
[OpenCITPBrowser](#)
[OpenEventEditor](#)
[OpenHelp](#)
[OpenIPConfiguration](#)
[OpenKeyboardShortcuts](#)
[OpenKinectDialog](#)
[OpenLoadFileDialog](#)
[OpenMacroEditor](#)
[OpenMidiNoteEditor](#)
[OpenRemoteInput](#)
[OpenSaveAsFileDialog](#)
[OpenSMSSettings](#)
[OpenTrackCamProperties](#)

[PHAdvServoEnable,'ID'](#)
[PHAdvServoDisable,'ID'](#)
[PHAdvServoSetPosition,'ID','Pos'](#)
[PHAdvServoSetVelocity,'ID','Pos'](#)
[PHAdvServoSetAcceleration,'ID','Pos'](#)
[PHAdvServoSpeedRampingOn,'ID'](#)
[PHAdvServoSpeedRampingOff,'ID'](#)

[PHIREnable](#)
[PHIRDisable](#)
[PHIRSend,'IRAlias'](#)

[PHRFIDEnable](#)
[PHRFIDDisable](#)

[PlaySound,'Filename'](#)

[SMPTELinkModeNone](#)
[SMPTELinkModeSend](#)
[SMPTELinkModeReceive](#)
[SMPTELinkSet,00:00:00:00](#)

[SMSSend,PhoneNumber,Message](#)

[SMSSendDisable](#)
[SMSSendEnable](#)
[OpenSMSSettings](#)

[SystemShutdown](#)

[TCPStart,'ID'](#)
[TCPStop,'ID'](#)
[TCPSend,'ID','Message'](#)
[TCPSendHex,'ID','Message'](#)
[TCPSendDec,'ID','Message'](#)

[UDPSendToPort,'Port','Message'](#)
[UDPStart,'ID'](#)
[UDPStop,'ID'](#)
[UDPSend,'ID','Message'](#)
[UDPSendHex,'ID','Message'](#)
[UDPSendDec,'ID','Message'](#)

11.5.1 DeviceSetParam

DeviceSetParam,SiteID,DeviceID,ParamName,AbsoluteValue

Example:

DeviceSetParam,1,2,X Pos,32900

Sets the X Position of Server 1, Layer 2 to the value 32900.

11.5.2 DeviceSetParamRelative

DeviceSetParamRelative,SiteID,DeviceID,ParamName,RelativeValue

Example:

DeviceSetParamRelative,1,2,Opacity,100

Adds the value 100 to the parameter Opacity of Server 1, Layer 2.

11.5.3 DeviceSetMedia

DeviceSetMedia,SiteID,DeviceID,FolderID,FileID

Example:

DeviceSetMedia,1,3,2,4

Assigns the media file with the File and Folder ID 2,4 to layer 3 of server 1.

11.5.4 DeviceSetMesh

DeviceSetMesh,SiteID,DeviceID,FolderID,FileID

Example:

DeviceSetMesh,1,3,2,4

Assigns the mesh file with the File and Folder ID 2,4 to layer 3 of server 1.

11.5.5 DeviceSetParamInSelection

DeviceSetParamInSelection,ParamName,AbsoluteValue

Example:

DeviceSetParamInSelection,Opacity,255

Sets the Opacity of all selected Devices in PB to the value 255.

Please note:

This script will only work with Pandoras Box Version 4535 or higher!

11.5.6 DeviceSetParamRelativeInSelection

DeviceSetParamRelativeInSelection,SiteID,DeviceID,ParamName,RelativeValue

Example:

DeviceSetParamRelativeInSelection,Opacity,20

Adds the value 20 to the Opacity parameter of all selected Devices in PB.

Please note:

This script will only work with Pandoras Box Version 4535 or higher!

11.5.7 ActivateAll

ActivateAll

Example:

ActivateAll

Activates all parameters of all layers of all servers within the Pandoras Box Project.

11.5.8 ActivateSite

ActivateSite,SiteID

Example:

ActivateSite,1

Activates all parameters of all layers of site 1 within the Pandoras Box Project.

11.5.9 ActivateDevice

ActivateDevice,SiteID,DeviceID

Example:

ActivateDevice,1,3

Activates all parameters of layer 3 of site 1 within the Pandoras Box Project.

11.5.10 ActivateParam

ActivateParam,SiteID,DeviceID,ParamName

Example:

ActivateParam,1,3,X Scale

Activates the parameter X Scale of layer 3 of site 1 within the Pandoras Box Project.

11.5.11 ClearAllActive

ClearAllActive

Example:

ClearAllActive

Clears all active parameters of all layers of all servers within the Pandoras Box Project.

11.5.12 ClearActiveSite

ClearActiveSite,SiteID

Example:

ClearActiveSite,1

Clears all active parameters of all layers of site 1 within the Pandoras Box Project.

11.5.13 ClearActiveDevice

ClearActiveDevice,SiteID,DeviceID

Example:

ClearActiveDevice,1,3

Clears all active parameters of layer 3 of site 1 within the Pandoras Box Project.

11.5.14 ClearActiveParam

ClearActiveParam,SiteID,DeviceID,ParamName

Example:

ClearActiveParam,1,3,X Scale

Sets a clear active to the parameter X Scale of layer 3 of site 1 within the Pandoras Box Project.

11.5.15 ResetAll

ResetAll

Example:

ResetAll

Resets all parameters of all layers of all servers within the Pandoras Box Project.

11.5.16 ResetSite

ResetSite,SiteID

Example:

ResetSite,1

Resets all parameters of all layers of site 1 within the Pandoras Box Project.

11.5.17 ResetDevice

ResetDevice,SiteID,DeviceID

Example:

ResetDevice,1,3

Resets all parameters of layer 3 of site 1 within the Pandoras Box Project.

11.5.18 ResetParam

ResetParam,SiteID,DeviceID,ParamName

Example:

ResetParam,1,3,X Scale

Resets the parameter X Scale of layer 3 of site 1 within the Pandoras Box Project.

11.5.19 ClearSelection

ClearSelection

Example:

ClearSelection

Clears the device selection within the Pandoras Box Project.

11.5.20 SeqGotoCue

SeqGotoCue,SeqID,CueID

Example:

SeqGotoCue,2,3

Sets the nowpointer of sequence 2 to the third cue.

11.5.21 SeqSetTimecode

SeqSetTimecode,SeqID,HH,MM,SS,FF

Example:

SeqSetTimecode,2,00,05,22,12

Sets sequence 2 to the timecode 00:05:22:12 (hh:mm:ss:ff)

11.5.22 SeqNextCue

SeqNextCue,SeqID

Example:

SeqNextCue,1

Sets the nowpointer of sequence 1 to the next cue.

11.5.23 SeqLastCue

SeqLastCue,SeqID

Example:

SeqLastCue,1

Sets the nowpointer of sequence 1 to the last cue.

11.5.24 SeqNextFrame

SeqNextFrame,SeqID

Example:

SeqNextFrame,2

Sets the nowpointer of sequence 2 to the next frame ahead.

11.5.25 SeqLastFrame

SeqLastFrame,SeqID

Example:

SeqLastFrame,2

Sets the nowpointer of sequence 2 to the last frame.

11.5.26 SeqSetState,SeqID,Play

SeqSetState,SeqID,Play

Example:

SeqSetState,SeqID,Play

Sets sequence 2 to Play.

11.5.27 SeqSetState,SeqID,Pause

SeqSetState,SeqID,Pause

Example:

SeqSetState,SeqID,Pause

Sets sequence 2 to Pause.

11.5.28 SeqSetState,SeqID,Stop

SeqSetState,SeqID,Stop

Example:

SeqSetState,SeqID,Stop

Sets sequence 2 to Stop.

11.5.29 SeqSetCuePlayMode

SeqSetCuePlayMode,'SeqID','CueID','Play/Pause/Stop/Jump/Wait'

Example:

SeqSetCuePlayMode,1,17,Pause

Sets the play mode of cue 17 in Sequence 1 to "Pause".

The following cue play modes are available: Play, Pause, Stop, Jump and Wait.

11.5.30 SeqSetNextCuePlayMode

SeqSetNextCuePlayMode,'SeqID','Play/Pause/Stop/Jump/Wait'

Example:

SeqSetNextCuePlayMode,1,Pause

Sets the play mode of the next cue in Sequence 1 to "Pause".

The following cue play modes are available: Play, Pause, Stop, Jump and Wait.

11.5.31 SeqSetIgnoreNextCue

SeqSetIgnoreNextCue,'SeqID'

Example:

SeqSetIgnoreNextCue,1

The next cue in Sequence 1 will be ignored (cue turns orange).

11.5.32 SeqSetDoNotIgnoreNextCue

SeqSetDoNotIgnoreNextCue,'SeqID'

Example:

SeqSetDoNotIgnoreNextCue,1

The next cue in Sequence 1 will not be ignored .

11.5.33 SeqSetTimecodeMode,...,None

SeqSetTimecodeMode,SeqID,None

Example:

SeqSetTimecodeMode,2,None

Sets the timecode mode of sequence 2 to "None", see [Sequence Inspector](#).

11.5.34 SeqSetTimecodeMode,...,Send

SeqSetTimecodeMode,SeqID,Send

Example:

SeqSetTimecodeMode,2,Send

Sets the timecode mode of sequence 2 to "Send".

11.5.35 SeqSetTimecodeMode,...,Receive

SeqSetTimecodeMode,SeqID,Receive

Example:

SeqSetTimecodeMode,2,Receive

Sets the timecode mode of sequence 2 to "Receive", see [Sequence Inspector](#).

11.5.36 SeqSetTimecodeOffset

SeqSetTimecodeOffset,SeqID,HH,MM,SS,FF

Example:

SeqSetTimecodeOffset,2,00,05,22,12

Sets an offset of 00:05:22:12 (hh:mm:ss:ff) to the timecode of sequence 2.

11.5.37 SeqSetTimecodeStopAction,...,Stop

SeqSetTimecodeStopAction,SeqID,Stop

Example:

SeqSetTimecodeStopAction,1,Stop

Stops sequence 1 if the incoming timecode stops, see [Sequence Inspector](#).

11.5.38 SeqSetTimecodeStopAction,...,Pause

SeqSetTimecodeStopAction,SeqID,Pause

Example:

SeqSetTimecodeStopAction,1,Pause

Pauses sequence 1 if the incoming timecode stops, see [Sequence Inspector](#)

11.5.39 SeqSetTimecodeStopAction,...,Continue

SeqSetTimecodeStopAction,SeqID,Continue

Example:

SeqSetTimecodeStopAction,1,Continue

Sequence 1 will continue playing if the incoming timecode stops, see [Sequence Inspector](#)

11.5.40 SeqStoreActive

SeqStoreActive,SeqID

Example:

SeqStoreActive,2

Stores all active parameters in Pandoras Box to sequence 2.

11.5.41 SeqStoreActiveToTime

SeqStoreActiveToTime,SeqID,HH,MM,SS,FF

Example:

SeqStoreActiveToTime,2,00,05,22,12

Stores all active parameters in Pandoras Box to sequence 2 at timecode 00:05:22:12 (hh,mm,ss,ff).

11.5.42 SeqContentAtTime

SeqContentAtTime,SiteID,DevID,SeqID,Hours,Minutes,Seconds,Frames,FolderID,FileID

Example:

SeqContentAtTime,1,3,1,00,09,20,00,1,1

If a clip container exists at timecode 0:09:20:00 in Sequence 1, the content inside this clipcontainer will get exchanged by the content with the Folder and File ID 1,1 and it also will be resynced.

11.5.43 ResourceSetText

ResourceSetText,FolderID,FileID,Text

Example:

ResourceSetText,2,9,design

Sets the text of text asset [2,9] in PB to "design".

11.5.44 ResourceCreateText

ResourceCreateText,FolderID,FileID,Text

Example:

ResourceCreateText,2,10,design2

Creates a new text asset with the folder and file ID [2,10] in PB with the text "design2".

11.5.45 ResourceSetTextUnicode

ResourceSetTextUnicode,FolderID,FileID,Text

Example:

```
ResourceSetTextUnicode,1,2,Καλή μέρα
```

Sets the text of text asset [1,2] in PB to "Καλή μέρα".

Using this unicode-command, text strings in any language format can be sent to PB.

11.5.46 ResourceSetTextSize

```
ResourceSetTextSize,FolderID,FileID,Width,Height
```

Example:

```
ResourceSetTextSize,1,2,800,600
```

Sets the texture size of text asset [1,2] in PB to 800x600 px.

This command is available from PB Rev. 4982 or higher.

11.5.47 ResourceSetTextFullSize

```
ResourceSetTextFullSize,FolderID,FileID
```

Example:

```
ResourceSetTextFullSize,1,2
```

Removes the center-option of the text asset [1,2] in PB.

This command is available from PB Rev. 4982 or higher.

11.5.48 ResourceSetTextCentered

```
ResourceSetTextCentered,FolderID,FileID
```

Example:

```
ResourceSetTextCentered,1,2
```

Centers the text of text asset [1,2] in PB on its texture.

This command is available from PB Rev. 4982 or higher.

11.5.49 ResourceSetTextStyle

```
ResourceSetTextStyle,FolderID,FileID,Font,Size,Style,Alignment,Red,Green,Blue
```

Example:

```
ResourceSetTextStyle,1,2,Times New Roman,24,Bold,Left,255,0,0
```

Sets the Text Asset [1,2] to the following properties:

Font: Time New Roman, Font Size: 24, Font Style: Bold, Alignment: Left, Colour: Red.

This command is available from PB Rev. 4982 or higher.

Style options: Regular, Bold, Italic, BoldItalic, Underline.

Alignment options: Left, Center, Right.

11.5.50 ResourceGetTextFromLabel

```
ResourceGetTextFromLabel,LabelID,FolderID,FileID
```

Example:

```
ResourceGetTextFromLabel,3,2,9
```

Sets the text of the text asset with the Folder and File ID [2.9] in PB to the text of label 3 in WD.

11.5.51 ResourceGetTextFromLabelUnicode

```
ResourceGetTextFromLabelUnicode,LabelID,FolderID,FileID
```

Example:

```
ResourceGetTextFromLabelUnicode,3,2,9
```

Sets the text of the text asset with the Folder and File ID [2.9] in PB to the text of label 3 in WD.

Using this Unicode-Script textstrings in any language format can be sent to Pandoras Box text assets.

11.5.52 ResourceGetTextFromTextbox

ResourceGetTextFromTextbox,TextboxID,FolderID,FileID

Example:

ResourceGetTextFromTextbox,4,2,10

Sets the text of the text asset with the Folder and File ID [2,10] in PB to the text of textbox 4 in WD.

11.5.53 ResourceGetTextFromTextboxUnicode

ResourceGetTextFromTextboxUnicode,TextboxID,FolderID,FileID

Example:

ResourceGetTextFromTextboxUnicode,4,2,10

Sets the text of the text asset with the Folder and File ID [2,10] in PB to the text of textbox 4 in WD.

Using this Unicode-Script textstrings in any language format can be sent to Pandoras Box text assets.

11.5.54 ResourceAdd

ResourceAdd,Path,SiteID,FolderID,FileID

Example:

ResourceAdd,C:\coolux\content Pandora\MediaLoops 1_100\00003 blinkingline loop

raw_kiosk.m2v,4,2,33

Adds the file "00003 blinkingline loop raw_kiosk.m2v" from the specified path from the site 4 as Media File with the Folder and File ID [2,33] to the PB project.

Please note:

If you run PB Manager as master and want to add content from the local site, please make sure that your local is also added to the device tree tab and take its Site ID.

11.5.55 ResourceSpreadAll

ResourceSpreadAll

Example:

ResourceSpreadAll

Spreads all resources in PB.

11.5.56 ResourceSpreadMedia

ResourceSpreadMedia,FolderID,FileID

Example:

ResourceSpreadMedia,2,10

Spreads the media file with the Folder and File ID [2,10] in PB.

11.5.57 ResourceSpreadMesh

ResourceSpreadMesh,FolderID,FileID

Example:

ResourceSpreadMesh,3,7

Spreads the mesh file with the Folder and File ID [3,7] in PB.

11.5.58 ResourceSetFrameBlending

ResourceSetFrameBlending,FolderID,FileID,State(True or False)

Example:

ResourceSetFrameBlending,2,5,True

Activates frameblending for the media file with the Folder and File ID [2,5] in PB. Choose this option for slow motion or smooth motion frame-adaptive frameblending and framerate conversion, see [File Inspector](#).

11.5.59 ResourceSetDeinterlacing

ResourceSetDeinterlacing,FolderID,FileID,State(0,1,2,3)

Example:

ResourceSetDeinterlacing,2,5,3

Activates the deinterlacing mode "fieldblending" for the media file with the Folder and File ID [2,5] in PB, see [File Inspector](#).

Deinterlacing Modes:

0 = Off

1 = Top Field

2 = Bottom Field

3 = Fieldblending

11.5.60 ResourceSetAnisotropicFiltering

ResourceSetAnisotropicFiltering,FolderID,FileID,State(True or False)

Example:

ResourceSetAnisotropicFiltering,2,5,False

Deactivates anisotropic filtering (pixel smoothing for real-time video and image scaling) for the media file with the Folder and File ID [2,5] in PB, see [File Inspector](#).

11.5.61 ResourceSetUnderscan

ResourceSetUnderscan,FolderID,FileID,State(True or False)

Example:

ResourceSetUnderscan,2,5,True

Enables Underscan for the media file with the Folder and File ID [2,5] in PB, see [File Inspector](#).

11.5.62 ResourceSetMpegColourSpace

ResourceSetMpegColourSpace,FolderID,FileID,State(True or False)

Example:

ResourceSetMpegColourSpace,2,5,True

Enables the optimization of MPEG Colourspace for the media file with the Folder and File ID [2,5] in PB, see [File Inspector](#).

11.5.63 ResourceSetAlphaChannel

ResourceSetAlphaChannel,FolderID,FileID,State(True or False)

Example:

ResourceSetAlphaChannel,2,5,False

Disables the alpha channel of the media file with the Folder and File ID [2,5] in PB.

Use "true" if movie type supports embedded alpha, see [File Inspector](#).

11.5.64 ResourceRemoveInconsistent

ResourceRemoveInconsistent

Example:

ResourceRemoveInconsistent

Removes all inconsistent files from the master system in PB, see [Folder Inspector](#).

11.5.65 ResourceRemoveMedia

ResourceRemoveMedia,FolderID,FileID

Example:

ResourceRemoveMedia,2,5

Removes the media file with the Folder and File ID [2,5] from the PB project, see [Project Tab](#).

11.5.66 ResourceRemoveMesh

ResourceRemoveMesh,FolderID,FileID

Example:

ResourceRemoveMesh,3,9

Removes the mesh file with the Folder and File ID [3,9] from the PB project, see [Project Tab](#).

11.5.67 ResourceReloadMedia

ResourceReloadMedia,FolderID,FileID

Example:

ResourceReloadMedia,2,5

Reloads the media file with the Folder and File ID [2,5] in the PB project, see [File Inspector](#).

11.5.68 ResourceReloadMesh

ResourceReloadMesh,FolderID,FileID

Example:

ResourceReloadMesh,3,9

Reloads the mesh file with the Folder and File ID [3,9] in the PB project, see [File Inspector](#).

11.5.69 ToggleFullScreen

ToggleFullScreen,SiteID

Example:
ToggleFullScreen,4

Switches the site 4 from windowed to fullscreen mode in Pandoras Box project, see [Device Tree Context Menus](#).

11.5.70 FullScreenByID

FullScreenByID,SiteID

Example:
FullScreenByID,4

Switches the site 4 to fullscreen mode in Pandoras Box project whether it is in windowed mode or in fullscreen mode already, see [Device Tree Context Menus](#).

11.5.71 WindowedModeByID

WindowedModeByID,SiteID

Example:
WindowedModeByID,4

Switches the site 4 to windowed mode in Pandoras Box project whether it is in fullscreen mode or in windowed mode already, see [Device Tree Context Menus](#).

11.5.72 PBLoadProject,,,,,SaveCurrent

PBLoadProject,Path,Name,SaveCurrent

Example:
PBLoadProject,C:\coolux\Projects\Rotation.xml,SaveCurrent

Saves the current PB project and opens the project "Rotation.xml" from the specified directory.

11.5.73 PBLoadProject,,,,,DoNotSaveCurrent

PBLoadProject,Path,Name,DoNotSaveCurrent

Example:
PBLoadProject,C:\coolux\Projects,Rotation.xml,DoNotSaveCurrent

Opens the PB project "Rotation.xml" from the specified directory without saving the current project.

11.5.74 PBCloseProject,SaveCurrent

PBCloseProject,SaveCurrent

Example:
PBCloseProject,SaveCurrent

Closes the current project in PB after saving it.

11.5.75 **PBCloseProject,DoNotSaveCurrent**

PBCloseProject,DoNotSaveCurrent

Example:

PBCloseProject,DoNotSaveCurrent

Closes the current project in PB without saving it.

11.5.76 **DeviceAcceptDmxByID,...,On**

DeviceAcceptDmxById,SiteID,DeviceID,On

Example:

DeviceAcceptDmxById,2,1,On

Enables Layer 2 of Site 1 to be included for DMX / ArtNet Input, see [Patch Tab](#).

Please note:

ArtNet Input needs to be enabled in [Configuration Tab](#) in order to remote control the Layer via ArtNet.

To change the Devices DMX / ArtNet start address (Channel, ArtNet Subnet and Universe) use either the Patch Tab in PB or the WD script [DeviceSetDmxAddress](#).

11.5.77 **DeviceAcceptDmxByID,...,Off**

DeviceAcceptDmxById,SiteID,DeviceID,Off

Example:

DeviceAcceptDmxById,2,1,Off

Disables Layer 2 of Site 1 from being included for DMX / ArtNet Input, see [Patch Tab](#). It cannot be controlled via an attached DMX device / ArtNet anymore.

11.5.78 **SiteAcceptDmxByID,...,On**

SiteAcceptDmxById,SiteID,On

Example:

SiteAcceptDmxById,2,On

Enables the Site 2 to be included for DMX / ArtNet Input, see [Patch Tab](#).

Please note:

ArtNet Input needs to be enabled in [Configuration Tab](#) in order to remote control the Site via ArtNet.

To change the Devices DMX / ArtNet start address (Channel, ArtNet Subnet and Universe) use either the Patch Tab in PB or the WD script [DeviceSetDmxAddress](#).

11.5.79 **SiteAcceptDmxByID,...,Off**

SiteAcceptDmxById,SiteID,Off

Example:

SiteAcceptDmxById,2,Off

Disables Site 2 from being included for DMX / ArtNet Input, see [Patch Tab](#). It cannot be controlled via an attached DMX device / ArtNet anymore.

11.5.80 DeviceSetDmxAddress

DeviceSetDmxAddress,SiteID,DeviceID,DMXStart,Universe,Subnet

Example:
DeviceSetDmxAddress,2,1,0,5,4

Patches layer [2,1] in PB to the DMX start address 1, Artnet Universe 5 and Subnet ID 4.

11.5.81 DeviceSetIp

DeviceSetIp,'SiteID','IP Address'

Example:
DeviceSetIp,3,2.0.0.103

Sets the IP of Site 3 inside your PB project to 2.0.0.103.
Please note: This script is only working from PB version 5237 on.

11.5.82 WakeOnLan

WakeOnLan,'MacAddress'

Example:
WakeOnLan,00-14-f5-0d-37-29

Turns on or wakes up the computer with the MacAdress 08-00-20-ae-fd-7e.

Please note:

Precondition for using WakeOnLan is that the ethernet adapter of the computer you want to wake up supports WakeonLan with Magic Packet. Please confirm these settings in the ethernet cards properties in the computer's device manager.

11.5.83 PBShutDown

PBShutDown,'IP address'

Example:
PBShutDown,10.169.10.65

Turns off the PB computer with the IP address 10.169.10.65 in the local network.

Please note:
All PB commands will only work when the Onscreen Menu up from Rev. 34 is installed on the computers!

11.5.84 PBShutDownAll

PBShutDownAll

Example:
PBShutDownAll

Shuts down all PB computers in the local network.

Please note:
All PB commands will only work when the Onscreen Menu up from Rev. 34 is installed on the computers!

11.5.85 PBReboot

PBReboot,'IP address'

Example:
PBReboot,10.169.10.65

Reboots the PB computer with the IP address 10.169.10.65 in the local network.

Please note:
All PB commands will only work when the Onscreen Menu up from Rev. 34 is installed on the computers!

11.5.86 PBRebootAll

PBRebootAll

Example:
PBRebootAll

Reboots all PB computers in the local network.

Please note:
All PB commands will only work when the Onscreen Menu up from Rev. 34 is installed on the computers!

11.5.87 PBStartMaster

PBStartMaster,'IP address'

Example:
PBStartMaster,10.169.10.65

Launches the PB Master software on the computer with the IP address 10.169.10.65 in the local network.

Please note:
All PB commands will only work when the Onscreen Menu up from Rev. 34 is installed on the computers!

11.5.88 PBStartMasterAll

PBStartMasterAll

Example:
PBStartMasterAll

Launches the PB Master software on all computers in the local network.

Please note:

All PB commands will only work when the Onscreen Menu up from Rev. 34 is installed on the computers!

11.5.89 PBStartClient

PBStartClient,'IP address'

Example:

PBStartClient,10.169.10.65

Launches the PB Client software on the computer with the IP address 10.169.10.65 in the local network.

Please note:

All PB commands will only work when the Onscreen Menu up from Rev. 34 is installed on the computers!

11.5.90 PBStartClientAll

PBStartClientAll

Example:

PBStartClientAll

Launches the PB Client software on all computers in the local network.

Please note:

All PB commands will only work when the Onscreen Menu up from Rev. 34 is installed on the computers!

11.5.91 PBClose

PBClose,'IP address'

Example:

PBClose,10.169.10.65

Closes the PB software on the computer with the IP address 10.169.10.65 in the local network.

Please note:

All PB commands will only work when the Onscreen Menu up from Rev. 34 is installed on the computers!

11.5.92 PBCloseAll

PBCloseAll

Example:

PBCloseAll

Closes the PB software on all computers in the local network.

Please note:

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All PB commands will only work when the Onscreen Menu up from Rev. 34 is installed on the computers!

11.5.93 PBSetOutput1ResolutionAll

PBSetOutput1ResolutionAll,1024 768 60

Example:

PBSetOutput1ResolutionAll,1024 768 60

Sets the resolution of output 1 of all PB computers in the local network to 1024x786 px @ 60 Hz.

Please note:

All PB commands will only work when the Onscreen Menu up from Rev. 34 is installed on the computers!

11.5.94 PBDeactivateOutput2All

PBDeactivateOutput2All

Example:

PBDeactivateOutput2All

Deactivates output 2 of all PB computers in the local network.

Please note:

All PB commands will only work when the Onscreen Menu up from Rev. 34 is installed on the computers!

11.5.95 PBSetOutput2ResolutionAll

PBSetOutput2ResolutionAll,1024 768 60

Example:

PBSetOutput2ResolutionAll,1024 768 60

Sets the resolution of output 2 of all PB computers in the local network to 1024x786 px @ 60 Hz.

Please note:

All PB commands will only work when the Onscreen Menu up from Rev. 34 is installed on the computers!

11.5.96 PBSetOutput1Resolution

PBSetOutput1Resolution,'IP address',1024 768 60

Example:

PBSetOutput1Resolution,10.169.10.65,1920 1080 60

Sets the resolution of output 1 of the PB computer with the IP address 10.169.10.65 to 1920x1080 px and 60 Hz.

Please note:

All PB commands will only work when the Onscreen Menu up from Rev. 34 is installed on the computers!

11.5.97 PBSetOutput2Resolution

PBSetOutput2Resolution,'IP address',1024 768 60

Example:

PBSetOutput2Resolution,10.169.10.65,1920 1080 60

Sets the resolution of output 2 of the PB computer with the IP address 10.169.10.65 to 1920x1080 px and 60 Hz.

Please note:

All PB commands will only work when the Onscreen Menu up from Rev. 34 is installed on the computers!

11.5.98 PBDeactivateOutput2

PBDeactivateOutput2,'IP address'

Example:

PBDeactivateOutput2,10.169.10.65

Deactivates output 2 of the PB computer with the IP address 10.169.10.65.

Please note:

All PB commands will only work when the Onscreen Menu up from Rev. 34 is installed on the computers!

11.5.99 PBSetIP1

PBSetIP1,'IP address','NewIP','NewMask'

Example:

PBSetIP1,10.169.10.65,2.0.0.115,255.255.255.0

Changes the first IP address of the PB computer with the IP address 10.169.10.65 to the IP 2.0.0.115 with the subnet mask 255.255.255.0.

Please note:

All PB commands will only work when the Onscreen Menu up from Rev. 34 is installed on the computers!

11.5.100 PBSetIP1DHCP

PBSetIP1DHCP,'IP address'

Example:

PBSetIP1DHCP,2.0.0.111

Sets the first network adapter of the PB computer with the IP address 2.0.0.111 to DHCP.

Please note:

All PB commands will only work when the Onscreen Menu up from Rev. 34 is installed on the computers!

11.5.101 PBSetIP2

PBSetIP2,'IP address','NewIP','NewMask'

Example:

PBSetIP2,10.169.10.65,2.0.0.115,255.255.255.0

Changes the second IP address of the PB computer with the IP address 10.169.10.65 to the IP 2.0.0.115 with the subnet mask 255.255.255.0

Please note:

All PB commands will only work when the Onscreen Menu up from Rev. 34 is installed on the computers!

11.5.102 PBSetIP2DHCP

PBSetIP2DHCP,'IP address'

Example:

PBSetIP2DHCP,2.0.0.111

Sets the second network adapter of the PB computer with the IP address 2.0.0.111 to DHCP.

Please note:

All PB commands will only work when the Onscreen Menu up from Rev. 34 is installed on the computers!

11.5.103 PBApplicationStartAll

PBApplicationStartAll,'Filepath'

Example:

PBApplicationStartAll,notepad.exe'

Opens the notepad on all PB computers in the local network.

If the application you want to start is not a standard windows application, please use the whole file path.

Example:

PBApplicationStartAll,C:\Program Files\Internet Explorer\iexplore.exe

Please note:

All PB commands will only work when the Onscreen Menu up from Rev. 34 is installed on the computers!

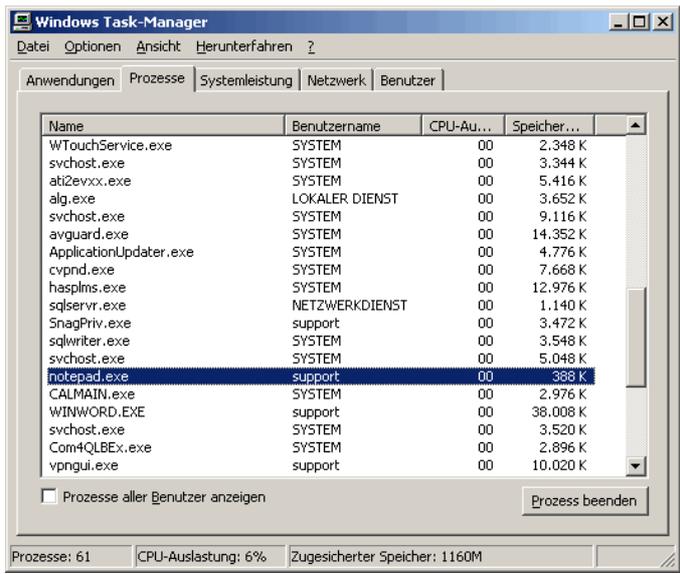
11.5.104 PBApplicationCloseAll

PBApplicationCloseAll,'Processname'

Example:

PBApplicationCloseAll,notepad

Closes the running notepad application on all PB computers in the local network. Please have a look into the windows taskmanager to get the correct process name of the running application you want to close, enter this name without ".exe".



Please note:
 All PB commands will only work when the Onscreen Menu up from Rev. 34 is installed on the computers!

11.5.105 PBApplicationStart

PBApplicationStart,'IP address','Filepath'

Example:
 PBApplicationStart,10.169.10.60,notepad.exe

Opens the notepad on the PB computers with the IP address 10.169.10.60 in the local network. If the application you want to start is not a standard windows application, please use the whole file path.

Example:
 PBApplicationStart,10.169.10.60,C:\Program Files\Internet Explorer\iexplore.exe

Please note:
 All PB commands will only work when the Onscreen Menu up from Rev. 34 is installed on the computers!

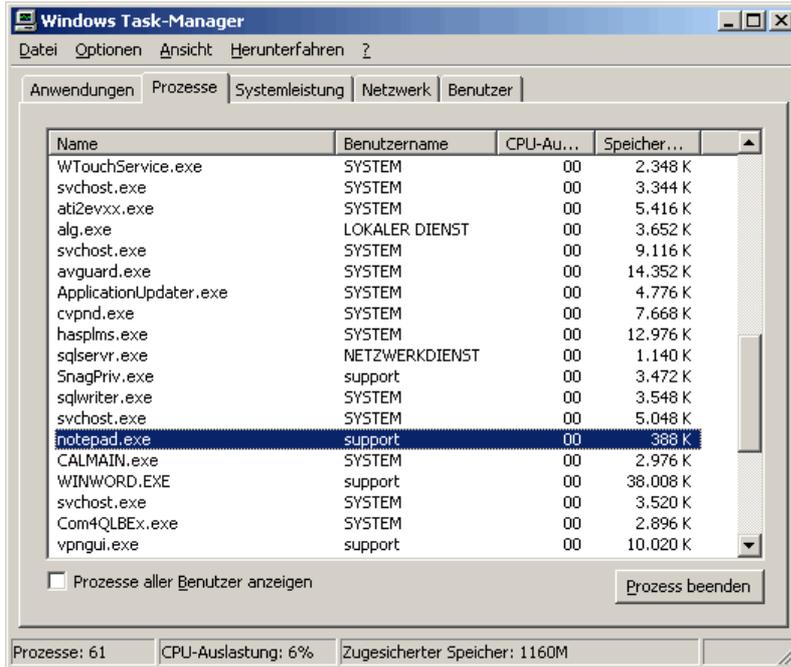
11.5.106 PBApplicationClose

PBApplicationClose,'IP address','Processname'

Example:
 PBApplicationClose,with the IP address 10.169.10.60,notepad

Closes the running notepad application on the PB computer with the IP address 10.169.10.60 in the local network. Please have a look into the windows taskmanager to get the correct process name of the running application you want to close, enter this

name without ".exe".



Please note:

All PB commands will only work when the Onscreen Menu up from Rev. 34 is installed on the computers!

11.5.107 WDDisconnect

WDDisconnect

Example:

WDDisconnect

Disconnects Widget Designer from Pandoras Box. To connect to PB Master System again, please go to [Network Setup](#) in WD or use the WD Script [WDCConnect,'IP','Domain'](#).

11.5.108 WDCConnect

WDCConnect,'IP','Domain'

Example:

WDCConnect,10.169.10.65,0

Connects the Widget Designer to Pandoras Box with the IP address 10.169.10.65. The connection could also be set up via [IP Configuration](#) in WD.

11.5.109 WDAirScanMouseEnabled

WDAirScanMouseEnabled

Example:

WDAirScanMouseEnabled

Enables the Airscan to control the mouse, see [AirScan Tool](#).

11.5.110 WDAirScanMouseDisabled

WDAirScanMouseDisabled

Example:

WDAirScanMouseDisabled

Disables the Airscan to control the mouse, see [AirScan Tool](#).

11.5.111 WDAirScanMouseClickEnabled

WDAirScanMouseClickEnabled

Example:

WDAirScanMouseClickEnabled

With this option the mouse cursor (controlled via AirScan) generates clicks, see [AirScan Tool](#).

11.5.112 WDAirScanMouseClickDisabled

WDAirScanMouseClickDisabled

Example:

WDAirScanMouseClickDisabled

With this option the mouse cursor (controlled via AirScan) does not generate clicks, see [AirScan Tool](#).

11.5.113 WDAirScanMouseClickDefault

WDAirScanMouseClickDefault

Example:

WDAirScanMouseClickDefault

This command defines when a mouse click (controlled via AirScan) should be executed. "Default" generates mouse down on enter and mouse up on leave.

Please note:

The option Mouse Click in the [AirScan Tool](#) needs to be enabled!

11.5.114 WDAirScanMouseClickOnEnter

WDAirScanMouseClickOnEnter

Example:

WDAirScanMouseClickOnEnter

This command defines when a mouse click (controlled via AirScan) should be executed. "OnEnter": the click is generated on mouse enter.

Please note:

The option Mouse Click in the [AirScan Tool](#) needs to be enabled!

11.5.115 WDAirScanMouseClickedOnLeave

WDAirScanMouseClickedOnLeave

Example:

WDAirScanMouseClickedOnLeave

This command defines when a mouse click (controlled via AirScan) should be executed. "OnLeave": the click is generated on mouse leave.

Please note:

The option Mouse Click in the [AirScan Tool](#) needs to be enabled!

11.5.116 WDAirScanMouseDownOnMoveEnabled

WDAirScanMouseDownOnMoveEnabled

Example:

WDAirScanMouseDownOnMoveEnabled

If this option is enabled, left mouse down on move is always active, see [AirScan Tool](#).

11.5.117 WDAirScanMouseDownOnMoveDisabled

WDAirScanMouseDownOnMoveDisabled

Example:

WDAirScanMouseDownOnMoveDisabled

If this option is disabled, left mouse down on move is not active, see [AirScan Tool](#).

11.5.118 WDAirScanMultiPointModeEnabled

WDAirScanMultiPointModeEnabled

Example:

WDAirScanMultiPointModeEnabled

Enables the MultiPointMode in the [AirScan Tool](#).

11.5.119 WDAirScanMultiPointModeDisabled

WDAirScanMultiPointModeDisabled

Example:

WDAirScanMultiPointModeDisabled

Disables the MultiPointMode in the [AirScan Tool](#), so that the 2-Point-Mode will be used.

11.5.120 OpenAirscanProperties

OpenAirscanProperties

Example:

OpenAirscanProperties

Opens the [AirScan Tool](#) in WD.

11.5.121 WDArtNetSnapshotActivate,'ID'

WDArtNetSnapshotActivate,'ID'

Example:

WDArtNetSnapshotActivate,1

Executes the ArtNetSnapshot Button 1.

11.5.122 WDArtNetRecorderPlay,'ID'

WDArtNetRecorderPlay,'ID'

Example:

WDArtNetRecorderPlay,2

Plays the ArtNet sequence recorded with ArtNetRecorder 2 from it's current time.

11.5.123 WDArtNetRecorderPause,'ID'

WDArtNetRecorderPause,'ID'

Example:

WDArtNetRecorderPause,2

Pauses the playing ArtNet sequence recorded with ArtNetRecorder 2.

11.5.124 WDArtNetRecorderRewind,'ID'

WDArtNetRecorderRewind,'ID'

Example:

WDArtNetRecorderRewind,2

Rewinds the ArtNet sequence recorded with ArtNetRecorder 2 to it's inpoint. When the sequence is currently playing, it won't be stopped but starts from it's beginning again.

11.5.125 WDArtNetRecorderLoop,'ID'

WDArtNetRecorderLoop,'ID'

Example:

WDArtNetRecorderLoop,2

Sets the playmode of the ArtNet sequence recorded with ArtNetRecorder 2 to Loop.

11.5.126 WDArtNetRecorderPlayOnce,'ID'

WDArtNetRecorderPlayOnce,'ID'

Example:

WDArtNetRecorderPlayOnce,2

Sets the playmode of the ArtNet sequence recorded with ArtNetRecorder 2 to PlayOnce.

11.5.127 WDArtNetRecorderGotoFrame,'ID','Frame'

WDArtNetRecorderGotoFrame,'ID','Frame'

Example:

WDArtNetRecorderGotoFrame,1,330

Sets the ArtNet Recorder Button to the frame 330 of the last recorded ArtNet Sequence.

11.5.128 WDBrowserContent

WDBrowserContent,BrowserID,'Url'

Example:

WDBrowserContent,1,www.coolux.de

Displays the web site with the address <http://www.coolux.de> in the Web Browser with the ID 1, see [Web Browser](#).

11.5.129 WDButtonClick

WDButtonClick,'ID'

Example:

WDButtonClick,3

Clicks Button 3 (Full Size, Half Size or Quarter Size) within WD, see [Full-, Half- and Quarter Size Buttons](#).

11.5.130 WDButtonText

WDButtonText,'ID',Text

Example:

WDButtonText,3,Flip

Labels Button 3 (Full Size, Half Size or Quarter Size) within WD with the text "Flip", see [Full-, Half- and Quarter Size Buttons](#).

11.5.131 WDButtonTextColour

WDButtonTextColour,'ID','R','G','B'

Example:

WDButtonTextColour,3,255,90,0

Changes the text colour of Button 3 (Full Size, Half Size or Quarter Size) to orange. The values for R,G,B range from 0 to 255. See [Full-, Half- and Quarter Size Buttons](#).

11.5.132 WDColourPickerDevices

WDColourPickerDevices,'ID',1.1 1.2 1.3

Example:

WDColourPickerDevices,6,1.1 2.4

Transfers the RGB-values of the Colour Picker with the ID 6 in WD to the Colour FX fader 1-3 of layers 1,1 and 2,4 in PB, see [Colour Picker](#).

11.5.133 WDColourPickerBGColour

WDColourPickerBGColour,'ID','R','G','B'

Example:

WDColourPickerBGColour,6,255,90,0

Changes the background colour of the Colour Picker with the ID 6 in WD to orange. The values for R,G,B range from 0 to 255. See [Colour Picker](#).

11.5.134 WDControlShow

WDControlShow,'ControlName'

Example:

WDControlShow,Customscript2

Shows the Custom script button 2 outside of its page context

This way you can show a control that originates from another page. This may be done eg. as On [Page](#) Enter or Leave script.

11.5.135 WDControlHide

WDControlHide,'ControlName'

Example:

WDControlHide,Customscript2

Hides Custom script button 2 outside of its page context

This way you can hide a control that originates from another page. This may be done eg. as On [Page](#) Enter or Leave script.

11.5.136 WDCueListGo

WDCueListGo,'ID'

Example:

WDCueListGo,1

Starts the next Cue in CueList 1, see [CueList](#).

11.5.137 WDCueListPause

WDCueListPause,'ID'

Example:
WDCueListPause,1

Pauses the CueList 1, see [CueList](#).

11.5.138 WDCueListGo-

WDCueListGo-, 'ID'

Example:
WDCueListPause,1

Goes one step back in CueList 1, see [CueList](#).

11.5.139 WDCueListRecall

WDCueListRecall, 'ID'

Example:
WDCueListRecall,1

Recalls the current cue in CueList 1: sets the Cue back to its beginning and keeps the state of the Cuelist (play / pause) , see [CueList](#).

11.5.140 WDCueListGotoCue

WDCueListGotoCue, 'ID', 'Cue'

Example:
WDCueListGotoCue,1,5

Jumps to Cue 5 in CueList 1, see [CueList](#).

11.5.141 WDCueListPrevCue

WDCueListPrevCue, 'ID'

Example:
WDCueListPrevCue,1

Goes back cue by cue in Cuelist 1 without running the Cue, see [CueList](#).

11.5.142 WDCueListNextCue

WDCueListNextCue, 'ID'

Example:
WDCueListNextCue,1

Goes forward cue by cue in Cuelist 1 without running the Cue, see [CueList](#).

11.5.143 WDCueListFirstCue

WDCueListFirstCue, 'ID'

Example:

WDCueListFirstCue,1

Goes to the first cue in Cuelist 1 without running it, see [CueList](#).

11.5.144 WDCueListLastCue

WDCueListLastCue,'ID'

Example:

WDCueListLastCue,1

Goes to the last cue in Cuelist 1 without running it, see [CueList](#).

11.5.145 WDCueListResetJumps

WDCueListResetJumps,'ID'

Example:

WDCueListResetJumps,1

Sets the Jump Counter of every cue in CueList 1 back to 0, see [CueList](#).

11.5.146 WDCueListCancelWaits

WDCueListCancelWaits,'ID'

Example:

WDCueListCancelWaits,1

Cancels the current Wait time but does not continue executing the CueList , see [CueList](#).

11.5.147 WDCustomScriptClick

WDCustomScriptClick,'ID'

Example:

WDCustomScriptClick,5

Clicks the Custom Script Button with the ID 5. If the type of Custom Script Button 5 is "Toggle" the command toggles the button, see [Custom Script Button](#).

11.5.148 WDCustomScriptForceClick

WDCustomScriptForceClick,'ID'

Example:

WDCustomScriptForceClick,5

Sets the Custom Script Button with the ID 5 whose type is "Toggle" in the clicked (toggled) mode and executes all scripts set to its OnClickScript, only if it is released (not toggled), [Custom Script Button](#).

11.5.149 WDCustomScriptForceRelease

WDCustomScriptForceRelease,'ID'

Example:

WDCustomScriptForceRelease,5

Sets the Custom Script Button with the ID 5 whose type is "Toggle" in the released (not toggled) mode and executes all scripts set to its OnReleaseScript, but only if it is clicked (toggled), see [Custom Script Button](#).

11.5.150 WDCustomScriptSilentClickToggle

WDCustomScriptSilentClickToggle,'ID'

Example:

WDCustomScriptSilentClickToggle,5

Sets the Custom Script Button with the ID 5 whose type is "Toggle" in the released (not toggled) mode without executing the associated scripts, see [Custom Script Button](#).

11.5.151 WDCustomScriptSilentReleaseToggle

WDCustomScriptSilentReleaseToggle,'ID'

Example:

WDCustomScriptSilentReleaseToggle,5

Sets the Custom Script Button with the ID 5 whose type is "Toggle" in the clicked (toggled) mode without executing the associated scripts, see [Custom Script Button](#).

11.5.152 WDCustomScriptSilentClickToggleAll

WDCustomScriptSilentClickToggleAll

Example:

WDCustomScriptSilentClickToggleAll

Sets all Custom Script Buttons whose type is "Toggle" in the released (not toggled) mode without executing the associated scripts, see [Custom Script Button](#).

11.5.153 WDCustomScriptSilentReleaseToggleAll

WDCustomScriptSilentReleaseToggleAll

Example:

WDCustomScriptSilentReleaseToggleAll

Sets all Custom Script Buttons whose type is "Toggle" in the clicked (toggled) mode without executing the associated scripts, see [Custom Script Button](#).

11.5.154 WDCustomScriptText

WDCustomScriptText,'ID','Text'

Example:

WDCustomScriptText,3,Flip

Labels the Custom Script Button with the ID 3 with the word Flip, see [Custom Script Button](#).

11.5.155 WDCustomScriptTextColour

WDCustomScriptTextColour,'ID','R','G','B'

Example:

WDCustomScriptTextColour,3,255,90,0

Changes the text colour of the Custom Script Button with the ID 3 to orange. The values for R,G,B range from 0 to 255.

11.5.156 WDDownloadThumbnails

WDDownloadThumbnails

Example:

WDDownloadThumbnails

Downloads all Thumbnails from the connected PB.

Please make sure that the function to [download Thumbnails](#) from PB is enabled!

11.5.157 WDDrawingCanvasClear

WDDrawingCanvasClear,'ID'

Example:

WDDrawingCanvasClear,1

Clears the interface of the Drawing Canvas with the ID 1.

11.5.158 WDDrawingCanvasSetPenSize

WDDrawingCanvasSetPenSize,'ID','Size'

Example:

WDDrawingCanvasSetPenSize,1,16

Changes the current pen size of the Drawing Canvas with the ID 1 to the size 16.

11.5.159 WDDrawingCanvasSetPenCol

WDDrawingCanvasSetPenCol,'ID','Size'

Example:

WDDrawingCanvasSetPenCol,1,255,0,0

Changes the current pen colour of the Drawing Canvas with the ID 1 to the colour R=255,G=0,B=0 (red).

11.5.160 WDDrawingCanvasSetBGCol

WDDrawingCanvasSetBGCol,'ID','Size'

Example:

WDDrawingCanvasSetBGCol,1,255,0,100

Changes the current background colour of the Drawing Canvas with the ID 1 to the colour R=255,G=0,B=100 (pink).

11.5.161 WDEncoderGoUp

WDEncoderGoUp,'ID','Value'

Example:

WDEncoderGoUp,7,10

Adds immediately 10 values to the value of Encoder 7, see [Encoder](#).

11.5.162 WDEncoderGoDown

WDEncoderGoDown,'ID','Value'

Example:

WDEncoderGoDown,7,10

Subtracts immediately 10 values from the value of Encoder 7, see [Encoder](#).

11.5.163 WDEncoderValue

WDEncoderValue,'ID','Value'

Example:

WDEncoderValue,7,33

Sets the Encoder 7 to value 33 immediately, see [Encoder](#).

11.5.164 WDEncoderFactor

WDEncoderFactor,'ID','Value'

Example:

WDEncoderFactor,7,5

Sets the factor of Encoder 7 to the value 5, see [Encoder](#).

11.5.165 WDFaderUp

WDFaderUp,'ID','Seconds'

Example:

WDFaderUp,7,2

Fades Fader 7 in 2sec up to its maximum value, see [Fader](#).

11.5.166 WDFaderDown

WDFaderDown,'ID','Seconds'

Example:

WDFaderDown,7,2

Fades Fader 7 in 2sec down to its minimum value, see [Fader](#).

11.5.167 WDFadeToValue

WDFadeToValue,'ID','Seconds','Value'

Example:

WDFadeToValue,1,4,200

Fades Fader 1 in 4s to the value 200, see [Fader](#).

11.5.168 WDFaderGoUp

WDFaderGoUp,'ID','Value'

Example:

WDFaderGoUp,7,10

Adds immediately 10 values to the value of Fader 7, see [Fader](#).

11.5.169 WDFaderGoDown

WDFaderGoDown,'ID','Value'

Example:

WDFaderGoDown,7,10

Subtracts immediately 10 values from the value of Fader 7, see [Fader](#).

11.5.170 WDFaderValue

WDFaderValue,'ID','Value'

Example:

WDFaderValue,7,33

Sets the Fader 7 to value 33 immediately, see [Fader](#).

11.5.171 WDFaderAbortAllFades

WDFaderAbortAllFades

Example:

WDFaderAbortAllFades

Abort all current fades.

11.5.172 WDFaderAbortFade

WDFaderAbortFade,'ID'

Example:

WDFaderAbortFade,1

Aborts the fade of Fader 1.

11.5.173 WDKeyboardShortcutsEnable

WDKeyboardShortcutsEnable

Example:

WDKeyboardShortcutsEnable

Enables the use of Keyboard Shortcuts set up in the [Keyboard Shortcut Editor](#).

11.5.174 WDKeyboardShortcutsDisable

WDKeyboardShortcutsDisable

Example:

WDKeyboardShortcutsDisable

Disables the use of Keyboard Shortcuts set up in the [Keyboard Shortcut Editor](#).

11.5.175 WDLabelText

WDLabelText,'ID','Text'

Example:

WDLabelText,3,Flip

Changes the text of label 3 to the word Flip, see [Label](#).

11.5.176 WDLabelTextColour

WDLabelTextColour,'ID','R','G','B'

Example:

WDLabelTextColour,3,255,90,0

Changes the colour of Label 3 to orange, see [Label](#). The values for R,G,B range from 0 to 255.

11.5.177 WDMacro

WDMacro,'MacroName'

Example:

WDMacro,Fader Jump

Executes Macro "Fader Jump", if it was created in the [Macro Tool](#) before.

11.5.178 WDMediaPanelSetDevices

WDMediaPanelSetDevices,'PanelID','Devices'

Example:

WDMediaPanelSetDevices,3,1.3 1.4 2.5

Connects the Media Panel with the ID 3 in WD to the devices 1,3 and 1,4 and 2,5 in PB, see [Media Control Panel](#).

11.5.179 WDMediaPanelSetFolder

WDMediaPanelSetFolder,'PanelID','Folder'

Example:

WDMediaPanelSetFolder,3,004

Loads the thumbnail folder 004 in the Media Panel 3, see [Media Control Panel](#). Please note, that the file number needs to have 3 digits.

11.5.180 WDMediaPanelSetNextFolder

WDMediaPanelSetNextFolder,'PanelID'

Example:

WDMediaPanelSetNextFolder,1

Loads the next thumbnail folder in the Media Panel 1, see [Media Control Panel](#). If the folder 002 is the current one, the next one in the list will be loaded.

11.5.181 WDMediaPanelSetPreviousFolder

WDMediaPanelSetPreviousFolder,'PanelID'

Example:

WDMediaPanelSetPreviousFolder,1

Loads the previous thumbnail folder in the Media Panel 1, see [Media Control Panel](#). If the folder 002 is the current one, the previous one in the list will be loaded.

11.5.182 WDMediaPanelSetIndex

WDMediaPanelSetIndex,'PanelID','Index'

Example:

WDMediaPanelSetIndex,3,4

Sets the start index of the files in the Media Panel 3 to 4, see [Media Control Panel](#).

11.5.183 WDMediaPanelSetLayout

WDMediaPanelSetLayout,'PanelID','Columns','Rows'

Example:

WDMediaPanelSetLayout,3,2,6

Changes the layout of Media Panel 3. The thumbnails will be displayed in 2 columns and 6 rows. See [Media Control Panel](#).

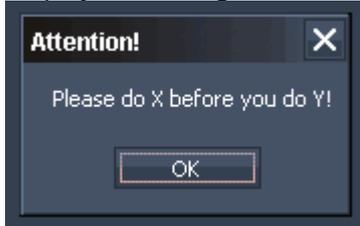
11.5.184 WDMessageBox

WDMessageBox,Title,Content

Example:

WDMessageBox,Attention!,Please do X before you do Y!

Displays a message box that blocks the UI:



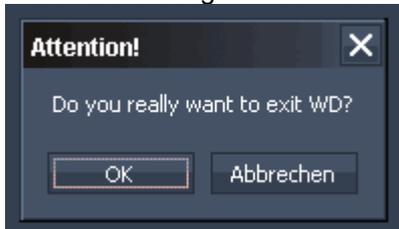
11.5.185 WDMacroBoxOkCancel

WDMacroBoxOkCancel,Title,Content,MacroName1,MacroName2

Example:

WDMacroBoxOkCancel,Attention!,Do you really want to exit WD?,MacroExit,MacroDoNothing

Pops up a message box with the title "Attention!" and the text "Do you really want to exit WD?". If you click on OK, the Macro "MacroExit" will be executed, if you click on Cancel the Macro "MacroDoNothing" will be executed.



Set up the macros with the [Macro Tool](#) before.

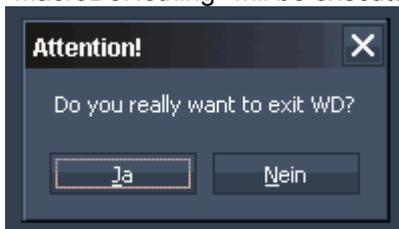
11.5.186 WDMacroBoxYesNo

WDMacroBoxYesNo,Title,Content,MacroName1,MacroName2

Example:

WDMacroBoxYesNo,Attention!,Do you really want to exit WD?,MacroExit,MacroDoNothing

Pops up a message box with the title "Attention!" and the text "Do you really want to exit WD?". If you click on [Yes], the Macro "MacroExit" will be executed, if you click on [No] the Macro "MacroDoNothing" will be executed.



Set up the macros with the [Macro Tool](#) before.

11.5.187 WDMotionMaskSetScale

WDMotionMaskSetScale,'ID','Value'

Example:

WDMotionMaskSetScale,1,0.5

Sets the Scale value for the Motion Mask Display 1 to 0.5, see [Motion Mask Display](#).

11.5.188 WDMotionMaskSetInValue

WDMotionMaskSetInValue,'ID','Value'

Example:

WDMotionMaskSetInValue,1,0.5

Sets the In-Value for the Motion Mask Display 1 to 0.5, see [Motion Mask Display](#).

11.5.189 WDMotionMaskSetOutValue

WDMotionMaskSetOutValue,'ID','Value'

Example:

WDMotionMaskSetOutValue,1,0.5

Sets the Out-Value for the Motion Mask Display 1 to 0.5, see [Motion Mask Display](#).

11.5.190 WDMotionMaskSetThreshold

WDMotionMaskSetOutThreshold,'ID','Value'

Example:

WDMotionMaskSetOutThreshold,1,4

Sets the Threshold for the Motion Mask Display 1 to the value 4, see [Motion Mask Display](#).

11.5.191 WDMotionMaskSetPaintOnly

WDMotionMaskSetPaintOnly,'ID','Bool'

Example:

WDMotionMaskSetPaintOnly,1,true

Enables the Paint Only option for the Motion Mask Display 1, see [Motion Mask Display](#).

11.5.192 WDMultiTouchStoreDefaults

WDMultiTouchStoreDefaults,'ID'

Example:

WDMultiTouchStoreDefaults,1

Stores all current values of the Multitouch Panel 1 as Defaults. To apply these values later on to the Multitouch Panel again, use the script [WDMultiTouchApplyDefaults,'ID'](#).

Please note that every Multitouch Panel has it's own default values.

11.5.193 WDMultiTouchApplyDefaults

WDMultiTouchApplyDefaults,'ID'

Example:
WDMultiTouchApplyDefaults,1

Applies the stored default values to the Multitouch Panel 1.
To store new default values to the panel please use the script [WDMultiTouchStoreDefaults,'ID'](#).
Please note that every Multitouch Panel has it's own default values.

11.5.194 WDMultiTouchSetZoom

WDMultiTouchSetZoom,'ID','Zoomfactor

Example:
WDMultiTouchSetZoom,1,100

Changes the Zoom in the MultiTouch Panel with the ID 1 to the value 100.

11.5.195 WDMultiTouchSetPan

WDMultiTouchSetPan,'ID','X','Y'

Example:
WDMultiTouchSetPan,1,10,5

Changes the Pan in the MultiTouch Panel with the ID 1 to the value X=10 and Y=5.

11.5.196 WDMultiTouchSetActive

WDMultiTouchSetActive,'ID','ItemID'

Example:
WDMultiTouchSetActive,1,3

Enables the Item 3 in the MultiTouch Panel with the ID 1.

11.5.197 WDMultiTouchSetInactive

WDMultiTouchSetInactive,'ID','ItemID'

Example:
WDMultiTouchSetActive,1,4

Disables the Item 4 in the MultiTouch Panel with the ID 1.

11.5.198 WDMultiTouchSetDevice

WDMultiTouchSetDevice,'ID','ItemID','SiteID','DeviceID'

Example:

```
WDMultiTouchSetDevic,1,3,2,5
```

Assigns the PB Device 2,5 to the Item 3 in the MultiTouch Panel with the ID 1.

11.5.199 WDMultiTouchSetPos

```
WDMultiTouchSetPos,'ID','ItemID','Xpos','Ypos'
```

Example:

```
WDMultiTouchSetPos,1,3,25,50
```

Sets the Item 3 in the MultiTouch Panel with the ID 1 to the Position X=25 and Y=50.

11.5.200 WDMultiTouchSetRot

```
WDMultiTouchSetRot,'ID','ItemID','Rot'
```

Example:

```
WDMultiTouchSetRot,1,3,90
```

Sets the Item 3 in the MultiTouch Panel with the ID 1 to the rotation value of 90°.

11.5.201 WDMultiTouchSetScale

```
WDMultiTouchSetScale,'ID','ItemID','Scale'
```

Example:

```
WDMultiTouchSetScale,1,3,40
```

Scales the Item 3 in the MultiTouch Panel with the ID 1 to 40%.

11.5.202 WDMultiTouchEnableZoom

```
WDMultiTouchEnableZoom,'ID','ItemID'
```

Example:

```
WDMultiTouchEnableZoom,1,2
```

Enables the Zoom option for Item 2 in the MultiTouch Panel with the ID 1.

11.5.203 WDMultiTouchDisableZoom

```
WDMultiTouchDisableZoom,'ID','ItemID'
```

Example:

```
WDMultiTouchDisableZoom,1,2
```

Disables the Zoom option for Item 2 in the MultiTouch Panel with the ID 1.

11.5.204 WDMultiTouchEnableDrag

```
WDMultiTouchEnableDrag,'ID','ItemID'
```

Example:
WDMultiTouchEnableDrag,1,2

Enables the Drag option for Item 2 in the MultiTouch Panel with the ID 1.

11.5.205 WDMultiTouchDisableDrag

WDMultiTouchDisableDrag,'ID','ItemID'

Example:
WDMultiTouchDisableDrag,1,2

Disables the Drag option for Item 2 in the MultiTouch Panel with the ID 1.

11.5.206 WDMultiTouchEnablePan

WDMultiTouchEnablePan,'ID','ItemID'

Example:
WDMultiTouchEnablePan,1,2

Enables the Pan option for Item 2 in the MultiTouch Panel with the ID 1.

11.5.207 WDMultiTouchDisablePan

WDMultiTouchDisablePan,'ID','ItemID'

Example:
WDMultiTouchDisablePan,1,2

Disables the Pan option for Item 2 in the MultiTouch Panel with the ID 1.

11.5.208 WDMultiTouchEnableSize

WDMultiTouchEnableSize,'ID','ItemID'

Example:
WDMultiTouchEnableSize,1,2

Enables the Size option for Item 2 in the MultiTouch Panel with the ID 1.

11.5.209 WDMultiTouchDisableSize

WDMultiTouchDisableSize,'ID','ItemID'

Example:
WDMultiTouchDisableSize,1,2

Disables the Size option for Item 2 in the MultiTouch Panel with the ID 1.

11.5.210 WDMultiTouchEnableRotate

WDMultiTouchEnableRotate,'ID','ItemID'

Example:

```
WDMultiTouchEnableRotate,1,2
```

Enables the Rotate option for Item 2 in the MultiTouch Panel with the ID 1.

11.5.211 WDMultiTouchDisableRotate

```
WDMultiTouchDisableRotate,'ID','ItemID'
```

Example:

```
WDMultiTouchDisableRotate,1,2
```

Disables the Rotate option for Item 2 in the MultiTouch Panel with the ID 1.

11.5.212 WDMultiTouchLayerMode

```
WDMultiTouchLayerMode,'ID','ItemID','DisplayMode'
```

Example:

```
WDMultiTouchLayerMode,1,2,16:9
```

Sets the Layer Mode for Item 2 in the MultiTouch Panel with the ID 1 to the aspect ratio 16:9. The following aspect ratios can be assigned:
4:3, 16:9, 16:10.

11.5.213 WDMultiTouchDisplayMode

```
WDMultiTouchDisplayMode,'ID','DisplayMode'
```

Example:

```
WDMultiTouchDisplayMode,1,16:10
```

Sets the Display Mode for the MultiTouch Panel with the ID 1 to the aspect ratio 16:10. The following aspect ratios can be assigned:
4:3, 16:9, 16:10.

11.5.214 WDMultiTouchEnableZorder

```
WDMultiTouchEnableZorder,'ID'
```

Example:

```
WDMultiTouchEnableZorder,1
```

Enables the Z-Order option for the MultiTouch Panel with the ID 1.

11.5.215 WDMultiTouchDisableZorder

```
WDMultiTouchDisableZorder,'ID'
```

Example:

```
WDMultiTouchDisableZorder,1
```

Disables the Z-Order option for the MultiTouch Panel with the ID 1.

11.5.216 WDMultiTouchLinkToMouse

WDMultiTouchLinkToMouse,'ID', 'ItemID'

Example:

WDMultiTouchLinkToMouse,1,4

Links Item 4 of MultiTouch Panel 1 to the mouse (whether Move-Mode is enabled for this item or not), as long as

- a) another item is linked to the mouse,
- b) a non active item is assigned or
- c) a non-existing Item (like "0") is linked to the mouse.

11.5.217 WDMultiTouchLinkItemToMouse

WDMultiTouchLinkItemToMouse,'ID'

Example:

WDMultiTouchLinkItemToMouse,1

Links the item of MultiTouch Panel 1 to the mouse, that is currently selected by the mouse. This script eg. could be placed as Mouse Down or Mouse Enter script for an item inside the MultiTouch Panel: as soon you clicked on or entered this item, it will follow the mouse (whether Move-Mode is enabled for this item or not).

The link is active as long as

- a) another item is linked to the mouse,
- b) a non active item is assigned or
- c) a non-existing Item (like "0") is linked to the mouse.

11.5.218 WDMultiMouseLinkPlay

WDMultiMouseLinkPlay,'ID'

Example:

WDMultiMouseLinkPlay,1

Sets the video mode of the item in MultiTouch Panel 1, that currently is linked to the mouse, to "Play".

11.5.219 WDMultiMouseLinkLoop

WDMultiMouseLinkLoop,'ID'

Example:

WDMultiMouseLinkLoop,1

Sets the video mode of the item in MultiTouch Panel 1, that currently is linked to the mouse, to "Loop".

11.5.220 WDMultiMouseLinkPause

WDMultiMouseLinkPause,'ID'

Example:

WDMultiMouseLinkPause,1

Sets the video mode of the item in MultiTouch Panel 1, that currently is linked to the mouse, to "Pause".

11.5.221 WDMultiMouseLinkStop

WDMultiMouseLinkStop,'ID'

Example:

WDMultiMouseLinkStop,1

Sets the video mode of the item in MultiTouch Panel 1, that currently is linked to the mouse, to “Stop”.

11.5.222 WDMultiTouchItemPlay

WDMultiTouchItemPlay,'ID','ItemID'

Example:

WDMultiTouchItemPlay,1,4

Sets the video mode of item 4 in MultiTouch Panel 1 to “Play”.

11.5.223 WDMultiTouchItemLoop

WDMultiTouchItemLoop,'ID','ItemID'

Example:

WDMultiTouchItemLoop,1,4

Sets the video mode of item 4 in MultiTouch Panel 1 to “Loop”.

11.5.224 WDMultiTouchItemPause

WDMultiTouchItemPause,'ID','ItemID'

Example:

WDMultiTouchItemPause,1,4

Sets the video mode of item 4 in MultiTouch Panel 1 to “Pause”.

11.5.225 WDMultiTouchItemStop

WDMultiTouchItemPause,'ID','ItemID'

Example:

WDMultiTouchItemStop,1,4

Sets the video mode of item 4 in MultiTouch Panel 1 to “Stop”.

11.5.226 WDMultiTouchRefresh

WDMultiTouchRefresh,'ID'

Example:

WDMultiTouchRefresh,1

Refreshes the values of MultiTouch Panel 1 to Pandoras Box.

11.5.227 WDMultiTouchEnableMouse

WDMultiTouchEnableMouse,'ID'

Example:
WDMultiTouchEnableMouse,1

Enables the Mouse for MultiTouch Panel 1.

11.5.228 WDMultiTouchDisableMouse

WDMultiTouchDisableMouse,'ID'

Example:
WDMultiTouchDisableMouse,1

Disables the Mouse for MultiTouch Panel 1.

11.5.229 WDMultiTouchEnableGestures

WDMultiTouchEnableGestures,'ID'

Example:
WDMultiTouchEnableGesture,1

Enables Gestures for Synaptics Touch Pads and Wacom Bamboo Devices for MultiTouch Panel 1.

11.5.230 WDMultiTouchDisableGesture

WDMultiTouchDisableGestures,'ID'

Example:
WDMultiTouchDisableGestures,1

Disables Gestures for Synaptics Touch Pads and Wacom Bamboo Devices for MultiTouch Panel 1.

11.5.231 WDMultiTouchEnableTouch

WDMultiTouchEnableTouch,'ID'

Example:
WDMultiTouchEnableTouch,1

Enables Touch for MultiTouch Panel 1.

11.5.232 WDMultiTouchDisableTouch

WDMultiTouchDisableTouch,'ID'

Example:
WDMultiTouchDisableTouch,1

Disables Touch for MultiTouch Panel 1.

11.5.233 WDMultiTouchEnableAirScan

WDMultiTouchEnableAirScan

Example:

WDMultiTouchEnableAirScan

Enables the AirScan for MultiTouch Panel 1.

11.5.234 WDMultiTouchDisableAirScan

WDMultiTouchDisableAirScan

Example:

WDMultiTouchDisableAirScan

Disables the AirScan for MultiTouch Panel 1.

11.5.235 WDMultiTouchEnableKinect

WDMultiTouchEnableKinect

Example:

WDMultiTouchEnableKinect

Enables the Kinect for MultiTouch Panel 1.

11.5.236 WDMultiTouchDisableKinect

WDMultiTouchDisableKinect

Example:

WDMultiTouchDisableKinect

Disables the Kinect for MultiTouch Panel 1.

11.5.237 WDMultiTouchEnableCamera

WDMultiTouchEnableCamera

Example:

WDMultiTouchEnableCamera

Enables the Camera Tool for MultiTouch Panel 1.

11.5.238 WDMultiTouchDisableCamera

WDMultiTouchDisableCamera

Example:

WDMultiTouchDisableCamera

Disables the Camera Tool for MultiTouch Panel 1.

11.5.239 WDMultiTouchEnableIPhone

WDMultiTouchEnableIPhone

Example:

WDMultiTouchEnableIPhone

Enables the iPhone for MultiTouch Panel 1.

11.5.240 WDMultiTouchDisableIPhone

WDMultiTouchDisableIPhone

Example:

WDMultiTouchDisableIPhone

Disables the iPhone for MultiTouch Panel 1.

11.5.241 WDNBSBroadcastEnable

WDNBSBroadcastEnable

Example:

WDNBSBroadcastEnable

Enables the Network Broadcast Service (NBS) for [Faders](#), [Labels](#) and [CustomScript Buttons](#).

11.5.242 WDNBSBroadcastDisable

WDNBSBroadcastDisable

Example:

WDNBSBroadcastDisable

Disables the Network Broadcast Service (NBS) for [Faders](#), [Labels](#) and [CustomScript Buttons](#).

11.5.243 WDNBSReceiveEnable

WDNBSReceiveEnable

Example:

WDNBSReceiveEnable

Enables [Faders](#), [Labels](#) and [CustomScript Buttons](#) to receive values via Network Broadcast Service from other controls.

11.5.244 WDNBSReceiveDisable

WDNBSReceiveDisable

Example:

WDNBSReceiveDisable

Disables [Faders](#), [Labels](#) and [CustomScript Buttons](#) to receive values via Network Broadcast Service from other controls.

11.5.245 WDNodesEnable

WDNodesEnable

Example:
WDNodesEnable

Enables all nodes in WD if disabled before and re-establishes their connection to other nodes and outputs.

11.5.246 WDNodesDisable

WDNodesDisable

Example:
WDNodesDisable

Disables all nodes and releases their connection to other nodes and outputs in WD.

11.5.247 WDNNodeEnableOutput

WDNodeEnableOutput,'ID'

Example:
WDNodeEnableOutput,35

Enables Outputnode 36 (for example an Output Node like a Fader Output).

11.5.248 WDNNodeDisableOutput

WDNodeDisableOutput,'ID'

Example:
WDNodeDisableOutput,35

Disables Outputnode 36 (for example an Output Node like a Fader Output).

11.5.249 WDNNodeConnect

WDNodeConnect,'SourceNodeID','TargetNodeID'

Example:
WDNodeConnect,2,5

Connects the Source Node with the ID 2 to the Target Node with the ID 5.

11.5.250 WDNNodeDisconnect

WDNodeDisconnect,'NodeID','SourceNodeID'

Example:
WDNodeDisconnect,3,2

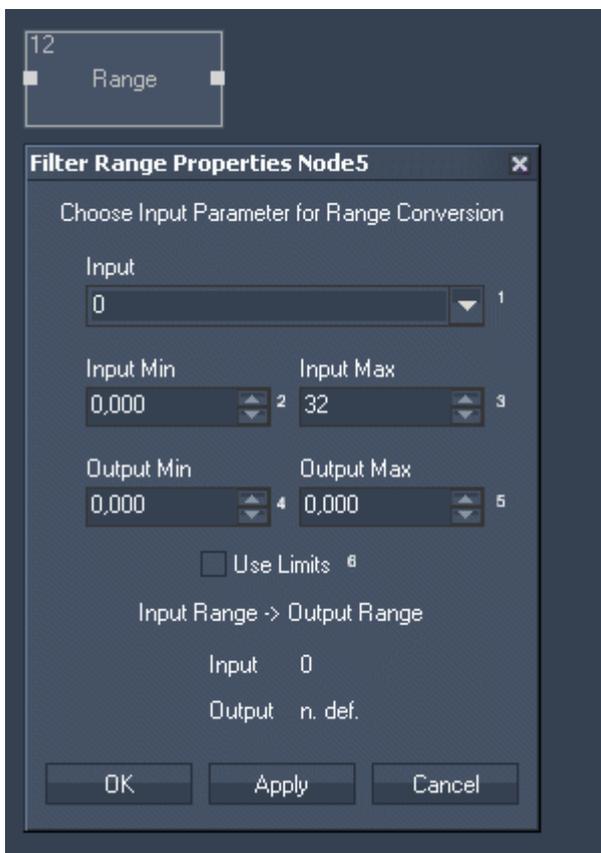
Disconnects the Node with the ID 3 from the Source Node with the ID 2.

11.5.251 WDNodeSetParam

WDNodeSetParam,'NodeID','ParamID','Value'

Example:
WDNodeSetParam,12,3,32

Sets Parameter 3 of Node 12 to the value 32, for example if Node 12 is a Range filter node, the Input Max will be changed to 32, see Picture below.
All parameters with a small number behind can be changed with this script.



11.5.252 WDNodeSetParam+=

WDNodeSetParam,+=,'NodeID','ParamID','Value'

Example:
WDNodeSetParam+=,3,1,10

Adds the value 10 to parameter 1 of Node 3, for example if Node 3 is a Value Input Node, its Output value will be increased by 10.

11.5.253 WNodeSetParam-=-

WNodeSetParam,+='NodeID','ParamID','Value'

Example:

WNodeSetParam-=-,3,1,10

Subtracts the value 10 from parameter 1 of Node 3, for example if Node 3 is a Value Input Node, its Output value will be decreased by 10.

11.5.254 WNodeSetParam*=-

WNodeSetParam,*='NodeID','ParamID','Value'

Example:

WNodeSetParam*=-,3,1,10

Multiplies the value parameter 1 of Node 3 with the factor 10, for example if Node 3 is a Value Input Node, its Output value will be multiplied by 10.

11.5.255 WNodeSetParam/=

WNodeSetParam,/=,'NodeID','ParamID','Value'

Example:

WNodeSetParam/=,3,1,10

Divides the value of parameter 1 of Node 3 through 10, for example if Node 3 is a Value Input Node, its Output value will be divided through 10.

11.5.256 WNodeSetParamFromNodeInputValue

WNodeSetParamFromNodeInputValue,'NodeID','ParamID','SourceNodeID','SourceNodeInParamID'

Example:

WNodeSetParamFromNodeInputValue,7,2,6,1

Sets the parameter 2 of Node 7 to the input value of parameter 1 of Node 6. Allows to combine the current values of Nodes by ID

11.5.257 WNodeSetParamFromNodeOutputValue

WNodeSetParamFromNodeOutputValue,'NodeID','ParamID','SourceNodeID','SourceNodeOutParamID'

Example:

WNodeSetParamFromNodeOutputValue,7,2,6,1

Sets the parameter 2 of Node 7 to the output value of parameter 1 of Node 6. Allows to combine the current values of Nodes by ID

11.5.258 WNodeSetParamFromNode+=

WNodeSetParamFromNode+=,'NodeID','ParamID','SourceNodeID','SourceNodeParamID'

Example:

WDNodeSetParamFromNode+=,4,1,2,3

Adds the value of parameter 3 of Node 2 to the value of parameter 1 of Node 4.

This way node values can be dynamically changed via scripts to any number, without causing infinite loops.

11.5.259 WDNodeSetParamFromNode-=

WDNodeSetParamFromNode-=,'NodeID','ParamID','SourceNodeID','SourceNodeParamID

Example:

WDNodeSetParamFromNode-=,4,1,2,3

Subtracts the value of parameter 3 of Node 2 from the value of parameter 1 of Node 4.

This way node values can be dynamically changed via scripts to any number, without causing infinite loops.

11.5.260 WDNodeSetParamFromNode*= WDNodeSetParamFromNode*='NodeID','ParamID','SourceNodeID','SourceNodeParamID

WDNodeSetParamFromNode*='NodeID','ParamID','SourceNodeID','SourceNodeParamID

Example:

WDNodeSetParamFromNode*='NodeID','ParamID','SourceNodeID','SourceNodeParamID

Multiplies the value of parameter 1 of Node 4 with the value of parameter 3 of Node 2.

11.5.261 WDNodeSetParamFromNode/=

WDNodeSetParamFromNode/=,'NodeID','ParamID','SourceNodeID','SourceNodeParamID

Example:

WDNodeSetParamFromNode/=,4,1,2,3

Divides the value of parameter 1 of Node 4 through the value of parameter 3 of Node 2.

This way node values can be dynamically changed via scripts to any number, without causing infinite loops.

11.5.262 WDNodeSetParamSource

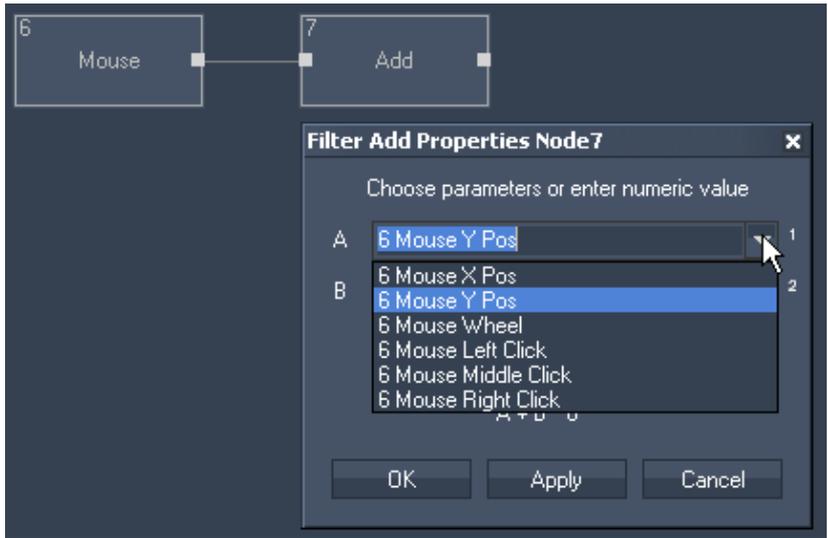
WDNodeSetParamSource,'NodeID','ParamID','SourceNodeID','SourceNodeParamID'

Example:

WDNodeSetParamSource,7,1,6,2

Changes the source for the input parameter if two or more nodes or a single one with several values is connected to a filter or output node.

In this example the input parameter (1) of the Add node (7) will change to the value for Y Position (2) of the Mouse Input node (6).



11.5.263 WNodeSetOutput

WNodeSetOutput,'NodeID','ParamID','Value'

Example:
WNodeSetOutput,2,1,100

Sets the first output parameter of Input Node 2 to the value 100. This script allows to set an output parameter of an Input Node to a specific value (applies to TCP, UDP and COM ASCII String / Stream Input Nodes)

11.5.264 WNodeRefreshOutput

WNodeRefreshOutput,'NodeID'

Example:
WNodeRefreshOutput,12

Refreshes the Output Node 12 and executes (depending on the input data) the True or False Script.

Please note:
This script is only valid for Script Output Nodes!!

11.5.265 WDPAGEGoto

WDPAGEGoto,'Default'

Example:
WDPAGEGoto,faders

Changes to page "faders" if the page "faders" was created before.

11.5.266 WDPAGENext

WDPAGENext

Example:
WDPageNext

Goes to the next page in order. If this command is called when being on the last page, the first one will be called.

11.5.267 WDPageLast

WDPageLast

Example:
WDPageLast

Goes to the last page in order. If this command is called when being on the first page, the last one will be called.

11.5.268 WDPageForward

WDPageForward

Example:
WDPageForward

Calls up the next page in history.

11.5.269 WDPagePrevious

WDPagePrevious

Example:
WDPagePrevious

Calls up the last page in history.

11.5.270 WDPageClearHistory

WDPageClearHistory

Example:
WDPageClearHistory

Clears the history, so that "WDPageForward" and "WDPagePrevious" do not call up another page different than the "Default" one.

11.5.271 WDPasswordDialog

WDPasswordDialog,'Password'

Example:
WDPasswordDialog,Coolux

This command opens a Password Dialog, if the password is incorrect the script will not continue. If Coolux is typed in correct, the following scripts will be executed.
This is usefull to lock access to specific Pages or Commands



Example: This password dialog appears when using the command. Password can only typed in using the displayed keyboard.

11.5.272 WDRemoteTCPEnable

WDRemoteTCPEnable

Example:

WDRemoteTCPEnable

Enables the TCP connection set up via the [Remoting Tool](#).

11.5.273 WDRemoteTCPDisable

WDRemoteTCPDisable

Example:

WDRemoteTCPDisable

Disables the TCP connection set up via the [Remoting Tool](#).

11.5.274 WDRemoteUDPEnable

WDRemoteUDPEnable

Example:

WDRemoteUDPEnable

Enables the UDP connection set up via the [Remoting Remoting Tool.ool](#).

11.5.275 WDRemoteUDPDisable

WDRemoteUDPDisable

Example:

WDRemoteUDPDisable

Disables the UDP connection set up via the [Remoting Tool](#).

11.5.276 WDRemoteHTTPEnable

WDRemoteHTTPEnable

Example:

```
WDRemoteHTTPEnable
```

Enables the HTTP Listener set up via the [Remoting Tool](#).

11.5.277 WDRemoteHTTPDisable

WDRemoteHTTPDisable

Example:

```
WDRemoteHTTPDisable
```

Disables the HTTP Listener set up via the [Remoting Tool](#).

11.5.278 WDRemoteCOMEnable

WDRemoteCOMEnable

Example:

```
WDRemoteCOMEnable
```

Enables the COM Port connection set up via the [Remoting Tool](#).

11.5.279 WDRemoteCOMDisable

WDRemoteCOMDisable

Example:

```
WDRemoteCOMDisable
```

Disables the COM Port connection set up via the [Remoting Tool](#).

11.5.280 WDScreenshot

WDScreenshot,'FileName'

Example:

```
WDScreenshot,C:\coolux\screenshots\Page1
```

Creates a screenshot of the current WD user interface and save it as Page1.png under the path C:\coolux\screenshots.

If you don't specify the file path with this script, the screenshot will be saved as Page1.png in the root folder of your WD project.

11.5.281 WDScreenshotWithTime

WDScreenshotWithTime,'FileName'

Example:

```
WDScreenshotWithTime,C:\coolux\screenshots\Page1
```

Creates a screenshot of the current WD user interface and save it eg. as Page1_31_05_2011-16_43_22.png under the path C:\coolux\screenshots.

If you don't specify the file path with this script, the screenshot will be saved in the root folder of your WD project.

11.5.282 WDScreenshotDialog

WDScreenshotDialog

Example:

WDScreenshotDialog

Creates a screenshot of the current WD user interface and opens the Save As Dialog, where you can choose the location you want the screenshot to be saved and its name. It allows you to choose the file type of your screenshot as well (Bitmap, Jpeg or PNG).

11.5.283 WDScreenshotRegion

WDScreenshotRegion,'X','Y','Width','Height','FileName'

Example:

WDScreenshotRegion,1,1,400,300,C:\coolux\screenshots\Test1

Creates a screenshot that is 400px wide and 300 px high, starting at pixel X=1 and Y=1 of the current screen and saves it as Test1.png under the path C:\coolux\screenshots.

If you don't specify the file path with this script, the screenshot will be saved in the root folder of your WD project.

11.5.284 WDScreenshotRegionWithTime

WDScreenshotRegionWithTime,'X','Y','Width','Height','FileName'

Example:

WDScreenshotRegionWithTime,1,1,400,300,C:\coolux\screenshots\Test1

Creates a screenshot that is 400px wide and 300 px high, starting at pixel X=1 and Y=1 of the current screen and saves it as e.g. Test1_31_05_2011-16_43_22.png under the path C:\coolux\screenshots.

If you don't specify the file path with this script, the screenshot will be saved in the root folder of your WD project.

11.5.285 WDScreenshotRegionDialog

WDScreenshotRegionDialog,'X','Y','Width','Height'

Example:

WDScreenshotRegionDialog,1,1,400,300

Creates a screenshot that is 400px wide and 300 px high, starting at pixel X=1 and Y=1 of the current screen and opens the Save As Dialog, where you can choose the location you want the screenshot to be saved and its name. It allows you to choose the file type of your screenshot as well (Bitmap, Jpeg or PNG).

11.5.286 WDScriptTimerStart,'ID'

WDScriptTimerStart,'ID'

Example:
WDScriptTimerStart,1

Starts the Script Timer with the ID 1. It will keep on running until it is stopped via script or via click on it with the mouse (when it is set to run continuously).

11.5.287 WDScriptTimerStop,'ID'

WDScriptTimerStop,'ID'

Example:
WDScriptTimerStop,1

Stops the Script Timer with the ID 1.

11.5.288 WDScriptTimerInterval,'ID','Value'

WDScriptTimerInterval,'ID','Value'

Example:
WDScriptTimerInterval,1,5000

Changes the Interval Time of the Script Timer with the ID 1 to 5000 ms.

11.5.289 WDScriptTimerRunOnce,'ID'

WDScriptTimerRunOnce,'ID'

Example:
WDScriptTimerRunOnce,1
Changes the mode of the Script Timer with the ID 1 to run only once.

11.5.290 WDScriptTimerRunContinuous,'ID'

WDScriptTimerRunContinuous,'ID'

Example:
WDScriptTimerRunContinuous,1

Changes the mode of the Script Timer with the ID 1 to run continuously.

11.5.291 WDScrollerReset,'ID'

WDScrollerReset,'ID'

Example:
WDScrollerReset,1

Resets Scroller 1 by bringing the first Item to the first position.
See [Scroller Control](#).

11.5.292 WDTtextboxClear

WDTtextboxClear,'TXTBoxID'

Example:

```
WDTtextboxClear,1
```

Clears all text from the Text Box 1, see [Textbox](#).

11.5.293 WDTtextboxAddTextFromLabel

```
WDTtextboxAddTextFromLabel,'TXTBoxID','LabelID'
```

Example:

```
WDTtextboxAddTextFromLabel,1,3
```

Adds the text from Label 3 to the text of Textbox 1, see [Textbox](#).

11.5.294 WDTtextboxAddTextFromTextbox

```
WDTtextboxAddTextFromTextbox,'TXTBoxID','TXTBoxSourceID'
```

Example:

```
WDTtextboxAddTextFromTextbox,1,3
```

Adds the text from Textbox 3 to the text of Textbox 1, see [Textbox](#).

11.5.295 WDTtextboxAppend

```
WDTtextboxAppend,'ID','Value'
```

Example:

```
WDTtextboxAppend,1,WDLableText
```

Adds the text “WDLableText” to the Textbox 1, see [Textbox](#).

This way you may compose a script inside a textbox that can be executed via the script [WDTtextboxExecuteAsScript,'ID'](#).

11.5.296 WDTtextboxNewline

```
WDTtextboxNewline,'ID'
```

Example:

```
WDTtextboxNewline,1
```

Starts a new line in the Textbox 1, see [Textbox](#).

This way you may compose a script list inside a textbox that can be executed via the script [WDTtextboxExecuteAsScript,'ID'](#).

11.5.297 WDTtextboxExecuteAsScript

```
WDTtextboxExecuteAsScript,'ID'
```

Example:

```
WDTtextboxExecuteAsScript,'ID'
```

Executes the text in Textbox 1 as script, see [Textbox](#). You may use the script [WDTtextboxAppend](#) to compose the script from single parts.

11.5.298 WDTextInputClear

WDTextInputClear,'ID'

Example:

WDTextInputClear,1

Clears all text from the Text Input 1, see [Text Input](#).

11.5.299 WDTextInputReset

WDTextInputReset,'ID'

Example:

WDTextInputReset,1

Sets the Text Input to the first available line, see [Text Input](#).

11.5.300 WDTextInputNext

WDTextInputNext,'ID'

Example:

WDTextInputNext,1

Sets the Text Input to the next available line, see [Text Input](#).

11.5.301 WDTextInputLast

WDTextInputLast,'ID'

Example:

WDTextInputLast,1

Sets the Text Input to the last available line, see [Text Input](#).

11.5.302 WDTextInputGotoLine

WDTextInputGotoLine,'ID','SourceID'

Example:

WDTextInputGotoLine,1,2

Jumps to the line number in Text Input 1, that is taken from the numeric entry in [Textbox 2](#), see [Text Input](#).

11.5.303 WDTextInputUpdate

WDTextInputUpdate,'ID'

Example:

WDTextInputUpdate,1

Updates the current line in Text Input 1 (no effect when Auto-Update is set in the Item Properties of this panel), see [Text Input](#).

11.5.304 WDVidoeFile

WDVidoeFile,'ID','File'

Example:

WDVidoeFile,2,C:\coolux\content Pandora\MediaLoops 00201-00300\00214_kiosk.mpg

Loads the file 00214_kiosk.mpg from the specified directory into the [Videoplayer](#) with the ID 2.

11.5.305 WDVidoeControl,'ID',Play

WDVidoeControl,'ID',Play

Example:

WDVidoeControl,2,Play

Plays the file that is loaded into the [Videoplayer](#) with the ID 2.

11.5.306 WDVidoeControl,'ID',Loop

WDVidoeControl,'ID',Loop

Example:

WDVidoeControl,2,Loop

Loops the file that is played in the [Videoplayer](#) with the ID 2.

11.5.307 WDVidoeControl,'ID',Pause

WDVidoeControl,'ID',Pause

Example:

WDVidoeControl,2,Pause

Pauses the file that is played in the [Videoplayer](#) with the ID 2.

11.5.308 WDVidoeControl,'ID',Stop

WDVidoeControl,'ID',Stop

Example:

WDVidoeControl,2,Stop

Stops the file that is played in the [Videoplayer](#) with the ID.2.

11.5.309 WDVidoeSetVolume

WDVidoeSetVolume,'ID','Value'

Example:

WDVidoeSetVolume,2,50

Sets the volume for the [Videoplayer](#) with the ID 2 to the value 50. The value for volume ranges from 0 to 100.

11.5.310 WDVidoeVolumeUp

WDVidoeVolumeUp,'ID','Value'

Example:

WDVideoVolumeUp,2,10

Increases the volume of the [Videoplayer](#) with the ID 2 by 10 steps. The value for volume ranges from 0 to 100.

11.5.311 WDVideoVolumeDown

WDVideoVolumeDown,'ID','Value'

Example:

WDVideoVolumeDown,2,10

Decreases the volume of the [Videoplayer](#) with the ID 2 by 10 steps. The value for volume ranges from 0 to 100.

11.5.312 VString

VString,Name,Value

Example:

VString,City,Cologne

Creates the variable “City” as String (ASCII Text). Its value is “Cologne”.
To monitor all variables, their type and value, please refer to the [Variable List](#).

11.5.313 VInt

VInt,Name,Value

Example:

VInt,Counter,32

Creates the variable “Counter” as Integer (number without decimal places). Its value is “32”.
To monitor all variables, their type and value, please refer to the [Variable List](#).

11.5.314 VDouble

VDouble,Name,Value

Example:

Vdouble,Result,2.54

Creates the variable “Result” as Double (number with decimal places).. Its value is 2.54.
To monitor all variables, their type and value, please refer to the [Variable List](#).

11.5.315 VDelete

VDelete,Name

Example:

VDelete,City

Deletes the variable with the name “City”.
To monitor all variables, their type and value, please refer to the [Variable List](#).

11.5.316 VDeleteAll

VDeleteAll

Example:

VDeleteAll

Deletes all existing variables inside WD.

To monitor all variables, their type and value, please refer to the [Variable List](#).

11.5.317 VValue

VValue,VarName,Value

Example:

VValue,Counter,20

Applies the value "20" to the variable "Counter".

To monitor all variables, their type and value, please refer to the [Variable List](#).

11.5.318 VGetNodeVal

VGetNodeVal,VarName,NodeID,ParamID

Example:

VGetNodeVal,Counter,10,1

Applies the value of Node 10, Parameter 1 to the variable "Counter".

To monitor all variables, their type and value, please refer to the [Variable List](#).

11.5.319 VGetFaderVal

VGetFaderVal,VarName,FaderID

Example:

VGetFaderVal,Counter,1

Applies the value of Fader 1 to the variable "Counter".

To monitor all variables, their type and value, please refer to the [Variable List](#).

11.5.320 VGetLabelText

VGetLabelText,VarName,LabelID

Example:

VGetLabelText,City,2

Applies the text of Label 2 to the variable "City".

To monitor all variables, their type and value, please refer to the [Variable List](#).

11.5.321 VMultiply

VMultiply,VarName,Var1,Var2

Example:

VMultiply,V_Multi,Counter1,Counter2

Multiplies the values of the variables Counter1 and Counter2 and passes this Multiply result to the variable V_Multi.

To monitor all variables, their type and value, please refer to the [Variable List](#).

11.5.322 VDivide

VDivide,VarName,Var1,Var2

Example:

VDivide,V_Divide,Counter1,Counter2

Divides the variable Counter1 by the variable Counter2 and passes this Divide result to the variable V_Divide.

To monitor all variables, their type and value, please refer to the [Variable List](#).

11.5.323 VAdd

VAdd,VarName,Var1,Var2

Example:

VAdd,V_Add,Counter1,Counter2

Adds the variable Counter1 and Counter2 and passes this Add result to the variable V_Add.

To monitor all variables, their type and value, please refer to the [Variable List](#).

11.5.324 VSubtract

VSubtract,VarName,Var1,Var2

Example:

VSubtract,V_Sub,Counter1,Counter2

Subtracts the variable Counter2 from Counter1 and passes this Subtract result to the variable V_Sub.

To monitor all variables, their type and value, please refer to the [Variable List](#).

11.5.325 VPow

VPow,VarName,Var1,Var2

Example:

VPow,V_Power,Counter1,Counter2

Raises the variable Counter1 to the power of Counter2 and passes this Power result to the variable V_Power.

To monitor all variables, their type and value, please refer to the [Variable List](#).

11.5.326 VSqrt

VSqrt,VarName,Var1

Example:

VSqrt,V_Square,Counter1

Calculates the square root of the variable Counter1 passes this Sqrt result to the variable V_Square.

To monitor all variables, their type and value, please refer to the [Variable List](#).

11.5.327 WDWait,'Seconds'

WDWait,'Seconds'

Example:

WDWait,5.5

WD waits 5.5 seconds (5500ms) before the next command in the script list is executed.

11.5.328 WDWaitCancelItem,ItemName

WDWaitCancelItem,ItemName

Example:

WDWaitCancelItem,CustomScript1

Cancels the running WDWait Scripts executed by CustomScript Button 1.

Please note that a script list currently executing a WDWait Script will be cancelled at this point as well.

11.5.329 WDWaitCancelAll

WDWaitCancelAll

Example:

WDWaitCancelAll

Cancels all running WDWait Scripts.

Please note that a script list currently executing a WDWait Script will be cancelled at this point as well.

11.5.330 WDWheelGoUp

WDWheelGoUp,'ID','Value'

Example:

WDWheelGoUp,7,10

Adds immediately 10 values to the value of Wheel 7, see [Wheel](#).

11.5.331 WDWheelGoDown

WDWheelGoDown,'ID','Value'

Example:

WDWheelGoDown,7,10

Subtracts immediately 10 values from the value of Wheel 7, see [Wheel](#).

11.5.332 WDWheelValue

WDWheelValue,'ID','Value'

Example:

WDWheelValue,7,33

Sets the Wheel 7 to value 33 immediately, see [Wheel](#).

11.5.333 WDWheelFactor

WDWheelFactor,'ID','Value'

Example:

WDWheelFactor,7,5

Sets the factor of Wheel 7 to the value 5, see [Wheel](#).

11.5.334 WDXYPanelResetDefault

WDXYPanelResetDefault,'PanelID'

Example:

WDXYPanelResetDefault,1

Resets all current values inside XY Panel with the ID 1 back to the default values entered in its Item Properties.

11.5.335 WDXYPanelSetXDefault

WDXYPanelSetXDefault,'PanelID','Value'

Example:

WDXYPanelSetXDefault,1,32000

Sets the value for the default of Mouse X inside XY Panel with the ID 1 to 32000.

11.5.336 WDXYPanelSetYDefault

WDXYPanelSetYDefault,'PanelID','Value'

Example:

WDXYPanelSetYDefault,1,34000

Sets the value for the default of Mouse Y inside XY Panel with the ID 1 to 34000.

11.5.337 WDXYPanelSetXPosRelative

WDXYPanelSetXPosRelative,'PanelID','Value'

Example:

WDXYPanelSetXPosRelative,1,22000

Sets the value for the internal Relative X Position inside XY Panel with the ID 1 to 22000.

11.5.338 WDXYPanelResetXPosRelative

WDXYPanelResetXPosRelative,'PanelID'

Example:

WDXYPanelResetXPosRelative,1

Resets the value for the internal Relative X Position inside XY Panel with the ID 1 back to its default value.

11.5.339 WDXYPanelSetYPosRelative

WDXYPanelSetYPosRelative,'PanelID','Value'

Example:

WDXYPanelSetYPosRelative,1,22000

Sets the value for the internal Relative Y Position inside XY Panel with the ID 1 to 22000.

11.5.340 WDXYPanelResetYPosRelative

WDXYPanelResetYPosRelative,'PanelID'

Example:

WDXYPanelResetYPosRelative,1

Resets the value for the internal Relative Y Position inside XY Panel with the ID 1 back to its default value.

11.5.341 WDXYPanelSetDistanceRelative

WDXYPanelSetDistanceRelative,'PanelID','Value'

Example:

WDXYPanelSetDistanceRelative,1,18000

Sets the value for the internal Relative Distance inside XY Panel with the ID 1 to 18000.

11.5.342 WDXYPanelResetDistanceRelative

WDXYPanelResetDistanceRelative,'PanelID'

Example:

WDXYPanelResetDistanceRelative,1

Resets the value for the internal Relative Distance inside XY Panel with the ID 1 back to its default value.

11.5.343 WDXYPanelSetAngleRelative

WDXYPanelSetAngleRelative,'PanelID','Value'

Example:

WDXYPanelSetAngleRelative,1,18000

Sets the value for the internal Relative Angle inside XY Panel with the ID 1 to 18000.

11.5.344 WDXYPanelResetAngleRelative

WDXYPanelResetAngleRelative,'PanelID'

Example:
WDXYPanelsResetAngleRelative,1

Resets the value for the internal Relative Angle inside XY Panel with the ID 1 back to its default value.

11.5.345 WDEnable

WDEnable

Example:
WDEnable

Enables the GUI of Widget Designer if it was disabled before.

11.5.346 WDDisable

WDDisable

Example:
WDDisable

Disables the GUI of Widget Designer.

Please note, that you won't have ANY access to the WD GUI anymore!

Enable the GUI for example via the incoming command (WDEnable) in the [Remoting Tool](#). The used connection has to be established first.

11.5.347 WDLoad

WDLoad,'File'

Example:
WDLoad,C:\coolux\content Widget\test.wdp

Loads the file "test.wdp" from the specified directory without saving the current WD project.

11.5.348 WDNew

WDNew

Example:
WDNew

Creates a new WD project without saving the current WD project.

11.5.349 WDClose

WDClose

Example:
WDClose

Closes the current WD project. A pop-up dialog is going to ask you if you want to save the current changes.

11.5.350 WDCloseSilent

WDCloseSilent

Example:
WDCloseSilent

Closes the current WD project without saving it (there will be no pop-up dialog asking to save the project).

11.5.351 WDSave

WDSave

Example:
WDSave

Saves the current WD project.

11.5.352 WDSaveAs

WDSaveAs

Example:
WDSaveAs

Opens the WD "Save as" dialog.

11.5.353 ApplicationStart

ApplicationStart,'Filepath'

Example:
ApplicationStart,C:\program files\VideoLAN\VLC\vlc.exe

ApplicationStart,mspaint

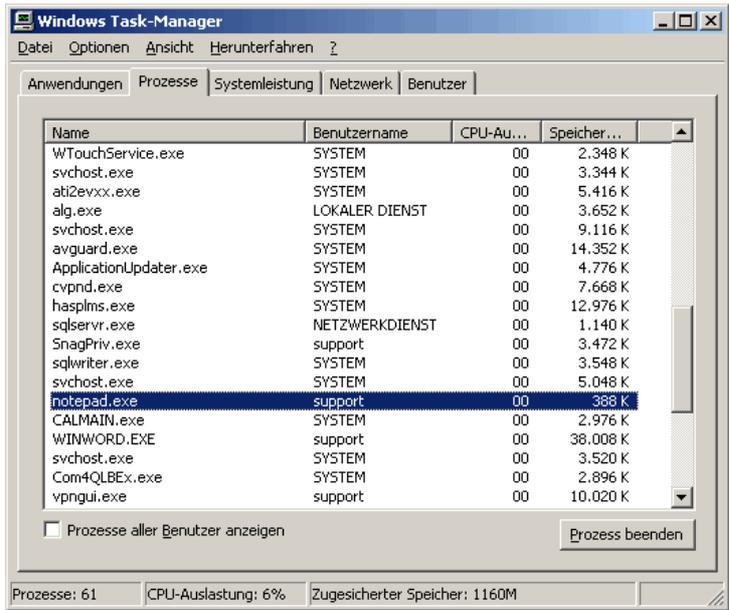
Starts the VLC Player and Microsoft Paint on the local WD computer.

11.5.354 ApplicationClose

ApplicationClose,'Processname'

Example:
ApplicationClose,notepad

Closes all running notepad applications. Please have a look into the windows taskmanager to get the correct process name of the running application you want to close, enter this name without ".exe".



11.5.355 Art-NetInputEnabled

Art-NetInputEnabled

Example:

Art-NetInputEnabled

Enables Art-Net Input in the [Connection Manager](#).

11.5.356 Art-NetInputDisabled

Art-NetInputDisabled

Example:

Art-NetInputDisabled

Disables Art-Net Input in the [Connection Manager](#).

11.5.357 Art-NetOutputEnabled

Art-NetOutputEnabled

Example:

Art-NetOutputEnabled

Enables Art-Net Output in the [Connection Manager](#).

11.5.358 Art-NetOutputDisabled

Art-NetOutputDisabled

Example:

Art-NetOutputDisabled

Disables Art-Net Output in the [Connection Manager](#).

11.5.359 Art-NetSetVal8bit

Art-NetSetVal8bit,'Subnet 0-15','Universe 0-15','Channel','Value 0-255'

Example:

Art-NetSetVal8bit,0,1,38,255

Sets the Channel 38 on Art-Net Subnet 0, Universe 1 to the value 255.

Art-Net Output needs to be enabled, see [Connection Manager](#).

11.5.360 Art-NetSetVal16bit

Art-NetSetVal16bit,'Subnet 0-15','Universe 0-15','Channel','Value 0-65535'

Example:

Art-NetSetVal16bit,0,1,41,255

Sets the Channel 41 on Art-Net Subnet 0, Universe 1 to the value 32768.

Please note, that the next channel you can control is now Channel 43 because of the 16 bit value sent to Channel 41 (and 42).

Art-Net Output needs to be enabled, see [Connection Manager](#).

11.5.361 Art-NetDisableUniverse

Art-NetDisableUniverse,'Subnet 0-15','Universe 0-15'

Example:

Art-NetDisableUniverse,0,1

Disables the Art-Net Output on Art-Net Subnet 0, Universe 1. The specified Art-Net Universe will be removed from the Universe List in the [Connection Manager](#).

11.5.362 Art-NetDisableAllUniverses

Art-NetDisableAllUniverses

Example:

Art-NetDisableAllUniverses

Disables the Art-Net Output on all Universes. This command clears the Universe List in the [Connection Manager](#).

11.5.363 COMStart

COMStart,'ID'

Example:

COMStart,1

Starts the COM Port Connection with the ID 1, see [Connection Manager](#).

11.5.364 COMStop

COMStop,'ID'

Example:
COMStop,1

Stops the COM Port Connection with the ID 1, see [Connection Manager](#).

11.5.365 COMSend

COMSend,'ID','Message'

Example:
COMSend,1,Play

Sends the message "Play" via the COM Port Connection with the ID 1, see [Connection Manager](#).

11.5.366 COMSendHex

COMSendHex,'ID','Message'

Example:
COMSendHex,1,Play

Sends the message "Play" in hexadecimal values via the COM Port Connection with the ID 1, see [Connection Manager](#).

See here the [DEC HEX ASCII Table](#).

11.5.367 COMSendDec

COMSendDec,'ID','Message'

Example:
COMSendDec,1,Play

Sends the message "Play" in decimal values via the COM Port Connection with the ID 1, see [Connection Manager](#).

See here the [DEC HEX ASCII Table](#).

11.5.368 DMXLinkInEnable

DMXLinkInEnable

Example:
DMXLinkInEnable

Enables the Widget Designer to receive values via the coolux DMX Link, see [Connection Manager](#).

11.5.369 DMXLinkInDisable

DMXLinkInDisable

Example:
DMXLinkInDisable

Disables the Widget Designer to receive values via the coolux DMX Link, see [Connection Manager](#).

11.5.370 DMXLinkInReset

DMXLinkInReset

Example:
DMXLinkInReset

Resets the value of all channels received via the coolux DMX Link, see [Connection Manager](#).

11.5.371 DMXLinkOutSetVal8bit,'Channel','Value 0-255'

DMXLinkOutSetVal8bit,'Channel','Value 0-255'

Example:
DMXLinkOutSetVal8bit,255,20

Sends out the value 20 on channel 255 via the coolux DMX Link, see [Connection Manager](#).

11.5.372 DMXLinkOutSetVal16bit,'Channel','Value 0-65535'

DMXLinkOutSetVal16bit,'Channel','Value 0-65535'

Example:
DMXLinkOutSetVal16bit,255,32768

Sends out the value 32768 on channel 255 via the coolux DMX Link, see [Connection Manager](#).

11.5.373 DMXLinkOutEnable

DMXLinkOutEnable

Example:
DMXLinkOutEnable

Enables the Widget Designer to send out values via the coolux DMX Link, see [Connection Manager](#).

11.5.374 DMXLinkOutDisable

DMXLinkOutDisable

Example:
DMXLinkOutDisable

Disables the Widget Designer to send out values via the coolux DMX Link, see [Connection Manager](#).

11.5.375 DMXLinkOutReset

DMXLinkOutReset
873

Example:
DMXLinkOutReset

Resets the value of all channels send out via the coolux DMX Link, see [Connection Manager](#).

11.5.376 EmailSend

EmailSend,'To','Subject','Message'

Example:
EmailSend,support@coolux.de,Question WD,What are the system requirements for running WD?

Sends an Email with the subject "Question WD" and the message "What are the system requirements for running WD?" to support@coolux.de.

Please use the [Email Settings Tool](#) first to setup all incoming and outgoing Email communication.

11.5.377 EmailSendAtt

EmailSendAtt,'To','Att','Subject','Message'

Example:
EmailSendAtt,support@coolux.de,C:\coolux\commandlist.txt,Question WD,Please explain the commands!

Sends an Email with the subject "Question WD", the message "Please explain the commands!" and the attachment "commandlist.txt" from the specified directory (C:\coolux\commandlist.txt) to support@coolux.de.

Please use the [Email Settings Tool](#) first to setup all incoming and outgoing Email communication.

11.5.378 EmailSendFromLabel

EmailSendFromLabel,'To','Subject From LabelID','Message From LabelID'

Example.
EmailSendFromLabel,support@coolux.de,1,2

Sends an Email with the text of Label 1 as subject and with the text of Label 2 as message to [support@coolux.de](#).

Please use the [Email Settings Tool](#) first to setup all incoming and outgoing Email communication.

11.5.379 EmailSendFromTextBox

EmailSendFromTextBox,'To','Subject From TextBoxID','Message From TextBoxID'

Example.
EmailSendFromTextBox,support@coolux.de,1,2

Sends an Email with the text of TextBox 1 as subject and with the text of TextBox 2 as message to [support@coolux.de](#).

Please use the [Email Settings Tool](#) first to setup all incoming and outgoing Email communication.

11.5.380 EmailSendDisable

EmailSendDisable

Example:
EmailSendDisable

When this script is executed, no email will be send out. Use the script EmailSendEnable to enable this function again.

Please use the [Email Settings Tool](#) to setup all incoming and outgoing Email communication.

11.5.381 EmailSendEnable

EmailSendEnable

Example:
EmailSendEnable

Enables the EmailSend function after it was disabled.

Please use the [Email Settings Tool](#) to setup all incoming and outgoing Email communication.

11.5.382 EmailServerSet

EmailServerSet,'EmailServerSmpt'

Example:
EmailServerSet,smtp.googlemail.com

Sets the SMTP Mail Server to smtp.googlemail.com, please see the [Email Settings Tool](#).

11.5.383 EmailAddressSet

EmailAddressSet,'EmailAddress'

Example:
EmailAddressSet,support@coolux.de

Sets the Email Address for the outgoing Email Server to "support@coolux.de", please see the [Email Settings Tool](#).

11.5.384 EmailUsernameSet

EmailUsernameSet,'Username'

Example:
EmailUsernameSet,'Username'

Sets the Email Username for the outgoing Email Server to "support", please see the [Email Settings Tool](#).

11.5.385 EmailPasswordSet

EmailPasswordSet,'Password'

Example:
EmailPasswordSet,SECRET

Sets the Email Password for the outgoing Email Server to "SECRET", please see the [Email Settings Tool](#).

11.5.386 EmailUseSSL,True

EmailUseSSL,True

Example:
EmailUseSSL,True

Checks the option "Use SSL" for the outgoing Email Server, please see the [Email Settings Tool](#).

11.5.387 EmailUseSSL,False

EmailUseSSL,False

Example:
EmailUseSSL,False

Disables the option "Use SSL" for the outgoing Email Server, please see the [Email Settings Tool](#).

11.5.388 EmailUseDefaultAuthentication,True

EmailUseDefaultAuthentication,True

Example:
EmailUseDefaultAuthentication,True

Checks the option "Use Default Authentication" for the outgoing Email Server, please see the [Email Settings Tool](#).

11.5.389 EmailUseDefaultAuthentication,False

EmailUseDefaultAuthentication,False

Example:
EmailUseDefaultAuthentication,False

Disables the option "Use Default Authentication" for the outgoing Email Server, please see the [Email Settings Tool](#).

11.5.390 OpenEmailSettings

OpenEmailSettings

Example:
OpenEmailSettings

Opens the [Email Settings Tool](#).

11.5.391 KeyboardKeyPress

KeyboardKeyPress,'Keycode'

Example:

KeyboardKeyPress,A

Executes a Keystroke with the character A.

The keys argument can specify any single key or any key combined with ALT, CTRL, or SHIFT (or any combination of those keys). Each key is represented by one or more characters, such as a for the character "a", or {ENTER} for the ENTER key.

To combine a key with SHIFT, precede the key code with + (plus sign).

To combine a key with CTRL, precede the key code with ^ (caret).

To combine a key with ALT, precede the key code with % (percent sign).

To specify repeating keys, use the form {key number}. You must put a space between key and number. For example, {LEFT 42} means "press the LEFT ARROW key 42 times"; {h 10} means "press 'h' 10 times."

The following table lists the codes that can be used to specify characters that are not displayed when you press the corresponding key (such as ENTER or TAB).

BACKSPACE {BACKSPACE} or {BS}, BREAK {BREAK}, CAPS LOCK {CAPSLOCK}, CLEAR {CLEAR}, DELETE {DELETE} or {DEL}, DOWN ARROW {DOWN}, END {END}, ENTER (numeric keypad) {ENTER}, ENTER ~, ESC {ESCAPE} or {ESC}, HELP {HELP}, HOME {HOME}, INS {INSERT}, LEFT ARROW {LEFT}, NUM LOCK {NUMLOCK}, PAGE DOWN {PGDN}, PAGE UP {PGUP}, RETURN {RETURN}, RIGHT ARROW {RIGHT}, SCROLL LOCK {SCROLLLOCK}, TAB {TAB}, UP ARROW {UP}, F1 through F15 {F1} through {F15}.

11.5.392 KinectStart

KinectStart

Example:

KinectStart

Starts the Kinect device. See [Kinect Tool](#).

11.5.393 KinectEnable

KinectEnable

Example:

KinectEnable

Enables the Kinect device. See [Kinect Tool](#).

11.5.394 KinectDisable

KinectDisable

Example:

KinectDisable

Disables the Kinect device. See [Kinect Tool](#).

11.5.395 KinectSetTilt

KinectSetTilt,'-8000>+8000'

Example:

KinectSetTilt,2500

Tilts the Kinect device via the integrated servo motor to the value 2500. As it can be tilted 27° up and down, the value 2500 is equivalent to ~8,5°. See [Kinect Tool](#).

11.5.396 KinectSetDepthThreshold

KinectSetDepthThreshold,'0-2047'

Example:

KinectSetDepthThreshold,1000

Sets the Depth Threshold to the value 1000. See [Kinect Tool](#).

11.5.397 KinectSetNearThreshold

KinectSetNearThreshold,'0-2047'

Example:

KinectSetNearThreshold,800

Sets the Near Threshold to the value 900. See [Kinect Tool](#).

11.5.398 KinectSetPoints

KinectSetPoints,'1-8'

Example:

KinectSetPoints,4

Changes the current amount of points to 4 points. See [Kinect Tool](#).

11.5.399 KinectSetBlur

KinectSetBlur,'0-15'

Example:

KinectSetBlur,8

Changes the blur option to the value 8. See [Kinect Tool](#).

11.5.400 KinectSetInflate

KinectSetInflate,'0-15'

Example:

KinectSetInflate,8

Changes the inflate option to the value 8. See [Kinect Tool](#).

11.5.401 KinectSetShrink

KinectSetShrink,'0-15'

Example:

KinectSetShrink,8

Changes the shrink option to the value 8. See [Kinect Tool](#).

11.5.402 KinectSetMinWidth

KinectSetMinWidth,'Value'

Example:

KinectSetMinWidth,50

Sets the minimum width of a point to the value 50 (px). See [Kinect Tool](#).

11.5.403 KinectSetMinHeight

KinectSetMinHeight,'Value'

Example:

KinectSetMinHeight,50

Sets the minimum height of a point to the value 50 (px). See [Kinect Tool](#).

11.5.404 KinectSetMaxWidth

KinectSetMaxWidth,'Value'

Example:

KinectSetMaxWidth,250

Sets the maximum width of a point to the value 250 (px). See [Kinect Tool](#).

11.5.405 KinectSetMaxHeight

KinectSetMaxHeight,'Value'

Example:

KinectSetMaxHeight,250

Sets the maximum height of a point to the value 250 (px). See [Kinect Tool](#).

11.5.406 KinectSetMaxDelta

KinectSetMaxDelta,'Value'

Example:

KinectSetMaxDelta,120

The Max Delta value defines how far a point is allowed to move (in px, related to the Kinects resolution of 640x480 px) between two frames in order to still be detected as point. In this example it is allowed to move 120 px within one frame to be still detected as the same point. See [Kinect Tool](#).

11.5.407 KinectSetDamping

KinectSetDamping,'Value'

Example:

KinectSetDamping,0.1

Sets the damping for the Kinect to 0,1.

The damping allows to reduce noisy input values. This value can be changed from 0,1 = maximum damping up to 1 = no damping, see [Kinect Tool](#).

11.5.408 KinectMouseModeDefault

KinectMouseModeDefault

Example:

KinectMouseModeDefault

Sets the Mouse Mode to default:

Default generates mouse down on enter and mouse up on leave, see [Kinect Tool](#).

11.5.409 KinectMouseModeOnEnter

KinectMouseModeOnEnter

Example:

KinectMouseModeOnEnter

Sets the Mouse Mode to OnEnter:

The click is generated on enter, see [Kinect Tool](#).

11.5.410 KinectMouseModeOnLeave

KinectMouseModeOn2ndHand

Example:

KinectMouseModeOn2ndHand

Sets the Mouse Mode to On2ndHand:

The click is generated as soon as a 2nd point (through the 2nd hand) is detected, see [Kinect Tool](#).

11.5.411 KinectMouseModeOn2ndHand

KinectMouseModeOnLeave

Example:

KinectMouseModeOnLeave

Sets the Mouse Mode to OnLeave:

The click is generated on leave, see [Kinect Tool](#).

11.5.412 KinectMouseModeEnable

KinectMouseModeEnable

Example:

KinectMouseModeEnable

Enables the mouse if Point1 input data should control the mouse of your WD computer, see [Kinect Tool](#).

11.5.413 KinectMouseModeDisable

KinectMouseModeDisable

Example:

KinectMouseModeDisable

Disables the mouse control via the Kinect, see [Kinect Tool](#).

11.5.414 KinectMouseEnableClick

KinectEnableClick

Example:

KinectEnableClick

If this option is enabled the mouse cursor generates clicks, see [Kinect Tool](#). You can choose between the following Mouse Modes:

[KinectMouseModeDefault](#)

[KinectMouseModeOnEnter](#)

[KinectMouseModeOnLeave](#)

[KinectMouseModeOn2ndHand](#)

11.5.415 KinectMouseDisableClick

KinectDisableClick

Example:

KinectDisableClick

If this option is disabled the mouse cursor controlled by the Kinect won't generate clicks, see [Kinect Tool](#).

11.5.416 LogitechPresenterR400Enable

LogitechPresenterR400Enabled

Example:

LogitechPresenterR400Enabled

Enables the Logitech Presenter R400.

11.5.417 LogitechPresenterR400Disable

LogitechPresenterR400Disabled

Example:

LogitechPresenterR400Disabled

Disables the Logitech Presenter R400.

11.5.418 MagicQActivatePlayback

MagicQActivatePlayback,'ID'

Example:

MagicQActivatePlayback,8

Activates (starts) the playback 8 within MagicQ

11.5.419 MagicQReleasePlayback

MagicQReleasePlayback,'ID'

Example:

MagicQReleasePlayback,8

Releases (stops) the playback 8 within MagicQ.

11.5.420 MagicQTestPlayback

MagicQTestPlayback,'ID'

Example:

MagicQTestPlayback,8

Sets the playback 8 in test mode within MagicQ: activates playback 8 and sets the level to 100%.

11.5.421 MagicQUntestPlayback

MagicQUntestPlayback,'ID'

Example:

MagicQUntestPlayback,8

Takes the playback 8 out of test mode within MagicQ: releases the playback 8 and sets the level to 0%.

11.5.422 MagicQGoOnPlayback

MagicQGoOnPlayback,'ID'

Example:

MagicQGoOnPlayback,8

Gives a Go on playback 8 within MagicQ.

11.5.423 MagicQStopOnPlayback

MagicQStopOnPlayback,'ID'

Example:

MagicQStopOnPlayback,8

Sets playback 8 within MagicQ to pause.

11.5.424 MagicQFastBackOnPlayback

MagicQFastBackPlayback,'ID'

Example:

MagicQFastBackOnPlayback,8

Goes back one step in the Cue Stack of Playback 8 without taking the step and fade times into account.

11.5.425 MagicQFastForwardOnPlayback

MagicQFastForwardPlayback,'ID'

Example:

MagicQFastForwardOnPlayback,8

Goes back one step in the Cue Stack of Playback 8 without taking the step and fade times into account.

11.5.426 MagicQChangePage

MagicQChangePage,'ID'

Example:

MagicQChangePage,11

Changes to playback page 11 within MagicQ.

11.5.427 MagicQPlaybackLevel

MagicQPlaybackLevel,'ID','Level'

Example:

MagicQPlaybackLevel,8,90

11.5.428 MidiInputEnabled

MidiInputEnabled

Example:

MidiInputEnabled

Enables Midi Input in the [Connection Manager](#). Please choose a Midi Device first.

11.5.429 MidiInputDisabled

MidiInputDisabled

Example:

MidiInputDisabled

Disables the Midi Input in the [Connection Manager](#).

11.5.430 MidiOutputEnabled

MidiOutputEnabled

Example:

MidiOutputEnabled

Enables Midi Output in the [Connection Manager](#). Please choose a Midi Device first.

11.5.431 MidiOutputDisabled

MidiOutputDisabled

Example:

MidiOutputDisabled

Disables the Midi Output in the [Connection Manager](#).

11.5.432 MidiSendRawMsg

MidiSendRawMsg,'Status','Channel','Data1','Data2','Data3'

Example:

MidiSendRawMsg,10,11,128,0,0

Sends a Midi Raw Message with the 5 Midi control bytes 10,11,128,0,0.

The Midi connection needs to be enabled in the [Connection Manager](#).

11.5.433 MidiSendNoteOn

MidiSendNoteOn,'Channel 1-16','Note C0-G10','Velocity 0-127'

Example:

MidiSendNoteOn,1,E5,80

Sends the Midi Note On command to Note E5 on channel 1 with velocity 80.

The Midi connection needs to be enabled in the [Connection Manager](#).

11.5.434 MidiSendNoteOff

MidiSendNoteOff,'Channel 1-16','Note C0-G10'

Example:

MidiSendNoteOff,1,E5

Sends the Midi Note Off command to Note E5 on channel 1.

The Midi connection needs to be enabled in the [Connection Manager](#).

11.5.435 MidiSendProgramChange

MidiSendProgramChange,'Channel 1-16','Program 0-127'

Example:

```
MidiSendProgramChange,1,20
```

Changes the current program for Midi channel 1 to the programm 20.

The Midi connection needs to be enabled in the [Connection Manager](#).

11.5.436 MidiSendControlChange

```
MidiSendControlChange,'Channel 1-16','Control 0-127','Value 0-127'
```

Example:

```
MidiSendControlChange,1,35,127
```

Sets the Control 35 on Midi Channel 1 to the value 127.

The Midi connection needs to be enabled in the [Connection Manager](#).

11.5.437 MouseMove

```
MouseMove,xPos,yPos
```

Example:

```
MouseMove,200,100
```

Moves the mouse cursor to the X Position 200 px and Y Position 100 px.

Tip:

If you want to display the current mouse values, create a [Mouse Input Node](#) and see its Item Properties.

11.5.438 MouseLeftClick

```
MouseLeftClick
```

Example:

```
MouseLeftClick
```

Executes a Mouse Left Click.

11.5.439 MouseRightClick

```
MouseRightClick
```

Example:

```
MouseRightClick
```

Executes a Mouse Right Click.

11.5.440 OpenConnectionManager

```
OpenConnectionManager
```

Example:

```
OpenConnectionManager
```

Opens the [Connection Manager](#).

11.5.441 OpenArt-NetMonitor

OpenArt-NetMonitor

Example:
OpenArt-NetMonitor

Opens the [Art-NetMonitor](#).

11.5.442 OpenArt-NetUniverseList

OpenArt-NetUniverseList

Example:
OpenArt-NetUniverseList

Opens the Art-Net Universe List, see [Connection Manager](#).

11.5.443 OpenCITPBrowser

OpenCITPBrowser

Example:
OpenCITPBrowser

Opens the Thumbnail Browser, see [Network Configuration](#).

11.5.444 OpenEventEditor

OpenEventEditor

Example:
OpenEventEditor

Opens the [Event Editor Tool](#).

11.5.445 OpenHelp

OpenHelp

Example:
OpenHelp

Opens this Help File.

11.5.446 OpenIPConfiguration

OpenIPConfiguration

Example:
OpenIPConfiguration

Opens the [IP Configuration](#) dialog.

11.5.447 OpenKeyboardShortcuts

OpenKeyboardShortcuts

Example:

OpenKeyboardShortcuts

Opens the [Keyboard Shortcut Editor](#).

11.5.448 OpenKinectDialog

OpenKinectDialog

Example:

OpenKinectDialog

Opens the [Kinect Tool](#).

11.5.449 OpenLoadFileDialog

OpenLoadFileDialog

Example:

OpenLoadFileDialog

Opens the "Load File" dialog in WD to load an existing project.

11.5.450 OpenMacroEditor

OpenMacroEditor

Example:

OpenMacroEditor

Opens the [Macro Editor](#) dialog in WD.

11.5.451 OpenMidiNoteEditor

OpenMidiNoteEditor

Example:

OpenMidiNoteEditor

Opens the [Midi Note Editor](#).

11.5.452 OpenRemotInput

OpenRemotInput

Example:

OpenRemotInput

Opens the [Remote Input Tool](#).

11.5.453 OpenSaveAsFileDialog

OpenSaveAsFileDialog

Example:

OpenSaveAsFileDialog

Opens the "Save as" dialog in WD to save the current project to a different name and directory.

11.5.454 OpenSMSSettings

OpenSMSSettings

Example:

OpenSMSSettings

Opens the [SMS Settings Tool](#).

11.5.455 OpenTrackCamProperties

OpenTrackCamProperties

Example:

OpenTrackCamProperties

Opens the [Track Cam Tool](#) (Beta).

11.5.456 PHAdvServoEnable

PHAdvServoEnable,'ID'

Example:

PHAdvServoEnable,1

Enables the Controller for the first Phidget Advanced Servo Motor.

11.5.457 PHAdvServoDisable

PHAdvServoDisable,'ID'

Example:

PHAdvServoDisable,1

Disables the Controller for the first Phidget Advanced Servo Motor.

11.5.458 PHAdvServoSetPosition

PHAdvServoSetPosition,'ID','Pos'

Example:

PHAdvServoSetPosition,2,100

Sets the position of the second Phidget Advanced Servo Motor to 100.

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11.5.459 PHAdvServoSetVelocity

PHAdvServoSetVelocity,'ID','Pos'

Example:

PHAdvServoSetVelocity,1,50

Sets the velocity of the first Phidget Advanced Servo Motor to 50.

11.5.460 PHAdvServoSetAcceleration

PHAdvServoSetAcceleration,'ID','Pos'

Example:

PHAdvServoSetAcceleration,1,5

Sets the acceleration of the first Phidget Advanced Servo Motor to 5.

11.5.461 PHAdvServoSpeedRampingOn

PHAdvServoSpeedRampingOn,'ID'

Example:

PHAdvServoSpeedRampingOn,3

Enables the Speed Ramping of the third Phidget Advanced Servo Motor.

11.5.462 PHAdvServoSpeedRampingOff

PHAdvServoSpeedRampingOff,'ID'

Example:

PHAdvServoSpeedRampingOff,3

Disables the Speed Ramping of the third Phidget Advanced Servo Motor.

11.5.463 PHIREnable

PHIREnable

Example:

PHIREnable

Enables the IR Phidget Controller.

11.5.464 PHIRDisable

PHIRDisable

Example:

PHIRDisable

Disables the IR Phidget Controller.

11.5.465 PHIRSend

PHIRSend,'IRAlias'

Example:
PHIRSend,abc

Sends the learned IR Alias code "abc" via the IR Phidget Controller. Please use the [Phidgets IR Receiver / Transmitter Tool](#) to create these IR Alias.

11.5.466 PHRFIDEnable

PHRFIDEnable

Example:
PHRFIDEnable

Enables the RFID Phidget Controller.

11.5.467 PHRFIDDisable

PHRFIDDisable

Example:
PHRFIDDisable

Disables the RFID Phidget Controller.

11.5.468 PlaySound

PlaySound,'Filename'

Example:
PlaySound,C:\Coolux\media\instrument.wav

Plays the wave file "instrument.wav" from the specified directory. Please note, that WD does not play another format than wave files.

11.5.469 SMPTELinkModeNone

SMPTELinkModeNone

Example:
SMPTELinkModeNone

Sets the SMPTE Link Mode to "None", see [Connection Manager](#).

11.5.470 SMPTELinkModeSend

SMPTELinkModeSend

Example:
SMPTELinkModeSend

Sets the SMPTE Link Mode to "Send", see [Connection Manager](#).

11.5.471 SMPTELinkModeReceive

SMPTELinkModeReceive

Example:

SMPTELinkModeReceive

Sets the SMPTE Link Mode to "Receive", see [Connection Manager](#).

11.5.472 SMPTELinkSet

SMPTELinkSet,00:00:00:00

Example:

SMPTELinkSet,00:01:50:10

Sets the SMPTE Link to timecode 00:01:50:10 (hh:mm:ss:ff), see [Connection Manager](#).

11.5.473 SMSSend

SMSSend,PhoneNumber,Message

Example:

SMSSend,00492211306540,Test

Sends an SMS with the message "Test" to the phone number "00492211306540".

Setup your GSM modem in the [SMS Settings Tool](#) first to be able to receive and send SMS via the Widget Designer.

11.5.474 SMSSendDisable

SMSSendDisable

Example:

SMSSendDisable

When this script is executed, no sms will be send out. Use the script SMSSendEnable to enable this function again.

Setup your GSM modem in the [SMS Settings Tool](#) first to be able to receive and send SMS via the Widget Designer.

11.5.475 SMSSendEnable

SMSSendEnable

Example:

SMSSendEnable

Enables the SMSSend function after it was disabled.

Setup your GSM modem in the [SMS Settings Tool](#) first to be able to receive and send SMS via the Widget Designer.

11.5.476 SystemShutdown

SystemShutdown

Example:
SystemShutdown

Shuts down the local WD computer without that you have to confirm it.

11.5.477 TCPStart

TCPStart,'ID'

Example:
TCPStart,1

Starts the TCP Connection with the ID 1, see [Connection Manager](#).

11.5.478 TCPStop

TCPStop,'ID'

Example:
TCPStop,1

Stops the TCP Connection with the ID 1, see [Connection Manager](#).

11.5.479 TCPSend

TCPSend,'ID','Message'

Example:
TCPSend,1,Play

Sends the message "Play" via the TCP Connection with the ID 1, see [Connection Manager](#).

Via TCP-, UDP- and COM Port nodes incoming or outgoing values can be entered as string, decimal or hexadecimal values, see [Syntax TCP-/UDP-/Serial Messages](#).

Example:
Use [d13] to enter one or multiple decimal values.
Use [h0D] to enter one or multiple hexadecimal values.
Use [CR] to enter ASCII symbols.

Mixed values are also possible:
[d13 h0D CR]Example String[CR].

11.5.480 TCPSendHex

TCPSendHex,'ID','Message'

Example:
TCPSendHex,1,Play

Sends the message "Play" in hexadecimal values via the TCP Connection with the ID 1, see [Connection Manager](#).

See here the [DEC HEX ASCII Table](#).

11.5.481 TCPSendDec

TCPSendDec,'ID','Message'

Example:

TCPSendDec,1,Play

Sends the message "Play" in decimal values via the TCP Connection with the ID 1, see [Connection Manager](#).

See here the [DEC HEX ASCII Table](#).

11.5.482 UDPSendToPort

UDPSendToPort,'Port','Message'

Example:

UDPSendToPort,32,Play

Sends the message "Play" via UDP to Port 32.

Via TCP-, UDP- and COM Port nodes incoming or outgoing values can be entered as string, decimal or hexadecimal values, see [Syntax TCP-/UDP-/Serial Messages](#).

Example:

Use [d13] to enter one or multiple decimal values.

Use [h0D] to enter one or multiple hexadecimal values.

Use [CR] to enter ASCII symbols.

Mixed values are also possible:

[d13 h0D CR]Example String[CR].

11.5.483 UDPStart

UDPStart,'ID'

Example:

UDPStart,1

Starts the UDP Connection with the ID 1, see [Connection Manager](#).

11.5.484 UDPStop

UDPStop,'ID'

Example:

UDPStop,1

Stops the UDP Connection with the ID 1, see [Connection Manager](#).

11.5.485 UDPSend

UDPSend,'ID','Message'

Example:
UDPSend,1,Play

Sends the message "Play" via the UDP Connection with the ID 1, see [Connection Manager](#).

Via TCP-, UDP- and COM Port nodes incoming or outgoing values can be entered as string, decimal or hexadecimal values, see [Syntax TCP-/UDP-/Serial Messages](#).

Example:
Use [d13] to enter one or multiple decimal values.
Use [h0D] to enter one or multiple hexadecimal values.
Use [CR] to enter ASCII symbols.

Mixed values are also possible:
[d13 h0D CR]Example String[CR].

11.5.486 UDPSendHex

UDPSendHex,'ID','Message'

Example:
UDPSendHex,1,Play

Sends the message "Play" in hexadecimal values via the UDP Connection with the ID 1, see [Connection Manager](#).

See here the [DEC HEX ASCII Table](#).

11.5.487 UDPSendDec

UDPSendDec,'ID','Message'

Example:
UDPSendDec,1,Play

Sends the message "Play" in decimal values via the UDP Connection with the ID 1, see [Connection Manager](#).

See here the [DEC HEX ASCII Table](#).

11.6 CHANGELOG

Rev 184

Feature

-Kinect Input Node support Bounding Box per detected Point 1-8 X/Y Pos & Width/Height

Bugfix

-Output Script Node Double to String Comparison Fixed

-Fader/Wheel&Encoder Mouse Leave fixed

-Fixed Restarting and "TCPStart,'ID'" Script for Multi-Client and Single-Client TCP Server connections

-Fixed Re-starting and "UDPStart,'ID'" Script for Broadcast and Multi-Cast UDP connections

Rev 182/183

Features

New Scripts:

"WDScreenshot,'FileName'"

"WDScreenshotWithTime,'FileName'"

"WDScreenshotDialog"

"WDScreenshotRegion,'X','Y','Width','Height','FileName'"

"WDScreenshotRegionWithTime,'X','Y','Width','Height','FileName'"

"WDScreenshotRegionDialog,'X','Y','Width','Height'"

"WDCloseSilent"

The following scripts allow to use a textbox to generate dynamic scripts to be executed at any given time

"WDTextboxAppend,'ID','Value'"

"WDTextboxNewline,'ID'"

"WDTextboxExecuteAsScript,'ID'"

"WDArtNetRecorderGotoFrame,'ID','Frame'"

Bugfix

-decimal point in number input for scripts fixed

-Replay Art-Net Recordings Fixed

-TCP&COM Script Nodes "Null" Filtering implemented, these scripts accept ASCII input only!

Es fehlen noch P1 / P2 beim Airscan Tool!

Rev 181

-Kinect Safe Region optimized to crop off all objects outside the Region

Bugfix

-Projects with Kinect load correctly under Win7 fixed

Rev 179

-Kinect Safe Region optimized, new check box to enable new points only when inside the saferegion

Bugfix

-On close all remaining script threads are terminated

-On close and load file access to Cancel Dialog fixed

-General node processing performance optimization for WD PRO

Rev 178

Bugfix

- ScriptTimer BG Fixed on paste

- Wheel orientation Handle File Change/Load

- FlipSwitch/Scroller ID change fixed

Rev 177

Feature

895

-New ScriptTimer Control

New Scripts:

"WDScriptTimerStart,'ID'"

"WDScriptTimerStop,'ID'"

"WDScriptTimerInterval,'ID','Value'"

"WDScriptTimerRunOnce,'ID'"

"WDScriptTimerRunContinuous,'ID'"

Bugfix

-Wheel/Encoder Handle Image fixed

Rev 175

Feature

-Kinect Active Region Added

-New "KinectStart" Script

Bugfix

-Paste Angular Display does not corrupt file on save

Rev 174

Feature

-New Scroller Control

-New Flipswitch Control

-AirScan Dynamic Motion Damping (Improves the stability of the Touch point in motion and stabilizes the points when not moving)

-AirScan MaxDelta to determine maximum Speed for Multi touch Point Tracking

-AirScan MultiPoint Input Node outputs detected active point count

-Camera Point Tracker now supports up to 99 Objects/Points

-Camera Point Tracking Input Node added, incl. detected active point count

-Kinect Input Node outputs active point count

Bugfix

-Loading Z-Order Fader,Encoder,Wheels Fixed

-ID Change on all Controls - Page update fixed

Rev 173

Feature

-Multit-Touch Panel now supports 2 Devices per Touchitem (for example a shadow is on a separate layer)

-Kinect Point Depth precision optimized

Bugfix

-Load Last Config fixed

-Load MidiOutput Device fixed

-Fader Output Node enhanced

-Label import drag mode disabled

Rev 172

Bugfix

-Variables for WDWait fixed

-Variables for WDFaderScripts fixed

-Show Fullscreen Mask in Kinect Dialog when Points=0 - currently built-in for evaluation purposes

-Loading Pages on project load fixed

-Node property dialog fixed: Multitouchpanelpoint

-FadeToValue Script fixed

-Encoder fix

Rev171

Bugfix

-VNC fix

-CueList fix

Rev170/169/168

Feature

-Skinning can be turned on and off in Gui properties

-New Script:

"WDTextInputClear,'ID'"

"WDTextboxClear,'TXTBoxID'"

BugFix

-Webbrowser works on Win7

-Text Input Load fixed

Rev167

Bugfix

-Multi-Touch panel re-load error fixed

Rev 166

-Scripts resorted

Bugfix

-MuteNode On Page Change fixed

-Scrollbars fixed

Rev 165

Feature

-ImageLoader can now also copy video and audio files - image resizing parameters do not apply

-Multi-Touch Panel iphone WD Remote v1.1 support implemented

-Variable Double Calculation optimized

-BCD2000 Dialog fixed

-New ODSL30 Input Node

Installer FIX

Correct Kinect Driver DLL is in installer

Bugfix

-Load project non-existing page loading fixed

-UPD ASCII stream output fixed

-UDP/TCP ASCII stream output updates only on value change

-MultiTouch Panel Min Max Rotate fixed works between(-360 and +360°)

Rev 164

Feature

-New AirScan Multi-Point input node

-New Multi-Touch Panel Point input node

New Script:

"WDScreenshotDialog"

Bugfix

-Right Click Menu opening performance optimized

-Import Old Revisions Re-Save Backupfile generation error fixed

-Page loading after import old project fixed

-MultiTouch Input and node fixed

Rev 163

Bugfix

-Fix Feature repaired

-Page changes optimized

Rev 160

897

Feature

- New Multitouch Item input node
- Page initialization optimized on project load
- AirScan Point offset for Multi-Point mode, this allows to run WD on a secondary screen
- New Label drag mode

New Scripts:

```
"WDMediaPanelSetNextFolder,'id'"
"WDMediaPanelSetPreviousFolder,'id'"
"WDScreenshot,'FileName'"
```

```
"SeqSetCuePlayMode,'SeqID','CueID','Play/Pause/Stop/Jump/Wait'"
"SeqSetNextCuePlayMode,'SeqID','Play/Pause/Stop/Jump/Wait'"
"SeqSetIgnoreNextCue,'SeqID'"
"SeqSetDoNotIgnoreNextCue,'SeqID'"
```

Bugfix

- TCP/UDP/Com edit fixed
- HTTP Remoting Win7 fixed WD must run as Administrator in order to use this feature!
- TCP Remoting fixed

Rev 159

Kinect Driver Update!

-CL Nui DLL change to CL-NUI-Platform-1.0.0.1210 this driver MUST be used in order to work with the Kinect device.

It provides more stability and faster image processing

Feature

- Faster Page switching and control redrawing
- Page Enter Leave Scripts
- AutoSort Pages on creation and edit
- FaceTracker multiple tracking options

New Scripts:

Show/Hide any Control outside of its page context

This way you can unhide a control that originates from another page

```
"WDControlShow,'ControlName'"
"WDControlHide,'ControlName'"
```

Bugfix

- Label Input node fixed
- Mediapanel script crash fixed
- MotionMask delete fixed
- UPD/TCP/COM Connection rename ID fixed

Rev 158

- AirScan Safezone optimized

New Scripts:

```
"WDAirScanMultiPointModeEnabled"
"WDAirScanMultiPointModeDisabled"
```

```
"WDNodeSetParamFromNodeInputValue,'NodeID','ParamID','SourceNodeID','SourceNodeInParamID'"
"
```

```
"WDNodeSetParamFromNodeOutputValue,'NodeID','ParamID','SourceNodeID','SourceNodeOutParamID'"
"
```

```
"WDKeyboardShortCutsEnable"
"WDKeyboardShortCutsDisable"
```

"ResourceSetTextUnicode,FolderID,FileID,Text"
 "ResourceGetTextFromLabelUnicode,LabelID,FolderID,FileID"
 "ResourceGetTextFromTextboxUnicode,LabelID,FolderID,FileID"

-Custom Script Buttons can now be coloured by selecting a tint colour, this applies only to the default button images

Bugfix

-Keyboard Shortcuts arrow left right up down
 -Contains Text node state output
 -Dropdown Node list reset

Rev 157&156

Important Change Notice:

Video Input Displays manage their own video inputs the video input tool is no longer needed and available.

Each Video Input can be connected to a unique Video Input device only.

For import of older projects video inputs need to be re-assigned in the video input property dialog.

Features

-New Custom Node for the CDS Automation for Beatles Love Mirage
 -New Vertical and Horizontal Wheel control
 -New Wheel input node
 -New Encoder control
 -New Encoder input node
 -New Scripts:
 "WDWheelGoUp,'ID','Value'"
 "WDWheelGoDown,'ID','Value'"
 "WDWheelValue,'ID','Value'"
 "WDWheelFactor,'ID','Value'"

"WDEncoderGoUp,'ID','Value'"
 "WDEncoderGoDown,'ID','Value'"
 "WDEncoderValue,'ID','Value'"
 "WDEncoderFactor,'ID','Value'"

-Pages can created with password protection
 -New Edit Page function to change page name and password settings

-AirScan safe zone added for multipoint mode - this makes the detection of point on the border of the active region more robust.

-MSC Output Scripts

"MSCSend,'DeviceID','Type','Comand'"
 "MSCSend,'DeviceID','Type','Comand','Cue'"
 "MSCSend,'DeviceID','Type','Comand','Cue','CueList'"
 "MSCSend,'DeviceID','Type','Comand','Cue','CueList','CuePath'"

DeviceID: All or [h0] to [h6F]

Type: All, Lighting, Video, Projection

Comand: Go, Stop, Resume, Reset, Go_Off

Cue: x.yyy

Note:

It is possible that the Phidgets RFID do work only under Win7.

App hang has occured on XP when a RFID Tool and RFID Script Node Property Window is open at the same time

Brush

-All script textboxes now paste selected scripts to the current cursor position in the script textbox
 -iPhone WD Remote Mouse modes converted to WD 3.0

- WD Viewer never asks to save file on app close
- In WD PRO double click on node opens its property dialog
- In WD PRO when in move or create mode double click on item opens its property dialog

Bugfix

- iPhone RemoteInput doe not interfere with connections on load and causes projects with multiple tcp connections to be unloadable
- iPhone connection and mouse mode load save fixed

Rev 155

Feature

- Facetracking input node: added width and height of bounding box

Bugfix

- MultitouchPanel device number reload fixed
- DampingTimed node can be be reset
- Grid Size Load Save added

Rev 154

Bugfix

- Save overwrite fixed

Rev 153

Feature

- New Script "DeviceSetIp,'SiteID','IPAddress'"

Bugfix

- msvc71.dll and msvcr71.dll added for pbcamtrack.dll compatibility to Win7 Home 32bit
- Importer Rev 151 & 152 fixed

Rev 152

Feature

- On WD close Message if tools or items have been changed File Changed Message appears.

New Scripts:

"WDCustomScriptSilentClickToggleAll"

"WDCustomScriptSilentReleaseToggleAll"

"DeviceSetIp,'SiteID','IPAddress'" with latest PB 4.7 version (newer than 25.01.2011)

Bugfix

- Variable Input Node now inits with 0
- On New and Load Phidgets are disabled not re initialized
- On New and XP systems all items are now removed
- Save & overwrite existing file after re-open of WD now works on MS XP

Bugfix

- New Skinning dll should fix WIn7 32bit open file dialog crash

Rev 151

- Multi-Touch Panel Create and Load error fixed

Rev 150

- Load Save for Win XP fixed due to Kinect incompatibility
- Phidget Adv Servo load error fixed on connected servos

Rev 149

- PB Text Unicode output finalized

Rev 144

- Mechanism built-in that the Kinect Device runs only on Win7

Rev 143

*Important Notice Regarding Kinect Device usage:

Kinect driver from codelaboratories is still an early version and seems to run stable on WIN7 only. When the Kinect Device is connected to a Win7 system there might be a driver conflict when using Logitech USB cameras at the same time.

Rev 141

*Important Notice regarding Multi-Touch Input on Win7:

The Tablet Service must be active in order for Win7 to provide the multi touch data.

-New PBTextUnicode Output Node

This node allows to send textstrings in any language format to Pandoras Box text assets

Feature

New Scripts

"WDMultiTouchStoreDefaults,'ID'"

"WDMultiTouchApplyDefaults,'ID'"

"WDMultiTouchEnableMouse,'ID'"

"WDMultiTouchDisableMouse,'ID'"

"WDMultiTouchEnableGestures,'ID'" 'For Synaptics Touch Pads and Wacom Bamboo Devices

"WDMultiTouchDisableGestures,'ID'" 'For Synaptics Touch Pads and Wacom Bamboo Devices

"WDMultiTouchEnableTouch,'ID'"

"WDMultiTouchDisableTouch,'ID'"

"WDMultiTouchEnableAirScan,'ID'"

"WDMultiTouchDisableAirScan,'ID'"

"WDMultiTouchEnableKinect,'ID'"

"WDMultiTouchDisableKinect,'ID'"

"WDMultiTouchEnableCamera,'ID'"

"WDMultiTouchDisableCamera,'ID'"

"WDMultiTouchEnableIPhone,'ID'"

"WDMultiTouchDisableIPhone,'ID'"

Rev 140

Feature

-AirScan new Multi Touch Mode finished

-Camera Tracking Multi Touch implemented

-Kinect Performance improvement, Do not use Kinect Dialog in Show mode (The rendering of the Depth Camera requires too much system performance)

-Multi-Touch Panel Multi-User Multi-Touch enabled for Kinect, AirScan, Camera Tracking and generic Multi-Touch Input Devices (Win7)

-Multi-Touch Panel Performance mode (Draw Outlines) to enable support of 48 simultaneous Touchitems

-Multi-Touch Panel Bounding Box and Region Check implemented

-Simultaneous redraw of multiple Fader movements optimized

New Scripts

"WDMacroBoxOkCancel,Title,Content,MacroName1,MacroName2"

"WDMacroBoxYesNo,Title,Content,MacroName1,MacroName2"

Bugfix

-Multi-Touch Panel Touch Item enter/leave events fixed

Rev 139

Feature

-New Cuelist control for Scripts with JumpCues & Auto-Follow WaitTimes

-New Cuelist Scripts:

"WDCueListGO,'ID'"

"WDCueListPause,'ID'"

"WDCueListGo-, 'ID'"
 "WDCueListRecall, 'ID'"
 "WDCueListGotoCue, 'ID', 'Cue'"
 "WDCueListPrevCue, 'ID'"
 "WDCueListNextCue, 'ID'"
 "WDCueListFirstCue, 'ID'"
 "WDCueListLastCue, 'ID'"
 "WDCueListResetJumps, 'ID'"
 "WDCueListCancelWaits, 'ID'"

-GPS Comport Input node, compatible with NMEA 0183 - with GPGGA dataformat, tested with Navilock USB GPS Input device

Bugfix

-Video input displays load and save fixed
 -Import of video input displays needs re apply of video input source to display item
 -Art-Net Input on/off switching fixed, once Art-Net input is started the input will be muted by the checkbox in the connection manager
 -Faderoutputnode all importers fixed
 -Audio Inputnode more robust on low memory

Rev 138

Feature

-Connect Node over Pages, allows to connect nodes on different pages, to do this when dragging the connect node line press page up or down to navigate to the desired page
 -Loadfile automatically imports old projects
 -New Variable input node
 -New Math filter node Sum, that allows to sum up all input values attached. This is useful when connecting many delta nodes to determine easily when one of them has changed its value.
 Like is anything changed or moving.

Bugfix

-Artnet recorder play via script fixed
 -First save action after openfile fixed
 -Artnet outputnode load

Rev 137

Feature

-Custom Script Mute Option with Time in milliseconds:
 set a specific time in milliseconds for a custom script click script to be muted (not executed)
 this protects a customscript from accidental double clicks

Rev 136

Feature

-Art-Net Output Node support output to multiple 8 or 16 bit channels
 simply type in all DMX startaddresses and use a white space inbetween them i.e.: 1 2 123

Rev 135

Feature

-Import Rev133 added

Rev 134

Change

-TextInput Scripts Name Changed
 -Scripts Resorted
 -Loading optimized all Midi and Keyboard inputs can now be enabled/disabled
 -Video inputs are only loaded when inuse

-Widget Project Files are stored as bundles from now on with all resource files(images videos etc,...)

Features

New Scripts:

"WDFaderAbortFade,'ID'"

"WDWaitCancelItem,ItemName"

New Fader Script:

"WDFadeToValue,'ID','Seconds','Value'"

New Scripts to create variables and use them

"VString,Name,Value"

"VInt,Name,Value"

"VDouble,Name,Value"

"VDelete,Name"

"VDeleteAll"

"VValue,VarName,Value"

"VGetNodeVal,VarName,NodeID,ParamID"

"VGetFaderVal,VarName,FaderID"

"VGetLabelText,VarName,LabelID"

"VMultiply,VarName,Var1,Var2"

"VDivide,VarName,Var1,Var2"

"VAdd,VarName,Var1,Var2"

"VSubtract,VarName,Var1,Var2"

"VPow,VarName,Var1,Var2"

"V.Sqrt,VarName,Var1"

New Tool: Variablelist

All scripts support variablenames as input values

Bugfix

-MotionMask Script Decimal Value input fixed

Rev 133

Feature

-Connection Manager Art-Net output has a new option to support Artistic Licence devices that require a reuse udp port option

-New Phidget RFID Receiver implemented (P/N 2002)

-New Phidget RFID Script Node implemented

-New Phidget IR Scripts:

"PHRFIDEnable"

"PHRFIDDisable"

Rev 132

Bugfix

Art-Net Recorder on delete item stop looped playback fixed

Rev 131

Bugfix

Art-Net Recorder In/Out Frame fixed

Rev 130

Feature

-Mouse Output Node only moves the mouse when input value has changed

-New Script to display a message box that blocks the UI

"WDMessageBox,Title,Content"

-New Fader Script to stop and abort all currently running fades

"WDFaderAbortAllFades"

Rev 129

Feature

-New Phidget IR transmitter receiver implemented (P/N 1055)

This Tool allows sending and receiving of IR Codes

Received IR Codes can be learned and stored with an Alias name for use in Scripts to retransmit the code.

This way you any remote control ir code can be recorded and send via Scripts

-New Phidget IR Scripts:

"PHIREnable"

"PHIRDisable"

"PHIRSend,'IRAlias'"

-New Phidget IR Script Node - allows to link scripts to incoming IR Codes

-New PB Automation.dll

-New PB Text Scripts (available with Pandoras Box Rev 4982 and higher)

"ResourceSetTextSize,FolderID,FileID,Width,Height"

"ResourceSetTextFullSize,FolderID,FileID"

"ResourceSetTextCentered,FolderID,FileID"

"ResourceSetTextStyle,FolderID,FileID,Font,Size,Style,Alignment,Red,Green,Blue"

Style: Regular, Bold, Italic, BoldItalic, Underline

Alignment: Left, Center, Right

Bugfix:

-Show Help is fixed

-On Open Phidgets Dialogs WD checks if the Phidgets Manager is installed and running, otherwise this leads to crashes and malfunctioning of WD if the Phidget driver is not available

Rev 126

Feature

-New Kinect Driver Support preliminary driver from CL NUI

Please install the Platform driver first in order to use Kinect within Widget.

The Kinect must be plugged in for the Driver to work otherwise it will terminate the WD application when no device is attached.

The driver is currently a preliminary one, as soon as there are updates we will look into integrating them.

The Kinect Implementation currently supports node only, (Multi Touch input to the Multi-Touch Panel is not implemented in this Revision yet)

-Kinect Input Node for capturing up to 8 filtered and tracked points/regions of interest

-Kinect Scripts:

"KinectEnable"

"KinectDisable"

"KinectSetTilt,'-8000>+8000'"

"KinectSetDepthThreshold,'0-2047'"

"KinectSetNearThreshold,'0-2047'"

"KinectSetPoints,'1-8'"

"KinectSetBlur,'0-15'"

"KinectSetInflate,'0-15'"

"KinectSetShrink,'0-15'"

"KinectSetMinWidth,'value'"

"KinectSetMinHeight,'value'"

"KinectSetMaxWidth,'value'"

"KinectSetMaxHeight,'value'"

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"KinectSetMaxDelta,'value'"

-New Changelog Viewer In R-Click Menu

-New Phidget (www.phidgets.com) Advanced Servo Controller (P/N 1061) implemented.

The Phidget advanced Servo provides an interface to control 8RC analog servo motors.

Use the following Scripts to change acceleration, maximum velocity and position.

"PHAdvServoEnable,'ID'"

"PHAdvServoDisable,'ID'"

"PHAdvServoSetPosition,'ID','Pos'"

"PHAdvServoSetVelocity,'ID','Pos'"

"PHAdvServoSetAcceleration,'ID','Pos'"

"PHAdvServoSpeedRampingOn,'ID'"

"PHAdvServoSpeedRampingOff,'ID'"

Rev 125

Feature

- Confirmation dialog on Delete All Macros added

- New TrackScan Serial Link Node, for use with TrackScans Rev2 only (Serial Link Ports must be set to 9600 Parity Off and RS232 TX/RX must be swapped)

- TrackScan Input node selection Rev1(57600/8n1) / Rev2 (9600/8n1)

- New Scripts for Artnet Snapshot:"WDArtNetSnapshotActivate,'ID'"

- New Button Art-Net Recorder, allowing to record timed Art-Net sequences, available scripts:

"WDArtNetRecorderPlay,'ID'"

"WDArtNetRecorderPause,'ID'"

"WDArtNetRecorderRewind,'ID'"

"WDArtNetRecorderLoop,'ID'"

"WDArtNetRecorderPlayOnce,'ID'"

IMPORTANT: Art-Net Recordings are stored in a specific file in the same directory as the widget project .wdp,

when moving a widget project to a different file location or different computer the filename must be renamed in the project file.

-Motion Detector Input node now support last changed cell x,y and value as well as the sum of all cells and the average of all cell values

-On File->New all open property windows are closed

Bugfix

- ArtnetSnapshot Mouse Enter Leave Script fixed

- VNC Viewer Import error fixed for older versions

Rev 123

Feature

- New Script support for Chamsys MagiQ Remote Playback Commands (based on MagicQ default UDP Port 6553)

"MagicQActivatePlayback,'ID'"

"MagicQReleasePlayback,'ID'"

"MagicQTestPlayback,'ID'"

"MagicQUntestPlayback,'ID'"

"MagicQGoOnPlayback,'ID'"

"MagicQStopOnPlayback,'ID'"

"MagicQFastBackOnPlayback,'ID'"

"MagicQFastForwardOnPlayback,'ID'"

"MagicQChangePage,'ID'"

"MagicQPlaybackLevel,'ID','Level'"

Bugfix

- TCP/UDP/COM Input node does not keep blocking incoming messages in ASCII mode when no start bytes are defined
- TCP/UDP/COM Tester re-open fixed
- Script Output Node can now handle and compare both text and numeric input values

Rev 122

- Node Background Colour can be changed via Edit Node
- New Script to refresh Multi-Touch Panel values
"WDMultiTouchRefresh,ID"

Rev 121

- Rename Node changed to Edit Node
- Edit Node allows to change node background colors
- New Macro for refreshing the Multi Touch Panel values to PB:
"WDMultiTouchRefresh,ID"

Rev 120

Feature

- TrackScan Serial Link Input node, requires Serial Link to be connected as TCP client connection in Connection Manager

Bugfix

- Akai APC Static Encoder Bugfix
- TCP/UDP/COM Tester Dialog fix

Rev 117

Feature

- New Face Tracker Tool incl input node
- New Motion Detector Tool incl input node
- CITP "SInf" Compatibility with Server Information Message built-in (important for compatibility with Avolites Consoles)
- Enhanced Midi Message Support for Icon Fader Boards allowing to process Status bytes of value 11 thru 14

Bugfix

- Video Inputs source switching refined
- "Fix" works after file reload

Rev 116

Feature

- New TCP/UDP/Com Port Message Tester in Connection Right-Click Context Menu
- New VNC Panel Component with better performance for multiple sessions

Bugfix

- Delete Artnet Snapshot button fixed
- On create new Digital Display thrown error resolved

Changes:

- Due to win7 compatibility uninstall has to be done via Add Remove Software from the Windows Control Panel

Known Issues:

- Disable Fix of user controls, needs a page refresh
- Artnet snapshot with zero values does not update fast

Rev 114

Feature

- New Scripts:

"WDTextPanelReset,'PanelID'", _
 "WDTextPanelNext,'PanelID'", _
 "WDTextPanelLast,'PanelID'", _
 "WDTextPanelUpdate,'PanelID'"

-Wacom Bamboo Touch Rotate and Pinch Zoom support for MultiTouch Panel

Rev 113

Feature

-Rotation built-in for Multi-Touch Panel

Rev 112

Feature

-Fix Option for controls to be displayed on all pages

-New Drawing Canvas with scripts:

"WDDrawingCanvasClear,'ID'", _
 "WDDrawingCanvasSetPenSize,'ID','Size'", _
 "WDDrawingCanvasSetPenCol,'ID','R','G','B'", _
 "WDDrawingCanvasSetBGCol,'ID','R','G','B'", "", _

-New Motion Mask Display - allows to use a DirectShow Video input to create a soft motiondetected Mask

MotionMask Scripts:

"WDMotionMaskSetScale,'ID','Value'", _
 "WDMotionMaskSetInValue,'ID','Value'", _
 "WDMotionMaskSetOutValue,'ID','Value'", _
 "WDMotionMaskSetThreshold,'ID','Value'", _
 "WDMotionMaskSetPaintOnly,'ID','Bool'"

-Camera Tracking Updated, option to show/hide Events

-Compiled for and on Win7 64bit as x86 32bit application, should work normally under Win XP (first test are positive)

BugFix

-Value Node not empty on start, fixes crash

-Art-Net 16bit value Output fixed

Rev 110

-Multitouch Panel Mouseover enter leave script fix

-Multitouch Airscan Size fix

Rev 109

-Multitouch Panel optimizations

Rev 108

Feature

-New MultiTouch Panel, allows direct control of up to 48 layers as interactive touch surfaces

-New Scripts for MultiTouch Panel

"WDMultiTouchSetZoom,Id,Zoomfactor"
 "WDMultiTouchSetPan,Id,x,y"
 "WDMultiTouchSetActive,Id,Itemid"
 "WDMultiTouchSetInActive,Id,Itemid"
 "WDMultiTouchSetDevice,Id,Itemid,Siteld,Deviceld"
 "WDMultiTouchSetPos,Id,Itemid,Xpos,Ypos"
 "WDMultiTouchSetRot,Id,Itemid,Rot"
 "WDMultiTouchSetScale,Id,Itemid,Scale"
 "WDMultiTouchEnableZoom,Id,Itemid"
 "WDMultiTouchDisableZoom,Id,Itemid"
 "WDMultiTouchEnableDrag,Id,Itemid"

"WDMultiTouchDisableDrag,Id,Itemid"
 "WDMultiTouchEnablePan,Id,Itemid"
 "WDMultiTouchDisablePan,Id,Itemid"
 "WDMultiTouchEnableSize,Id,Itemid"
 "WDMultiTouchDisableSize,Id,Itemid"
 "WDMultiTouchEnableRotate,Id,Itemid"
 "WDMultiTouchDisableRotate,Id,Itemid"
 "WDMultiTouchLayerMode,Id,Itemid,LayerMode"
 "WDMultiTouchDisplayMode,Id,DisplayMode"
 "WDMultiTouchEnableZorder,Id"
 "WDMultiTouchDisableZorder,Id"

-New Page Input node, shows current page
 -New Page Output node, changes page on value change
 -New Value Output, changes Value Input node

Bugfix

-Paste node with Empty parameters fixed
 -Camera Tracker works after file load or new

Rev105-107

Feature

-New Input Script support for Logitech Presenter
 -New Script To set input nodes output to a specific value (applies to TCP/UDP/COM inputnodes)
 "WNodeSetOutput,'NodeID','ParamID','Value'"
 -OSC Input node output OSC Msg for processing any message
 -Blacklist filters also single words
 -Page Upd down only available in Move/Edit mode

Bugfix

-XY Panel load fixed
 -Load / new project fixed script crash
 -Add /Paste node code cleanup
 -Video Inputs set to none instead of default
 -SMS Blacklist can be activated and deactivated
 -Output node PB Text saving empty Message fixed
 -Viewer Mode Context Menu fixed

Rev104

Feature

-OSC Input node (Requires a UDP Broadcast Input Connection) tested with Touch OSC on iPhone/iPad/iPod
 -DMX Link In Support (Connection Manager)
 -DMX Link Out Support (Connection Manager)
 -New Scripts:
 "DMXLinkOutSetVal8bit,'Channel','Value 0-255'"
 "DMXLinkOutSetVal16bit,'Channel','Value 0-65535'"
 "DMXLinkInEnable"
 "DMXLinkInDisable"
 "DMXLinkInReset"
 "DMXLinkOutEnable"
 "DMXLinkOutDisable"
 "DMXLinkOutReset"

"WDNBSBroadcastEnable"
 "WDNBSBroadcastDisable"
 "WDNBSReceiveEnable"
 "WDNBSReceiveDisable"

Rev103

Feature

- Kinesys K2 Input Node for X,Y,Z, Pitch, Tilt & Roll data
- UDP Multicast Client option added in Connectionmanager

Rev100

Feature

- Editing Name & ID of TCP/UDP/COM connections implemented (Right-Click on Connection in Connection Manager)
- Rename Nodes via Right Click Menu
- Loadfile progressbar
- Filename is displayed in the top of the interface when in Move/Edit Mode

Rev99

Feature

- New NBS (Network Broadcast Service)
NBS allows to transmit and update Labels, Faders & CustomScripts across multiple WD Designers instances on the network
use the IP Config to enable/disable the service
use the label properties to configure send and receive mode
- New Scripts:
"WDDownloadThumbnails"
"WDWaitCancelAll"
- Fader positions are stored in project

Bugfix

- Performance fix for Script threads
- Fader works with node without parameter assignment
- ToggleFullscreen Script fixed

Rev97

Feature

- New Filter Node to generate Leading Zeros for Text, this is especially useful for scoreboard counts
- New Custom Node com Loopback Switch with timeout
- COMQuery and TCP Query nodes included timeout value
- Email send script from label
- Email send script from textbox
- Text Combine Filter Supports single entry for Line Feed [LF]
- New hidden Service Control (For experienced Users only!) Scripts:
"SystemServiceStop,ServiceName"
"SystemServiceStart,ServiceName"
- New Mouse Control Script
"MouseMove,xPos,yPos"
"MouseLeftClick"
"MouseRightClick"
- New "EmailSendDisable" and "EmailSendEnable" Script
- New "SMSSendDisable" and "SMSSendEnable" Script

Bugfix

- Loading Stopped Com Ports Fixed
- SMS Licencing fixed
- Midi Device receive Messages Fixed
- TrayOnly Mode Fixed
- Delete Entire Page including XY Panel Fixed
- Paste Label ID fixed

Rev 96

Feature

- CustomScript Mouse Capture now supports Mouse enter and Leave Events
- New Scripts for more detailed XY Control
"WDXYPannelResetDefault,'PanelID'"

```
"WDXYPanelSetXDefault,'PanelID','Value'"
"WDXYPanelSetYDefault,'PanelID','Value'"
"WDXYPanelSetXPosRelative,'PanelID','Value'"
"WDXYPanelResetXPosRelative,'PanelID'"
"WDXYPanelSetYPosRelative,'PanelID','Value'"
"WDXYPanelResetYPosRelative,'PanelID'"
"WDXYPanelSetDistanceRelative,'PanelID','Value'"
"WDXYPanelResetDistanceRelative,'PanelID'"
"WDXYPanelSetAngleRelative,'PanelID','Value'"
"WDXYPanelResetAngleRelative,'PanelID'"
```

Bugfix

- Import Rev93 fixed
- Video Snapshot load project Delay Time fixed

Rev94

Feature

- New Midi Note Catch node, this node can be reset by setting Parameter 1 to 0 via script. The node catches and outputs the first incoming Midi Note Message. This is in particular useful for game scenarios where WD needs to identify the first incoming Midi Note event.

- New Art-Net Snapshot Button, records a full Art-Net DMX universe state, with the ability to record from Universe A and output to Universe B

-New Script Commands

```
"DeviceSetParamInSelection,ParamName,AbsoluteValue"
"DeviceSetParamRelativeInSelection,ParamName,RelativeValue"
```

- New TCP Query String Node (changes apply to COM Query String node as well): filter first response String that is CR LF or ETX terminated
if interval is set to zero, the request is only send on apply or via WDDeviceSetParam scripts

Bugfix

- X&Y Panel shows Mouse point on mouse click and drag and Mouse control works again
- CustomScript Timeout is not executed in Move mode
- Events: Weekly Events error on end of month fixed
- Midi Note input bugfix

Rev93

Bugfix

- Delta Filter Node calculates double precision delta
- Open Airscan Toolbox does not Disconnect the TCP Connection anymore
- Airscan & XY panel optimized for better Point Enter and Leave handling
- Smpte Set Timecode Script Fixed

Rev92

Feature

- New Scripts:

```
WDPasswdDialog,'Password'
```

Opens Password Dialog, if the password is incorrect the script will not continue

This is useful to lock access to specific Pages or Commands

```
WDDeviceSetParam+=,'NodeID','ParamID','Value'
WDDeviceSetParam-=,'NodeID','ParamID','Value'
WDDeviceSetParam*=',,'NodeID','ParamID','Value'
WDDeviceSetParam/=,'NodeID','ParamID','Value'
Allows to alter the current value of a given Parameter ID
```

```
WDDeviceSetParamFromNodeValue,'NodeID','ParamID','SourceNodeID','SourceNodeParamID'
```

Allows to combine the current values of Nodes by ID

```
WDNodeSetParamFromNode+=,'NodeID','ParamID','SourceNodeID','SourceNodeParamID'
WDNodeSetParamFromNode-='NodeID','ParamID','SourceNodeID','SourceNodeParamID'
WDNodeSetParamFromNode*='NodeID','ParamID','SourceNodeID','SourceNodeParamID'
WDNodeSetParamFromNode/=,'NodeID','ParamID','SourceNodeID','SourceNodeParamID'
```

This way node values can be dynamically changed via scripts to any number, without causing infinite loops

Bugfix

- Custom Script Mouse Capture works no matter if WD is minimized or maximized

Rev91

Info

-Compiles for x86 (in preparation for Win7 compatibility)

Feature

- New Ping Input Node, get feedback if IP is online
- New COM Query String Node, get ASCII feedback messages from COM device
- Single Node Connection can be deleted:
select node connection by clicking on it in move/edit mode
press delete to delete the connection
- Node Structures are included in copy/paste
- Control IDs are changeable via property pages
- Control IDs are shown in Move/Edit Mode
- New Scripts:
WDNodeConnect,'SourceNodeID','TargetNodeID'
WDNodeDisconnect,'NodeID','SourceNodeID'
- Custom Script Buttons allow to capture mouse left click even when WD Gui is in the background, this is usefull when WD is used on the same machine as Pandoras Box Players or Servers
- WD Scripts can be written in upper or lower case style or mixed

Bugfix

- CamTrack Node Points update fixed
- WD Wait Script Times are now system time accurate
- WD Wait Script does not block GUI any more, mulitple Wait times can be stacked and processed in parallel
- Fader FadeUp/Down Times are now system time accurate
- Artnet Send Channel Count fix
- Label BG Colour Fix
- Error on Akai Midi Input Script fixed

Rev89

Bugfix

- Active Comports close fine on close and file reload.
- VideoSnapshots deletion fixed(caused WD save error)

Rev87

Feature

- New Script nodes for TCP/UDP/COM for direct Script action on received packets
- BPM detection based on Midi beat Clock with Midi Input nodes

Bugfix

- GotoCue in Seq Output Node
- Startup Script WD Close Fixed

Rev86

BugFix

911

- TCP/UPD/COM INput Stream reads ASCII 8bit to support Umlaute as äöüß etc
- Email Send supports multi-line
- Email Input node Random Email fixed

Rev 85

BugFix

- If Node Outputstate fixed
- Round Node variable input fixed
- Textinput next/last fixed

Rev84

Minor fixes

Rev83

Feature

- Angular Display Range Input enhanced
- Art-Net Output Node HighSpeed Option - Default is off (enables 60hz refresh, not supported by GrandMA consoles)
- Colour Picker CMY option added
- Colour Picker Input node provides CMY values

BugFix

- TextReader Input node fixed
- for Spark Rev 16 compatiblilty - no feedback messages are sent upon TCP connections
- Iphone WD Remote input loading fixed
- Creating an RSS Input Node before going to the RSS Setting fixed
- Delete Colour Picker via menu fixed

Rev82

Feature

- when all items of a type are deleted the id is automatically reset to 1
- Event Viewer is now sizable
- Text Input is now sizable
- New Setting in Main Gui Properties to enable/disable start of WD on System Start
- New Message Box to confirm any delete action

Bugfix

- Delete Timecode Display fixed
- Delete VideovInput Display fixed

Rev80

Bugfix

- Skinning does not affect Webbrowser anymore

Rev77

Info

- Visual C++ 2005 Redistributable Package is required on install
this is "normally" installed with the .net Framework 2.0/3.5

Feature

- New Master Node On Off setting via Scripts
- New Value Input node
- New GUI Option TrayOnly, in combination with Minimize allows to start a project in Taskbar Tray only
- New Output Node Video Player Volume, to control the volume of playing video or audio files

Bugfix

- Z-order on load of all new controls fixed
- AKAI APC button issue fixed

Rev76

Feature

- AKAI APC40 Midi control integration featuring
Master Seq Level
Multiple Seq Play/Pause control

- Direct Seq control
- Jog Dial Time/Cue
- On new Page creation the new page is loaded
- New Page Navigation Scripts:
 - "WDPageNext"
 - "WDPageLast"
 - "WDPageForward"
 - "WDPagePrevious"
 - "WDPageClearHistory"
- Export SMS
- Export Email
- new Smpte Link Scripts
- new Smpte Link Input Node
- new Timecode Display for current Smpte Link Time
- Smpte Link implemented into Connection Manager
- new Colour Picker Scripts to change associated devices and BG Colour
- new Colour Picker Input Node
- new Colour Picker Control
- new Video Snapshot Button, allows to send snapshot of Video Input display to an Asset to Pandoras Box
- new Video Input Display
- new Video Inputs (max. 16)
- Bugfix
- Mediapanel scripts refined

Rev75

Info

- new PB Automation dll (allows unlimited characters for PB Text Assets)

Feature

- new output node to bar graph display
- new output node to angular display
- new output node to digital display
- new bar graph display
- new angular numeric display
- new digital numeric display
- new analog clock control (sizable and with detailed settings)
- new digital clock control (with individual sizing and colour settings)
- custom color palette is stored and loaded with each project
- all color dialogs open with full layout and share custom color palette

Bugfix

- when grid is active node connections are now visible
- clock and mediapanel control can now be deleted via right click menu

Rev74

Info

- new Spacnavigator driver support 3.8.2

Feature

Bugfix

- Image Loader Delete on keypress fixed
- Contains Text Node Input fixed
- Text Combiner Dialog fixed
- Save DateToText Node fixed
- Save Label with multiple lines fixed
- Save Label output node with multiple lines fixed
- Save Textbox Output node fixed
- Save Compare Text node fixed
- Save Contains Text node fixed
- Save Text Combiner node fixed
- Save TCP/UDP/COM ASCII output node fixed

- Save PB Text output node fixed
- Excel input node Updateinterval fixed
- Fixed last/next cue and frame in CueControl
- Fixed Countdown dialog readout

Rev73

Feature

- Image Loader Button, allows to reload a PB Image asset based on its file location and Folder and FileID

BugFix

- MediaPanel scripts currently disabled from comboboxes due to unpredictable crash
- Timax Input Node LoadSave and Port dispose fixed
- Rss input duplicates fixed
- AutoPoll for new emails fixed

Rev72

Feature

- New Count Down Input Node
- New Output Nodes TCP/UDP/COM ASCII Stream, to constantly send any text/string message with start and stop bytes
- New DataType in TCP/UDP/COM input nodes to support signed integers type=3 HiLo Byteorder type=4 LoHi Byteorder
- New Text Compare Node, to check if two text are identical
- New Text Contains Node, to check if a text contains part of a text
- New Scripts to add text to text boxes:
 - "WDTextboxAddTextFromLabel,'TXTBoxID','LabelID'"
 - "WDTextboxAddTextFromTextbox,'TXTBoxID','TXTBoxSourceID'"
- Button to save bitmap of current frame in Camera Tracking dialog
- New Excel Reader Input Node, to readonly single cells from excel file
- TCP/UDP/COM Input Node option to choose if multi part messages are processed as well
- New Events Input Node
- New Blacklist to filter incoming SMS/Email/RSS
- RSS Load/Save built-in

Bugfix

- COM Output node output fixed
- RSS Tool refined
- Text Reader Input node fixed
- IF Filter Node Output State fixed

Rev71

Feature

- New RSS Input Node
- Fader Property Dialog show current Fader Value
- New Event Viewer Control

Bugfix

- Events optimized to never execute an event on a given time twice
- WD Wait accepts integer or decimal values

Rev70

Feature

- New Clock Control
- Current Filename is displayed in Main Gui Property Dialog
- New SMS Input Node
- New SMS Tool to receive textmessages with GSM modems
- New Email Input Node
- New Text Reader Input Node, to output single lines of text or cycle thru all lines of a textfile
- New "3D Connexion Space Navigator" 6 Axis Input Node,
 - Please note, that currently only one unit is supported per WD project
- New Scripts to open common tools dialogs
- New Scripts to change MediaPanels Folder Index Device and Layout temporarily

- New Paste ShortCut CTRL+P, Pastes controls at the same location in the UI
This is very useful when group of controls need to be copied to multiple pages.
- New Cue Control
- New Textbox Output Node
- New Textbox Input node
- New Textbox Control
- New Label Input Node
- New Script to copy text from textbox to PB Text Asset

BugFix

- TCP/UDP/COM Input nodes integer Reception fixed
- TCP/UDP/COM Input nodes output 0 if no value is received
- Import Label Fontsizes Fixed
- Load Button and Customscript fontsize check implemented
- Paste Positioning fixed in relation to current mouse position
- MediaPanel Past on new Page fixed

Bugfix

- Import Rev61 Fixed
- (internal) Skinning and VNC components rebuild
- VideoPlayer and Browser are properly deleted on Page delete

Rev 65

Feature

- New Output Parameter "Connection State" for Sensor Link Input Node
- New PB Help File included in Menu and F1 shortcut
- New Script ResourceGetTextFromLabel, allows to copy a Labeltext property to a PB Text Asset
- New Script "WDSave" and "WDSaveAs"
- New Tool Email Settings, for use with outgoing smtp email servers
- New Scripts for Email setup and Email sending with or without Attachment

Bugfix

- App crash of VNC Property Dialog resolved

Rev 61

Feature

- New PB Sequence Seek Output node
- New PB Text Output Node to update Pandoras Box Text Assets in Realtime
- New String Combiner Filter node, allows to combine up to 8 inputs as a Text string
- New WDPRO CameraTracking(for beta testing) Input Interface and Camera Input Node for up to 8

Tracking points

- Wii Input Node Enhanced:

added Support for up to 4 Wii controllers

added Support for Nunchuk

added Support for Balance Board

- WDFaderGoUp and WDFaderGoDown scripts renamed
- WDWait script supports decimal places like "0.23" for 230 milliseconds
- New PB Automation Script Support compatible with PB v4.5 Rev3688:

"ResourceReloadMedia,FolderID,FileID"

"ResourceReloadMesh,FolderID,FileID"

"PBLoadProject,Path,Name,SaveCurrent"

"PBLoadProject,Path,Name,DoNotSaveCurrent"

"ResourceCreateText,FolderID,FileID,Text"

"SeqSetTimecodeMode,SeqID,None"

"SeqSetTimecodeMode,SeqID,Send"

"SeqSetTimecodeMode,SeqID,Receive"

"SeqSetTimecodeOffset,SeqID,HH,MM,SS,FF"

"SeqSetTimecodeStopAction,SeqID,Stop"

"SeqSetTimecodeStopAction,SeqID,Pause"

"SeqSetTimecodeStopAction,SeqID,Continue"

"PBCloseProject,SaveCurrent"

"PBCloseProject,DoNotSaveCurrent"

"ClearSelection"

"DeviceAcceptDmxById,SiteID,DeviceID,On"

"DeviceAcceptDmxById,SiteID,DeviceID,Off"

"SiteAcceptDmxById,SiteID,On"

"SiteAcceptDmxById,SiteID,Off"

"DeviceSetDmxAddress,SiteID,DeviceID,DMXStart,Universe,Subnet"

- Label Output Node can now be used to display any value type(i.e reading the ASCII string of TCP/UDP/COM input nodes)

- TCP/UDP/COM input nodes allow to intercept the entire input message as ASCII when no filtering and byte splitting is applied.

Bugfix

-Label Output Node now supports decimal places (doubles)

-Division Node Property page does not delete inputsource node entries anymore

-Substract Node Property page does not delete inputsource node entries anymore

Rev 59

Feature

- New Shortcut CTRL+SHIFT+M Maximise the interface on the Primary screen

- New Shortcut CTRL+SHIFT+T Show Main GUI Title Bar

- New Shortcut CTRL+SHIFT+F Hide All Main Gui Title Bars

Bugfix

- Label load fontsize parsing optimized

- Filter Range Node now converts static input values as well

Rev 57

Feature

- New AirTouch Input Node (currently supports one pair of AirBars per com connection)

- Half & Quarter Buttons Support custom Bitmaps from Filesystem or Thumbnail browser

Rev 56

Feature

- New Script Custom Script Force Click Toggle

- New Script Custom Script Force Release Toggle

- New Script Custom Script Silent Click Toggle

- New Script Custom Script Silent Release Toggle

Bugfix

- "New" correctly assigns the Main Gui windows size and state

- Device Output Node does not delete input source nodes on invalid input values anymore

- Node Connection now works only for visible Nodes

- XY Panel now loads correctly

- If project has joystick nodes and this project is loaded while no joystick is connected no error is thrown anymore.

- Splashscreen does not show any transparency anymore

- Mouse-click on empty user interface space in run mode does not affect nodes mute status anymore

Rev 55

Bugfix

- Artnet Output Node Reload fixed

- Serial Link Output Node Reload fixed

Rev 54

Features

- New Keyboard Shortcut Alt+C to toggle Custom Nodes in Menu

- New Custom Input Node CDS Automation Input

- New Custom Node Category, Custom Nodes are dedicated nodes created on demand to integrate customized hardware or interfaces.

- New Label Output Node

- New Relative parameters on Sensorlink Input Node

Bugfix

- Artnet Output on reload project fixed

- Artnet Output Node Reload fixed
- Serial Link Output Node Reload fixed
- Cleanup of DeltaValues on TrackScan Delta
- Cleanup of DeltaValues on Sensor Link E1Delta and E2Delta
- Sensor Link E1Delta and E2Delta input fixed

Rev 52

Features

- TCP/UDP/COM Input nodes do return 0 by default and are visible for node patching
- New Midi Raw Message Node to send individual messages such as Midi Control and Program Change messages
- midi node dialogs accept only valid status bytes from 8-14
- optimized node connection drawing
- Backup IP and Domain to control a Master and Backup system simultaneously
- Script DeviceSetParam,1,1,Video Mode,Loop / Play / Pause / Stop are supported as well

Bugfix

- midi value output node 15bit repaired
- Select all and the delete key only works in Move Mode

Rev 51

Bugfix

- Fixed Load last Config option

Rev 50

BugFix

- fixed Artnet Input Node did crash on Channel Value above 255

Rev 49

Features

- New Damping Timed Node, setup damping time delay for values to trail
- New Dynamic Trigger Node, setup for Hold and Release Time acts like a Gate Filter
- New Text Input Panel to update Text Assets In PB by line or all Text
- All Scripts refined to use ID only on WD Controls
- New TrackScan Barcode Tape Scanner Input node
- New XY Panel Input Node to intercept XY Distance and Angle from XY Panel
- New MediaPanel input node to intercept Folder and File IDs from one or multiple Media Control Panels
- New Audio Input node with 3x Frequency Band Pass Filters and Volume Output
- SensorLink Node refinement, Delta Value of Encoder 1 & 2 are now available directly
- New Angle To Point Node to calculate Pan and Tilt Angle between to given XYZ Points
- Nodes are Disabled in Move mode, by clicking anywhere in the Gui in None Move mode Node are always reactivated
- New Fader Output Node allows to route values directly to GUI Fader
- New Timebased Counter Input Node with Bounce on/off setting
- New Midi Value Output Node for 7 or 15bit value output
- New Conversion Node Radians>Degree & Degree>Radians (usefull with Sin, Cos and Tan Nodes)
- New Percent Node
- New Sin Cos Tan ASin ACos ATan Nodes
- New Floor & Ceiling Node returns the next highest or lowest integer number of an input value
- New Log Node
- New Abs Node
- New Sqrt Node
- New Modulo Node
- New Power x^y Node
- Video Loop option in Video Control Properties
- New Script to loop Video Controls
- Behringer BCF2000 Fader Board Implemented (BCF needs to learn the mapping of WD first)
- Behringer BCD2000 implemented
- USB Jog Shuttle Input Panel implemented
- USB 84Key Input Panel implemented

- USB 128Key Input Panel implemented
- USB 58Key Input Panel implemented
- New Script Keypress to emulate local Keyboard input via Script

The keys argument can specify any single key or any key combined with ALT, CTRL, or SHIFT (or any combination of those keys). Each key is represented by one or more characters, such as a for the character "a", or {ENTER} for the ENTER key.

To combine a key with SHIFT, precede the key code with + (plus sign).

To combine a key with CTRL, precede the key code with ^ (caret).

To combine a key with ALT, precede the key code with % (percent sign).

To specify repeating keys, use the form {key number}.

You must put a space between key and number.

For example, {LEFT 42} means "press the LEFT ARROW key 42 times"; {h 10} means "press 'h' 10 times."

The following table lists the codes that can be used to specify characters that are not displayed when you press the corresponding key (such as ENTER or TAB).

BACKSPACE {BACKSPACE} or {BS}, BREAK {BREAK}, CAPS LOCK {CAPSLOCK}, CLEAR {CLEAR}

DELETE {DELETE} or {DEL}, DOWN ARROW {DOWN}, END {END}, ENTER (numeric keypad) {ENTER}

ENTER ~, ESC {ESCAPE} or {ESC}, HELP {HELP}, HOME {HOME}, INS {INSERT}

LEFT ARROW {LEFT}, NUM LOCK {NUMLOCK}, PAGE DOWN {PGDN}, PAGE UP {PGUP}

RETURN {RETURN}, RIGHT ARROW {RIGHT}, SCROLL LOCK {SCROLLLOCK}, TAB {TAB}

UP ARROW {UP}, F1 through F15 {F1} through {F15}

- optional Scrollbars as GUI property
- Widget Scriptnames have changed to WD
- Range Filer support limits as checkbox
- ArtNet output Node
- ArtNet output scripts
- ArtNet output list Dialog in Connection Manager
- Midi input enhanced new midimessage input to intercept any midimessage
- Midi output scripts
- Z-Order of controls is now stored and loaded
- CITP optimized so that images can be overwritten during runtime
- All image used in Widget designer can be changed in the file system during runtime
- CITP download updates all Media Control Panels based on Folder Index
- CITP download updates all full size button images based on Folder and File ID
- all Dialogs open in parent screen center or worst case in the upperleft corner.

Rev 39

Features

- Dialogs open either in GUI center or control properties at mouse cursor
- Menu Shortcut changed and refined
- New skin built-in
- Serial Scripts obsolete but backwards compatible to REV20
- New ComPort Connection added to Connection Manager
- New iPhone Remote input for Mouse and Script interaction
- New iPhone Input Node to capture Multi-Touch input from iPhone via WD REMOTE
- Update to VNC Viewer Component implemented

Rev 36

Features

- prep new macros for PB Menu Remote commands to set IP and Output Resolution
- prep new Skinning

Bugfix

- script udp sender works fine now

Rev 34

Features

- New Midi Input Node
- New Fader Input Node
- New Scripts Airscan Mouse properties
- New Scripts Node Enable/Disable

Bugfix

- Node Management Cleanup
- "Application Start" Script now supports so called "Working directories", no need to create shortcuts to .exe files anymore!

Rev 32

Features

- Midi Script Input Mapping
- New Asymmetric Range Filter Node
- New Damping Filter Node
- New Joystick Input Node
- AirScan Mouse Control implemented
- MacroScripts support full PBA 4.1 Rev 3148 featureset
- Minimize Widget Designer option added in File Menu
- CFTP Browser added, thumbnails available in Button properties
- New X&Y panel for relative and absolute value input
- WidgetEnable/Disable Script Command
- WidgetButtonClick Script Command
- WidgetCustomScriptClick Script Command
- WidgetLoad Script Command
- WidgetNew Script Command
- WidgetWait now based on seconds and works with faders - does not freeze anymore
- Videoplayer with Script control
- Webbrowser with Script control
- Get filepath button for scripts
- Macros implemented
- Keyboard shortcut layout added
- Custom Script Mouse Enter Timer Click Event added
- Custom Script Mouse Enter and Mouse Leave events
- Arrow Keys and PageUp/down added to Shortcuts for "Perfect Cue" remote support

BugFix

- TCP/UDP/Serial Send now supports comma separated messages
- Delete Select All with Videoplayer Windows could cause crashes
- Delete VNC Panel could cause crashes
- Files with Umlaut does not fail to load config, files are currently ignored.
- Oem Key support for Unicode characters
- button transparency upon file load
- label transparency upon file load
- Top most Form does not block item property dialogs anymore

Rev17

Features

- Fader supports custom Background and Handle Images
- New Scale Tool
- Media Player FX List added to Std Buttons properties
- Label control supports different Font styles
- New Macro Fader up/down with incremental Value
- New Macro Fader set to value
- New Macro Fader Up/Down with time
- New KeyboardShortcut PageUp & PageDown to navigate thru pages
- New Startup Macro Script
- New Macro UDP Send Message
- New Macro TCP Connect to TCP Server, Send Message, Close TCP Connection

- New VNC Panel for customized VNC Multiview setups
- New Main Gui properties: Size, Location, Windowsstate and WindowStyle
- Snap to Grid to arrange controls
- Grid size settings dialog to adjust Gridsize in pixels
- Grid optimized to redraw Background properly in any windows state
- Commandline Startup Option "ViewerMode" hides all editable controls from user
- New vertical and horizontal Fader Control
- New Custom Script Button featuring custom button images and Macroscripts
- Macro Scripts for Network Remoting of Pandoras Box V4 Servers from LCD Menu Rev7 on
- New Align tools: Align Left, Right, Horizontal Center, Top, Bottom, Vertical Center
- Keyboard-shortcuts for align tools
- Import for Rev8 configuration files

Bugfix

- optimized draw control over grid on item move
- Select All with Ctrl+A works fine now
- Item properties on multiple pages is fixed

Rev9

Features

- Multiple item-property dialogs can be opened at once for copy and paste of settings
- Multi-Selection with ctrl+ mouse and mouse drag rubberband
- Selection is shown only in Move mode
- Delete Selection with DEL key
- Move Selection
- Ctrl+A selects all control of current page
- ESC, clears selection
- Copy & Paste of items within pages and from page to page
- Label Font and Colour Properties added
- Align tool for selection: Make items even horizontal or vertical

Bugfix

- Button Font size loads and save correctly
- Filefilter on main gui background image fixed
- Appcrash fixed that occurred on delete item while property windows is open and new values applied

Rev8

Bugfix

- Meshes(object) could not be assigned to layers, this works now.
- Image property page, load images new filetype selection for bitmaps jpegs png and gifs
- Gui BG Colour is now stored and loaded correctly

Rev7:

Features

- Load last config startup option

Bugfixes

- Store all Main Gui parameters in file
- Label Fontsize is now updated correctly on project load
- Reset Network Connection on Project load

Rev6: Initial Release of PB Widget Designer

12 8. WORKFLOW TUTORIALS

See here workflow tutorials to the following topics:

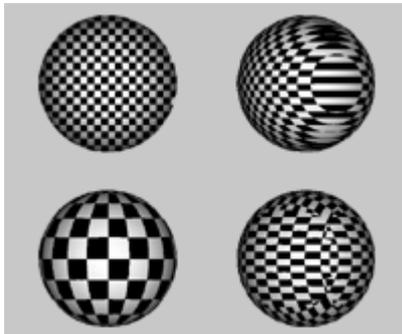
- [Object creation with GMAX](#)
- [Exporting Objects from 3DS max](#)

12.1 GMAX

To create a Keystone object, we recommend creating it with 3ds Max or its freeware version Gmax. The 3D web resource page for 3D model www.turbosquid.com offers a light version of 3ds Max for personal use that is called gmax. Gmax unlike 3ds Max will allow you to learn the most basic modelling and texturing concepts of 3D objects and to export to .x file with a 3rd party exporter.

- [UV Texture Mapping Concepts](#)
- [Gmax Software Setup](#)
- [Overview object creation and export with Gmax](#)
- [Screen warping with Gmax](#)
- [Keyboard Shortcuts](#)

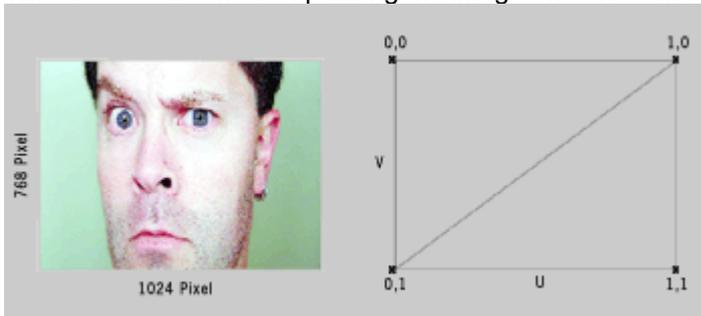
12.1.1 UV Texture Mapping



UV mapping is a process of defining how to represent a 2D image on a 3D model. The UV mapping transforms a 2D source image (in our case a Bitmap or Video) into an image buffer called a texture.

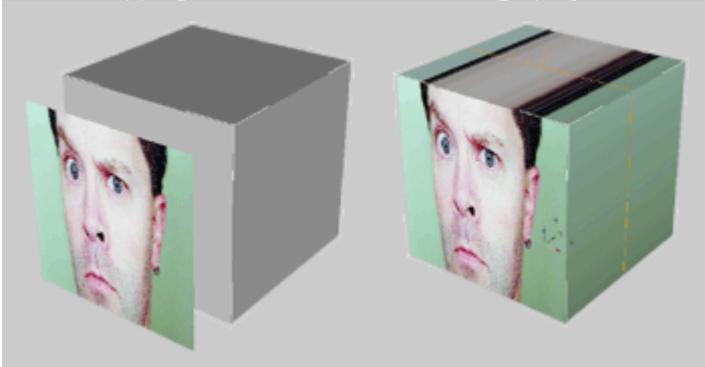
In contrast to "X", "Y" and "Z", which are the coordinates for the rendered 3D object, "U" and "V" are the coordinates of the texture.

This creates the effect of painting the image onto the surface of the 3D object.

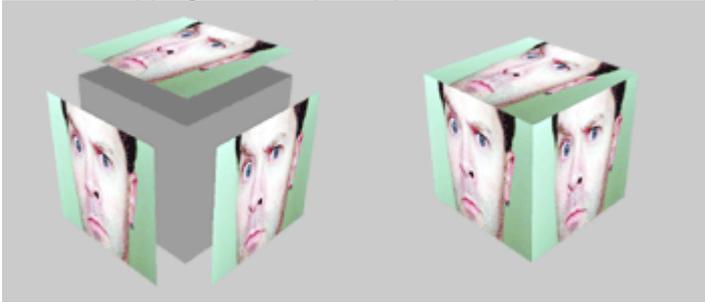


There are several standard mapping techniques available to map a texture onto an object. The techniques are called: planar, cubic or box, cylindrical and spherical mapping.

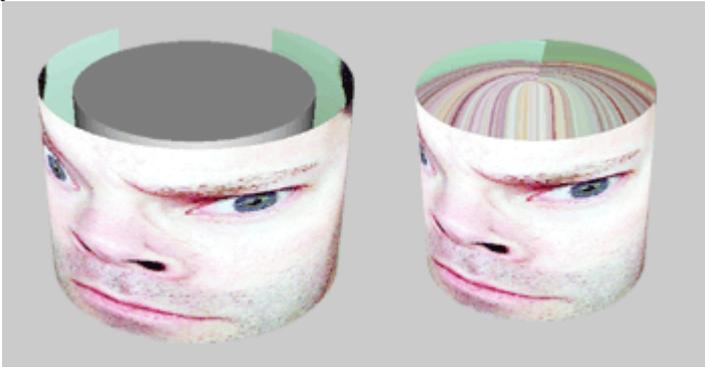
Planar mapping can be referred to an image projection from one side onto an object.



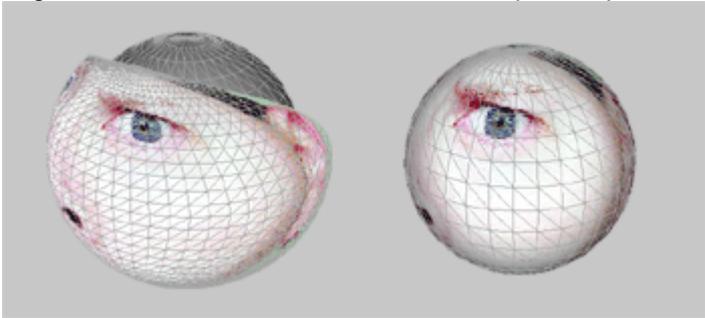
A cubic mapping for example maps the texture to all sides of a object like a box.



The cylindrical mapping wraps an image around an object like a cylinder, the left and right edge will join each other.



Spherical mapping wraps the image all around an object as a sphere. Please be aware that the top edge of the texture shrinks down into the top north pole and the bottom edge in the south pole.



For proper spherical mapping textures with an aspect ratio of 2:1 apply best to a spherical object.

12.1.2 Software Setup



Objects for Pandoras Box Servers and Players are stored as .x-file format. This format is a DirectX file format that can be exported with most 3D applications such as 3ds Max, Maya and Cinema4D among many others. A separate export plug-in might be required for your specific application in order to export to .x directly.

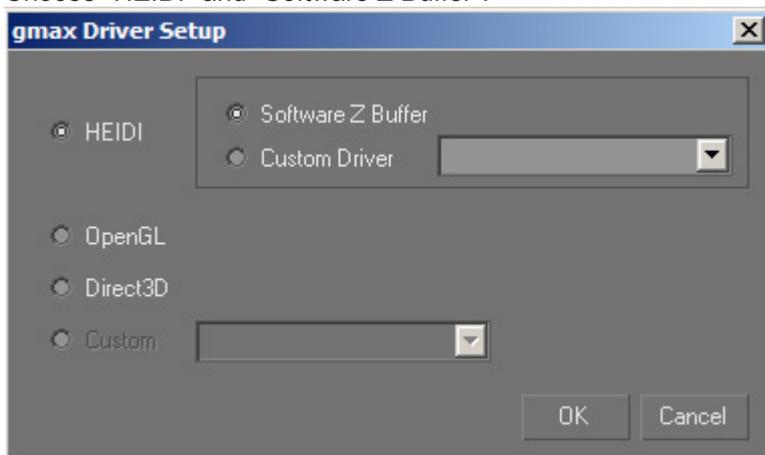
The 3D web resource page for 3D models www.turbosquid.com offers a light version of 3ds Max for personal use that is called gmax. gmax unlike 3ds Max will allow you to learn the most basic modeling and texturing concepts of 3D objects and exporting to .x files with a 3rd party exporter.

Once you have installed gmax, it is important to download also the exporter files and copy them into the plug-in folder of the gmax installation folder.

If you start gmax for the first time, you will be asked for your registration key that you can obtain by registering at www.turbosquid.com.

Once the key is entered, the application will ask, which 3D graphics hardware acceleration to choose for gmax.

Choose "HEIDI" and "Software Z Buffer".



Please make sure that the plug-in files ([gmax_plugin_files.zip](#)) are in the plug-in folder in the gmax executable root. You can also use the [gmax_installer.zip](#) instead. This installer will copy all files into the gmax root directory.

Once gmax is installed and the plug-in files are added to gmax, you may start the application.

12.1.3 Object Creation and Export for PB

OVERVIEW

When creating a 3D Object in Gmax for Pandoras Box, it could be helpful using one of the PB Native Files as reference.

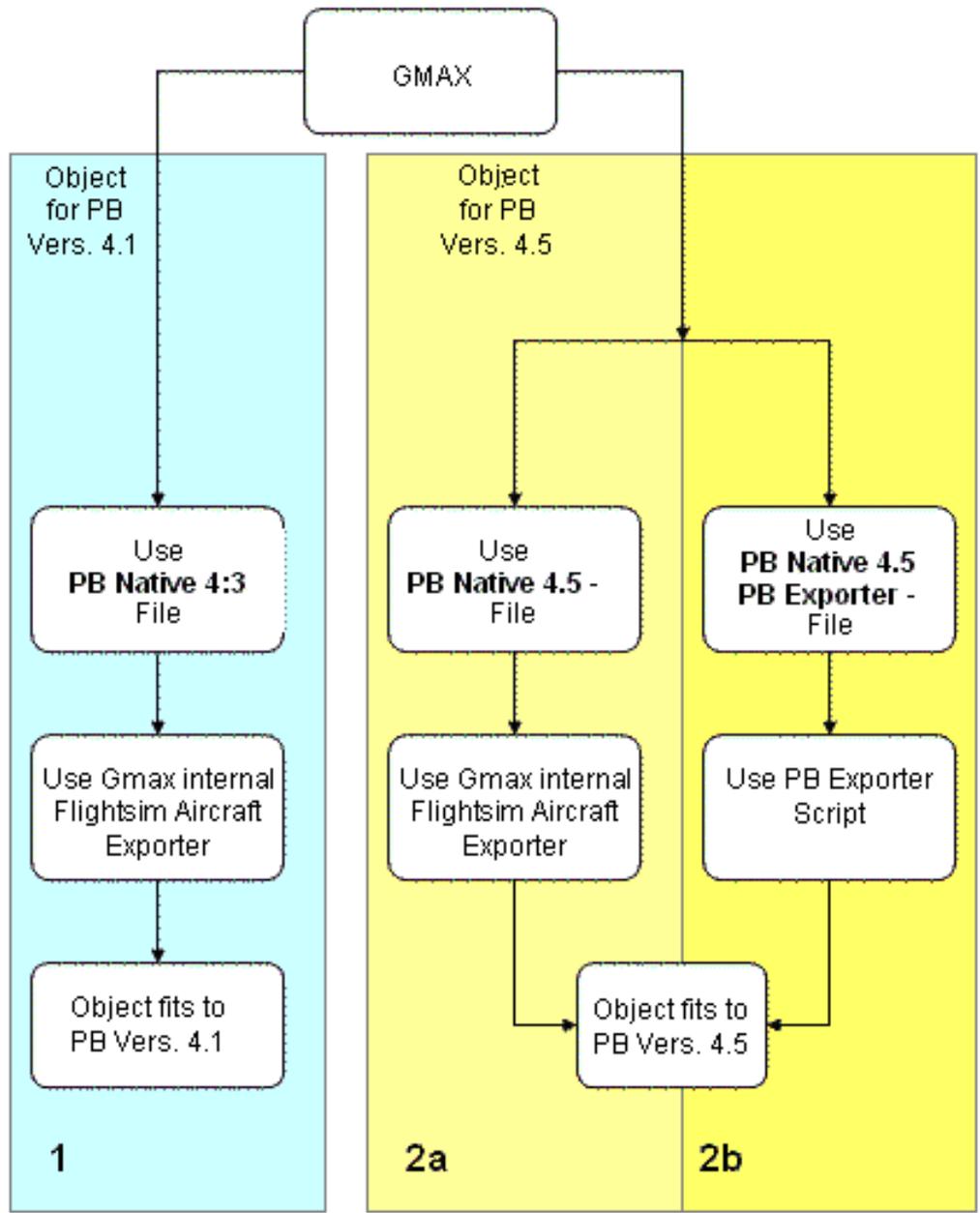
From Pandoras Box version 4.5 on the 3D perspective has been adjusted to match any output aspect ratio. For this reason 3D objects created for PB version 4.1 won't exactly match used with PB version 4.5.

From version 4.5 on Pandoras Box also supports dynamic aspect ratios for warp grids.

There are two things you have to decide before starting:

- Do you create the object for Pandoras Box Vers. 4.1 or Vers. 4.5?
- Do you want to use the PB Exporter or the GMAX internal Aircraft Flightsim Exporter?

Please have a look at the following flow chart:

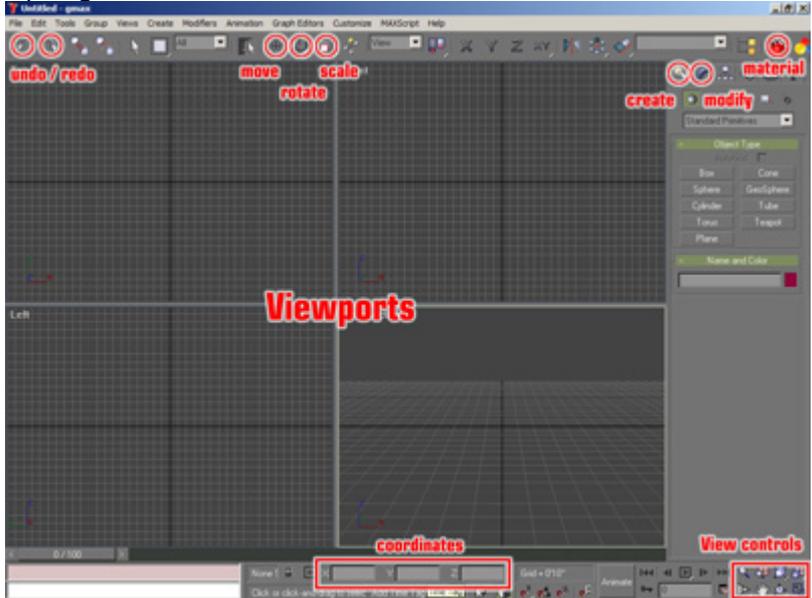


See here further explanations for

- [General object creation with Gmax](#)
- [Object creation and export for PB Vers. 4.1](#)
- [Object creation and export up from PB Vers. 4.5.](#)

12.1.3.1 General Object Creation in Gmax

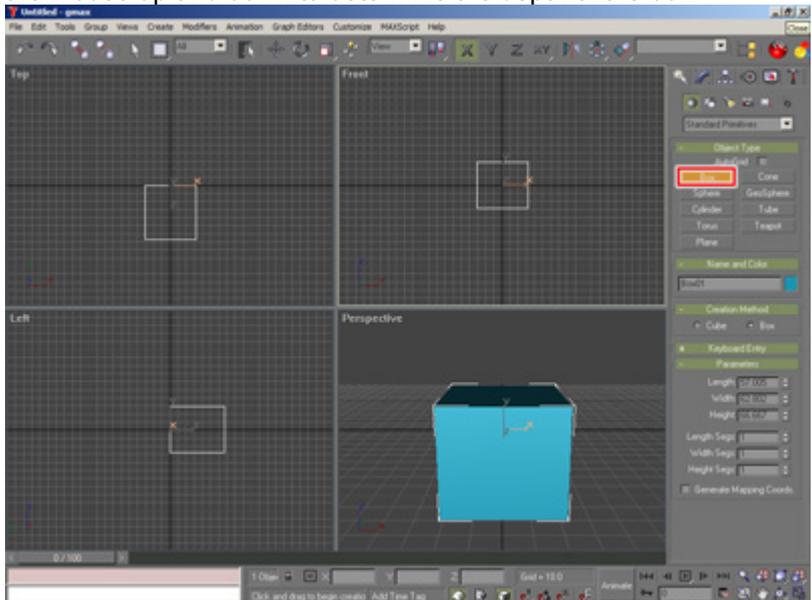
Open gmax.



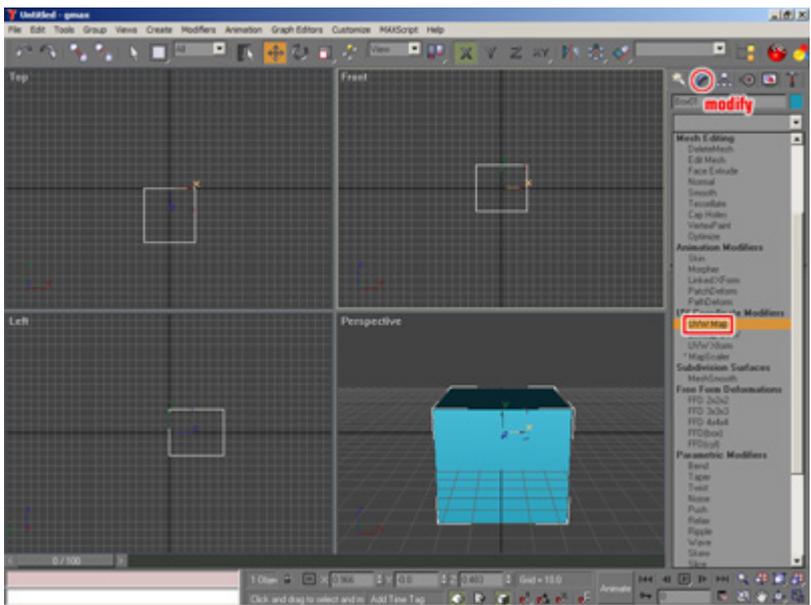
All most important features to start with are outlined in red. The following tutorial will show you the basic steps through a simple object creation and mapping process. Furthermore it explains the pattern to export to an x-file from gmax.

CREATING A BOX OBJECT

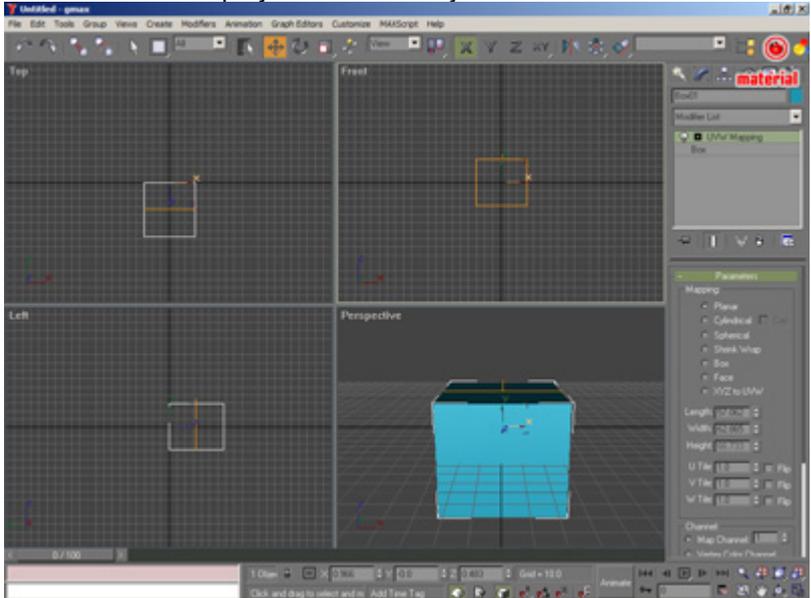
1. Click on Box in the create tab.
2. Draw the Box with the mouse in the front view (upper right viewport), by left clicking and holding the mouse to define the front face size. Once the mouse left click is released, you can continue moving the mouse up and down to determine the depth of the box.



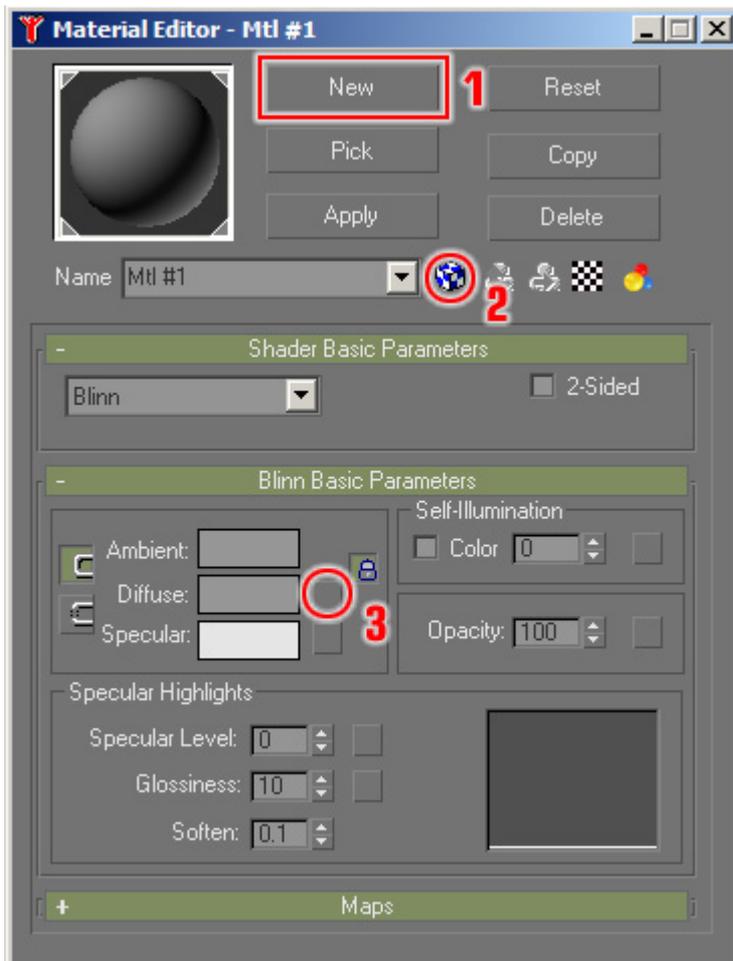
Once the box is created, you will need to assign the texture coordinates to the object in order to define how the texture should be displayed on the surfaces of the box. Therefore go to the Modify tab while the object is still selected (object is outlined white while selected) and apply a "UVW MAP" modifier from the pull down list to the object.



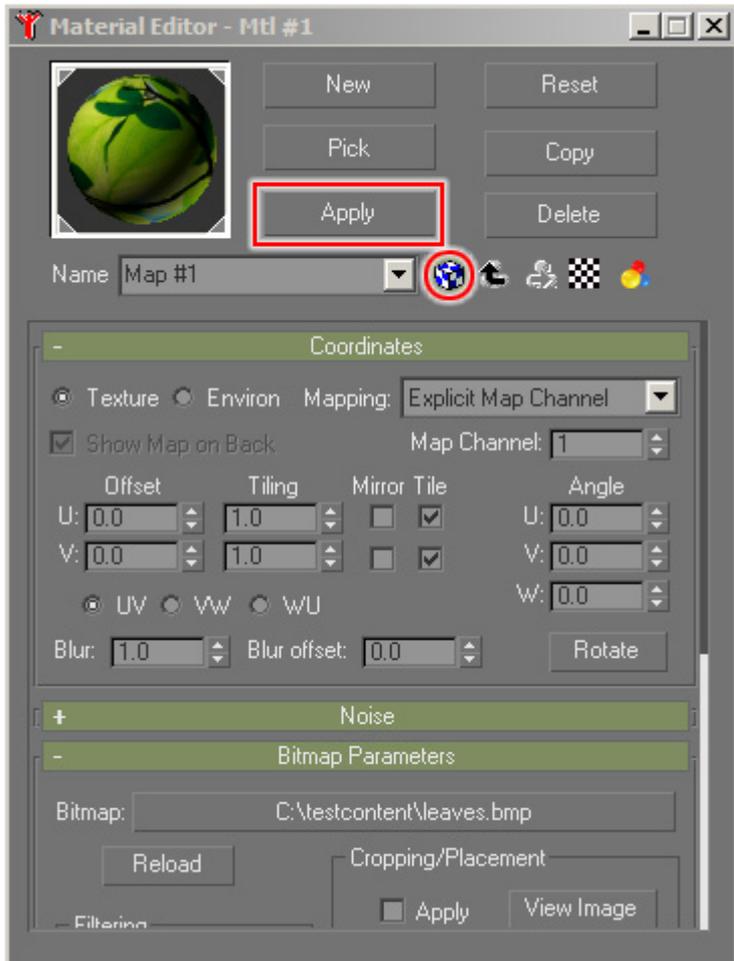
Once the "UVW MAP" modifier is applied to the object, you will see an orange outline that shows you how the texture is projected on the object.



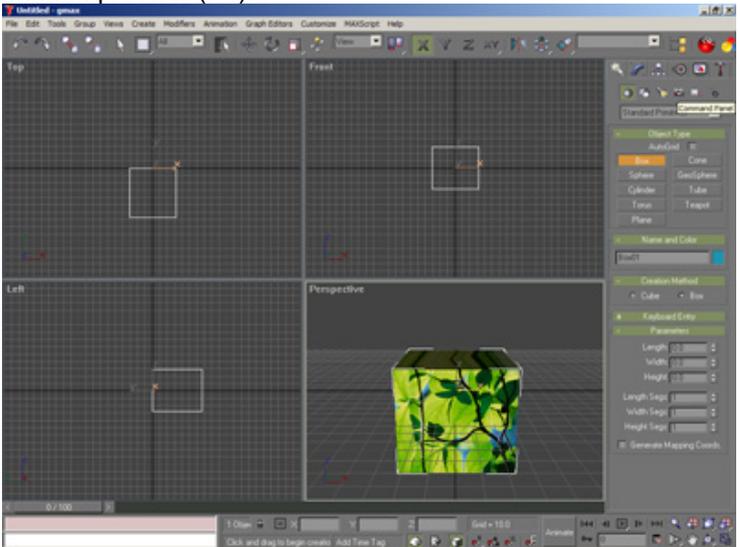
The last setup before exporting the file as .x you will have to apply a material with a diffuse channel to the object so that Pandoras Box can use this texture channel to map images on it. To create a new material click on the Material icon or use the keyboard shortcut "M" to open the Material Editor.



1. Create a new material
 2. Toggle checked box to show texture in shaded viewport
 3. Click on square box of the Diffuse channel
- Choose bitmap from the dialog to assign a bitmap to the diffuse texture channel.
Next choose a bitmap from the opening file browser.



Now apply the material to the selected object by clicking "Apply" and you should be able to preview your mapping in the perspective viewport of gmax right away. If you do not see the texture in the viewport, the object was either not selected, the checked box not toggled or none of your views is in shaded preview (F3).



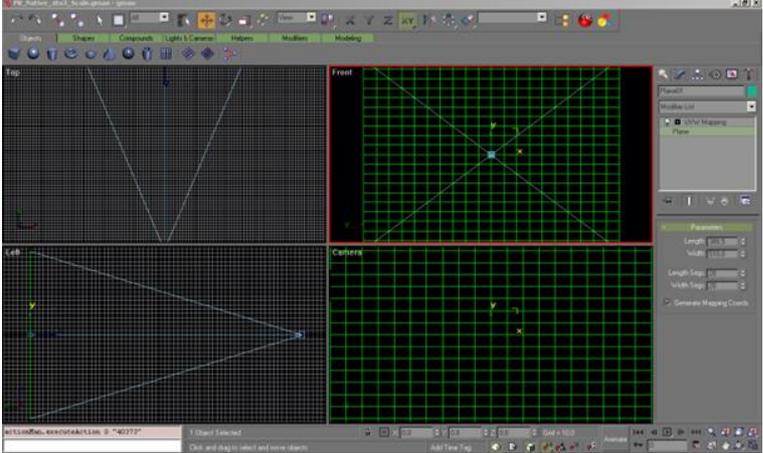
Before exporting the object for Pandoras Box you will have to make sure that it's placed correctly, since the 0,0,0 is relevant for the pivot point of an object once this is used in Pandoras Box. To place the object right in the center, use the move tool from the main toolbar in gmax.

OBJECT EXPORT

As last step you have to export your file as .x-file, for further information please see [Gmax Object Export for PB Vers. 4.1](#) or [Gmax Object Export for PB Vers. 4.5](#).

12.1.3.2 Object Creation and Export for PB Version 4.1

Please open gmax and load the PB Native 4:3 File (you can download it from the coolux user forum: <http://www.coolux.de/kb/phpBB3/viewtopic.php?f=61&t=148>).



The PB_Native_4to3_Scale File contains two items:
 - a flat planar object and
 - a camera

If you would export the planar object as it is to an .x File and load it into Pandoras Box, the shape of a layer would not change since this plane is a reference file to match the full screen scaling of a layer object.

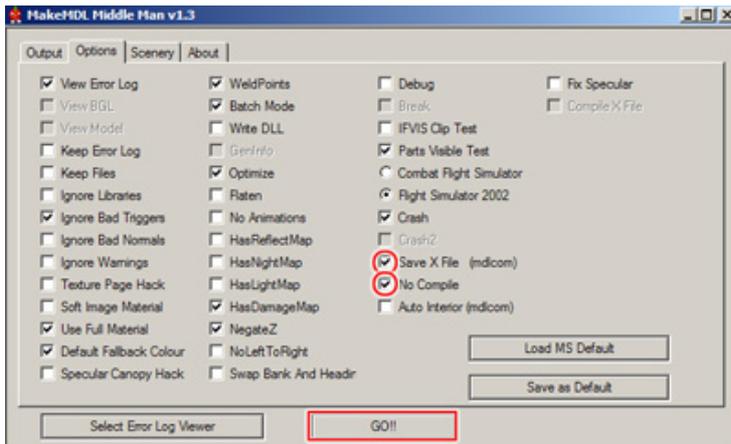
The camera helps us with a fixed view to see the boundaries of our output and allows us to create shapes that cross the boundaries. Please make sure to always work within the camera view when shaping the grid. You may use the front view to work outside of the screen boundaries, but the camera view is a static reference for Pandoras Box.

If you finished editing your object, you have to export it.

First of all make sure that the plugin Files (*Gmax_plugin_files.zip*) are in the Plugin Folder in the gmax executable root. Or use the *gmax_installer.zip* instead. This installer will copy all files into the gmax root directory.

If the files are not there please save your work first, close gmax, copy the plugin Files and then start gmax again to get the export options. To export the object, make sure it is selected by clicking on it and then choose from the file menu "export selected". Export selected as "Flightsim Aircraft Object (*.MDL)".

Since the Flightsimulator uses different units a messagebox will pop up, simply click "OK" to continue. In the next dialog that opens go to Options and check "xfile" and "no compile" and click on "GO".



You might save the options so that you don't have to check this at every export by clicking "Save as Default".
The object is now properly exported as .x file and can be loaded into Pandoras Box.

12.1.3.3 Object Creation and Export for PB Version 4.5

You have two opportunities to export your 3D object, using
- the [Flightsim Aircraft Exporter](#) or
- the [Pandoras Box Exporter Script](#).

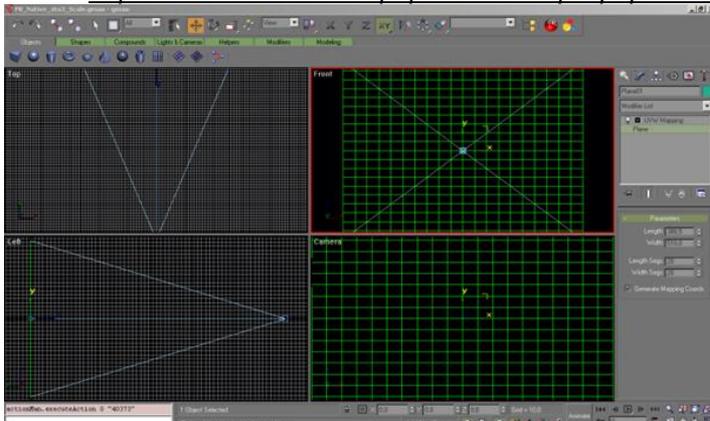
The difference between these two exporters is their handling of unit conversion. Via the flightsimulator plugin the scalings are always transformed to a inch based measuring system, the PB Exporter script transforms the units 1:1.

Both exporters will give you the same result, but you have to use different PB Native Setup files, which gives you reference to the camera settings inside Pandoras Box.

12.1.3.3.1 Export Using Flightsim Aircraft Exporter Plugin

Loading PB Native 4.5 Setup File

Please open gmax and load the PB Native 4.5 Setup File (you can download it from the coolux user forum: <http://www.coolux.de/kb/phpBB3/viewtopic.php?f=61&t=491>).



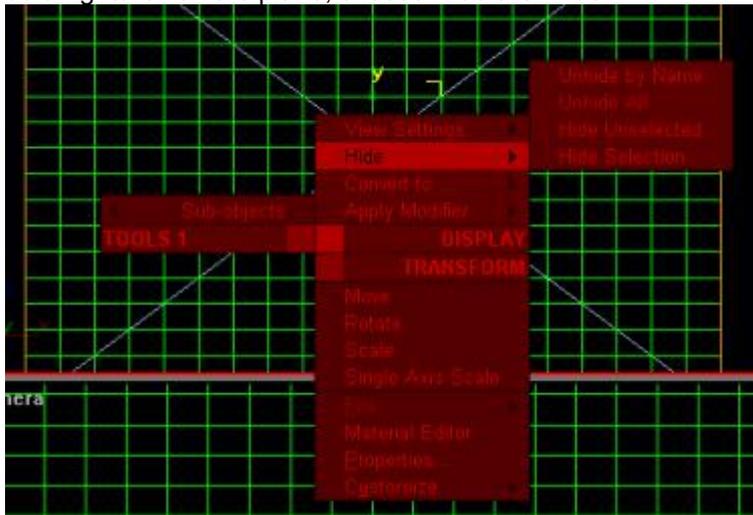
The PB Native 4.5 Setup File contains several items:

- four flat planar objects with different aspect ratios: 4:3, 16:9, 16:10, 5:4,
- a camera.

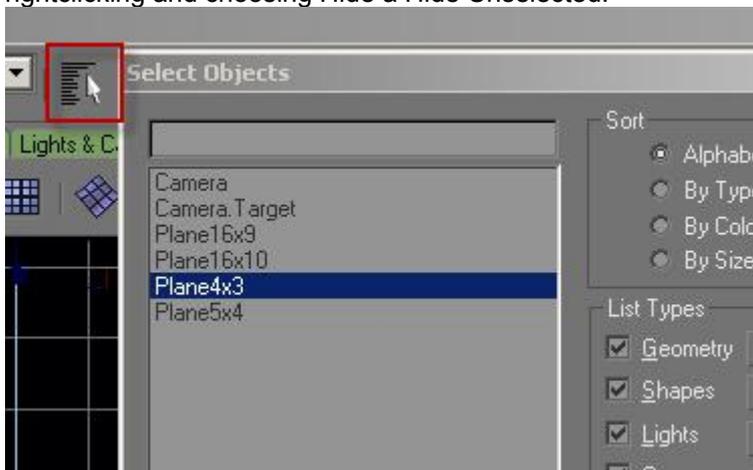
When opening the file, the 4:3 plane is visible.

If you would export the 4:3 planar plane as it is to an .x File and load it into Pandoras Box, the shape of a layer would not change since this plane is a reference file to match the full screen scaling of a layer object.

If you need another aspect ratio you want to fit your layer or camera to, like 16:9, 16:10 or 5:4, please do a rightclick on the plane, choose Hide à Unhide All.



Via the Select by Name-Tool you can select another aspect ratio and hide all unselected by rightclicking and choosing Hide à Hide Unselected.



Editing the object

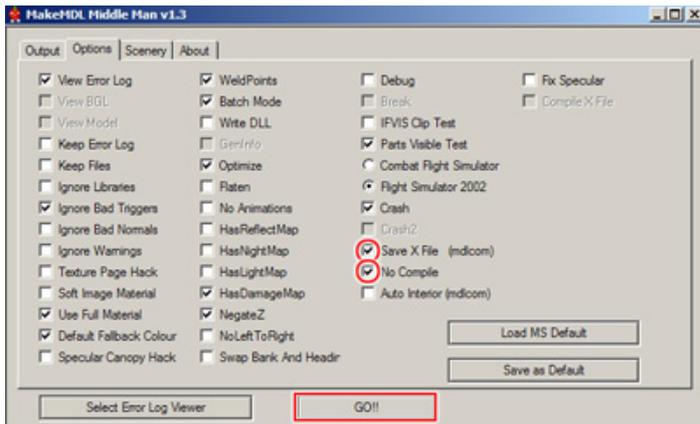
The camera helps us with a fixed view to see the boundaries of our output and allows us to create shapes that cross the boundaries. Please make sure to always work within the camera view when shaping the grid. You may use the front view to work outside of the screen boundaries, but the camera view is a static reference for Pandoras Box.

Exporting the object

First of all make sure that the plugin Files (*Gmax_plugin_files.zip*) are in the Plugin Folder in the gmax executable root. Or use the *gmax_installer.zip* instead. This installer will copy all files into the gmax root directory.

If the files are not there please save your work first, close gmax, copy the plugin Files and then start gmax again to get the export options. To export the object, make sure it is selected by clicking on it and then choose from the File à Export Selected from the rightclick menu. Export selected as "Flightsim Aircraft Object (*.MDL)".

Since the Flightsimulator uses different units a messagebox will pop up, simply click "OK" to continue. In the next dialog that opens go to Options and check "xfile" and "no compile" and click on "GO".

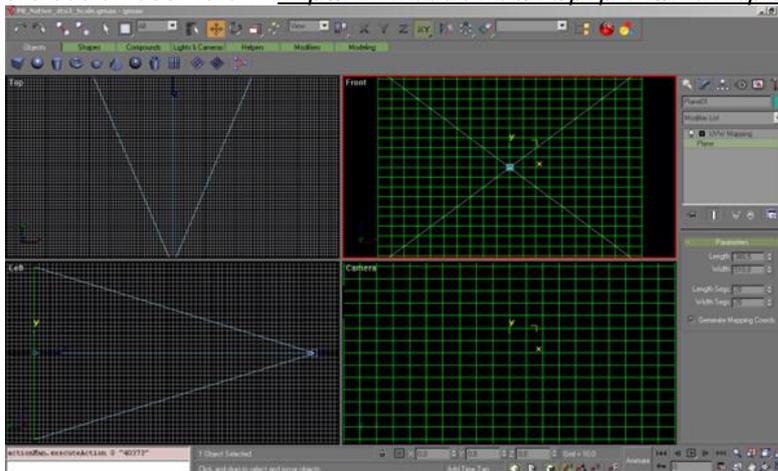


You might save the options so that you don't have to check this at every export by clicking "Save as Default".
 The object is now properly exported as .x file and can be loaded into Pandoras Box.

12.1.3.3.2 Export Using the PB Exporter Script

Loading PB Native 4.5 PB Exporter File

Please open gmax and load the PB_Native_v4_5_PB_Exporter.gmax file (you can download it from the coolux user forum: <http://www.coolux.de/kb/phpBB3/viewtopic.php?f=61&t=569>).

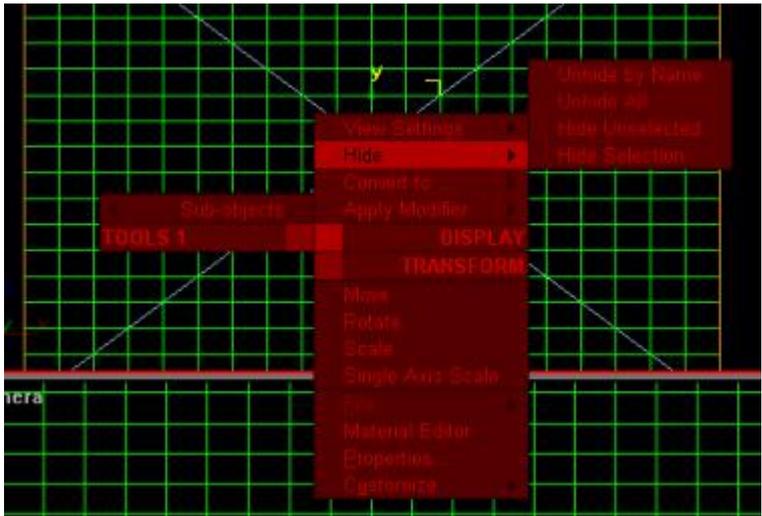


The PB Native 4.5 Setup File contains several items:
 - four flat planar object, with different aspect ratios: 4:3, 16:9, 16:10, 5:4
 - a camera.

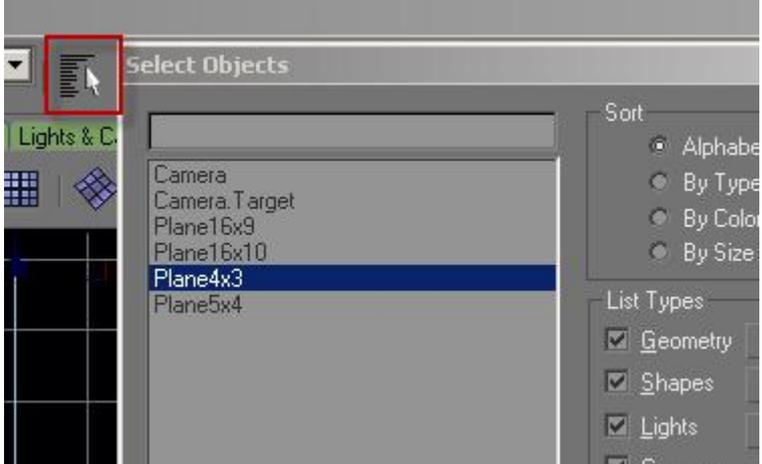
When opening the file, the 4:3 plane is visible.

If you would export the 4:3 planar plane as it is to an .x File and load it into Pandoras Box, the shape of a layer would not change since this plane is a reference file to match the full screen scaling of a layer object.

If you need another aspect ratio you want to fit your layer or camera to, like 16:9, 16:10 or 5:4, please do a rightclick on the plane, choose Hide à Unhide All.



Via the Select by Name-Tool you can select another aspect ratio and hide all unselected by rightclicking and choosing Hide à Hide Unselected.



Editing the object

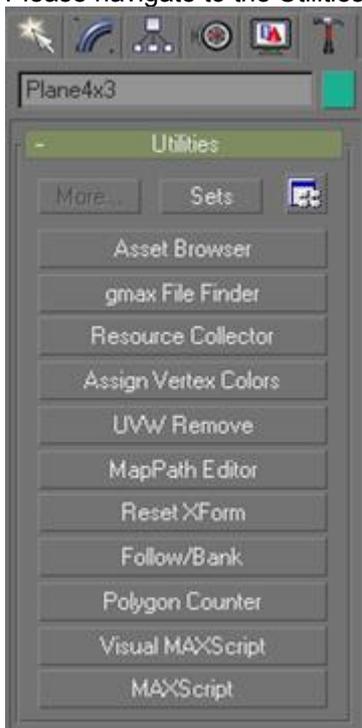
The camera helps us with a fixed view to see the boundaries of our output and allows us to create shapes that cross the boundaries. Please make sure to always work within the camera view when shaping the grid. You may use the front view to work outside of the screen boundaries, but the camera view is a static reference for Pandoras Box.

Exporting the object

Before exporting the finished object via PB Exporter, please navigate to Hierarchy tab, and click on Reset: [Transform] under Adjust Transform. This rotates the axis inside Gmax to fit to Pandoras Box.



Please navigate to the Utilities Tab now.



Click on MAXScript, and you will get the following menu below the MAXScript button:



If you now unfold the Utilities list and choose the Pandoras Box Exporter again, below the list you will get the export option.

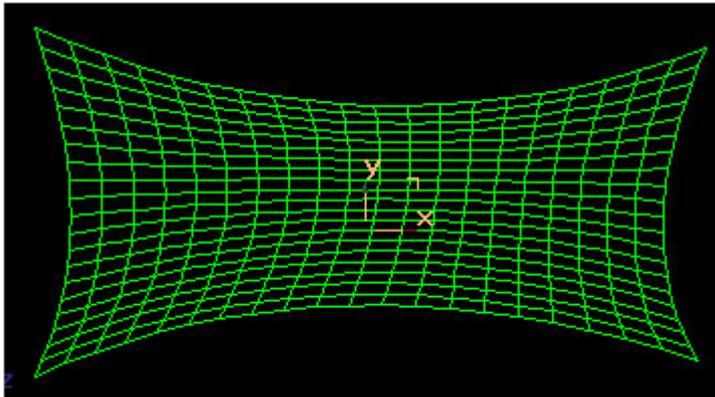


After you clicked [Export Selected], a Dialog opens and asks you to run the Pandoras Box Exporter. Please execute this exporter (PB GMAX X File Exporter.exe) that you downloaded.

Choose a file location and your x-file will be created there.

12.1.3.4 Warping with GMAX

-Introduction to curved screen setup-



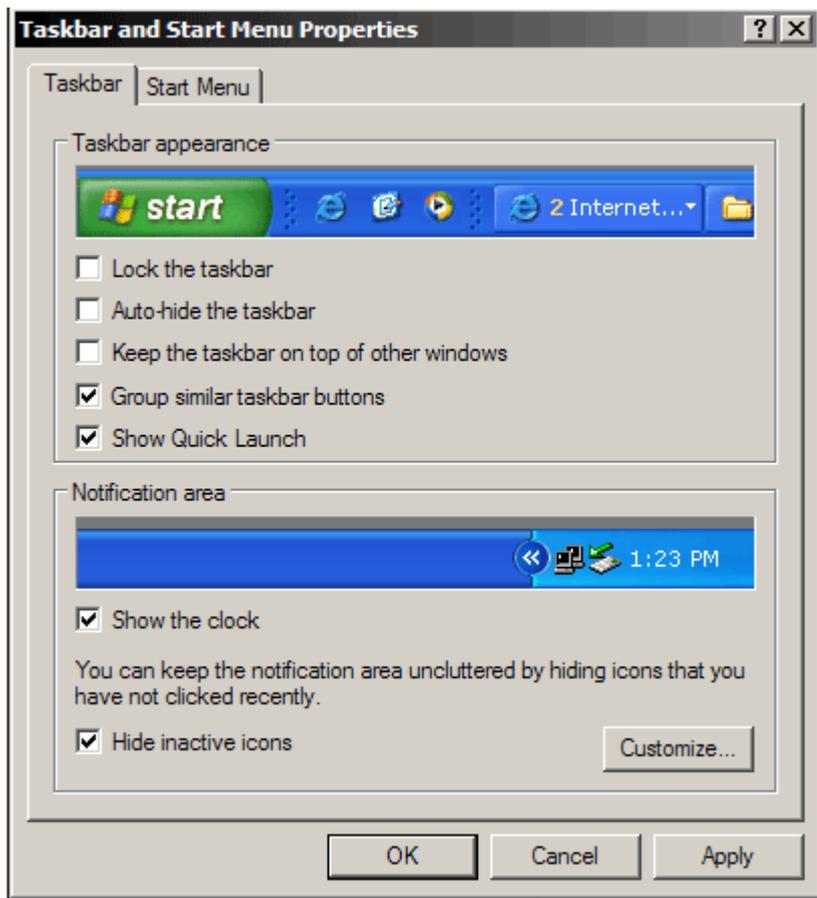
Pandoras Box MediaPlayer Systems provide the ability to use shapes and objects for any display output to be rendered to. This tutorial is intended to show the basic steps for correcting curved screens.

As gmax is a extensive and powerfull 3D modeling tool we will only scratch the surface of 3D modeling in this tutorial.

Geometric correction has to be set up on-site with the projector hooked up to your system and running gmax in full-screen.

In order to get started, make sure that gmax is installed properly on your system. If you need to work from a distance, use a remote desktop viewer like Real VNC to mirror the output of the projectors on your laptop or PC.

To gain a maximum warping area, make sure that the Windows taskbar is not set to be "on top of other windows" by right-clicking on the windows taskbar and choosing its properties dialog.

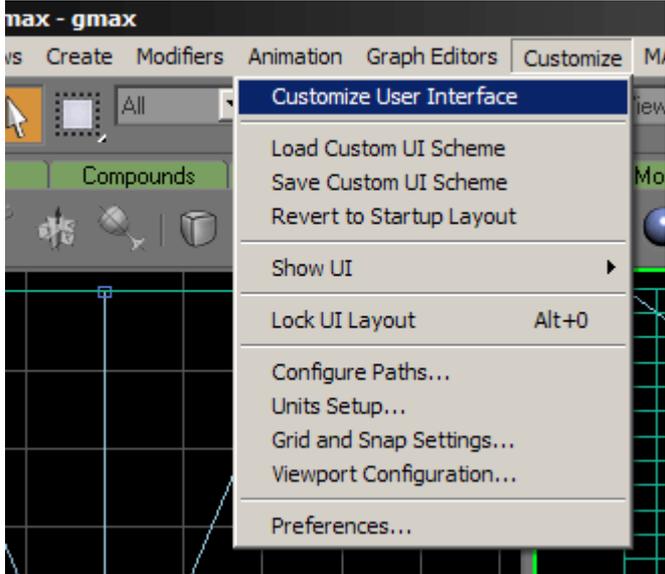


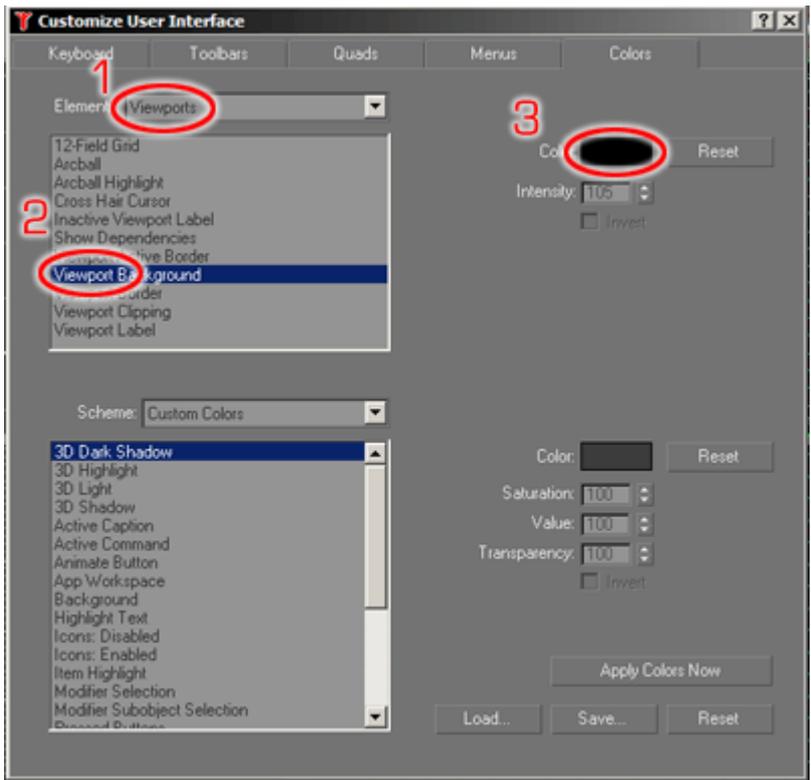
Start gmax.

If you need to setup two outputs simultaneously, start gmax in **Desktop extended mode** once for each screen so that you can edit two warping grids at the same time. Once gmax is started it is recommended to adjust the following settings for a better workflow during the screen shaping process:

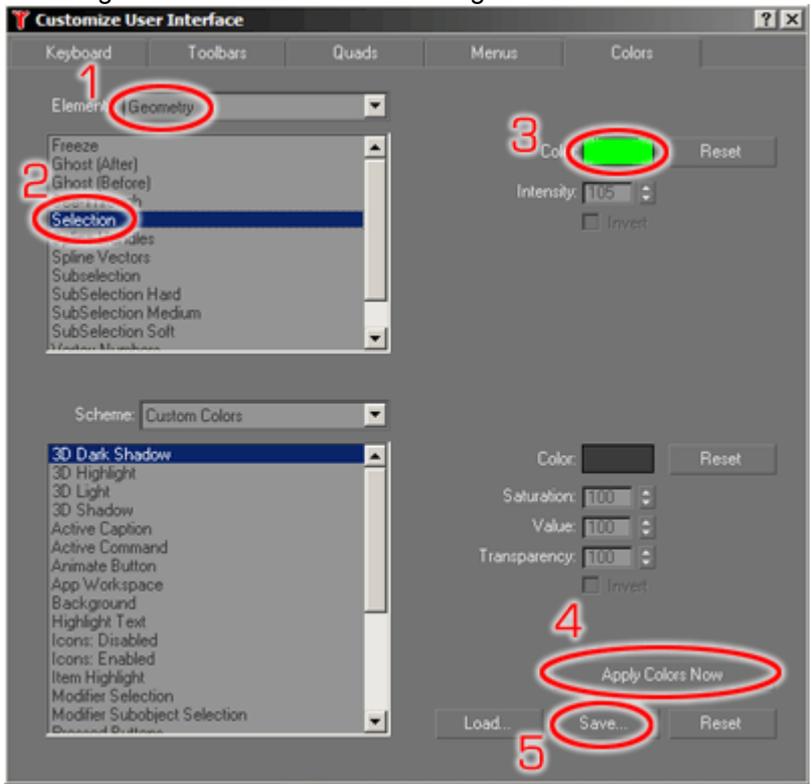
First of all we want to make sure that the background is all black and that all lines to be edited turn to primary green. This makes it much easier to see the grid in most lighting conditions.

To do this, click on Customize User Interface in the Main menu. Follow these steps:

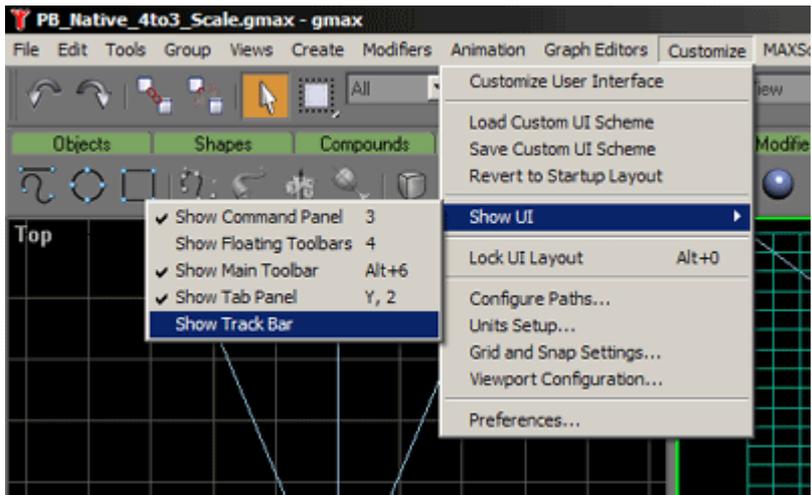




1. Select Viewports from the Elements pull-down menu
2. Choose Viewport Background
3. Change the colour in the colour dialog to black



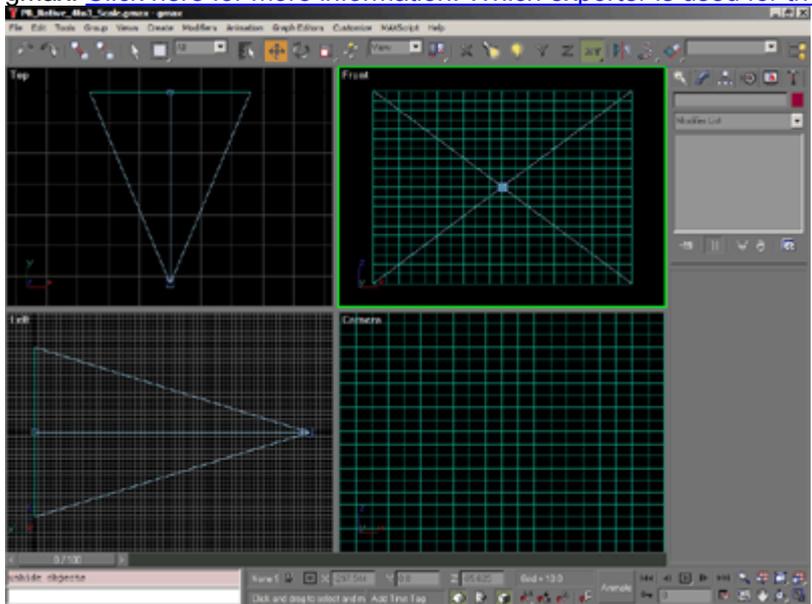
1. Select Geometry from the Elements pull-down menu
2. Choose Selection
3. Change the colour in the colour dialog to primary green
4. Apply the new settings
5. Save these settings for the future in File dialog by overwriting the default colour file.



Last, make sure to hide the track bar from the main UI by un-checking "Show Track Bar". Now you are ready to start warping! Please always make sure that your gmax is set up this way, these settings are important for working in expert mode with gmax in order to use the full desktop.

Important!

In this next section we will look at the basic deformation of a flat planar object, to start please download the according Gmax PB Native File downloadable in the Coolux User Forum and open it in gmax. [Click here for more information: Which exporter is used for the different types of objects?](#)



The PB_Native_4to3_Scale File contains two items:

- a flat planar object and
- a camera

The PB_Native_v4_5 and the PB_Native_v4_5_PB_Exporter File contain several items:

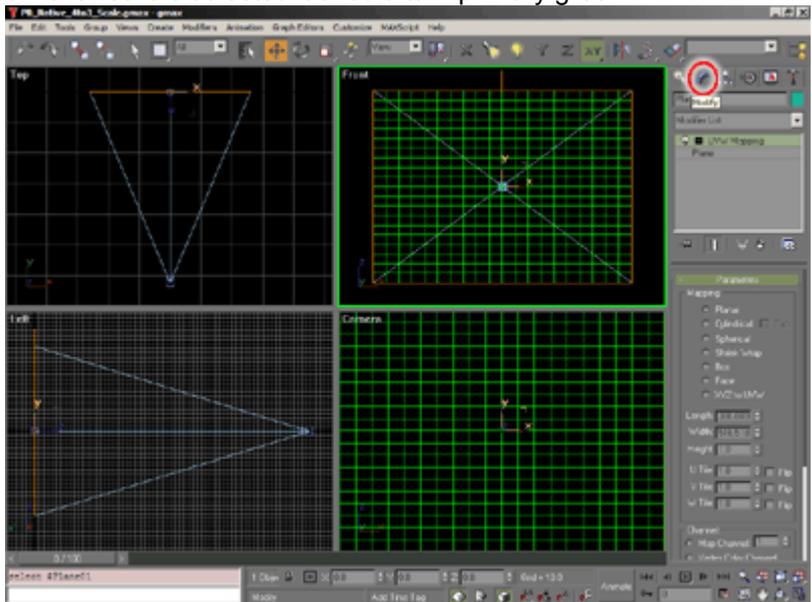
- four flat planar objects with different aspect ratios: 4:3, 16:9, 16:10, 5:4,
- a camera.

Please see the [Tutorial for exporting objects for PB Version 4.5](#) to get more information about how to switch between the flat planar objects.

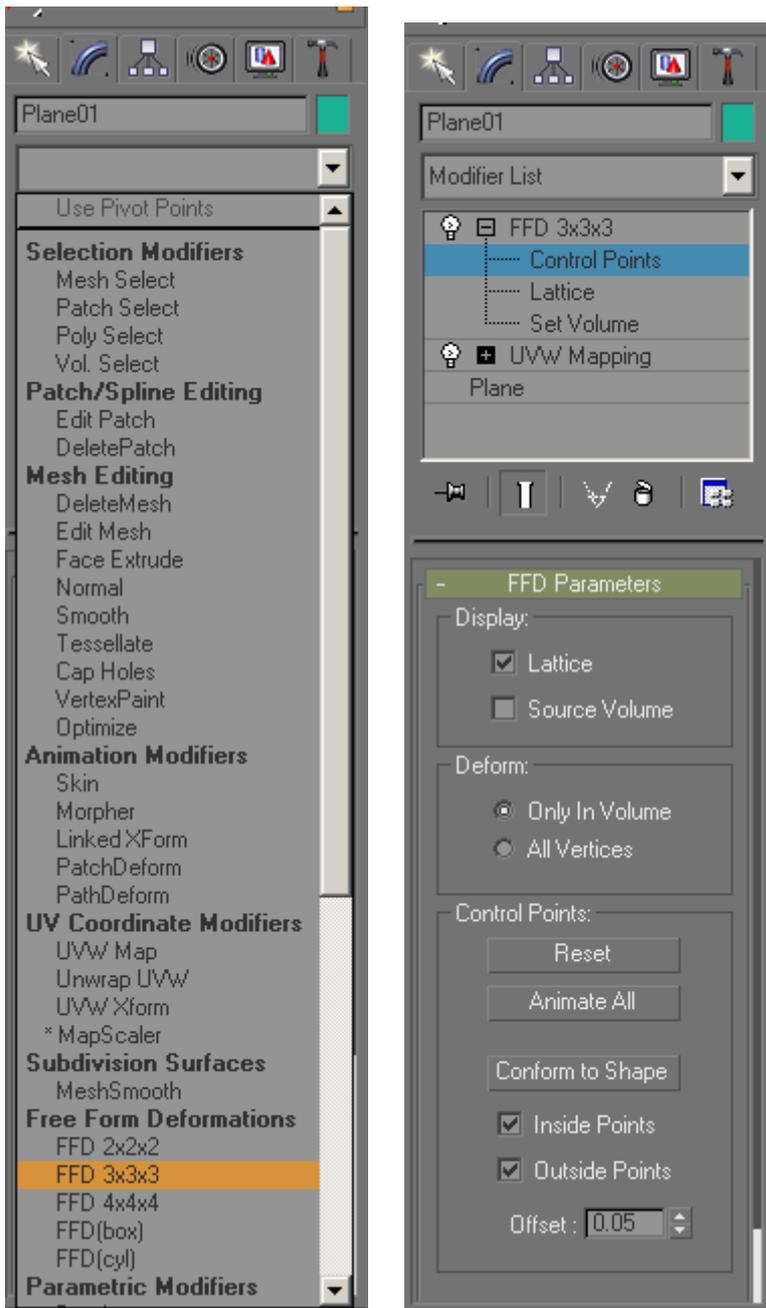
If you would export the planar object as it is to an .x File and load it into Pandoras Box, the shape of a layer would not change since this plane is a reference file to match the full screen scaling of a layer object. The camera helps us with a fixed view to see the boundaries of our output and allows us to create shapes that cross the boundaries. Please make sure to always work within the camera view when shaping the grid. You may use the front view to work outside of the screen boundaries, but the camera view is a static reference for Pandoras Box.

The most common task for screen shaping is a curved screen. To achieve this task, the planar object must be modified. The grid points have to be re-arranged in a way that the grid unwraps itself on the curved surface of your screen. To do this, all you need to do is to apply a tool that allows bending and shaping of planar objects.

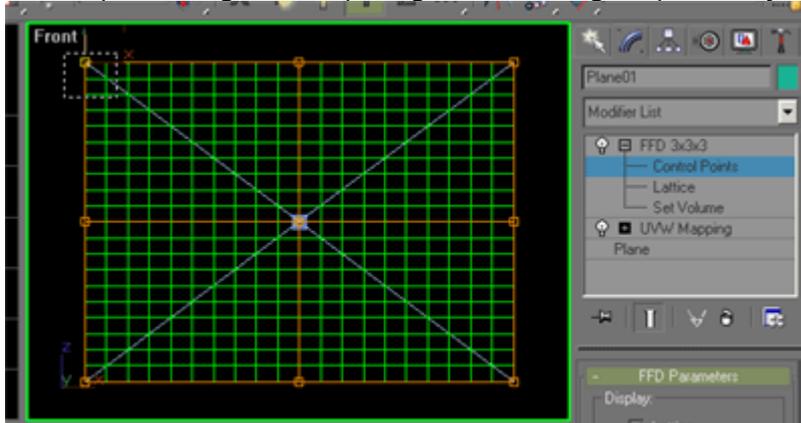
In order to apply a new tool or a so called "modifier" in gmax, first select the planar object by clicking on it. Once it is selected it should turn primary green.



To apply a new modifier to the selected object you will need to switch to the modify mode by clicking on the "Modify" tab. Here you will see a hierarchy list of the history of the objects modifiers. In order to apply a new one, select FFD 3x3x3 from the pull down menu.

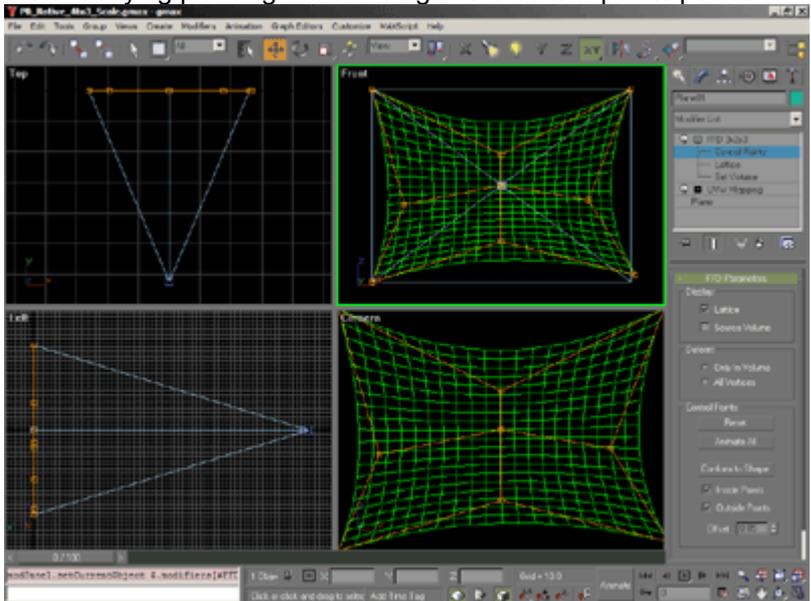


Then open the FFD 3x3x3 modifier in the stack and click on the Control Point level. Now you should see a 9 point orange control point grid surrounding the planar object.



Since gmax and all objects are always treated as 3D objects, the modifier works also in the 3rd dimension. Therefore there are 2 more control points underneath each of the 9 points . Since the

object that we want to modify is totally flat we need to make sure to always catch all three control points by dragging a selection window over the control points. Now feel free to select and move the control points around to get a feeling of the dynamic behavior of the underlying planar grid according to the control points positions.



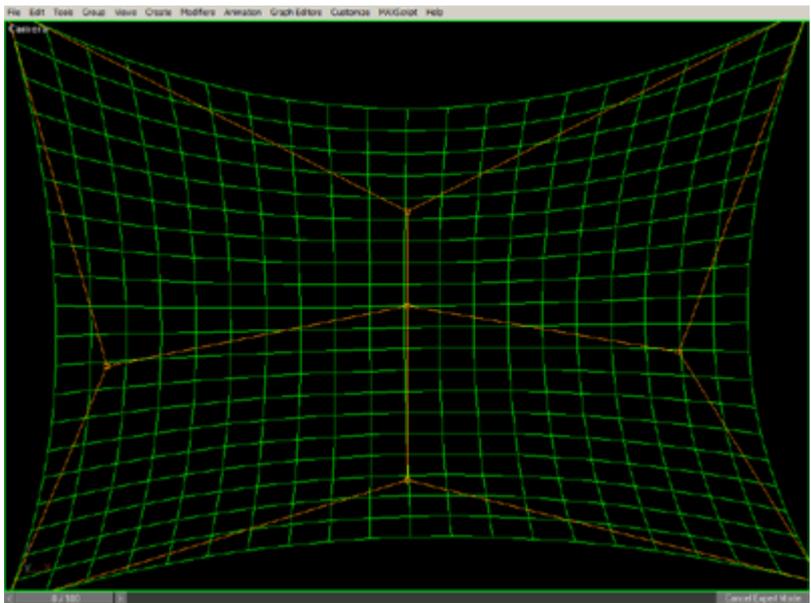
Please Note: Always make sure that none of your points moves towards the Z axis, all control points must stay at the same distance from the camera at all times. To control this, check your control points positions in the top and left view.

You might wonder how you can actually draw and shape this plane according to your screen, the answer is only a few clicks away.

In order to control the FFD's Control points you are in the control point level of the selected objects modifier stack. Once you are in this mode you can right-click in the camera view and press CTRL+X to toggle to the expert fullscreen mode of gmax. By pressing "W" on the keyboard you may toggle to the maximized camera view.

Now start modeling your planar object according to the physical shape of the screen.

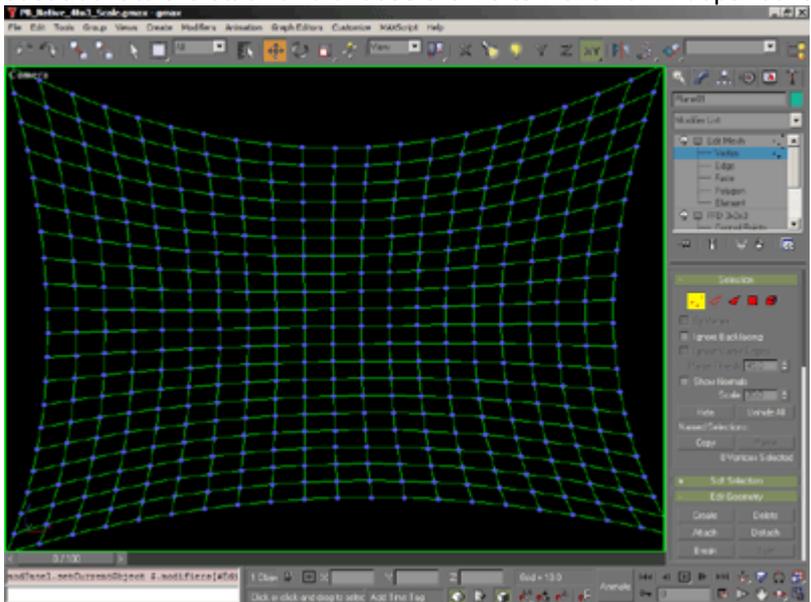
If you need to toggle to the front view while in expert mode, you may use the "F" key for front view, "L" for left view and "C" for the camera view.



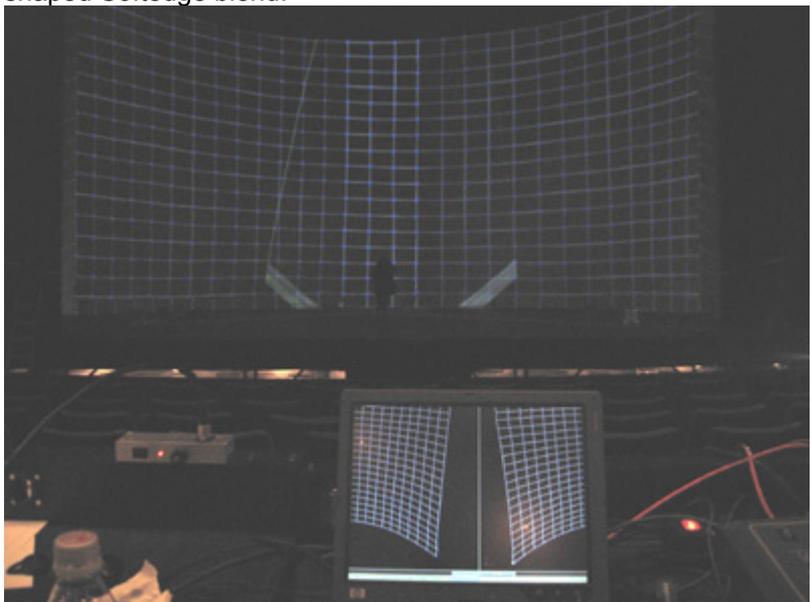
Please make sure that you make all adjustments to match your screens only according to the camera view, as this is your reference view for Pandoras Box output.

Once you're done with shaping the screen, you only have to export the selected object from the file menu and load the object into the output camera.

Anytime you need to get more detailed control over every grid point, explore the "edit mesh" modifier. Just add it to the stack and choose the Vertex level for in depth control of every segment of the shape.



This modifier will do a great job when you do Softedge setups with over-laying grids. The Edit Mesh modifier will allow you to get the overlapping vertices accurately on top of each other for a perfect shaped Softedge blend.



For this 180 degree screen, two gmax applications are edited at the same time. In the overlapping zone all vertices were touched up to match exactly the screen deformation.

OBJECT EXPORT

As last step you have to export your file as .x-file, for further information please see the [Gmax Object Export for PB Vers. 4.1](#) or [Gmax Object Export for PB Vers. 4.5](#)

12.1.3.5 Gmax Keyboard Shortcuts

- F3 - Toggle textured view
- F4 - Toggle grid on textured view

- F - Front View
- C - Camera View
- L - Left View
- R - Right View
- T - Top View
- P - Perspective View
- G - Toggle Background Grid

- Ctrl+X - Toggle Fullscreen Mode
- X - Toggle XYZ Axis Control

12.2 3ds MAX

To create a Keystone object, we recommend creating it with 3D Studio Max or its freeware version GMAX.

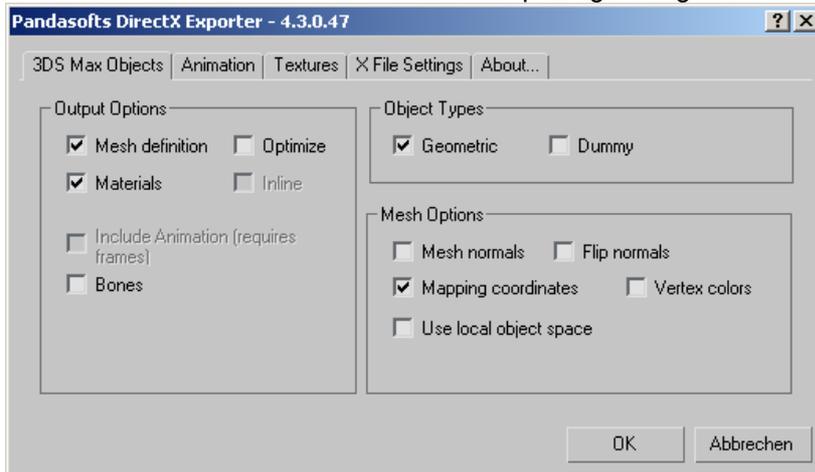
- [Pandasoft Exporter Settings for 3ds Max](#)
- [Converter File for Coordinates 3ds Max to Pandoras Box](#)

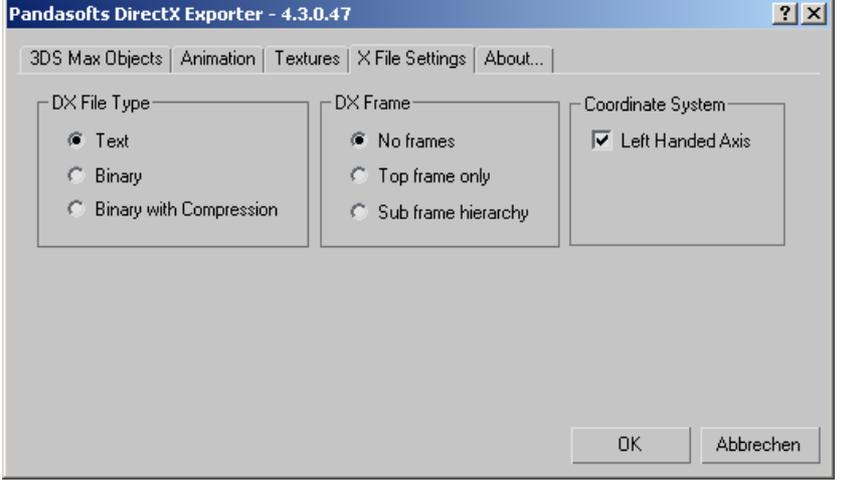
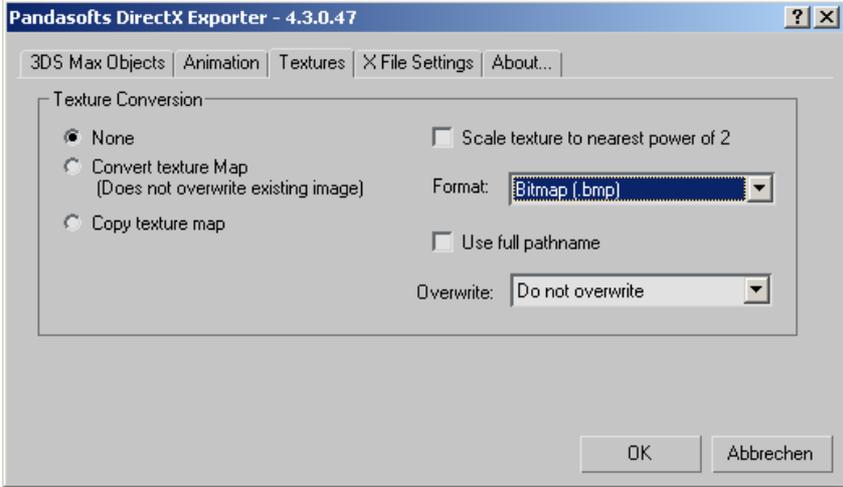
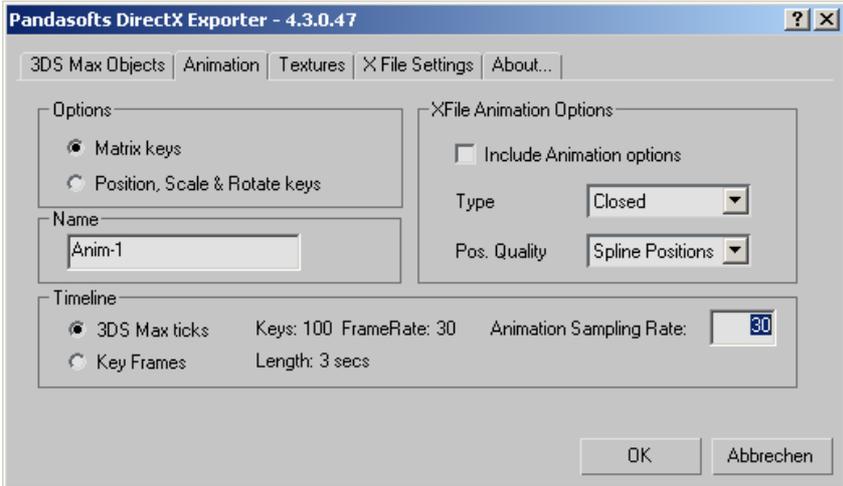
12.2.1 X-File Exporter for 3ds MAX

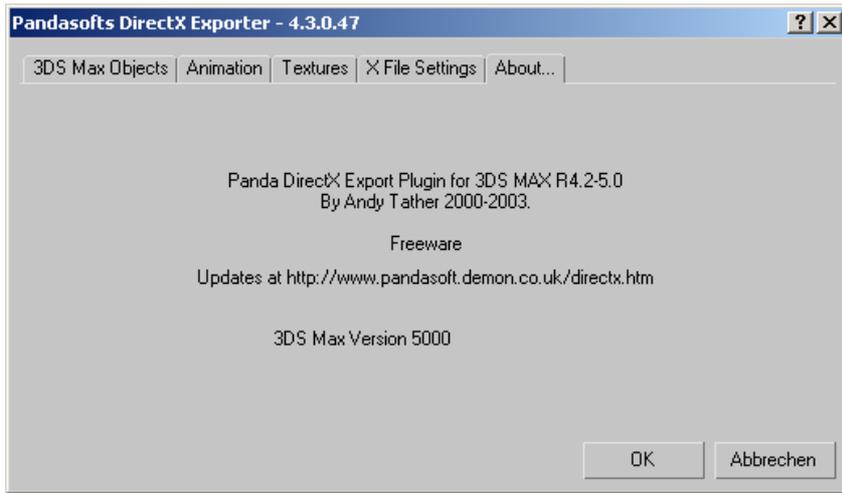
When creating a warping grid or 3D objects with 3ds Max, you will need to install the x-file exporter in order to use the object with Pandoras Box.

We recommend using the Panda DirectX Exporter, it can be downloaded here: http://www.andytather.co.uk/Panda/directxmax_downloads.aspx. Choose the Pandasoft Version according to your 3ds Max Version and install it, following the installing instructions on the website.

Please see here the recommended x-file exporting settings for 3ds Max 5:







12.2.2 Converter File for coordinates 3ds Max to Pandoras Box

In order to get the same dimensions for your objects in 3ds Max and in Pandoras Box, please download the [PB_Native_4to3_Scale_3DS Max.max](#) file and open it in 3ds Max.

The PB_Native_4to3_Scale_3DS Max File contains two items:

- a flat Planar Object
- a Camera

If you would export the planar object as it is to an .x File and load it into Pandoras Box, the shape of a layer would not change, since this plane is a reference file to match the full screen scaling of a layer object. The camera helps us with a fixed view to see the boundaries of our output and allows us to create shapes that cross the boundaries. Please make sure to always work within the camera view when shaping the grid. You may use the front view to work outside of the screen boundaries, but the camera view is a static reference for Pandoras Box.

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