Technical Reference

020-103886-01

Christie Inspire Series 4K

Serial Commands

CHRISTIE®

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Danger messages indicate a hazardous situation which, if not avoided, results in death or serious injury.

Warning messages indicate a hazardous situation which, if not avoided, could result in death or serious injury.

Caution messages indicate a hazardous situation which, if not avoided, could result in minor or moderate injury.

Notice messages indicate a hazardous situation which, if not avoided, may result in equipment or property damage.

Information messages provide additional information, emphasize or provide a useful tip.

Content

Communicating with Christie Inspire Series 4K

Understand the information and procedures for communicating with Christie Inspire Series 4K from a remote location.

You can communicate with the projector through the RS232 IN port or the Ethernet port. When connecting the projector to a computer, use a direct connection. Docking ports can cause software upgrade failures.

Model names

- 4K860-iS
- 4K860A-iS

Connecting to the projector RS232 IN port

Communicate with the projector through the RS232 IN port.

1. Connect one end of a null standard nine-pin female to female modem cable to the projector RS232 IN port.
2. Connect the other end of the null standard nine-pin female to female modem cable to a computer.
3. Connect PIN 2 to PIN 3, PIN 3 to PIN 2 and PIN 5 to PIN 5.

Connecting to the projector Ethernet port

Communicate with the projector through the Ethernet port.

1. Change the IP address of your computer to place your computer on the same subnet as the projector.

   Make sure the computer and projector IP addresses do not conflict with any device on the network.
2. Connect to the projector from your computer.

   You can make the connection through an Ethernet cable or a wireless router.
3. On the TCP software, use port 3002.
4. Start sending serial commands.

RS232 communication parameters

The RS232 IN port has several communication parameters.

Parameter	Value
Default baud rate	115200
Parity	None
Data bits	8
Stop bits	1
Flow control	None

Correct command formatting

Add a space between the function code and the number when entering commands.

For example, `(PWR1)` can be entered as `(PWR 1)`.

Understanding the message format

Commands sent to and from Christie Inspire Series 4K projectors are formatted as simple text messages consisting of a three letter function code, an optional four letter subcode, and optional data.

Source	Format	Function	Example
From controller	(Code Data)	SET (set power on)	`(PWR1) or (PWR 1)`
	(Code+Subcode Data)	SET (set active input for the main video)	`(SIN+MAIN 1)`
	(Code ?)	REQUEST (what is current power state?)	`(PWR?) or (PWR ?)`
	(Code+Subcode ?)	REQUEST (what is active input for the main video?)	`(SIN+MAIN?)`
From projector	(Code Data)	REPLY (power state is 1 "On")	`(PWR!001 "On")`
	(Code+Subcode Data)	REPLY (active input for the main video is 1 "DVI-D")	`(SIN+MAIN!001 "DVI-D")`

Available message types

Message type	Description
Set	A command to set a projector parameter at a specific level, such as changing the brightness.
Request	A request for information, such as what is the current brightness setting.
Reply	Returns the data in response to a request or as confirmation of a command.

Message structure

Understand the components of an ASCII command.

Regardless of message type or origin, all messages use the same basic format and code. Opening and closing round brackets (parentheses) surround each message.

Message element	Description
Parentheses	Commands are enclosed by parentheses (). If a start character is received before an end character of the previous message, the partial (previous) message is discarded.
Prefix characters (optional)	Acknowledges the projector has responded or increases message integrity when added before the three-character function code. • Number symbol (#)—Request a full acknowledgment. A full acknowledgment sends an echo of the message as a reply from the projector when it finishes processing the command. Do not include a full acknowledgment in a request message.
Function code	The primary projector function being queried or modified. Each function code is represented by a three-character, upper or lower case ASCII code (A-Z). The function code appears after the first parenthesis. If a command does not include a subcode, a space between the function code and the first parameter (or special character) is optional.
+subcode	The secondary projector function being queried or modified. Each subcode is represented by a four-character, upper or lower case ASCII code (A-Z and 0-9). The subcode appears after the function code, and it is separated from the function code with a plus symbol (+). If a subcode is not included, the plus symbol is not required. If a command includes a subcode, a space between the subcode and the first parameter (or special character) is optional.
Request and reply symbols	The question mark symbol (?) appears after the function code when the controller requests projector information. An exclamation mark (!) appears after the function code when the projector responds to a request. Do not include a question or exclamation mark when creating a SET command.

Error messages

If a command cannot be performed, a descriptive error identifying the problem appears.

For example, the following message indicates a syntax error:

```
(ITP) - (65535 00000 ERR00005 "ITP: Too Few Parameters")
```

Serial API commands

The Christie Inspire Series 4K commands can be used to modify product settings.

ACC–Auto Color Calibration

Starts adjusting the image color.

Commands

Command	Description	Values
ACC 1	Starts adjusting the image color.	1

Examples

Start adjusting the image color: `(ACC 1)`

ACE–Auto Color Uniformity

Balances the image color automatically with auto color uniformity.

Commands

Command	Description	Values
ACE <0 | 1>	Enables or disables automatically adjusting color uniformity.	0 = Disables automatically adjusting color uniformity (Default) 1 = Enables automatically adjusting color uniformity

Examples

Disable automatically adjusting color uniformity: `(ACE 0)`
Enable automatically adjusting color uniformity: `(ACE 1)`

ACR–Auto Color Uniformity Reset

Restores the auto color uniformity settings to the factory defaults.

Commands

Command	Description	Values
ACR 1	Restores the auto color uniformity settings to the factory defaults.	1

Examples

Restore to factory defaults: `(ACR 1)`

ACT–Auto Color Uniformity Target Selection

Selects a calibration target for automatic color uniformity.

Commands

Command	Description	Values
ACTxy	Selects a calibration target for automatic color uniformity.	x = 1 to 9 y = 1 to 7

ADR–Projector Address

Sets or queries the device address.

This command also helps to identify where a response or asynchronous message originates from. Generally, this command is used for projectors that are daisy-chained together using the RS232 style communication.

The projector responds to IR remotes set to the same address as the projector or to IR remotes set to address 0.

Commands

Command		Values
ADR?	Checks the current projector address. (Read-only)	—
ADR <value>	Sets the projector address to <value>.	0 to 9 0 (Default)

Examples

Set the projector address 0: `(ADR 0)`

AIR–Auto Image Resync

Sets the Timing Detection mode to enhanced or normal to support additional PC timings. When the projected picture is not completed, this function is used to adjust the picture.

Commands

Command	Description	Values
AIR <0 | 1>	Sets the Timing Detection mode.	0 = Normal (Default) 1 = Enhanced

Examples

Set the Timing Detection mode to Normal: `(AIR 0)`
Set the Timing Detection mode to Enhanced: `(AIR 1)`

AMU–Audio Mute

Enables or disables the audio.

Commands

Command	Description	Values
AMU <0 | 1>	Enables or disables the audio.	0 = Disables audio (Default) 1 = Enables audio

Examples

Disable audio: `((AMU 0)`
Enable audio: `((AMU 1)`

APW–Auto Power On

Automatically turns on the projector when electrical power is connected.

Commands

Command	Description	Values
APW <0 | 1>	Automatically powers up the projector to the on state.	0 = Disables auto power up (Default) 1 = Enables auto power up

Examples

Turn off auto power: `(APW 0)`
Turn on auto power: `(APW 1)`

ASH–Auto Shutdown

Powers off the projector after a set period of time.

If an active signal is received before the projector powers down, the image is displayed.

Commands

Command	Description	Values
ASH <value>	Enables or disables auto shutdown.	0 = Turns off auto shutdown (Default) 1 = Activates auto shutdown after five minutes 2 = Activates auto shutdown after 10 minutes 3 = Activates auto shutdown after 15 minutes 4 = Activates auto shutdown after 20 minutes 5 = Activates auto shutdown after 25 minutes 6 = Activates auto shutdown after 30 minutes

Examples

Turn off auto shutdown: `(ASH 0)`
Activate auto shutdown after ten minutes: `(ASH 2)`

ATF–Auto Focus

Adjusts the image focus automatically with the camera kit.

Commands

Command	Description	Values
ATF 1	Adjusts the image focus automatically with camera kit.	1

Examples

Adjust the image focus automatically with the camera kit:

```
(ATF 1)
```

ATW–Auto Wall Color

Sets the wall color automatically so the projector can enhance the color performance customized for the specific wall.

Commands

Command	Description	Values
ATW 1	Sets the wall color automatically so the projector can enhance the color performance customized for the specific wall.	1

Examples

Set the wall color automatically:

```
(ATW 1)
```

AVL–Volume

Adjusts the volume.

Commands

Command	Description	Values
AVL <volume>	Adjusts the volume.	0 to 20 10 (Default)

Examples

Set the volume to 10: `(AVL 10)`

AWF–Auto Warp Filter

Automatically corrects the distorted image.

Image distortion is caused by projection to a curved surface or by lens distortion.

Commands

Command	Description	Values
AWF <0 | 1>	Enables or disables automatically applying a preset warp filter for image distortion correction.	0 = Disables automatic warping 1 = Enables automatic warping (Default)

Examples

Disable automatic applying of a preset warp filter: `(AWF 0)`
Enable automatic applying of a preset warp filter: `(AWF 1)`

BAC–Backup Restore

Saves and restores Christie Inspire Series 4K settings to and from a backup file.

Commands

Command	Description	Values
BAC+REST <record>	Restores the Christie Inspire Series 4K settings from a backup file.	0 = Record 1 1 = Record 2 2 = Record 3 3 = Record 4 4 = Record 5
BAC+SAVE <record>	Saves Christie Inspire Series 4K settings to a backup file.	0 = Record 1 1 = Record 2 2 = Record 3 3 = Record 4 4 = Record 5

Examples

Restore Christie Inspire Series 4K settings from backup file 4: `(BAC+REST 3)`
Save Christie Inspire Series 4K settings to backup file 1: `(BAC+SAVE 0)`

BDR–Baud Rate

Sets the baud rate for a serial communications port.

Commands

Command	Description	Values
BDR?	Returns the baud rate for the serial port. (Read-only)	—
BDR <value>	Sets the baud rate for the serial port.	0 = 1200 1 = 2400 2 = 4800 3 = 9600 5 = 19200 6 = 38400 7 = 57600 8 = 115200 (Default)

Examples

Get the baud rate for the serial port:
`(BDR?)`
Result:
`(BRD! "115200")`

Set the baud rate on port A to 115200 bits per second: `(BDR+PRTA 8)`

BGC–Base Gamma Curve

Selects a gamma correction curve.

Commands

Command	Description	Values
BGC <value>	Selects a gamma correction curve.	0 = Video input 1 = Film 2 = Bright 3 = Computer input (CRT) 4 = DICOM 5 = HDR

Examples

Select a gamma correction curve for film input: `(BGC 1)`
Select a gamma correction curve for bright content: `(BGS 2)`

BKI–Backup Input

Sets the backup input parameters.

Commands

Command	Description	Values
BKI <0 | 1>	Enables or disables the backup input.	0 = Disables input (Default) 1 = Enable input
BKI+CHAN?	Returns the backup input change. (Read-only)	—
BKI+CSRC?	Returns the current signal of the first input. (Read-only)	—
BKI+FCSP?	Returns the color space of the first input.	—
BKI+FHDR?	Returns the HDR status of the first input.	—
BKI+FHOR?	Returns the horizontal refresh of the first input.	—
BKI+FRES?	Returns the resolution of the first input.	—
BKI+FSRC <value>	Sets the first input for the backup input.	3 = HDMI1 (Default) 4 = HDMI2

Command	Description	Values
		6 = DisplayPort 7 = 12G-SDI 8 = HDBaseT
BKI+SSRC?	Returns the current signal of the second input.	—
BKI+SSRC <value>	Sets the second input for the backup input.	3 = HDMI1 4 = HDMI2 (Default) 6 = DisplayPort 7 = 12G-SDI 8 = HDBaseT
BKI+SCSP?	Returns the color space of the second input.	—
BKI+SHDR?	Returns the HDR status of the second input.	—
BKI+SHOR?	Returns the horizontal refresh of the second input.	—
BKI+SRES?	Returns the resolution of the second input.	—
BKI+STAT?	Returns the backup input status. (Read-only)	—

BLD–Apply Blend Settings

Applies previously saved blend settings to the projector.

Commands

Command	Description	Values
BLD?	Returns the blend setting applied to the projector.	—
BLD <value>	Applies previously saved blend setting to the projector.	0 (Default) 1 to 4 = Selects saved blend settings

Examples

Disable blending: `(BLD 0)`
Use saved blend setting #3: `(BLD 3)`

BLS–Save Blend Settings

Saves the geometry correction after doing blending.

Commands

Command	Description	Values
BLS <value>	Saves the geometry correction after doing blending.	0 to 3 = Saves geometry correction to one of four blend settings 0 (Default)

Examples

Save the geometry correction to blend setting #4:

```
(BLS 3)
```

BOG–Blue Gain

Adds an offset to input blue gain settings of an image.

Adjusting this setting also affects the black and white components of an image. This setting can only be applied to VGA or component signals.

Commands

Command	Description	Values
BOG <value>	Sets the blue gain value.	0 to 100 50 (Default)

Examples

Set the blue gain value to 50:

```
(BOG 50)
```

BOO–Blue Offset

Adjusts the blue offset of an image.

Adjusting this setting also affects the black and white components of an image. This setting can only be applied to VGA or component signals.

Commands

Command	Description	Values
BOO <value>	Sets the blue offset value.	0 to 100 50 (Default)

Examples

Set the blue offset value to 50:

```
(BOO 50)
```

BRT–Brightness

Adjust the intensity of the image.

Commands

Command	Description	Values
BRT <value>	Adjusts the intensity of the image.	0 to 100 50 (Default)

Examples

Set the intensity of the image to 50:

```
(BRT 50)
```

CCA–Color Matching

Defines the hue of each primary color component (red, green, blue, and white).

Commands

Command	Description	Values
CCA+BLUG <value>	Specifies the blue levels of gain.	0 to 254 127 (Default)
CCA+BLUH <value>	Specifies the blue levels of hue.	0 to 254 127 (Default)
CCA+BLUS <value>	Specifies the blue levels of saturation.	0 to 254 127 (Default)
CCA+BRTD 1	Resets the blue color settings to their defaults.	1

Command	Description	Values
CCA+CRTD 1	Resets the cyan color settings to their defaults.	1
CCA+CYAH <value>	Specifies the cyan levels of hue.	0 to 254 127 (Default)
CCA+CYAG <value>	Specifies the cyan levels of gain.	0 to 254 127 (Default)
CCA+CYAS <value>	Specifies the cyan levels of saturation.	0 to 254 127 (Default)
CCA+GREG <value>	Specifies the green levels of gain.	0 to 254 127 (Default)
CCA+GREH <value>	Specifies the green levels of hue.	0 to 254 127 (Default)
CCA+GRES <value>	Specifies the green levels of saturation.	0 to 254 127 (Default)
CCA+GRTD 1	Resets the green color settings to their defaults.	1
CCA+MAGG <value>	Specifies the magenta levels of gain.	0 to 254 127 (Default)
CCA+MAGH <value>	Specifies the magenta levels of hue.	0 to 254 127 (Default)
CCA+MAGS <value>	Specifies the magenta levels of saturation.	0 to 254 127 (Default)
CCA+MHTP <0 | 1>	Turns automatic test patterns for HSG adjustment items on or off.	0 = Turns off automatic test patterns 1= Turns on automatic test patterns (Default)
CCA+MRTD 1	Resets the magenta color settings to their defaults.	1
CCA+REDG <value>	Specifies the red levels of gain.	0 to 254 127 (Default)
CCA+REDH <value>	Specifies the red levels of hue.	0 to 254 127 (Default)
CCA+REDS <value>	Specifies the red levels of saturation.	0 to 254 127 (Default)
CCA+RRTD 1	Resets the red color settings to their defaults.	1
CCA+WALL <0 | 1 | 2>	Sets the wall color so the projector can enhance the color performance customized for the specific wall.	0 = White (Default) 1 = Grey 130 2 = Light yellow

Command	Description	Values
CCA+WHBG <value>	Specifies the blue levels of white gain.	0 to 254 127 (Default)
CCA+WHGG <value>	Specifies the green levels of white gain.	0 to 254 127 (Default)
CCA+WHRG <value>	Specifies the red levels of white gain.	0 to 254 127 (Default)
CCA+WRTD 1	Resets the white gains settings to their defaults.	1
CCA+YELG <value>	Specifies the yellow levels of gain.	0 to 254 127 (Default)
CCA+YELH <value>	Specifies the yellow levels of hue.	0 to 254 127 (Default)
CCA+YELS <value>	Specifies the yellow levels of saturation.	0 to 254 127 (Default)
CCA+YRTD 1	Resets the yellow color settings to their defaults.	1

Examples

Set the red level of hue to 120: `(CCA+REDH 120)`
Turn on automatic test patterns for HSG adjustments: `(CCA+MHTP 1)`
Set the wall color to white: `(CCA+WALL 1)`

CCI–Color Temperature

Applies a predefined color temperature value to the input signal.

Commands

Command	Description	Values
CCI <value>	Applies a color temperature to the input signal.	0 = Warmest 1 = Warm 2 = Cool (Default)

Examples

Apply the warmest color temperature: `(CCI 0)`
Apply the cool color temperature: `(CCI 2)`

CEL–Ceiling Mount Setting

Changes the image orientation of ceiling mounted projectors.

Commands

Command	Description	Values
CEL <value>	Changes the image orientation of ceiling mounted projectors.	0 = Turns off the ceiling mount setting 1 = Turns on the ceiling mount setting and turns the image upside down 2 = Automatically adjusts image orientation to the projector position (Default)

Examples

Turn off the ceiling mount setting: `(CEL 0)`
Turn on the ceiling mount setting and turns the image upside down: `(CEL 1)`
Automatically adjust the image orientation to the projector position: `(CEL 2)`

CER–Reset to Default

Resets the function settings to factory default values.

Commands

Command	Description	Values
CER 1	Resets the function settings to factory default values.	1

Examples

Reset the function settings to factory default values:

```
(CER 1)
```

CLR–Color

Adjusts the saturation (amount) of color in an analog video image.

Commands

Command	Description	Values
CLR <value>	Sets the color saturation value.	0 to 100 50 (Default)

Examples

Set the color saturation value to 50:

```
(CLR 50)
```

CNR–4-Corner Geometry Correction

Fits an image in an area defined by x and y coordinates.

Commands

Command	Description	Values
CNR+BLCX <value>	Applies a bottom left horizontal adjustment, in pixels.	0 to 120 0 (Default)
CNR+BLCY <value>	Applies a bottom left vertical adjustment, in pixels.	0 to 80 0 (Default)
CNR+BRCX <value>	Applies a bottom right horizontal adjustment, in pixels.	0 to 120 0 (Default)
CNR+BRCY <value>	Applies a bottom right vertical adjustment, in pixels.	0 to 80 0 (Default)
CNR+RSET 1	Resets the adjustments to the defaults.	1
CNR+TLCX <value>	Applies a top left horizontal adjustment, in pixels.	0 to 120 0 (Default)
CNR+TLCY <value>	Applies a top left vertical adjustment, in pixels.	0 to 80 0 (Default)
CNR+TRCX <value>	Applies a top right horizontal adjustment, in pixels.	0 to 120 0 (Default)
CNR+TRCY <value>	Applies a top right vertical adjustment, in pixels.	0 to 80

Command	Description	Values
		0 (Default)

Examples

Set the top-left vertical adjustment value to 20:

```
(CNR+TLCY 20)
```

CON–Contrast

Sets the image contrast by adjusting the gain applied to the input signal.

This command adjusts the degree of difference between the lightest and darkest parts of the image and changes the amount of black and white in the image.

Commands

Command	Description	Values
CON <value>	Sets the degree of difference between the lightest and darkest parts of the image and changes the amount of black and white in the image.	0 to 100 50 (Default)

Examples

Set the contrast value to 50:

```
(CON 50)
```

CSP–Color Space

Specifies which color space the input signal uses.

This command is only useful for analog signals and certain digital sources.

Commands

Command	Description	Values
CSP <value>	Selects the color space for the input signal.	0 = Auto (Default = On) For RGB: 1 = RGB Full (Default) 2 = RGB Limited For YUV: 3 = REC709 (Default) 4 = REC601

Examples

Select the RGB color space for the input signal: `(CSP 1)`

CWI–Wheel Index Setting

Adjusts the phosphor and filter wheels.

This command can only be run when the projector is in service mode.

Commands

Command	Description	Values
CWI+FT4X <index>	Sets the speed of the filter wheel index to 4x.	50 to 719
CWI+PF4X <index>	Sets the speed of the phosphor wheel index to 4x.	

Examples

Set the speed of phosphor wheel index 76 to 4x: `(CWI+PF4X 76)`

DBS–Dynamic Black

Enables the function to automatically adjust the contrast ratio for video sources. It improves the black level in dark scenes by reducing the light output.

Commands

Command	Description	Values
DBS <0 | 1>	Enables or disables Dynamic Black™	0 = Disables Dynamic Black (Default) 1 = Enables Dynamic Black

Examples

Disable Dynamic Black: `(DBS 0>`
Enable Dynamic Black: `(DBS 1>`

DDD–Day

Sets the day in the date.

Commands

Command	Description	Values
DDD <day>	Sets the day in the date.	1 to 31 1 (Default)

Examples

Set the day to the 25th of the month:

```
(DDD 24)
```

DDM–Month

Sets the month in the date.

Commands

Command	Description	Values
DDD <month>	Sets the month in the date.	1 to 12 1 (Default)

Examples

Set the month to September:

```
(DDD 9)
```

DDY–Year

Sets the year in the date.

Commands

Command	Description	Values
DDD <year>	Sets the year in the date.	2000 to 2037

Examples

Set the year to 2023:

```
(DDD 2023)
```

DEF–Factory Defaults

Resets RS232 to its factory default values.

Commands

Command	Description	Values
DEF 111	Restores all settings to the factory defaults. To prevent accidental use of this command, the number 111 must follow the command.	111

Examples

Reset Christie Inspire Series 4K to factory defaults:

```
(DEF 111)
```

DLL–Dynamic Black Level

Adjusts the light source when the brightness level of the current content gets lower than the set value.

Commands

Command	Description	Values
DLL <value>	Adjusts the light source when the brightness level of the current content gets lower than the set value. The higher the value, the larger the range to adjust the light source.	50 to 100 100 (Default)

Examples

Set the level to 60% of constant brightness:

```
(DLL 60)
```

Set the level to 90% of constant brightness:

```
(DLL 90)
```

DSH–Digital Horizontal Shift

Moves the projector image left or right. If the image is not zoomed out (Digital Zoom), this command is disabled.

Commands

Command	Description	Values
DSH <value>	Moves the projector to the left or right.	0 to 100 0 = Moves the display area to the extreme left 50 = Centers the display area horizontally (Default) 100 = Moves the display area to the extreme right

Examples

Center the display area horizontally: `(DSH 50)`

DST–Daylight Saving Time

Enables or disables daylight saving time.

Commands

Command	Description	Values
DST <0 | 1>	Enables or disables daylight saving time.	0 = Disables daylight saving time (Default) 1 = Enables daylight saving time

Examples

Disable daylight saving time: `(DST 0)`
Enable daylight saving time: `(DST 1)`

DSV–Digital Vertical Shift

Moves the projector image up or down. If the image is not zoomed out (Digital Zoom), this command is disabled.

Commands

Command	Description	Values
DSV <value>	Moves the projector to the up or down.	0 to 100 0 = Moves the display area to the top 50 = Centers the display area vertically (Default) 100 = Moves the display area to the bottom

Examples

Center the display area vertically:

```
(DSV 50)
```

DTH–Hour

Sets the hour for the current time using the 24-hour clock.

Commands

Command	Description	Values
DTH <hour>	Sets the hour for the current time.	0 to 23 0 (Default)

Examples

Set the hour to 4:00 PM:

```
(DTH 16)
```

DTL–Detail

Selects the edge clarity of the image.

Commands

Command	Description	Values
DTL <value>	Selects the edge clarity of the image.	0 = Maximum 1 = High

Command	Description	Values
		2 = Normal (Default) 3 = Low 4 = Minimum

Examples

Set the edge clarity of the image to high: `(DTL 1)`

DTM–Minute

Sets the minute for the current time.

Commands

Command	Description	Values
DTM <minute>	Sets the minute for the current time.	0 to 59 0 (Default)

Examples

Set the minute to a quarter past the hour: `(DTM 15)`

DTS–Date and Time Apply

Applies the date and time settings.

Commands

Command	Description	Values
DTS 1	Applies the date and time settings.	1

Examples

Apply the date and time settings: `(DTS 1)`

DUI–Update Interval

Sets the update interval for the date and time.

Commands

Command	Description	Values
DUI <0 | 1>l	Sets the update interval for the date and time.	0 = Hourly 1 = Daily (Default)

Examples

Set the update interval for the date and time to daily:

```
(DUI 1)
```

DZH–Digital Horizontal Zoom

Changes the size of the horizontal display area.

If the display area has been resized with this setting, use the DSH–Digital Horizontal Shift and DSV–Digital Vertical Shift commands to readjust the image.

Commands

Command	Description	Values
DZH <value>	Changes the size of the horizontal display area.	50% to 400% 100% (Default)

Examples

Change the horizontal size of the display area to 100%:

```
(DZH 100)
```

DZV–Digital Vertical Zoom

Changes the size of the vertical display area.

If the display area has been resized with this setting, use the DSH–Digital Horizontal Shift and DSV–Digital Vertical Shift commands to readjust the image.

Commands

Command	Description	Values
DZV <value>	Changes the size of the vertical display area.	50% to 400%

Command	Description	Values
		100% (Default)

Examples

Change the vertical size of the display area to 100%:

```
(DZV 100)
```

EBL–Edge Blending

Creates a single image from a multi-projector installation.

Commands

Command	Description	Values
EBL+BTME <0 | 1>	Enables or disables edge blending of the bottom edge.	0 = Disables edge blending of the bottom edge (Default) 1 = Enables edge blending of the bottom edge
EBL+BTMS <value>	Sets the starting point of the bottom edge blend.	0 to 200 pixels 0 (Default)
EBL+BTMW <value>	Sets the height of the bottom edge blend.	10 to 500 pixels 10 (Default)
EBL+GAMA	Sets the gamma value for blending.	0 = 1.8 1 = 1.9 2 = 2.0 3 = 2.1 4 = 2.2 (Default) 5 = 2.3 6 = 2.4
EBL+LFTE <0 | 1>	Enables or disables edge blending of the left edge.	0 = Disables edge blending of the left edge (Default) 1 = Enables edge blending of the left edge
EBL+LFTS <value>	Sets the starting point of the left edge blend.	0 to 200 pixels 0 (Default)
EBL+LFTW <value>	Sets the height of the left edge blend.	10 to 800 pixels 10 (Default)
EBL+RHTE <0 | 1>	Enables or disables edge blending of the right edge.	0 = Disables edge blending of the right edge (Default) 1 = Enables edge blending of the right edge

Command	Description	Values
EBL+RHTS <value>	Sets the starting point of the right edge blend.	0 to 200 pixels 0 (Default)
EBL+RHTW <value>	Sets the height of the right edge blend.	10 to 800 pixels 10 (Default)
EBL+TOPE <0 | 1>	Enables or disables edge blending of the top edge.	0 = Disables edge blending of the top edge (Default) 1 = Enables edge blending of the top edge
EBL+TOPS <value>	Sets the starting point of the top edge blend.	0 to 200 pixels 0 (Default)
EBL+TOPW <value>	Sets the height of the top edge blend.	10 to 500 pixels 10 (Default)

Examples

Turn on the bottom edge blending: `(EBL+BTME 1)`
Set the left edge blending starting point to 150 pixels: `(EBL+LFTS 150)`
Set the top blend height to 200 pixels: `(EBL+TOPW 200)`

EDI–HDMI EDID Selection

Enables or disables the Extended Display Identification Data (EDID) for HDMI 2.0 to play videos from hardware devices, such as DVD players.

Commands

Command	Description	Values
EDI+HD1S <0 | 1>	Enables or disables the Extended Display Identification Data (EDID) for HDMI 2.0.	0 = 1.4 1 = 2.0 (Default)
EDI+HD2S <0 | 1>	Enables or disables the Extended Display Identification Data (EDID) for HDMI 2.0.	0 = 1.4 1 = 2.0 (Default)
EDI+HDBT <0 | 1>	Enables or disables the Extended Display Identification Data (EDID) for HDBaseT.	0 = 1.4 1 = 2.0 (Default)

Examples

Disable HDMI 2.0:

(EDI+HD1S 0)
Enable HDMI 2.0: (EDI+HD1S 1)

EQM–EQ Mode

Sets the equalizer level for the specified HDMI output port.

Commands

Command	Description	Values
EQM+HDMA <value>	Sets the equalizer level for the HDMI1 output port.	0 = Auto (Default) 1 = LV1 2 = LV2 3 = LV3 4 = LV4 5 = LV5 6 = LV6 7 = LV7
EQM+HDMB <value>	Sets the equalizer level for the HDMI2 output port.	0 = Auto (Default) 1 = LV1 2 = LV2 3 = LV3 4 = LV4 5 = LV5 6 = LV6 7 = LV7

Examples

Set the equalizer level for the HDMI1 port to 3: (EQM+HDMA 3)
Set the equalizer level for the HDMI2 port to 5: (EQM+HDMB 5)

ERR–Error Log

Displays or clears the error log.

Commands

Command	Description	Values
ERR?	Shows the error log. (Read-only)	—
ERR+CLER 1	Clears the error log.	1

Examples

Show the error log: `(ERR?)`
Clear the error log: `(ERR+CLER 1)`

FAN–Fan Info

Displays the information of each fan.

Commands

Command	Description	Values
FAN+FA01?	Displays information for fan 1. (Read-only)	—
FAN+FA02?	Displays information for fan 2. (Read-only)	—
FAN+FA03?	Displays information for fan 3. (Read-only)	—
FAN+FA04?	Displays information for fan 4. (Read-only)	—
FAN+FA05?	Displays information for fan 5. (Read-only)	—
FAN+FA06?	Displays information for fan 6. (Read-only)	—
FAN+FA07?	Displays information for fan 7. (Read-only)	—
FAN+FA08?	Displays information for fan 8. (Read-only)	—
FAN+FA09?	Displays information for fan 9. (Read-only)	—
FAN+FA10?	Displays information for fan 10. (Read-only)	—
FAN+FA11?	Displays information for fan 11. (Read-only)	—
FAN+FA12?	Displays information for fan 12. (Read-only)	—
FAN+TEC1?	Displays information for fan TEC1. (Read-only)	—
FAN+TEC2?	Displays information for fan TEC1. (Read-only)	—

Command	Description	Values
FAN+PUMP?	Displays information for the pump. (Read-only)	—
FAN+FILT?	Displays information for the filter index. (Read-only)	—

Examples

Display the information for the fan 5:

```
(FAN+FA05)
```

FCS–Focus

Adjusts the focus of the image.

Commands

Command	Description	Values
FCS <position>	Adjusts the lens focus.	n = Increases the focus of the lens by one p = Decreases the focus of the lens by one

FDY–Frame Delay

Corrects asynchronous displaying of images for 3D blending.

Commands

Command	Description	Values
FDY <value>	Sets the value to correct asynchronous displaying of images for 3D blending.	0 to 254 (by timing) 0 (Default)

Examples

Set the frame delay to 100:

```
(FDY 100)
```

FRZ–Image Freeze

Freezes the active video or test pattern to allow a detailed examination of a single frame of an otherwise moving image.

Commands

Command	Description	Values
FRZ <0 | 1>	Freezes the active video or test pattern.	0 = Disables freezing of current video (Default) 1 = Freezes the current video

Examples

Freeze the image:

```
(FRZ 1)
```

FVI–Firmware Version Information

Displays the firmware information such as software version, LAN version, formatter version, and so on.

Commands

Command	Description	Values
FVI?	Displays the firmware information.	—

Examples

Return the firmware information:

```
(FVI?)
```

GME–Geometry Enable

Enables or disables the geometry function.

Commands

Command	Description	Values
GME <0 | 1>	Enables or disabled the geometry function. When the option is disabled, the following functions are disabled: Auto Image Settings and 4K 3D/4K3D Dual Pipe.	0 = Disabled 1 = Enabled (Default)

Examples

Disable the geometry function: `(GME 0)`
Enable the geometry function: `(GME 1)`

GOG–Green Gain

Adds an offset to input green gain settings of an image.

Adjusting this setting also affects the black and white components of an image. This setting can only be applied to VGA or component signals.

Commands

Command	Description	Values
GOG <value>	Sets the green gain value.	0 to 100 50 (Default)

Examples

Set the green gain value to 50: `(GOG 50)`

GOO–Green Offset

Adjusts the green offset of an image.

Adjusting this setting also affects the black and white components of an image. This setting can only be applied to VGA or component signals.

Commands

Command	Description	Values
GOO <value>	Sets the green offset value.	0 to 100 50 (Default)

Examples

Set the green offset value to 50: `(GOO 50)`

GOR–RGB Gain/Offset Reset

Resets red, green, and blue gain and offset values.

Commands

Command	Description	Values
GOR 1	Resets the red, green, and blue offset values to their default settings.	1

Examples

Reset the offset values to their default values:

```
(GOR 1)
```

HAR–Reset Hue, Saturation, and Gain to Default

Resets the hue, saturation, and gain adjustments to the default settings.

Commands

Command	Description	Values
HAR 1	Resets the hue, saturation, and gain adjustments to the default settings	1

Examples

Reset the hue, saturation, and gain adjustments to the default:

```
(HAR 1)
```

HAT–High Altitude

Increases the fan speeds to improve cooling when the projector is installed in a high altitude location.

Commands

Command	Description	Values
HAT <0 | 1>	Enables or disables high altitude functionality.	0 = Turns off high altitude functionality (Default) 1 = Turns on high altitude functionality

Examples

Turn on high altitude functionality:

```
(HAT 1)
```

HDR–HDR

Increases the dynamic range to see the full spectrum of the image.

In other words, after enabling this function, details are visible in the dark while the bright parts of the image are still visible.

Commands

Command	Description	Values
HDR+HDRE <0 | 1>	Automatically detects the HDR signal or disables the signal.	0 = Off—Disables HDR 1 = On—Automatically detects the HDR signal (Default)
HDR+HDRL <value>	Determines how HDR signals are processed.	0 = HDR 1—Applies for images with richly saturated colors 1 = HDR 2—Applies for images with natural colors 2 = HDR 3—Applies for images requiring improved details 3 = HDR 4—Applies for images requiring more details in dark scenes

Examples

Enable detecting the HDR signal: `(HDR+HDRE 1)`
Disable detecting the HDR signal: `(HDR+HDRE 0)`
Apply HDR processing for images with natural colors: `(HDR+HDRL 2)`

HKS–Hot Key Settings

Assigns different functions to the infrared remote hot key.

Commands

Command	Description	Values
HKS <value>	Assigns different functions to the infrared remote hot keys.	0 = Adjusts the aspect ratio (Default) 1 = Displays the picture settings 2 = Resets to the default values 3 = Selects the edge clarity of the image 4 = Enables or disables dynamic black and real black 5 = Sets the light source and intensity modes

Command	Description	Values
		6 = Freezes the image 7 = Displays projector information 8 = Disables warping and blending 9 = Audio Mute 10 = Audio Volume

Examples

Set the infrared remote hot key to freeze the screen: `(HKA 6)`

HMO–HDMI Output

Sets the default HDMI output port.

Commands

Command	Description	Values
HMO <1 | 2>	Sets the default HDMI output port.	1 = HDMI 1 (Default) 2 = HDMI 2

Examples

Set the default HDMI output port to HDMI 1: `(HMO 1)`
Set the default HDMI output port to HDMI 2: `(HMO 2)`

HPC–Horizontal Pincushion

Corrects the distortion created when the left and right sides of the image bends inwards to the center of the display.

Commands

Command	Description	Values
HPC <value>	Adjusts the horizontal distortion value.	0 to 100 50 (Default)

Examples

Adjust the horizontal distortion to the default: `(HPC 50)`

ICI–Communications Info

Displays the current settings for the communication information such as the projector's IP address, subnet, and so on.

Returns communications information in read-only mode.

Commands

Command	Description	Values
ICI?	Displays the current settings for the communication information.	—

Examples

Return the communication information: `(ICI?)`

ILI–Light Source Info

Displays the light source information such as projector hours and laser diode (LD) hours.

Commands

Command	Description	Values
ILI?	Displays the light source information.	—

Examples

Return the light source information: `(ILI?)`

IRC–IR Control

Enables or disables the IR sensors.

Commands

Command	Description	Values
IRC+FRNT <0 | 1>	Enables or disables the signal from the front IR sensor.	0 = Disables the signal from the front IR sensor 1 = Enables the signal from the front IR sensor (Default)
IRC+HDBT <0 | 1>	Enables or disables the signal from the HDBaseT box.	0 = Disables the signal from the HDBaseT box 1 = Enables the signal from the HDBaseT box (Default)
IRC+TOPP <0 | 1>	Enables or disables the signal from the top IR sensor.	0 = Disables the signal from the top IR sensor 1 = Enables the signal from the top IR sensor (Default)

Examples

Enable the signal from the front IR sensor: `(IRC+FRNT 1)`
Disable the sensor from the HDBaseT box: `(IRC+HDBT 0)`
Disable the signal from the top IR sensor: `(IRC+TOPP 0)`

ITP–Test Pattern

Displays a test pattern.

Commands

Command	Description	Values
ITP <pattern>	Displays a test pattern on the display.	0 = Off (Default) 1 = Grid 2 = White 3 = Black 4 = Checkerboard 5 = Color bar

Examples

Disable test patterns and revert to the previous input signal: `(ITP 0)`
Set the test pattern to the grid pattern: `(ITP 1)`

KBL–Keypad Backlight

Determines if the keypad is backlit or not and for how long.

Commands

Command	Description	Values
KBL <value>	Sets how long the keypad stays backlit.	0 = Stays backlit for 5 seconds (Default) 1 = Stays backlit for 10 seconds 2 = Stays backlit for 20 seconds 3 = Stays backlit for 30 seconds 4 = Keeps the keypad constantly backlit 5 = Disables the backlight feature

Examples

Backlight the keypad for 20 seconds: `(KBL 2)`
Disable the backlight feature: `(KBL 0)`

LCB–Lens Motor Calibration

Calibrates all of the lens motors.

Commands

Command	Description	Values
LCB+HOME 1	Moves the lens to the center and horizontal and vertical position. Zoom and focus are not affected.	1
LCB+LOCK <0 | 1>	Locks the zoom, focus, horizontal, and vertical lens motors. This helps to prevent accidental lens position changes in multi-projector installations.	0 = Allows movement of the zoom, focus, horizontal, and vertical lens motors (Default)

Command	Description	Values
		1 = Locks the zoom, focus, horizontal, and vertical lens motors

Examples

Center the lens: `(LCB+HOME 1)`
Lock the zoom, focus, horizontal, and vertical lens motors: `(LCB+LOCK 1)`

LDI–Laser Diode Information

Displays the information of each laser diode bank including its voltage and temperature.

Commands

Command	Description	Values
LDI+LD01?	Displays the voltage, current, and temperature status for laser diode 1. (Read-only)	—
LDI+LD02?	Displays the voltage, current, and temperature status for laser diode 2. (Read-only)	—
LDI+LD03?	Displays the voltage, current, and temperature status for laser diode 3. (Read-only)	—
LDI+LD04?	Displays the voltage, current, and temperature status for laser diode 4. (Read-only)	—
LDI+LD05?	Displays the voltage, current, and temperature status for laser diode 5. (Read-only)	—
LDI+LD06?	Displays the voltage, current, and temperature status for laser diode 6. (Read-only)	—
LDI+LDO7?	Displays the voltage, current, and temperature status for laser diode 7. (Read-only)	—
LDI+LD08?	Displays the voltage, current, and temperature status for laser diode 8. (Read-only)	—
LDI+LD09?	Displays the voltage, current, and temperature status for laser diode 9. (Read-only)	—
LDI+LD10?	Displays the voltage, current, and temperature status for laser diode 10. (Read-only)	—
LDI+LD11?	Displays the voltage, current, and temperature status for laser diode 11. (Read-only)	—
LDI+LD12?	Displays the voltage, current, and temperature status for laser diode 12. (Read-only)	—
LDI+LD13?	Displays the voltage, current, and temperature status for laser diode 13. (Read-only)	—
LDI+LD14	Displays the voltage, current, and temperature status for laser diode 14. (Read-only)	—

Examples

Display the information for the laser diode bank 1: `(LDI+LD01)`

LET–Lens Type

Sets the lens type.

Commands

Command	Description	Values
LET ?	Returns the lens type. (Read-only)	—
LET <value>	Sets the correct lens type to have the correct offset range.	0 = Undefined lens 1 = 0.65-0.75 zoom lens 2 = 0.85-1.02 zoom lens 3 = 1.02-1.36 zoom lens 4 = 1.2-1.5 zoom lens 5 = 1.5-2.0 zoom lens 6 = 2.0-4.0 zoom lens 7 = 4.0-7.2 zoom lens 8 = 7.2-10.8 zoom lens 9 = 0.38 ultra short throw lens

Examples

Return the lens type: `(LET ?)`
Set the lens type to the 4.0-7.2 zoom lens: `(LET 7)`

LHL–Lens Shift Left

Adjusts the horizontal location of the lens left.

Commands

Command	Description	Values
LHL <value>	Adjusts the horizontal location of the lens left.	0 to 100

Examples

Adjust the horizontal location of the lens left 20 steps: `(LHL 20)`
Adjust the horizontal location of the lens left 70 steps: `(LHL 70)`

LHO–Lens Shift Horizontal

Adjusts the horizontal lens offset.

Commands

Command	Description	Values
LHO <position>	Adjusts the horizontal location of the lens.	n = Increases horizontal location of the lens by one p = Decreases horizontal location of the lens by one R = L =

LHR–Lens Shift Right

Adjusts the horizontal location of the lens right.

Commands

Command	Description	Values
LHR <value>	Adjusts the horizontal location of the lens right.	0 to 100

Examples

Adjust the horizontal location of the lens right 30 steps: `(LHR 30)`
Adjust the horizontal location of the lens right 80 steps: `(LHR 80)`

LLM–Low Latency Mode

Enables low latency mode to minimize the input lag.

This function is used for live broadcasting, streaming media, and similar installations.

Commands

Command	Description	Values
LLM <0 | 1>	Enables low latency mode to minimize the input lag. 2D Ultra does not support 3D, 4K timing, input timings outside the range of 30fps to 120fps, PIP/PBP mode, and image freeze.	0 = Normal—No functional restrictions but longer delay time. (Default) 1 - 2D Ultra—Reduces latency in 2D mode but sets restrictions when warping the image.

Examples

Set low latency mode to Normal: `(LLM 0)`
Reduce latency in 2D mode: `(LLM 1)`

LMA–Lens Memory Apply Position

Applies the lens position according to the chosen lens memory position.

Commands

Command	Description	Values
LMA <value>	Applies the lens position according to the chosen lens memory position.	0 = Record 1 (Default) 1 = Record 2 2 = Record 3 3 = Record 4 4 = Record 5

Examples

Set the lens position to the value stored in record 2: `(LMA 1)`
Set the lens position to the value stored in record 5: `(LET 4)`

LMS–Lens Memory Save Current Position

Saves the current lens position to the projector memory.

Commands

Command	Description	Values
LMS <value>	Saves the current lens position to the projector memory.	0 = Record 1 (Default) 1 = Record 2 2 = Record 3 3 = Record 4 4 = Record 5

Examples

Save the lens position to the value stored in record 1: `(LMS 0)`
Save the lens position to the value stored in record 4: `(LET 3)`

LOC–Localization Language

Sets the language for the on-screen display (OSD).

Commands

Command	Description	Values
LOC+LANG <value>	Sets the on-screen display language.	0 = English (Default) 1 = French 2 = Spanish 3 = German 4 = Italian 5 = Polish 6 = Russian 7 = Simplified Chinese 8 = Traditional Chinese 9 = Japanese 10 = Korean

Examples

Set the language to French: `(LOC+LANG 1)`
Set the language to Russian: `(LOC+LANG 6)`

LOL–Lights Out Signal Level

Sets the signal level for lights out for the RealBlack feature.

Commands

Command	Description	Values
LOL <value>	Sets the lights out signal level.	0 to 255

Command	Description	Values
		78 (Default)

Examples

Set the signal level to 4:

```
(LOL 4)
```

LOT–Lights Out Timer

Sets a timer for lights out for the RealBlack feature.

Commands

Command	Description	Values
LOT <value>	Sets the lights out timer.	0 to 20 0 (Default)

Examples

Set a timer to turn off the lights in 20 seconds:

```
(LOT 20)
```

LPM–Light Source Mode

Sets the light source and intensity modes.

Commands

Command	Description	Values
LPM <value>	Sets the light source mode.	0 = Constant Power—Specifies the power level supplied (Default) 1 = Constant Intensity—Maintains a specific brightness level over time 3 = Eco Mode—Maintains brightness at 50% for as long as possible

Examples

Maintain the light source with 50% brightness for as long as possible:

```
(LPM 3)
```

LPP–Constant Power

Sets the constant power mode.

Commands

Command	Description	Values
LPP <power>	Sets the value of the laser diode power.	1 (30%) to 100 (100%) 100 (Default)

Examples

Set the laser diode power to 30%:

```
(LPP 1)
```

LSE–Last System Error

Retrieves the last recorded system error.

Commands

Command	Description	Values
LSE?	Displays the last system error. (Read-only)	1 = The light source did not engage after five attempts 3 = The light source went out unexpectedly 4 = Fan failure 5 = Over temperature

LTL–Lights On Threshold

Sets the threshold for turning on the lights on.

Commands

Command	Description	Values
LTL <value>	Sets the threshold for turning the lights on.	0 to 127 28 (Default)

Examples

Set the threshold to 50:

```
(LTL 50)
```

LVD–Lens Shift Down

Adjusts the vertical location of the lens down.

Commands

Command	Description	Values
LVD <value>	Adjusts the vertical location of the lens down.	0 to 100

Examples

Adjust the vertical location of the lens down 20 steps: `(LVD 20)`
Adjust the vertical location of the lens down 70 steps: `(LVD 70)`

LVO–Lens Shift Vertical

Adjusts the vertical lens offset.

Commands

Command	Description	Values
LVO <position>	Adjusts the vertical location of the lens.	n = Increases vertical location of the lens by one p = Decreases vertical location of the lens by one D = U =

LVU–Lens Shift Up

Adjusts the vertical location of the lens up.

Commands

Command	Description	Values
LVU <value>	Adjusts the vertical location of the lens up.	0 to 100

Examples

Adjust the vertical location of the lens up 30 steps: `(LVU 30)`

Adjust the vertical location of the lens up 80 steps: `(LVU 80)`

MBE–Message Box Enable

Enables or disables the displaying of groups of message boxes on the on-screen display.

Commands

Command	Description	Values
MBE+USER <0 | 1>	Enables or disables displaying message boxes directly triggered by user actions, for example gamma or lens control message boxes.	0 = Disables displaying message boxes directly triggered by user actions 1 = Enables displaying message boxes directly triggered by user actions (Default)

Examples

Set user message boxes to not be displayed:
`(MBE+USER 0)`
Result:
`OFF`

Set user message boxes to be displayed:
`(MBE+USER 1)`
Result:
`ON`

MIF–Main (Single) Source Information

Displays the current settings for the main image input.

Returns source information in read-only mode.

Commands

Command	Description	Values
MIF+ACTS?	Returns the active source. (Read-only)	—
MIF+APRT?	Returns the aspect ratio. (Read-only)	—
MIF+CLSP?	Returns the color space setting. (Read-only)	—
MIF+HREF?	Returns horizontal refresh information. (Read-only)	—
MIF+PIXC?	Returns the pixel clock settings. (Read-only)	—
MIF+RESL?	Returns the resolution. (Read-only)	—

Command	Description	Values
MIF+SGFT?	Returns the signal format. (Read-only)	—
MIF+SYNC?	Returns the sync type. (Read-only)	—
MIF+VREF?	Returns vertical refresh information. (Read-only)	—

Examples

Return the image resolution:

```
(MIF+RESL?)
```

MSH–Menu Shift Horizontal

Moves on-screen menus and messages horizontally.

Commands

Command	Description	Values
MSH <value>	Moves the on-screen display to the left.	0 to 100 0 (Default)

Examples

Move the on-screen menu to the left:

```
(MSH 0)
```

MSV–Menu Shift Vertical

Changes the vertical position of the menus.

Commands

Command	Description	Values
MSV?	Returns the current vertical position of the main menu. (Read-only)	—
MSV <value>	Sets the vertical position of the menus.	0 to 100 0 (Default)

Examples

Get current vertical position of the main menu:

```
(MSV?)
```

Result:

0
Set the main menu vertical position to 50 pixels from the center: (MSV 50)

MTO–Menu Time Out

Adjusts the time for on-screen display to disappear.

Commands

Command	Description	Values
MTO <value>	Sets the time for the on-screen display to disappear.	0 = Off 1 = 1 minute (Default) 2 = 3 minutes

Examples

Never make the on-screen display disappear: (MTO 0)
Set the on-screen display to disappear after three minutes: (MTO 2)

MWF–Manual Warp Filter

Manually corrects the distorted image.

Image distortion is caused by projection to a curved surface or by lens distortion.

Commands

Command	Description	Values
MWF <value>	Adjusts the warp filter to correct image distortion.	0 to 19 15 (Default)

NET–Network Setup

Modifies the network setup for this device.

Commands

Command	Description	Values
NET+DHCP <0 | 1>	Turns DHCP on or off.	0 = Turns off DHCP (Default) 1 = Turns on DHCP
NET+ETH0 "<value>"	Modifies Ethernet settings.	value = Ethernet address
NET+GATE "<value>"	Modifies gateway settings.	value = Default gateway
NET+HOST "<value>"	Modifies the projector name.	value = Hostname
NET+MAC0 "<value>"	Modifies the MAC address settings.	value = MAC address
NET+PATH <0 | 1>	Modifies the LAN interface.	0 = RJ-45 (Default) 1 = HDBaseT
NET+PDNS "<value>"	Modifies the primary DNS.	value = Primary DNS
NET+RSET 1	Returns the projector name, LAN IP address, WLAN IP address, and SNMP settings to their factory defaults. (Read-only)	1
NET+SDNS "<vale>"	Modifies the secondary DNS.	value = Secondary DNS
NET+SETT 1	Applies the network settings.	1
NET+SHOW <0 | 1>	Turns network messages on or off.	0 = Turns off network messages 1 = Turns on network messages (Default)
NET+STAT	Returns the status of the network. (Read-only)	—
NET+SUB0 "<value>"	Modifies subnet mask settings.	value = Subnet mask

Examples

Turn off DHCP: `(NET+DHCP 0)`
Set the MAC address to 00:E0:47:01:02:3C: `(NET+MAC0 ”00:E0:47:01:02:3C”)`
Turn on network messages: `(NET+SHOW 1)`
Set the Ethernet address to 192.168.000.001: `(NET+ETH0 ”192.168.000.001”)`
Reset to the default settings: `(NET+RSET 1)`

Set the subnet mask to 255.255.255.000:

```
(NET+SUB0 ”255.255.255.000”)
```

NTP–NTP Server

Sets the network time protocol (NTP) to synchronize the projector clock over the Internet.

Commands

Command	Description	Values
NTP <protocol>	Sets the network time protocol (NTP) to a specified server.	0 = time.google.com (Default) 1 = asia.pool.ntp.org 2 = europe.pool.ntp.org 3 = north-america.pool.ntp.org

Examples

Set the network time protocol to the Google server:

```
(NTP 0)
```

NTW–Wireless Network

Modifies the wireless network settings.

Commands

Command	Description	Values
NTW+ENIP "<value>"	Modifies the end IP address for the wireless network.	value = Numeric value
NTW+ETH0 "<value>"	Modifies the start IP address for the wireless network.	value = Numeric value
NTW+GATE "<value>"	Modifies gateway settings.	value = Numeric value
NTW+SETT	Applies the WLAN settings.	1
NTW+SLCT <0 | 1>	Turns wireless network on or off.	0 = Turns the wireless network off 1 = Turns the wireless network on (Default)
NTW+SSID "<value>"	Modifies the unique wireless network name.	value = Numeric value
NTW+SUB0 "<value>"	Modifies subnet mask settings.	value = Numeric value

Examples

Set the IP address to 192.168.000.001: `(NET+ETH0 ”192.168.000.001”)`
Set the MAC address to 00:E0:47:01:02:3C: `(NET+MAC0 ”00:E0:47:01:02:3C”)`
Turn on the wireless LAN: `(NTW+SLCT 1)`
Set the subnet mask to 255.255.255.000: `(NET+SUB0 ”255.255.255.000”)`

OST–OSD Transparency

Changes the transparency of on-screen menus and messages.

Commands

Command	Description	Values
OST <value>	Changes the transparency of the menus and messages.	0 to 90 0 (Default)

Examples

Turn off the transparency: `(OST 0)`

PCG–Change Pin

Changes the personal identification number (PIN) on a projector.

Commands

Command	Description	Values
PCG "<00000,NNNNN>"	Replaces the existing PIN number, where: • 00000 = Previous PIN • NNNNN = New PIN	Valid PIN number 12345 (Default)

Examples

Replace the default PIN number with a new PIN: `(PCG "12345,78564")`

PCO–Contrast

Adjusts the contrast ratio of the sub image.

Commands

Command	Description	Values
PCO <contrast>	Adjusts the contrast ratio of the sub image.	contrast = Moves in steps of 1 50 (Default)

PCS–Color Space

Selects a color space for the sub image.

Commands

Command	Description	Values
PCS <value>	Selects a color space for the sub image.	0 = Auto (Default) RGB 1 = RGB Full (Default) 2 = RGB Limited YUV 3 = REC709 (Default) 4 = REC601

Examples

Set the color space to Auto: `(PCS 0)`
Set the RGB color space to RGB Limited: `(PCS 2)`
Set the YUV color space to REC601: `(PCS 4)`

PHS–Picture-in-Picture Horizontal Size

Sets the size (width) of the picture-in-picture/picture-by-picture window.

The active portion of the input signal, as determined by blanking controls, is scaled to fit into the picture-in-picture window.

Commands

Command	Description	Values
PHS?	Displays the picture-in-picture size. (Read-only)	—
PHS <value>	Sets the picture-in-picture/picture-by-picture size.	0 = Small 1 = Medium 2 = Large (Default)

Examples

Set the picture-in-picture size to large:

```
(PHS 2)
```

PIF–Projector Information

Displays information about the projector.

This command is only available when the projector is in service mode and is read-only.

Commands

Command	Description	Values
PIF+FWV#?	Returns the version of various components. (Read-only)	1 = E-MCU 2 = Scaler 3 = M-MCU 4 = L-MCU 5 = K-MCU 6 = LAN 7 = Formatter 8 = HDBaseT 9 = A-MCU A = FPGA 1 B = FPGA 2 C = Camera version R = FW version X = XFPGA
PIF+LOCK?	Returns if the lens motors are locked or not. (Read-only)	—
PIF+MDLN?	Returns the model name. (Read-only)	—
PIF+NERS?	Returns the native resolution. (Read-only)	—
PIF+SNUM?	Returns the serial number. (Read-only)	—

Command	Description	Values
PIF+STBM?	Returns if the projector is in Standby mode. (Read-only)	—
PIF+WHEE?	Returns the color wheel index. (Read-only)	—

PIP–Picture in Picture

Enables or disables picture-in-picture (PIP)/picture-by-picture (PBP) mode.

Commands

Command	Description	Values
PIP?	Returns the state of the picture-in-picture/picture-by-picture command. (Read-only)	—
PIP <0 | 1>	Enables or disables the picture-in-picture/picture-by-picture window.	0 = Disables the picture-in-picture/picture-by-picture video (Default) 1 = Enables the picture-in-picture/picture-by-picture video

Examples

Return the state of the picture-in-picture/picture-by-picture command: `(PIP?)`
Disable picture-in-picture/picture-by-picture video: `(PIP 0)`
Enable picture-in-picture/picture-by-picture video: `(PIP 1)`

PIV–PIN Protect

Activates password protection on the projector, where a personal identification number (PIN) must be provided before an image can be displayed.

Commands

Command	Description	Values
PIV "XXXXX"	Activates password protection on the projector.	X = 0 to 9 Replace each X with a number from 0 to 9

Examples

Set the PIN to 33445: `(PIV "33445")`

PPP–Main Layout

Chooses a preset location for the picture-in-picture and picture-by-picture window.

Note the following:

- The Location settings adjust the position of the window.
- Blanking is not affected.
- While in split screen mode, several channel controls that resize image are disabled.

Commands

Command	Description	Values
PPP <value>	Selects the picture-in-picture/ picture-by-picture image location.	0 = Places the picture-by-picture image on the left vertical center of the main image (Default) 1 = Places the picture-by-picture image on the top center of the main image 2 = Places the picture-by-picture image on the right vertical center of the main image 3 = Places the picture-by-picture image on the bottom center of the main image 4 = Places the picture-in-picture image on the bottom right of the main image 5 = Places the picture-in-picture image on the bottom left of the main image 6 = Places the picture-in-picture image on the top left of the main image 7 = Places the picture-in-picture image on the top right of the main image

Examples

Set the picture-by-picture image on the bottom of the main image: `(PPP 1)`
Set the picture-by-picture image on the top-left corner of the image: `(PPP 6)`

PPS–Picture-in-Picture/Picture-by-Picture Swap

Swaps the current main and picture-in-picture/picture-by-picture inputs, regardless if valid signals are on either of the inputs.

Commands

Command	Description	Values
PPS 1	Swaps the main and picture-in-picture/picture-by-picture input.	1

Examples

Swap the main and picture-in-picture/picture-by-picture input.: `(PPS 1)`

PST–Picture Setting

Changes the picture-related settings for the current source to a set of predefined values.

Commands

Command	Description	Values
PST <value>	Optimizes the projector.	0 = Video 1 = Bright (Default) 2 = Enhanced 3 = REC709 4 = DICOM SIM 5 = Blending 6 = HDR 7 = 3D 8 = High Frame Rate 9 = User
PST+USER 1	Stores the current settings to a user profile.	1

Examples

Optimize the projector for bright viewing content: `(PST 1)`
Optimize the projector to display DICOM SIM content: `(PST 4)`

PSU–User Configuration

Customizes the picture setting by adjusting the brightness, contrast, input levels, color temperature, gamma, detail, white peaking, and so on.

Commands

Command	Description	Values
PSU <value>	Customize the picture setting.	0 = Video 1 = Bright (Default) 2 = Enhanced 3 = REC709 4 = DICOM SIM 5 = Blending 6 = HDR 7 = 3D 8 = High Frame Rate

Examples

Adjust the Bright parameter to customize the user picture settings: `(PSU 1)`
Adjust the HDR parameter to customize the user picture settings: `(PSU 6)`

PWR–Power

Changes the power state of the product.

Commands

Command	Description	Values
PWR?	Returns the power settings for the display. (Read-only)	—
PWR <0 | 1>	Turns the projector on or off.	0 = Turns off the projector 1 = Turns on the projector
PWR+STBM<0 | 1>	Places the projector in standby mode when connected to AC power	0 = 0.5 W mode—low power mode 1 = Communication mode—normal power mode (Default)

Examples

Get the projector power status: `(PWR?)`
Place the projector in communication mode: `(PWR+STBM 1)`

RBS–Real Black

Enables the function to automatically increase the contrast ratio by turning off the laser light when black image is detected.

Commands

Command	Description	Values
RBS <0 | 1>	Enables the function to automatically increase the contrast ratio by turning off the laser light when black image is detected.	0 = Disables Real Black (Default) 1 = Enable Real Black

Examples

Disable Real Black: `(RBS 0)`
Enable Real Black: `(RBS 1)`

ROG–Red Gain

Adds an offset to input red gain settings of an image.

Adjusting this setting also affects the black and white components of an image. This setting can only be applied to VGA or component signals.

Commands

Command	Description	Values
ROG <value>	Sets the red gain value.	0 to 100 50 (Default)

Examples

Set the red gain value to 50: `(ROG 50)`

ROO–Red Offset

Adjusts the red offset of an image.

Commands

Command	Description	Values
ROO <value>	Sets the red offset value.	0 to 100 50 (Default)

Examples

Set the red offset value to 50: `(ROO 50)`

SBL–Status LED

Turns the status LED on or off.

Commands

Command	Description	Values
SBL <value>	Turns the status LED on or off.	0 = Turns on the status LED (Default) 1 = Turns off the status LED 2 = Turns on the status LED only for warnings and errors

Examples

Enable the status LED so it is always on: `(SBL 0)`
Turn on the status LED only for warnings and errors: `(SBL 2)`

SCH–Schedule

Sets the overall schedule functionality. The schedule can set the power settings, input source, light source mode, and shutter.

Only one power on and one power off event can be scheduled at a time. A power off command is ignored if the is on.

Commands

Command	Description	Values
SCH+MODE <0 | 1>	Enables or disables the scheduler.	0 = Disables the scheduler (Default) 1 = Enables the scheduler
SCH+REST 1	Resets the schedule settings	1
SCH+WDAY?	Views the event list scheduled for the day.	—

Examples

Enable the scheduler: `(SCH+MODE 1)`
Reset the schedule settings: `(SCH+REST 1)`

SCR–Skin Color

Adjusts the color tone of human skin in videos.

Commands

Command	Description	Values
SCR ?	Returns the color tone set.	—
SCR <value>	Adjusts the color tone of human skin.	0 = Disables adjusting skin color tone 1 = Applies low adjustment to skin color tone 2 = Applies middle adjustment to skin color tone 3 = Applies high adjustment to skin color tone

Examples

Disable adjusting the color tone of human skin in videos: `(SCR 0)`
Apply high adjustment to the color tone of human skin in videos: `(SCR 3)`

SD#–Schedule

Sets the events for the schedule.

Commands

Command	Description	Values
SD#+CPWD <event>	Copies the event for the specified day.	# = 0 to 6, where 0= Sunday, 1 = Monday, and so on event = 0 to 6
SD#+EVRD ?	Returns the event scheduled for the specified day. (Read-only)	# = 0 to 6, where 0= Sunday, 1 = Monday, and so on
SD#+EVRT <event>	Sets the event for the specified day.	# = 0 to 6, where 0= Sunday, 1 = Monday, and so on event = 1 to 16
SD#+EVWR "<event>, <time>, <function>"	Sets the functionality for the schedule to run on the specified day and time.	# = 0 to 6, where 0= Sunday, 1 = Monday, and so on event = 01 to 16 time = 00:00 to 23:59 function = the following values: 00 = Off (Default)—Disables the power settings (11 to 13), input source (21 to 28), light source mode (31 to 34), and shutter (41 and 42) 11 = Power On (Default) 12 = 0.5W Mode 13 = Communication Mode 21 = VGA (Default) 23 = HDMI1 24 = HDMI2 26 = DisplayPort 28 = HDBaseT 31 = Constant Power (Default) 32 = Constant Intensity 33 = ECO 1 34 = ECO 2 41 = Shutter On (Default) 42 = Shutter Off
SD#+MODE <0 | 1>	Enables or disables the schedule for the specified day.	# = 0 to 6, where 0= Sunday, 1 = Monday, and so on 0 = Disables the schedule for the specified day

Command	Description	Values
		1 = Enables the schedule for the specified day
SD#+REST 1	Resets the events scheduled for the specified day.	# = 0 to 6, where 0= Sunday, 1 = Monday, and so on 1

Examples

Reset the events scheduled for Tuesday: `(SD2+REST 1)`
Enable the schedule for Friday: `(SD5+MODE 1)`
Set the parameters (power on, HDBaseT, constant power, and shutter off) for the 01 event schedule to run on Monday: `(SD2+EVWR 01 11 28 31 42)`

SDT–Schedule Date and Time

Queries the date and time set for the schedule.

Commands

Command	Description	Values
SDT ?	Returns the date and time for the schedule. (Read-only)	—

SDY–Sync Delay

Sets the sync delay.

Commands

Command	Description	Values
SDY <value>	Sets the sync delay.	0 to 254 143 (Default)

Examples

Set the sync delay to 100: `(SDY 100)`

SEC–Serial Port Echo

Controls whether the serial port echoes characters.

Commands

Command	Description	Values
SEC <0 | 1>	Enables or disables the serial port character echo.	0 = Turns off the serial port character echo (Default) 1 = Turns on the serial port character echo

Examples

Disable the serial port character echo: `(SEC 0)`
Turn on the serial port character echo: `(SEC 1)`

SIF–Secondary Source Information

Displays the current settings for the picture-in-picture/picture-by-picture image input.

Returns secondary source information in read-only mode.

Commands

Command	Description	Values
SIF+ACTS?	Returns the active source. (Read-only)	—
SIF+APRT?	Returns the aspect ratio. (Read-only)	—
SIF+CLSP?	Returns the color space setting. (Read-only)	—
SIF+HREF?	Returns horizontal refresh information. (Read-only)	—
SIF+PIXC?	Returns the pixel clock settings. (Read-only)	—
SIF+RESL?	Returns the resolution. (Read-only)	—
SIF+SGFT?	Returns the signal format. (Read-only)	—
SIF+SYNC?	Returns the sync type. (Read-only)	—
SIF+VREF?	Returns vertical refresh information. (Read-only)	—

Examples

Return the image resolution: `(SIF+RESL?)`

SIN–Select Input

Selects the active input.

Commands

Examples

Set the main video to HDMI 1: `(SIN+MAIN 3)`
Set the picture-in-picture video to DisplayPort: `(SIN+PIIP 6)`

SIS–3D Sync In Select

Determines how 3D Sync in Select mode operates.

Commands

Command	Description	Values
SIS <value>	Sets the 2D Sync in Select value.	0 = Auto (Default) 1 = Internal 2 = External

SKS–Source Key Function Settings

Sets the method for searching the input source.

Commands

Command	Description	Values
SKS <value>	Sets the method for searching the input source.	0 = Changes the source manually by pressing INPUT 1 = Lists all the sources and then select the appropriate input source 2 = Automatically searches the source (Default)

Examples

Change the source manually: `(SKS 0)`
Automatically search the source:

```
(SKS 2)
```

SLP–Sleep Timer

Turns the projector off after a set period of time.

Timing starts when the projector is turned on, or when the sleep timer auto power off function is canceled. Automatic power off only occurs when an image is displayed.

Commands

Command	Description	Values
SLP <value>	Sets the duration of the sleep timer.	0 = Off (Default) 1 = 2 hours 2 = 4 hours 3 = 6 hours

Examples

Turn off the sleep timer: `(SLP 0)`
Set the sleep timer duration to 4 hours: `(SLP 2)`

SOR–Rear Projection

Selects the orientation of the displayed image.

Reverse the image so it can be projected from behind a translucent screen.

Commands

Command	Description	Values
SOR <0 | 1>	Enables or disables rear projection.	0 = Turns off rear projection (Default) 1 = Turns on rear projection

SOS–3D Sync Out

Transmits a 3D sync signal by the 3D sync output connector to the emitter or another downstream projector for 3D blending purposes.

Commands

Command	Description	Values
SOS <0 | 1>	Configures the 3D Sync OUT port.	0 = Configures the 3D Sync OUT port to be fed directly to a 3D emitter (Default) 1 = Configures the 3D Sync OUT port to be fed to another downstream projector

Examples

Configure the 3D Sync OUT port to fed directly to a 3D emitter: `(SOS 0)`
Configure the 3D Sync OUT port to fed to a downstream projector: `(SOS 1)`

SPD–Dynamic Black Speed

Adjusts the speed of the light source correction.

Commands

Command	Description	Values
SPD <value>	Adjusts the speed of the light source correction. A lower value makes the correction slower and less aggressive, while a higher value results in a faster correction.	1 to 15 1 (Default)

Examples

Slowly correct the light source: `(SPD 1)`
Correct the light source more aggressively: `(SPD 14)`

SPS–Splash Screen

Specifies the splash screen to display when no signal is present.

Commands

Command	Description	Values
SPS+SLCT <value>	Sets the splash screen to display.	0 = Factory logo (Default) 1 = Blue screen 2 = Black screen 3 = White screen

Examples

Set the splash screen to blue: `(SPS+SLCT 1)`
Set the splash screen to the factory logo: `(SPS+SLCT 0)`

SST–Projector Status

Returns status information about the projector in read-only mode.

Commands

Command	Description	Values
SST?	Returns all status items. (Read-only)	—

STH–Dynamic Black Strength

Sets the strength of the dynamic contrast adjustment.

Commands

Command	Description	Values
STH <value>	Sets the strength of the dynamic contrast adjustment. The higher the value, the stronger the correction.	0 to 3 2 (Default)

Examples

Set the strength of the dynamic contrast adjustment to strong:

```
(STH 3)
```

SYT–Sync Threshold

Commands

Command	Description	Values
SYT <value>	Sets the sync threshold.	0 to 100 50 (Default)

Examples

Set the sync threshold to 50:

```
(SYT 50)
```

SZP–Size Presets

Sets the image to one of several preset size/position presets.

Commands

Command	Description	Values
SZP <value>	Sets the preset size type.	0 = Auto—Displays an image with the detected size (Default) 1 = Native—Displays the image in its native resolution 2 = 4:3—Retains the 4:3 aspect ratio 3 = LetterBox—Displays the image with black borders on the top and bottom 4 = Full Size—Fills the screen with the image (regardless of the source) 5 = Full Width—Stretches the image to the full display width and keeps the aspect ratio 6 = Full Height—Stretches the image to the full display height and keeps the aspect ratio 7 = Custom—Displays the image with a custom size and position for each source 8 = 3D Mode—Enabled for 3D input timings

Examples

Set the size preset to LetterBox:

```
(SZP 3)
```

TCM–Clock Mode

Configures the clock mode.

Commands

Command	Description	Values
TCM <0 | 1>	Configures the clock mode.	0 = User NTP Server (Default) 1 = Manual

Examples

Use the NTP Server: `(TCM 0)`
Manually set the clock mode: `(TCM 1)`

TDE–3D Enable

Sets the decoding method for 3D timings with different kinds of packing formats.

Commands

Command	Description	Values
TDE <value>	Sets the decoding method for 3D timings with different kinds of packing formats.	0 = Auto (Default) 1 = Frame Packing 2 = Side by Side 3 = Top and Bottom 4 = Frame Sequential 5 = Off 6 = Dual Pipe 7 = 4K 3D 8 = 4K 3D Dual Pipe

Examples

Set the decoding method for 3D timings to Frame Packing: `(TDE 1)`

TDI–3D Invert

Enables or disables inverting the 3D sequence in the case of a left and right eye mismatch.

Commands

Command	Description	Values
TDI <0 | 1>	Enables or disables inverting the 3D sequence in the case of a left and right eye mismatch.	0 = Turns off inverting the 3D sequence (Default) 1 = Turns on inverting the 3D sequence

Examples

Turn off inverting the 3D sequence: `(TDI 0)`
Turn on inverting the 3D sequence: `(TDI 1)`

TDM–3D Mode

Selects the 3D mode.

Commands

Command	Description	Values
TDM <0 | 1>	Sets the 3D mode to be active or passive.	0 = Active 3D (Default) 1 = Passive 3D

Examples

Set the 3D mode to active: `(TDM 0)`
Set the 3D mode to passive: `(TDM 1)`

TNR–Temporal Noise Reduction

Removes the luminance component noise for low-light videos.

Commands

Command	Description	Values
TNR ?	Returns the level of noise adjustment applied for low-light videos.	—
TNR <value>	Adjusts luminance component noise for low-light videos.	0 = Disables removing noise 1 = Applies low adjustment for removing noise 2 = Applies middle adjustment for removing noise 3 = Applies high adjustment for removing noise

Examples

Disable removing noise from low-light videos: `(TNR 0)`
Apply high adjustment for removing noise from low-light videos: `(TNR 3)`

TNT–Tint

Adjusts the balance of red-to-green in your image.

This command only applies to analog video NTSC sources.

Commands

Command	Description	Values
TNT <value>	Sets the red-to-green color balance in the image.	0 to 100 50 (Default)

Examples

Set the red-to-green color balance to 50: `(TNT 50)`

TPG–Test Pattern

Sets the projector's test patterns to assist with configuration of the projector and to diagnose any issues that may occur.

Commands

Command	Description	Values
TPG+ITPG <test pattern>	Sets the projector's test pattern.	0 = Off 1 = Grid 2 = White 3 = Black 4 = Checkerboard 5 = Color Bars 6 = Red 7 = Green 8 = Blue 9 = Yellow 10 = Magneta 11 = Cyan 12 = Boresight 13 = Full Screen 14 = 13 Points

Examples

Set the test pattern to red: `(TPG+ITPG 6)`
Set the test pattern to boresight: `(TPG+ITPG 12)`

UTC–Time Zone

Sets the timezone for where the projector is located.

Commands

Command	Description	Values
UTC <timezone>	Sets the timezone where the projector is located	0 = UTC+14:00 1 = UTC+13:00 2 = UTC+12:45 3 = UTC+12:00

Command	Description	Values
		4 = UTC+11:00 5 = UTC+10:30 6 = UTC+10:00 7 = UTC+09:30 8 = UTC+09:00 9 = UTC+08:45 10 = UTC+08:00 11 = UTC+07:00 12 = UTC+06:30 13 = UTC+06:00 14 = UTC+05:45 15 = UTC+05:30 16 = UTC+05:00 17 = UTC+04:30 18 = UTC+04:00 19 = UTC+03:30 20 = UTC+03:00 21 = UTC+02:00 22 = UTC+01:00 23 = UTC+00:00 24 = UTC-01:00 25 = UTC-02:00 26 = UTC-03:00 27 = UTC-03:30 28 = UTC-04:00 29 = UTC-05:00 30 = UTC-06:00 31 = UTC-07:00 32 = UTC-08:00 33 = UTC-09:00 34 = UTC-09:30 35 = UTC-10:00 36 = UTC-11:00 37 = UTC-12:00

Examples

Set the timezone to Eastern Standard Time:

```
(UTC 29)
```

VPC–Vertical Pincushion

Corrects the distortion created when the top and bottom sides of the image bend inwards to the center of the display.

If a DPWM is installed use the pincushion/barrel function for adjustments.

Commands

Command	Description	Values
VPC <value>	Sets the vertical distortion value.	0 to 100 50 (Default)

Examples

Set the vertical distortion value to 25:

```
(VPC 25)
```

VRT–Vertical Position

Sets the vertical position of the image.

Commands

Command	Description	Values
VRT?	Returns the vertical position value on the main video. (Read-only)	—
VRT <value>	Sets the vertical position for the main image.	

Examples

VTT–12V Trigger

Enables or disables the 12V trigger.

The 12V trigger is used for electrical projector screens. The projector screen is automatically lowered or raised when the projector is switched on or off.

Commands

Command	Description	Values
VTT <0 | 1>	Enables or disables the 12V trigger.	0 = Disables the 12V trigger (Default) 1 = Enables the 12V trigger

Examples

Disable the 12V trigger: `(VTT 0)`
Enable the 12V trigger: `(VTT 1)`

WAP–Apply Warp Settings

Applies previously saved geometry setting to the projector.

Commands

Command	Description	Values
WAP?	Returns the geometry setting applied to the projector.	—
WAP <value>	Applies previously saved geometry setting to the projector.	0 = Disables warping (Default) 1 to 4 = Selects saved warp settings

Examples

Disable warping: `(WAP 0)`
Use saved warp setting #3: `(WAP 3)`

WAS–Save Warp Settings

Saves the geometry correction after doing warping and blending.

One projector can save up to five geometry settings.

Commands

Command	Description	Values
WAS <value>	Saves the geometry correction after doing warping and blending.	0 to 3 = Saves geometry correction to one of five warp settings 0 (Default)

Examples

Save the geometry correction to warp setting #3:

```
(WAS 3)
```

WPK–White Peaking

Increases the brightness of whites to near 100%.

This setting can only be applied to video sources.

Commands

Command	Description	Values
WPK?	Returns the white peak setting set.	—
WPK <value>	Sets the white peak.	0 to 100 in increments of 10 steps 100 (Default)

Examples

Set the white peak to 50:

```
(WPK 50)
```

WRE–Warping Reset

Resets the geometry correction.

Commands

Command	Description	Values
WRE 1	Resets the geometry correction.	1

Examples

Reset the geometry correction:

```
(WRE 1)
```

WRP–Geometry Correction

Applies a geometry correction to an image.

Commands

Command	Description	Values
WRP+HKST <value>	Corrects image distortion created when the projected image is to the left or right of the lens axis. Increase the value to increase right keystoning.	
WRP+VKST <value>	Corrects the distortion created when the projected image is above or below the lens axis. Increase the value to increase positive keystoning.	0 to 40 20 (Default)

Examples

Set the horizontal keystone value to 10: `(WRP+HKST 10)`
Set the vertical keystone value to 30: `(WRP+VKST 30)`

ZOM–Zoom

Sets the lens zoom.

Commands

Command	Description	Values
ZOM <value>	Increases or decreases the zoom.	n = Increases zoom by one p = Decreases zoom by one