Technical Reference

020-102271-04

GS Series (700, 850)

Serial API Commands

CHRISTIE®

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Content

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Communicating with GS Series

Understand the information and procedures for communicating with GS Series from a remote location.

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. Connect an Ethernet cable to the projector from your computer.
2. Setup the correct IP for the projector on your computer.
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 code and the number when entering commands.

For example, PXT50 can be entered as PXT 50. To increase or decrease a value in some commands, enter n for the next value and p for the previous value. For example:

```
(OVS0): OFF
(OVS1): ZOOM
(OVS2): CROP
```

If the current over scan (OVS) setting is off (OVS n), the command OVS p sets the value to zoom.

Understanding message format

Commands sent to and from GS Series are formatted as simple text messages consisting of a three letter command 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 input port configuration)	`(SIN+PORT 1)`
	(Code ?)	REQUEST (what is current power state?)	`(PWR?) or (PWR ?)`
	(Code+Subcode ?)	REQUEST (what is current input port configuration?)	`(SIN+PORT?)`
From projector	(Code Data)	REPLY (power state is 1 "On")	`(PWR!001 "On")`
	(Code+Subcode Data)	REPLY (input port configuration is 1 "One-Port")	`(SIN+PORT!001 "One-Port")`

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")
```

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Serial API commands

The GS Series commands can be used to modify product settings.

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	Description	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 to six: `(ADR 6)`

AIM–Auto Image

Reacquires and locks an input signal.

Commands

Command	Description	Values
AIM ?	Checks the current Auto Image value. (Read-only)	—
AIM <0 | 1>	Reacquires an input signal. (Write-only)	0 = Normal mode—Supports all 4:3 input sources.

Command	Description	Values
		1 = Wide mode—Supports all 16:9 input sources and most 4:3 input sources. If a 4;3 input source, such as 1400 x 1050 is not recognized, use Normal mode. (Default)

Examples

Check the current value of Auto Image:
`(AIM ?)`
Result:
`(AIM!01)`
Where 01 means Wide.

Check the current value of Auto Image:
`(AIM ?)`
Result:
`(AIM!00)`
Where 00 means Normal.

Reacquire a signal in normal mode: `(AIM 0)`
Reacquire a signal in wide mode: `(AIM 1)`

APW–Auto Power On

Turns the projector on with a wall switch and bypasses standby mode.

Commands

Command	Description	Values
APW <0 | 1>	Automatically powers up the projector to the on state. (Saved value)	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)`

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)`

BDR–Baud Rate

Sets the baud rate for a serial communications port.

Commands

Command	Description	Values
BDR+PRTA <value>	Sets the baud rate for the RS232-IN port.	0 = 2400 1 = 4800 2 = 9600 3 = 14400 4 = 19200 5 = 38400 6 = 57600 7 = 115200 (Default) 8 = 1200
BDR+PRTB <value>	Sets the baud rate for the RS232-OUT port.	
BDR+PRTC <value>	Sets the baud rate for the RS422 port.	

Examples

Set baud rate on port A to 115200 bits per second: `(BDR+PRTA 6)`

Verify that RS232-IN is set to 115200bps:
`(BDR+PRTA?)`
Result:
`(BDR+PRTA!006 "115200")`

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 input 2 = Bright content 3 = Computer input (CRT) 4 = DICOM

Examples

Select a gamma correction curve for film input:

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

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.

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.

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)`

BSS–Blank on Signal Switch

Enables or disables blanking the screen before timing is stable when changing the source.

Commands

Command	Description	Values
BSS <0 | 1>	Enables or disables the signal switch.	0 = Disables blanking the screen (Default) 1 = Enables blanking the screen before timing is stable when changing the source

Examples

Disable blanking the screen: `(BSS 0)`
Enable blanking the screen before timing is stable when changing the source: `(BSS 1)`

CCA–Color Matching

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

Commands

Command	Description	Values
CCA+MANA <0 | 1>	Enables or disables manual adjustment.	0 = Turns off manual adjustment (Default) 1 = Turns on manual adjustment

Command	Description	Values
CCA+MNTP <0 | 1>	Turns automatic test patterns for manual adjustment items on or off.	0 = Turns off automatic test patterns 1= Turns on automatic test patterns (Default)
CCA+ROFR <value>	Manually adjusts the red portion of red.	0 to 1000 1000 (Default)
CCA+GOFR <value>	Manually adjusts the green portion of red.	0 to 1000 0 (Default)
CCA+BOFR <value>	Manually adjusts the blue portion of red.	
CCA+GOFG <value>	Manually adjusts the green portion of green.	0 to 1000 1000 (Default)
CCA+ROFG <value>	Manually adjusts the red portion of green.	0 to 1000 0 (Default)
CCA+BOFG <value>	Manually adjusts the blue portion of green.	
CCA+BOFB <value>	Manually adjusts the blue portion of blue.	0 to 1000 1000 (Default)
CCA+ROFB <value>	Manually adjusts the red portion of blue.	0 to 1000 0 (Default)
CCA+GOFB <value>	Manually adjusts the green portion of blue.	
CCA+ROFW <value>	Manually adjusts the red portion of white.	0 to 1000 1000 (Default)
CCA+GOFW <value>	Manually adjusts the green portion of white.	
CCA+BOFW <value>	Manually adjusts the blue portion of white.	
CCA+HSGE <0 | 1>	Turns hue, saturation, and gain (HSG) adjustments. The HSG function independently controls each of the color regions R, G, B, C, M, Y, and W.	0 = Turns off HSG adjustments (Default) 1 = Turns on HSG adjustments
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+REDH <value>	Specifies the red levels of hue.	0 to 254 127 (Default)
CCA+REDS <value>	Specifies the red levels of saturation.	
CCA+REDG <value>	Specifies the red levels of gain.	
CCA+GREH <value>	Specifies the green levels of hue.	
CCA+GRES <value>	Specifies the green levels of saturation.	
CCA+GREG <value>	Specifies the green levels of gain.	
CCA+BLUH <value>	Specifies the blue levels of hue.	
CCA+BLUS <value>	Specifies the blue levels of saturation.	
CCA+BLUG <value>	Specifies the blue levels of gain.	
CCA+CYAH <value>	Specifies the cyan levels of hue.	
CCA+CYAS <value>	Specifies the cyan levels of saturation.	

Command	Description	Values
CCA+CYAG <value>	Specifies the cyan levels of gain.	
CCA+MAGH <value>	Specifies the magenta levels of hue.	
CCA+MAGS <value>	Specifies the magenta levels of saturation.	
CCA+MAGG <value>	Specifies the magenta levels of gain.	
CCA+YELH <value>	Specifies the yellow levels of hue.	
CCA+YELS <value>	Specifies the yellow levels of saturation.	
CCA+YELG <value>	Specifies the yellow levels of gain.	
CCA+WHRG <value>	Specifies the red levels of white gain.	
CCA+WHGG <value>	Specifies the green levels of white gain.	
CCA+WHBG <value>	Specifies the blue levels of white gain.	
CCA+WALL <0 | 1>	Sets the wall color so the projector can enhance the color performance customized for the specific wall.	0 = White (Default) 1 = Gray 130

Examples

Turn on manual adjustment: `(CCA+MANA 1)`
Turn on automatic test patterns for HSG adjustments: `(CCA+MHTP 1)`
Set the cyan level of saturation to 40: `(CCA+CYAS 40)`

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 = Warm 1 = Bright 2 = Cool

Examples

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)`

CLR–Color

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

Commands

Command	Description	Values
CLR <value>	Set 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+TLCX <value>	Applies a top left horizontal adjustment. (Write-only)	0 to 120 0 (Default)
CNR+TLCY <value>	Applies a top left vertical adjustment. (Write-only)	0 to 80 0 (Default)
CNR+TRCX <value>	Applies a top right horizontal adjustment. (Write-only)	0 to 120 0 (Default)
CNR+TRCY <value>	Applies a top right vertical adjustment. (Write-only)	0 to 80 0 (Default)
CNR+BLCX <value>	Applies a bottom left horizontal adjustment. (Write-only)	0 to 120 0 (Default)
CNR+BLCY <value>	Applies a bottom left vertical adjustment. (Write-only)	0 to 80 0 (Default)
CNR+BRCX <value>	Applies a bottom right horizontal adjustment. (Write-only)	0 to 120 0 (Default)
CNR+BRCY <value>	Applies a bottom right vertical adjustment. (Write-only)	0 to 80 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

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 For RGB: 1 = RGB (Default) 2 = RGB Video 3 = RGB REC709 For YUV: 4 = REC709 (Default) 5 = 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. Only use this setting when a new main board is installed and the picture quality must be optimized.

Commands

Command	Description	Values
CWI+PF2X <index>	Sets the speed of the phosphor wheel index to 2x.	0 to 719
CWI+FT3X <index>	Sets the speed of the filter wheel index to 2x.	
CWI+PF3X <index>	Sets the speed of the phosphor wheel index to 3x.	
CWI+FT3X <index>	Sets the speed of the filter wheel index to 3x.	

Examples

Set the speed of phosphor wheel index 26 to 3x: `(CWI+PF3X 26)`

CWS–Color Wheel Speed

Increases the color wheel speed.

Commands

Command	Description	Values
CWS <0 | 1>	Increases the color wheel speed.	0 = Increases the color wheel speed to twice the current value 1 = Increases the color wheel speed to three times the current value

Examples

Set the color wheel speed to twice the current value: `(CWS 0)`
Set the color wheel speed to three times the current value: `(CWS 1)`

DEF–Factory Defaults

Resets RS232 to its factory default values.

This command is only available when the projector is in service mode, and is write only.

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.	—

Examples

Reset GS Series to factory defaults: `(DEF 111)`

DIM–Dynamic Black

Enables or disables the automatic adjustment for the black values of the displayed image.

Commands

Command	Description	Values
DIM <value>	Enables or disables dynamic black and real black.	0 = Turns off dynamic black (Default) 1 = Turns on dynamic black 2 = Turns on real black

Examples

Turn on dynamic black:

```
(DIM 1)
```

Related information

LPI–Constant Intensity (on page 37)

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)
```

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. (Write-only)	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)
```

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 2 = Normal 3 = Low 4 = Minimum

Examples

Set the edge clarity of the image to low:

```
(DTL 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)
```

Related information

DSH–Digital Horizontal Shift (on page 22)
DSV–Digital Vertical Shift (on page 23)

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% 100% (Default)

Examples

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

```
(DZV 100)
```

Related information

DSH–Digital Horizontal Shift (on page 22)
DSV–Digital Vertical Shift (on page 23)

EDG–Edge Enhancement

Applies edge enhancement to an image.

Commands

Command	Description	Values
EDG <value>	Sets the edge enhancement for an image.	0 = Off (Default) 1 = Normal 2 = Maximum

Examples

Set the edge enhancement to the maximum value:

```
(EDG 2)
```

ERR–Error Log

Displays or clears the error log.

Commands

Command	Description	Values
ERR?	Shows the error log. (Read-only)	—
ERR+CLER1	Clears the error log. (Write-only)	—

FCS–Focus

Adjusts the focus of the image.

Commands

Command	Description	Values
FCS <position>	Adjusts the lens focus to the specified position.	p = Increases the focus value by one (same as pressing the Up arrow on the Focus remote control) n = Decreases the focus value by one (same as pressing the Down arrow on the Focus remote control)

FCT–Serial Number

Sets the serial number for the projector.

Commands

Command	Description	Values
FCT+SERN "AAABYWNNN"	Sets the serial number for the projector.	AAABYWNNN = Serial number

FMD–Detect Film

Enables or disables film motion detection.

When active, video motion is analyzed to determine if the video input is film (interlaced) or video (progressive). The analysis allows interlaced content to display correctly.

Commands

Command	Description	Values
FMD <0 | 1>	Enables or disables film detect.	0 = Turns off film detect (Default) 1 = Turns on film detect

Examples

Enable detect mode:

```
(FMD 1)
```

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)
```

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.

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.

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.	—

Examples

Reset the offset values to their default values:

```
(GOR 1)
```

HAR–Reset HSG 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	—

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 for altitudes >/= 2000 m (Default) 1 = Turns on high altitude functionality for altitudes below 2000 m

Examples

Turn on high altitude functionality: `(HAT 1)`

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 = Blanks the screen 1 = Adjusts the aspect ratio 2 = Freezes the screen 3 = Displays projector information 4 = Activates overscan

Examples

Set the infrared remote hot key to freeze the screen: `(HKA 2)`

HOR–Horizontal Position

Moves the horizontal position of the image left or right.

When applying this function, some of the active area is blank. Increase the value to move the active image to the right.

Commands

Command	Description	Values
HOR <value>	Sets the horizontal position for the main image.	0 to 100 50 (Default)

Examples

Move the starting point of the input capture to 50: `(HOR 50)`

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)`

IRC–InfraRGB Coefficient

Enables or disables the IR sensors.

Commands

Command	Description	Values
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)
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)

Examples

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

```
(IRC+HDBT 0)
```

ITP–Test Pattern

Displays a test pattern.

Some test patterns require Service permissions. The switch from a grid or color bar test pattern can take 18 seconds.

Commands

Command	Description	Values
ITP <pattern>	Displays a test pattern on the display.	0 = Off 1 = Grid 2 = White 3 = Black 4 = Checkerboard 5 = Color bar 6 = Red 7 = Green 8 = Blue 9 = Yellow 10 = Magenta 11 = Cyan 12 = Boresight

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

Command	Description	Values
		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)`

KEY–Key Mode Emulator

Uses key codes to emulate button presses on the infrared remotes or wired keypads.

Commands

Command	Description	Values
KEY <number>	Sends the command associated with the key to the product. (Read-only)	—

Examples

Send menu key 17 to the projector and displays the menu on the on-screen display: `(KEY 17)`

Infrared remote key codes

Remote button	Key code (decimal)	Remote button	Key code (decimal)
ON (Power)	57	ENTER	40
Standby (Power Off)	58	INPUT	48
INFO	66	OSD	49
AUTO	47	CONTRAST	24
1	26	BRIGHT	25
2	27	FOCUS_LEFT	5
3	28	FOCUS_RIGHT	6
4	29	PROJ	22
5	30	GAMMA 23	23

Remote button	Key code (decimal)	Remote button	Key code (decimal)
6	31	ZOOM-	9
7	32	ZOOM+	10
8	33	KEYSTONE H-LEFT	69
9	34	KEYSTONE H-RIGHT	70
HELP	35	LENS H-LEFT	13
0	36	LENS H-RIGHT	14
HOT KEY	65	KEYSTONE V-UP	71
MENU	19	KEYSTONE V-DOWN	72
TEST	1	LENS V-UP	18
SHUTTER	2	LENS V-DOWN	17
EXIT	20	PIP/POP	15
UP	38	SIZE	67
RIGHT	41	LAYOUT	68
DOWN	42	SWAP	43
LEFT	39		

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.	—
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) 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)`

LCE–Last Serial Command Error

Displays the last serial command error.

Commands

Command	Description	Values
LCE?	Returns the last serial command error. (Read-only)	—

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 current voltage status for laser diode 1. (Read-only)	—
LDI+LD02?	Displays the current voltage status for laser diode 2. (Read-only)	—
LDI+LD03?	Displays the current voltage status for laser diode 3. (Read-only)	—
LDI+LD04?	Displays the current voltage status for laser diode 4. (Read-only)	—
LDI+LD05?	Displays the current voltage status for laser diode 5. (Read-only)	—
LDI+LD06?	Displays the current voltage status for laser diode 6. (Read-only)	—
LDI+LDO7?	Displays the current voltage status for laser diode 7. (Read-only)	—
LDI+LD08?	Displays the current voltage status for laser diode 8. (Read-only)	—

Examples

Display the information for the laser diode bank 1:

```
(LDI+LD01)
```

LHO–Lens Shift Horizontal

Adjusts the horizontal lens offset.

Commands

Command	Description	Values
LHO <position>	Adjusts the horizontal location of the lens to the specified position.	p = Moves the lens to the left by one position (same as pressing the Left arrow on the LENS H remote control)

Command	Description	Values
		n = Moves the lens to the right by one position (same as pressing the Right arrow on the LENS H remote control)

Related information

HOR–Horizontal Position (on page 29)

LIF–Light Source Information

Display information about the light source in the projector.

Commands

Command	Description	Values
LIF+LPHS?	Returns the current number of hours the projector was operating.	—
LIF+LSHS?	Returns the current number of hours for the laser diode.	—

LLC–Light Sensor Calibration

Calibrates the light sensor. Complete a calibration whenever the light source is replaced.

Commands

Command	Description	Values
LLC 1	Calibrates the light sensor. (Write-only)	—
LLC+STAT?	Returns the current light sensor calibration setting.	1 = Calibrated

Examples

Initiate the calibration cycle:

```
(LLC 1)
```

Related information

LPI–Constant Intensity (on page 37)

LMA–Lens Memory Apply Position

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

Commands

Command	Description	Values
LMA	Applies the lens position according to the chosen lens memory position.	—

LMS–Lens Memory Save Current Position

Saves the current lens position to the projector memory.

Commands

Command	Description	Values
LMS	Saves the current lens position to the projector memory.	—

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 = Simplified Chinese 2 = French 3 = German 4 = Italian 5 = Japanese 6 = Korean 7 = Russian 8 = Spanish

Examples

Set the language to French: `(LOC+LANG 2)`
Set the language to Russian: `(LOC+LANG 7)`

LPI–Constant Intensity

Adjusts the light source intensity.

Note the following about the LPI command:

- The light sensor must be calibrated for Constant Intensity mode to work properly. The calibration must be performed after the laser diode replacement.
- The LPI and *LPP* (on page 38) commands cannot be enabled at the same time. If one is enabled, the other command is automatically disabled.
- If LPI is enabled, the DIM command is automatically disabled.

Commands

Command	Description	Values
LPI <value>	Sets the light source intensity.	0 (30% brightness) to 99 (100% brightness) 99 (Default)

Examples

Set the light source intensity to 100% brightness:

```
(LPI 99)
```

Related information

LPP–Constant Power (on page 38)
DIM–Dynamic Black (on page 22)

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 2 = Eco Mode—Maintains brightness at 80% for as long as possible 3 = Eco Mode—Maintains brightness at 50% for as long as possible 4 = Rental Mode—Adjusts to the lowest fan speed and switches the laser diode power to the minimum setting

Examples

Maintain the light source with 50% brightness for as long as possible: `(LPM 3)`

LPP–Constant Power

Sets the value of the laser diode power.

Commands

Command	Description	Values
LPP <power>	Sets the value of the laser diode power.	0 (30%) to 99 (100%) 99 (Default)

Examples

Set the laser diode power to 100%: `(LPP 99)`

Related information

LPI–Constant Intensity (on page 37)

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

LVO–Lens Shift Vertical

Adjusts the vertical lens offset.

Commands

Command	Description	Values
LVO <position>	Adjusts the vertical location of the lens to the specified position.	p = Shifts the lens up by one position (same as pressing the Up arrow on the LENS V remote control) n = Shifts the lens down by one position (same as pressing the Down arrow on the LENS V remote control)

Related information

VRT–Vertical Position (on page 62)

MAR–Reset Manual Color Matching to Default

Resets the manual color matching adjustments to the default settings.

Commands

Command	Description	Values
MAR 1	Resets the manual color adjustments	—

Examples

Reset the manual color adjustment:

```
(MAR 1)
```

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`

MDT–Mode Adjustment

Adjusts the horizontal and vertical start position for a signal in the EDID timing table and record the values in the system to override the timing table.

Run a Save command to keep the settings before exiting. To revert to the original timing table settings, manually clear each setting. You cannot use the Factory Defaults command to clear these settings.

Commands

Command	Description	Values
MDT?	Returns the current mode adjustment settings.	—
MDT+HPOS <value>	Applies a horizontal offset. (Write-only)	<value> = Three numeric characters
MDT+VPOS <value>	Applies a horizontal offset. (Write-only)	<value> = Three numeric characters
MDT+SAVE <value>	Saves the settings. (Write-only)	<value> = One numeric character
MDT+CLER <value>	Clears the setting. (Write-only)	<value> = One numeric character

Examples

Return the current mode adjustment settings: `(MDT?)`
Apply a horizontal offset to the specified position: `(MDT+HPOS 123)`
Save the MDT settings: `(MDT+SAVE 1)`
Clear the MDT settings: `(MDT+CLER 1)`

Related information

DEF–Factory Defaults (on page 21)

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.	—
MIF+SGFT?	Returns the signal format.	—
MIF+APRT?	Returns the aspect ratio.	—
MIF+RESL?	Returns the resolution.	—
MIF+VREF?	Returns vertical refresh information.	—
MIF+HREF?	Returns horizontal refresh information.	—
MIF+PIXC?	Returns the pixel clock settings.	—
MIF+SYNC?	Returns the sync type.	—
MIF+CLSP?	Returns the color space setting.	—

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 <value>	Views or sets the vertical position of the menus. (Read-only)	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)`

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+HORZ	Adjusts the horizontal filter to correct image distortion.	0 to 9
MWF+VERT	Adjusts the vertical filter to correct image distortion.	

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 1 = Turns on DHCP
NET+ETH0 <value>	Modifies Ethernet settings.	—

Command	Description	Values
NET+SUB0 <value>	Modifies subnet mask settings.	—
NET+GATE <value>	Modifies gateway settings.	—
NET+HOST <value>	Modifies the projector name.	—
NET+MAC0 <value>	Modifies the MAC address settings.	—
NET+MACO ?	Displays the MAC address settings. (Read-only)	—
NET+SHOW <0 | 1>	Turns network messages on or off.	0 = Turns off network messages 1 = Turns on network messages
NET+RSTR 1	Restarts the projector.	—
NET+RSET 1	Returns the projector name, LAN IP address, WLAN IP address, and SNMP settings to their factory defaults.	—

Examples

Turn DHCP off: `(NET+DHCP 0)`
Set the MAC address to 00:E0:47:01:02:3C: `(NET+MAC 0” 00:E0:47:01:02:3C”)`
Turn network messages on: `(NET+SHOW 1)`
Set the Ethernet address to 192.168.000.001: `(NET+ETH 0 ”192.168.000.001”)`
Restart the projector: `(NET+RSTR 1)`
Set the subnet mask to 255.255.255.000: `(NET+SUB 0 ”255.255.255.000”)`

NTW–Wireless Network

Modifies the wireless network settings.

Commands

Command	Description	Values
NTW+SLCT <0 | 1>	Turns wireless network on or off.	0 = Turns the wireless network off 1 = Turns the wireless network on
NTW+ETH0 <value>	Modifies the start IP address for the wireless network.	—

Command	Description	Values
NTW+ENIP <value>	Modifies the end IP address for the wireless network.	—
NTW+SUB0 <value>	Modifies subnet mask settings.	—
NTW+GATE <value>	Modifies gateway settings.	—
NTW+MAC0 <value>	Modifies the MAC address settings.	—
NTW + MACO ?	Displays the MAC address settings. (Read-only)	—
NTW+SSID <value>	Modifies the unique wireless network name.	—

Examples

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

OSD–On Screen Display

Displays or hides the on-screen display.

Commands

Command	Description	Values
OSD <0 | 1>	Enables or disables the on-screen display.	0 = Hides the on-screen display 1 = Displays the on-screen display

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)`

OVS–Over Scan

Modifies how the input images edges are framed and removes noise from around the image.

Commands

Command	Description	Values
OVS <value>	Modifies how the input images edges are framed and removes noise from around the image.	0 = Off 1 = Zoom—Enlarges the image 6% from the original size 2 = Crop—Cuts 6% of the active pixels from the four edges of the original image

Examples

Crop the input image edges: `(OVS 2)`

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)`

PCM–PC Mode

Provides two ways to control warping and blending of images.

Commands

Command	Description	Values
PCM <0 | 1>	Provides two ways to control warping and blending of images.	0 = Allows the user to do simple horizontal and vertical keystone, pincushion, and barrel control by using the on-screen display (Default) 1 = Allows the user to warp or blend images using the separate PC application.

Examples

Allow the user to do simple warping control: `(PCM 0)`
Allow the user to warp or blend images using the separate PC application: `(PCM 1)`

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 <value>	Sets the picture-in-picture/picture-by-picture size.	0 = Small 1 = Medium 2 = Large

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+MDLN?	Returns the model name.	—
PIF+SNUM?	Returns the serial number.	—
PIF+NERS?	Returns the native resolution.	—
PIF+FWVS?	Returns the firmware version.	—
PIF+CFVS?	Returns configuration information.	—
PIF+BCVS?	Returns the boot code.	—
PIF+WHEE?	Returns the color wheel index.	—

PIP–Picture in Picture

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

Commands

Command	Description	Values
PIP <value>	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 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	Swaps the main and picture-in-picture/picture-by-picture input.	—

PST–Picture Setting

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

This command optimizes the projector display for certain conditions, such as presentation, video, 2D high speed, 3D, and so on. Applying this setting affects the following commands:

- Gamma
- Sharpness
- White peaking
- Overscan
- Brightness
- Contrast
- Color
- Tint
- Gain—red, green, blue
- Offset—red, green, blue

Commands

Command	Description	Values
PST <value>	Optimizes the projector.	0 = Presentation 1 = Video 2 = Bright 3 = Enhanced

Command	Description	Values
		4 = REC709 5 = Real 6 = DICOM SIM 7 = 2D High Speed (Read-only) 8 = 3D (Read-only) 9 = Blending 10 = User
PST+USER <value>	Stores the current settings to a user profile.	—

Examples

Optimize the projector for bright viewing content: `(PST 2)`
Optimize the projector to display DICOM SIM content: `(PST 6)`

PWR–Power

Changes the power state of the product.

Commands

Command	Description	Values
PWR?	Returns the current power state of the projector.	—
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 1 = Communication mode (Default)
PWR+ISTF <value>	Specifies the cool down time period.	0 = Turns off the projector immediately 1 = Turns off the projector after one minute 2 = Turns off the projector after two minutes

Examples

Get the projector power status: `(PWR?)`
Turn off the projector: `(PWR 0)`

Place the projector in communication mode:

```
(PWR+STBM 1)
```

PXP–Pixel Phase

Adjusts the phase of the pixel sampling clock relative to the incoming signal.

You can fine tune the sampling point within one pixel. Adjust the Pixel Phase when the image (usually from an RGB source) shows shimmer. If the shimmer is concentrated in vertical bands with little or no shimmer between the bands, the pixel tracking might need adjustment. Pixel Tracking must be set correctly before adjusting Pixel Phase.

The Pixel Phase command can only be set on analog input cards.

Commands

Command	Description	Values
PXP <value>	Sets the pixel phase for the specified value.	0 to 100 50 (Default)

Examples

Set the pixel phase to 50:

```
(PXP 50)
```

Related information

PXT–Pixel Tracking (on page 51)

PXT–Pixel Tracking

Adjusts the position of the pixel sampling clock to match the input signal.

Proper pixel tracking ensure the image quality is consistent across the screen. If adjusted incorrectly, flickering or vertical bars of noise appear across the image. Adjust Pixel Tracking so the noise either disappears or fills the image. If it fills the image, use Pixel Phase to eliminate the noise.

The Pixel Tracking command can only be set on analog input cards.

Commands

Command	Description	Values
PXT <value>	Sets the pixel tracking for the specified value.	0 to 100 50 (Default)

Examples

Set the pixel tracking to 50: `(PXT 50)`

Related information

PXP–Pixel Phase (on page 51)

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.

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.

Adjusting this setting also affects the black and white components 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)`

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

SHU–Shutter

Opens and closes the shutter.

Commands

Command	Description	Values
SHU?	Gets the state of the shutter.	—
SHU <0 | 1>	Opens or closes the shutter.	0 = Opens the shutter 1 = Closes the shutter (Default)

Examples

Get the state of the shutter.
`(SHU?)`
Result:
`(SHU!0)`
Indicates the shutter is open.

Open the shutter. `(SHU 0)`
Close the shutter. `(SHU 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.	—
SIF+SGFT?	Returns the signal format.	—
SIF+APRT?	Returns the aspect ratio.	—
SIF+RESL?	Returns the resolution.	—
SIF+VREF?	Returns vertical refresh information.	—
SIF+HREF?	Returns horizontal refresh information.	—
SIF+PIXC?	Returns the pixel clock settings.	—
SIF+SYNC?	Returns the sync type.	—
SIF+CLSP?	Returns the color space setting.	—

Examples

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

SIN–Select Input

Selects the active input.

Commands

Command	Description	Values
SIN+MAIN <value>	Sets the active input for the main video.	1 = VGA 2 = BNC 3 = HDMI 1 4 = HDMI 2 5 = DVI-D 6 = DisplayPort 7 = 3G-SDI 8 = HDBaseT 9 = CVBS 10 = Presenter 11 = Card Reader 12 = Mini USB
SIN+PIP <value>	Sets the active input for the picture-in-picture video.	

Examples

Set the main video to DVI-D: `(SIN+MAIN 5)`
Set the picture-in-picture video to HDBaseT: `(SIN+PIP 8)`

SIV–Serial Command Version

Displays the serial command version.

Commands

Command	Description	Values
SIV?	Displays the serial command version. (Read-only)	—

SKS–Source Key Function Settings

Assigns functionality to the source hot key.

Commands

Command	Description	Values
SKS <value>	Assigns the hot key functionality.	0 = Changes the hot key source 1 = Returns a list of all sources 2 = Allows source changes with the Auto Source button (Default)

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

SNS–Source Name Setting

Changes the source name to a user-defined name.

Subcode availability is determined by your hardware configuration.

Commands

Command	Description	Values
SNS+SRC <value> "name"	Applies a name to the specified input.	1 = VGA 2 = BNC 3 = HDMI 1 4 = HDMI 2 5 = DVI-D 6 = DisplayPort 7 = 3G-SDI 8 = HDBaseT

Command	Description	Values
		9 = CVBS 10 = Presenter A = Card Reader B = Mini USB

Examples

Change the source name of the VGA1 input to WUXGA: `(SNS+SRC1 "WUXGA")`

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

Examples

Turn off rear projection: `(SOR 0)`
Turn on rear projection: `(SOR 1)`

SPP–Serial Port Path

Sets the serial port path.

Commands

Command	Description	Values
SPP <0 | 1>	Sets the serial port path.	0 = RS232 (Default) 1 = HDBaseT

Examples

Set the serial port path to RS232: `(SPP 0)`
Set the serial port path to HDBaseT: `(SPP 1)`

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

SST–Projector Status

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

Commands

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

SYT–Sync Threshold

Helps to sync a hardware device, such as a DVD player, when connecting to a projector.

Only use this command with progressive signals.

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.

For all 3D input timings, only the 3D Mode size preset is available.

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)
```

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

Command	Description	Values
		3 = Top and Bottom 4 = Frame Sequential 5 = Off

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

TDT–Toggle 3D Blending

Toggles 3D blending.

This command is only available in PC mode.

Commands

Command	Description	Values
TDT <0 | 1>	Enables or disables 3D blending.	0 = Disables 3D blending 1 = Enables 3D blending

TMG–Timing Detect Mode

Sets the timing detection mode to wide or normal.

When the projected image is not completed, use this function to adjust the picture. For 4:3 input sources not recognized by Wide mode (for example, 1400 x 1050), perform Auto Image using Normal mode.

Commands

Command	Description	Values
TMG <value>	Sets the timing detection mode.	0 = Normal 1 = Wide (Default)

Examples

Set the timing detection mode to wide: `(TMG 1)`

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)`

UID–Enter Service Mode

Puts the projector in service mode.

Commands

Command	Description	Values
UID "service,service"	Places the projector in service mode. (Write-only)	—

UST–UST Lens Install

Toggles the start mode for the UST Install feature.

Initially issuing this command toggles the start mode so the projector can use an ultra short throw lens. Issuing the command again, switches the start mode back so the projector can use a non-ultra short throw lens. Every time this command is issued, the projector performs a lens calibration.

Commands

Command	Description	Values
UST 1	Toggles the start mode for the UST Install feature.	—

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.

When applying this function, some of the active area is blank. Increase the value to move the active image up.

Commands

Command	Description	Values
VRT <value>	Sets the vertical position for the main image.	0 to 100 50 (Default)

Examples

Set the vertical position to 50:

```
(VRT 50)
```

WRE–Warping Reset

Resets the geometry correction.

Commands

Command	Description	Values
WRE 1	Resets the geometry correction.	—

Examples

Reset the geometry correction: `(WRE 1)`

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 <value>	Sets the white peak.	0 to 100

Examples

Set the white peak to 50: `(WPK 50)`

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.	0 to 40 20 (Default)
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 <position>	Adjusts the lens zoom to the specified position.	p = Increases the zoom by one (same as pressing the Up arrow on the ZOOM remote control) n = Decreases the zoom by one (same as pressing the Down arrow on the ZOOM remote control)

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