Technical Reference

020-102559-03

GS Series 630 and 635

Serial Commands

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Content

Communicating with GS Series 630 and 635

Understand the information and procedures for communicating with GS Series 630 and 635 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.

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, PWR1 can be entered as PWR 1. 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 630 and 635 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")
```

Serial API commands

The GS Series 630 and 635 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>.	00 to 99 0 (Default)

Examples

Set the projector address 0:
(ADR 0)

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 to 120 (each step represents 5 minutes) 0 = Turns off auto shutdown (Default)

Examples

Turn off auto shutdown:
```
(ASH 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 4 = 14400 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 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)`

BRT–Brightness

Adjust the intensity of the image.

Commands

Command	Description	Values
BRT <value>	Adjusts the intensity of the image.	Color mode—0 to 100 Blending color mode—0 to 8

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+BLUH <value>	Specifies the blue levels of hue.	1 to 199
CCA+BLUG <value>	Specifies the blue levels of gain.	1 to 199
CCA+BLUS <value>	Specifies the blue levels of saturation.	0 to 199
CCA+CYAS <value>	Specifies the cyan levels of saturation.	0 to 199
CCA+CYAG <value>	Specifies the cyan levels of gain.	1 to 199
CCA+CYAH <value>	Specifies the cyan levels of hue.	1 to 199
CCA+GREG <value>	Specifies the green levels of gain.	1 to 199
CCA+GREH <value>	Specifies the green levels of hue.	1 to 199
CCA+GRES <value>	Specifies the green levels of saturation.	0 to 199
CCA+MAGH <value>	Specifies the magenta levels of hue.	1 to 199
CCA+MAGG <value>	Specifies the magenta levels of gain.	1 to 199
CCA+MAGS <value>	Specifies the magenta levels of saturation.	0 to 199
CCA+REDG <value>	Specifies the red levels of gain.	1 to 199
CCA+REDH <value>	Specifies the red levels of hue.	1 to 199
CCA+REDS <value>	Specifies the red levels of saturation.	0 to 199
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
CCA+WHBG <value>	Specifies the blue levels of white gain.	1 to 199
CCA+WHGG <value>	Specifies the green levels of white gain.	1 to 199
CCA+WHRG <value>	Specifies the red levels of white gain.	1 to 199
CCA+YELG <value>	Specifies the yellow levels of gain.	1 to 199
CCA+YELH <value>	Specifies the yellow levels of hue.	1 to 199
CCA+YELS <value>	Specifies the yellow levels of saturation.	0 to 199

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 = Warm 1 = Bright (Default) 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>	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+GRCO <color>	Applies the grid color	Green (Default) Purple
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 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 (Default) 1 = RGB (0 to 255) 2 = RGB (16 to 235) 3 = YUV

Examples

Select the YUV color space for the input signal:
`(CSP 3)`

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+FT2x <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 2x:

`(CWI+PF2X 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 (Default)

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.

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 GS Series 630 and 635 to factory defaults:
```
(DEF 111)
```

DIM–Contrast Enhancement

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)
```

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

Command	Description	Values
		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.	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)
```

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.	100% to 200% (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.	100% to 200% 100% (Default)

Examples

Change the vertical size of the display area to 100%:
```
(DZV 100)
```

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)
```

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

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 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 (Default) 1 = Adjusts the aspect ratio 2 = Freezes the screen 3 = Displays projector information

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?	Returns the horizontal position value on the main video. (Read-only)	—
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)`

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.

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 (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.Displays the information of each laser diode bank including its voltage, current, 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)	—

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.	n = Increases horizontal location of the lens by one p = Decreases horizontal location of the lens by one

LIF–Light Source Information

Display information about the light source in the projector.

Commands

Command	Description	Values
LIF+TPHS?	Returns the current number of hours the projector was operating. (Read-only)	—
LIF+LSHS?	Returns the current number of hours for the laser diode. (Read-only)	—

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)`

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

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)`

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

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 (Default) 1 = Enables displaying message boxes directly triggered by user actions

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

MEL–Menu Location

Sets the default menu position on the screen.

Commands

Command	Description	Values
MEL?	Returns the current menu position. (Read-only)	—

Command	Description	Values
MEL <value>	Sets the preset menu position.	0 = Left top
		1 = Right top
		2 = Center
		3 = Left bottom
		4 = Right bottom

Examples

Get current menu position:
(MEL?)
Set the main menu position to the top left corner of the screen:
(MEL 0)

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)	—
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?)

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

Examples

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

Set the subnet mask to 255.255.255.000:

```
(NET+SUB0 "255.255.255.000")
```

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")
```

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 (Default) 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+CFVS?	Returns configuration information. (Read-only)	—
PIF+FWV#?	Returns the version of various components. (Read-only)	1 = MCU 2 = Scaler 3 = 3D decorder 4 = Formatter 5 = PW808FW
PIF+MDLN?	Returns the model name. (Read-only)	—
PIF+NERS?	Returns the native resolution. (Read-only)	—
PIF+SNUM?	Returns the serial number. (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 <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-by-picture video 2 = Enables picture-in-picture video (PBP)

Examples

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.	Top Left = Places the image on the top left of the main image (Default) Top Right = Places the image on the top right of the main image Bottom Left = Places the image on the bottom left of the main image Bottom Right = Places the image on the bottom right of the main image

Examples

Set the image on the bottom right of the main image:

```
(PPP "Bottom Right")
```

Set the image on the top-left corner of the image:

```
(PPP "Top Left")
```

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.	—

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 = Bright
		1 = Presentation
		2 = Movie
		3 = sRGB
		4 = Blending
		5 = DICOM SIM
		6 = User

Examples

Optimize the projector for bright viewing content:

```
(PST 0)
```

Optimize the projector to display DICOM SIM content:

```
(PST 5)
```

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)`

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)`

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

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

Examples

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

SHA–Sharpness

Sets the sharpness of the GS Series 630 and 635 projector.

Commands

Command	Description	Values
SHA <value>	Sets the sharpness of the GS Series 630 and 635 projector.	0 to 10 5 (Default)

SHU–Shutter

Opens and closes the shutter.

Commands

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

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. (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

Command	Description	Values
SIN+MAIN <value>	Sets the active input for the main video.	1 = VGA
SIN+PIIP <value>	Sets the active input for the picture-in-picture video.	3 = HDMI 1
		4 = HDMI 2
		5 = DVI-D
		8 = HDBaseT

Examples

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

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

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 to 990 (each step represents 10 minutes) 0 = Turns off the sleep timer 10 (Default)

Examples

Turn off the sleep timer: (SLP 0)
Set the sleep timer duration to 20 minutes: (SLP 20)

SOR–Rear Projection

Selects the orientation of the displayed image.

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

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 <0 | 1>	Sets the splash screen to display.	0 = Factory logo (Default) 1 = User

Examples

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)	—

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 1 = 4:3

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Command	Description	Values
		2 = 16:9
		3 = 16:10

Examples

Set the size preset to 4:3:

`(SZP 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.	1 = Frame Packing 2 = Side by Side 3 = Top and Bottom 4 = Frame Sequential

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)`

TDN–3D

Enables 3D content detection.

Commands

Command	Description	Values
TDN <0 | 1>	Enables 3D detection content.	0 = Auto (Default)
		1 = On

Examples

Automatically turn on 3D detection of content:
`(TDN 0)`
Enable 3D detection of content:
`(TDN 1)`

TDO–3D Sync Out

Sets the 3D resolution 1080p@24 frequency.

Commands

Command	Description	Values
TDO?	Returns the 3D resolution frequency.	—
TDO <0 | 1>	Sets the 3D resolution 1080p@24 frequency.	0 = 96 Hz
		1 = 144 Hz (Default)

Examples

Return the 3D resolution frequency:
`(TDO?)`
Set the 3D resolution frequency to 96 Hz:
`(TDO 0)`
Set the 3D resolution frequency to 144 Hz:
`(TDO 1)`

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 <0 | 1>	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)`

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.	1

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?	Returns the vertical position value on the main video. (Read-only)	—
VRT <value>	Sets the vertical position for the main image.	50 (Default)

Examples

Set the vertical position to 50:

```
(VRT 50)
```

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 that is set.	—
WPK <value>	Sets the white peak.	0 to 100

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.	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)
```

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)

Command	Description	Values
		n = Decreases the zoom by one (same as pressing the Down arrow on the ZOOM remote control)

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