Technical Reference

020-100224-10

M Series
Serial API Commands

CHRISTIE®

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Content

Introduction

This document describes the serial protocol, consisting of ASCII text messages, used to control an M Series projector remotely.

Connection and use

Once you have connected your computer to either the RS232 IN or RS422 IN port (depending on which standard is supported by your computer) or to the Ethernet port on a projector, you can remotely access projector controls and image setups, issue commands or queries, and receive replies. Use these bi-directional messages to:

- Control multiple projectors
- Obtain a projector's status report
- Diagnose performance problems

- Refer to the User Manual provided with the projector for all cable requirements and other connection details.
- Some commands are operational only when projector is powered up.

Understanding message format

Messages can be one of three types:

- **Set**—A command to set a projector parameter at a specific level, such as changing to a certain channel.
- **Request**—A request for information, such as what channel is currently in use.
- **Reply**—The projector returns the data in response to a request or as confirmation of a command.

All remote control information passes in and out of the projector as a simple text message consisting of a three letter command code, an optional four letter subcode and any related data. When a parameter for a specific source is being accessed, the four letter subcode is added on to the command code. A number of optional features (message acknowledges, checksums, and network addressing) can be included.

Generally, most commands include 0 or 1 data fields or parameters. Where applicable, a message may expand to include additional parameters of related details.

The smallest step size for any parameter is always 1. For some controls (such as Size) the value displayed on the screen has a decimal point (for example, 0.200 to 4.000). In this case, the values used for the serial communications is an integer value (for example, 200 to 4000), not the decimal value seen on the screen.

Regardless of message type or origin, all messages use the same basic format and code. Opening and closing round brackets (parentheses) surround each message, see *Basic message structure* on page 10.

Message formats

Source	Message Format	Function	Examples
From Controller	(Code Data)	SET (set contrast of main image to 500)	(CON500) or (CON 500)
	(Code+Subcode Data)	SET (set contrast of PIP image to 500)	(CON+PIIP500) or (CON +PIIP 500)
From Controller	(Code ?)	REQUEST (what is current contrast?)	(CON?) or (CON ?)
	(Code+Subcode ?)	REQUEST (what is contrast of PIP image?)	(CON+PIIP?) or (CON+PIIP ?)
From Projector	(Code Data)	REPLY (contrast is 500)	(CON!500)
	(Code+Subcode Data)	REPLY (PIP contrast is 500)	(CON+PIIP!500)

Basic message structure

The following component fields comprise a standard ASCII message. Optional fields, such as extra characters for special modes, restrictions or added functionality, are shown in italics, with the exception of Notes.

- **Start and end of message:** Every message begins with the left bracket character and ends with the right bracket character.

  If the start character is received before an end character of the previous message, the partial (previous) message is discarded.

- **Prefix characters (optional):** For acknowledgement that the projector has responded, and/or to maximize message integrity, insert one or two special characters before the three-character function code:

  $—Simple Acknowledgment, which causes a dollar sign ($) character to be sent from the projector when it has finished processing the message, see *Maximizing message integrity on page 13*.

  #—Full Acknowledgment, which causes an echo of the message as a reply to be sent from the projector when it has finished processing the message, see *Maximizing message integrity on page 13*.

  &—Checksum, which allows a checksum to be put as the last parameter in the message for verification at the projector, see *Maximizing message integrity on page 13*.

- **Projector numbers (optional):** To control a selected projector or controller within a group, include its assigned number or address just before the three-character ASCII function code, see

Network operation on page 16.

- **Function code:** The projector function you want to work with, such as channel selection or gamma, is represented by a three-character ASCII code (A-Z, upper or lower case). This function code appears immediately after the leading bracket that starts the message. In messages sent to the projector that do not have a subcode, a space between the function code and the first parameter (or special character) is optional.
- **+Subcode:** The projector function you want to work with may have one or more subcodes that allow you to select a specific source, image, channel or subfunction. The subcode is represented by a four-character ASCII code (A-Z, upper or lower case, and 0-9). This subcode appears immediately after the function code, with a plus sign (+) character to separate the code and subcode. If there is no subcode, the plus sign (+) is also omitted. In messages sent to the projector that do have a subcode, a space between the subcode and the first parameter (or special character) is optional.
- **Request/reply symbols:** If the controller is requesting information from the projector, a question mark (?) appears directly after the function code. If the projector is replying, an exclamation mark (!) appears directly after the function code. For set messages to the projector, neither of these characters appear—data directly follows the code and subcode.
- **Other special functions (optional):** To add functionality to the current message, include one or more of the following special characters between the function code/subcode and the first parameter. If more than one, add them in any order, see *Flow control on page 16*.

  C Control Class Inquiry

  D Default value/Text

  E Enable Control Inquiry

  G Access Group Inquiry

  H Return the Help text for a control

  L Return a list of options for list controls

  M Find min/max adjustments (such as range)

  N Return the name of the control

  T Return the type of control (such as Slidebar and so on)

- **Data:** The value for a given projector state, such as on or off, appears in ASCII-decimal format directly after the request/reply symbol. You can add an optional space after the symbol—such as before the data—in a set message, but data in replies follow the exclamation mark (!) symbol without a space. Other details to remember about data:
  - All values returned by the projector (reply messages) have a fixed length, regardless of the actual value. For a specific parameter the length is always be the same (for example, contrast is always returned as three characters, projector number is always returned as five characters). The minimum parameter size is three characters. Values less than the predefined size are padded with leading zeros as needed. Parameters which have negative signs are zero padded after the negative sign, and have one less digit to make space for the sign.

- If entering a negative number, there must be a space between the code/subcode and the value for example (CRM3) and (CRM 3) can both be used when the number is positive. (CRM -2) is acceptable, but (CRM-2) is not.
- Data in set messages to the projector do not require padding with zeros.
- Within each message, multiple parameters of data must be separated by one space character.
- Text parameters such as channel names are enclosed in double quotes following the data, as in Name.

- **Text parameters:** Most data is simply a numerical value, however some messages also require text. For example, a channel naming message typically includes a text-based name—enclose this text in double quotation marks, as in Tilt the Wagon. Use all characters as required except for the following special characters shown in the left column below—these require a two-character combination, see below.

Special characters for text

If you want this...	Enter this...	Description
\	\\	Backslash
”	\”	Quote
(	\(	Left Bracket
)	\)	Right Bracket
0x0A	\n	New line —If the text can be displayed on more than one line, this sets the line break.
	\h##	Sends one arbitrary code defined by the two hexadecimal digits ##

Sample messages and their meaning

The following sections provide sample messages and outline their meaning.

For a single projector

Message Format	Function	Example
(Code Data)	SET (set contrast of main image to 500)	(CON500)
(Code+Subcode Data)	SET (set contrast of PIP image to 500)	(CON+PIIP500)
(Code?)	REQUEST (what is current contrast?)	(CON?)
(Code+Subcode?)	REQUEST (what is contrast of PIP image?)	(CON+PIIP?)
(Code!Data)	REPLY (contrast is 64)	(CON!64)
(Code+Subcode!Data)	REPLY (PIP contrast is 64)	(CON+PIIP!64)
($Code Data)	SET AND ACKNOWLEDGE MESSAGE (message processed?)	($CON64)
(&Code+Subcode Data Checksum)	SET WITH CHECKSUM	(&CON64 240)

For a specific projector within a network with one controller present

Message Format	Function	Example
(Dest Addr Code Data)	SET (turn projector #5 on)	(5pwr1)
($Dest Addr Code Data)	SET AND ACKNOWLEDGE MESSAGE (message processed?ffr55)	($5pwr1)

For a specific projector within a network with multiple controllers present

Message Format	Function	Example
(Dest Addr Src Code?)	REQUEST (get contrast from projector #5 to controller #2)	(5 2con?)
($Dest Addr Src Code Data)	SET AND ACKNOWLEDGE MESSAGE (is message from controller #2 processed by projector #5)	($5 2con?)
(Dest Addr Src Code!Data)	REPLY (from projector #5 to controller #2: contrast is 64)	(002 005con!064)

What is sent in a message

Although you send and read messages as strings of ASCII characters, the actual message travels as a sequence of bytes. Each character in this sequence requires 1 byte. See the example below, which illustrates a *lamp limit is 2000 hours* reply from the projector.

ASCII =	(	L	P	L	!	2	0	0	0	)
HEX =	0x28	0x4	0x50	0x28	0x21	0x32	0x30	0x30	0x30	0x29

Maximizing message integrity

For additional reassurance and/or maximum message integrity, you can insert one or two special characters:

- **Acknowledgements:** If you want assurance from the projector (or group of projectors) that a set message has been processed, request an acknowledgement. The acknowledgement is returned after the message has been received and fully executed by the projector (such as in

the case of a source switch it is not sent until the switch is complete). If the message cannot be executed for some reason (such as invalid parameters, time-out, and so on) a NAK is returned instead (not-acknowledge). Requesting an acknowledgement serves no purpose when included in a request message, as the acknowledgement is redundant to the actual reply from the projector. However, if requested, the dollar sign ($) acknowledgement from the projector follows the reply.

There are two types of acknowledgements:

- **Simple Acknowledgements:** Insert a dollar sign ($) character just after the start code bracket. This only returns a $. This only returns a dollar sign ($) on success, or a caret (^) on failure (NAK).
- **Full Acknowledgements:** Insert a hash (#) character just after the start code bracket. This returns the message sent, as a reply.

This is a quick way to confirm success with set messages, and is particularly useful with long-distance communication links or where the projectors and/or images are not visible from the controller. Acknowledgements can also be a type of flow control.

- **Checksums:** For maximum message integrity, add a checksum character ampersand (&) just after the start code bracket. You must then also include the correct checksum total (0-255) just before the end code bracket. Make sure to add a space before the calculated checksum to separate it from the last data parameter:

  The checksum is the low byte of the sum of the ASCII values of all characters between the start bracket and the beginning of the checksum, but not including either. It does include the space in front of the checksum. Calculate the checksum for the above *set contrast to 64* command as follows:

  CHECKSUM EXAMPLE = & + c + o + n + 6 + 4 + ‘space’

  = 26h+63h +6Fh +6E h +36h +$34h +$20h

  = 01F0h

  = F0h when only the low byte is used

  = 240

  The projector collects all of the message bytes as defined in the first byte of the message, then creates its own checksum value for comparison with the checksum included in the controller’s message. If the values match, the message is considered to have been correctly received; otherwise, the message is discarded.

  - h indicates a hex number.
  - If a request message has a checksum so does the reply.
  - If using both acknowledge and checksum, either character can occur first.

Message errors

If a command cannot be performed (for example, syntax error), you receive a descriptive error indicating the problem. For example: (ITP)

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

For more examples of a descriptive error, see below.

Descriptive error

Error Code	Error Description	Error Code	Error Description
3	Invalid Parameter	107	Exceeded List Size
4	Too Many Parameters	108	Exceeded Text Size
5	Too Few Parameters	109	Invalid Pointer
6	Channel not found	110	Communication Timeout
7	Command not executed	111	Communications Failure
8	Checksum error	112	Failed to set Hardware
9	Unknown request	113	Bad File
10	Error receiving serial data	114	Memory Failure
101	Control Not Found	115	Not Implemented
102	Subcontrol Not Found	116	Invalid Security Token
103	Wrong Control Type	117	Invalid Access Group
104	Invalid Value	118	System Busy - Try Again Later
105	Disabled Control	??	Unknown Error
106	Invalid Language		

Accessing specific channels or inputs

For several commands (for example, ASR, Auto Channel Select) you can direct the message to particular channel, input or image. To do this, include a subcode after the function code.

Example

Enable Auto Channel Select for the channel being used by the Main image.

(ASR 1)

Enable Auto Channel Select for the channel being used by the Main image.

(ASR+MAIN 1)

Enable Auto Channel Select for the channel being used by the PIP image.

(ASR+PIIP 1)

Enable Auto Channel Select for the channel being used by the Secondary image.

(ASR+SECD 1)

Enable Auto Channel Select for channel 3.

(ASR+C003 1)

Set the bottom blanking value on slot 1 input 2 to value 30.

(BBL+IN12 30)

You can set parameters from a specific channel or input if that parameter is stored separately for each channel or input. This function cannot be used for parameters that are specified for the projector as a whole such as projector address. The serial commands listed in the document specify which subcodes are applicable to each function.

The picture-in-picture and secondary images both refer to the image on the secondary image path. Depending on your projector model type, either picture-in-picture or secondary commands are applicable to this image. However, for serial commands, PIIP and SECD can be used interchangeably as shown within this document.

Flow control

Normally messages can be sent to the projector before processing of earlier messages is complete—the projector stores messages in a buffer until ready to process. However, if a series of messages is sent. the projector may not be able to process them as fast as they arrive and the buffer becomes full. If this happens, the projector sends the 13h (Xoff) code to instruct the controller (or any devices preparing to transmit) to cease transmission. At this point, the controller must respond immediately and send no more than 10 extra characters or they may be lost (such as, the projector can accommodate the receipt of up to 10 more bytes after it sends 13h (Xoff)). When the buffer is once again available, the projector sends a 11h (Xon) command to resume transmission.

Xon and Xoff controls apply to both directions of communication. The projector does not send more than three characters after it has received a 13h (Xoff) code.

Network operation

Up to 1000 projectors can be linked together in a chain with the OUT port on one connected to the IN port on the next. A controller connected to the IN port on the first projector can control them all, either by broadcasting messages which have no address and are thus seen by all projectors, or by directing messages to specific projector addresses.

Message for specific projector

To work with a specific projector in a group, the projectors must first be assigned a unique ID—either a projector number or an Ethernet IP address. Insert the number of the target projector between the starting bracket and the three-character ASCII code.

```
(  Addr   Code   Data   )
```

Each projector compares the message address with its own address and, if matching, responds and processes the message. If the address does not match, the message is passed on until it reaches the intended projector.

Message for projector from a specific controller

Although messages without an address are always broadcast, you can also broadcast by including the reply destination address 65535. This ensures that replies go to a specific controller address rather than being broadcast. The projector also includes its address.

```
(  Dest  Src   Code   Data   )
```

Message for specific projector from a specific controller

If you have more than one controller on a network, ensure to include both a source address and a destination address. With a single controller on the network, its address is never required. Place the source address between the destination address and three-character code, including a space before and after as shown.

Replies from a projector do not contain an address unless the request message includes both a destination address and a source address—such as, a reply to a request having only a destination address does not have any source address.

(Dest Src Code Data)

Examples

Command	Message from Controller	Reply from Projector
Turn Projector #5 on.	(5pwr1)	{none}
What is the contrast level in Projector 30?	(30con?)	(CON!127)
Return Contrast from Projector #30 to Controller #2.	(30 2con?)	(00002 00030con!127)

Description of control types

Subclasses

- **Power Down Controls—**Controls are accessible when the projector is in Standby power mode (such as power off) as well as when powered on.
- **Power Up Controls—**Controls are only accessible when the system electronics are fully powered (not necessarily lamp on).

Control groups

- **Unsaved Controls—**Controls are not saved to flash. The settings are not maintained between power sessions.
- **Saved Controls—**Controls are saved to flash. The settings are persistent between power sessions.
- **Preference Controls—**Controls are transferable from one projector to another, for example: NET+SUB0 (projector subnet).
- **Configuration Controls—**Controls are projector specific settings. They are non-transferable between projectors, for example: NET+ETH0 (projector IP address).
- **Channel Controls—**Settings are specific to a particular input signal, for example: BRT (signal brightness).

- **Option Card Controls—**Settings are specific to a particular option card type/slot combination.

Access levels

- **Operator**—Command is available at the operator level log in.
- **Advanced**—Command is available at the advanced operator level log in.
- **Admin**—Command is available at the administrator level log in.
- **Service**—Command is available at the service level log in.

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M Series Serial API Commands

The M Series serial API commands can be used to modify projector settings.

ACE–Auto Color Enable

Automatically selects Color Enable based on the control being adjusted. If enabled, the projector can automatically change the color enable control when the user is using the on-screen display interface to adjust controls such as input levels, odd pixel, and brightness uniformity. This is an unsaved control, which can only be set when powered on and only affects the operation of the on screen menus.

Parameters

- **Control Group**: Preference
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
ACE <0 | 1>	Enables or disables the auto color controls.	0 = Disables Auto Color 1 = Enables Auto Color

Examples

Disable Auto Color.

(ACE 0)

Enable Auto Color.

(ACE 1)

ACO–Adaptive Contrast

Dynamically expands the contrast of the output image producing vibrant images with seamless response to scene changes and fades. The adaptive contrast function implements a dynamic non-linear mapping between the input and output contrast levels based on frame-by-frame luminance histogram measurement of the input image.

Parameters

- **Control Group**: Input
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
ACO+INxy	Sets the adaptive contrast for slot x, input y.	0 to 15
ACO+MAIN	Sets the adaptive contrast for main video.	0 to 15
ACO+PIIP ACO+SECD	Sets the adaptive contrast for picture-in-picture or secondary video.	0 10 15

Examples

Set adaptive contrast for main image to 50% strength.

```
(ACO 8)
```

ACT–Active Window

Defines the input active window in pixels. The production aperture is available for analog sources only, but not for decoded analog signals. The aperture is set once on every auto setup or on new signal detection when a channel for that signal is not present. The aperture defines the maximum window in which blanking controls can be opened up to, relative to the active portion of the signal. This is a read-only control.

Parameters

- **Control Group**: Input
- **Subclass**: Power Up
- **Access Level**: Operator (Read-only)

Commands

Command	Description	Values
ACT+INxy	Sets the adaptive contrast for slot x, input y.	-
ACT+MAIN	Sets the adaptive contrast for main video.	-
ACT+PIIP ACT+SECD	Sets the adaptive contrast for picture-in-picture or secondary video.	-

Examples

Return the active window for the main video.

(ACT ?)

Return the active window for the PIP video.

(ACCT+PIP?)

Return the active window for slot 1, input 2.

(ACT+IN12?)

ADR–Address

Sets or queries Device Address on ASCII Protocol network. Required only for RS232 connections daisy chained to allow directed messages.

Parameters

- **Control Group**: Preference
- **Subclass**: Power Down
- **Access Level**: Operator

Commands

Command	Description	Values
ADR <value>	Sets the projector address to <value>.	0 to 999 65535 = Reserved broadcast address

Examples

Set all devices to address 0.

(65535 ADR 0)

Set first device at address 0 to address to 5.

(0 ADR 5)

Query address for all devices and return results to address 1001.

(65535 1001ADR?)

(01001 00005ADR!005)

AGC–Automatic Gain Control

Enables or disables the automatic gain control (AGC). Using this control the decoder can automatically track the sync amplitude of the incoming signal. Turn this control off if you experience strange color artifacts, indicating an incompatibility between the source and the AGC.

Parameters

- **Control Group**: Input
- **Subclass**: Power Up
- **Access Level**: Operator (Read-only)

Commands

Command	Description	Values
AGC+INxy	Sets the automatic gain control for slot x, input y to the specified state of either enable or disable.	-
AGC+MAIN	Sets the automatic gain control for the main image.	-
AGC+PIIP AGC+SECD	Sets the automatic gain control for picture-in-picture or secondary video.	-

Examples

Enable AGC on main video.

(AGC 1)

Disable AGC on main video.

(AGC+MAIN 0)

Enable on PIP video.

(AGC+PIIP 1)

Return the current AGC state on main video.

(AGC?)

Return the current AGC state on PIP video.

(AGC+PIIP ?)

Return the current AGC state on slot 1 input 2.

(AGC+IN12 ?)

AIC–Auto Input Cycling

When enabled, the system continually searches for the next valid signal when no signal is present or when loss of sync occurs on the current user selected input. In the case of multiple signals to choose from, the order is based on slot, followed by inputs on that slot.

Parameters

- **Control Group**: Preference
- **Subclass**: Power Down
- **Access Level**: Operator

Commands

Command	Description	Values
AIC <0 | 1>	Enables or disables auto input cycling.	0 = Disables auto input cycling 1 = Enables auto input cycling

Examples

Disable auto input cycling.

(AIC 0)

Enable auto input cycling.

(AIC 1)

AIL–Auto Input Level

Allows the projector to continuously monitor the input signal levels of the analog inputs and make adjustments as needed, if enabled.

When the projector detects a level that would lead to the crushing of black or white levels, it adjusts the input offset or gain to compensate. If the input signal is not being crushed, the projector does nothing. Only use the Auto Input Level feature when the current source requires further input level adjustment. At least 12 consecutive white pixels must be in the image to use Auto Input Levels. The monitor period runs for 10 seconds after being issued. Auto setup or source switching stops the level period.

To use this control, turn it on, wait for the black level and drive values to stabilize, and turn it off or wait for the 10 seconds.

When Auto Input level is turned off, the current drive and black level values are maintained. This control only applies to analog BNC or Dual DVI cards.

Parameters

- **Control Group**: Unsaved
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
AIL+MAIN	Performs auto input level on the main image.	-
AIL+PIIP AIL+SECD	Performs auto input on picture-in-picture or secondary image.	-

Examples

Perform auto input level on the main image.

(AIL 1)

Perform auto input level on the picture-in-picture image.

(AL+PIIP 1)

ALT–Active Loop-Through

Ensures that video signals continue to be looped out when the projector enters standby power mode, in situations where a Twin HDMI Input card is used to loop signals out to another projector. When the projector is in standby mode (and this feature is enabled), limited channel control is available—inputs can be switched, can perform Auto Setup, and some limited input settings can be modified.

Parameters

- **Control Group**: Preference
- **Subclass**: Power Down
- **Access Level**: Operator

Commands

Command	Description	Values
ALT <0 | 1>	Enables or disables active loop-through.	0 = Disables standby active loop-through 1 = Enables standby active loop-through

Examples

Enable standby active loop-through.

(ALT 1)

Disable standby active loop-through.

(ALT 0)

Get the current standby active loop-through setting.

(ALT?)

APJ–Active Projector

Enables or disables temporarily the IR and wired keypad Inputs to a specific projector in a network of projectors. When a projector is disabled, the only key that works is PROJ. The next time the projector is powered up again, it reverts to fully enabled. The built-in keypad is always fully functional. This control does not overwrite the Front IR, Back IR and Wired Keypad settings.

To temporarily disable keypad access to this projector, set to 0.

Parameters

- **Control Group**: Unsaved
- **Subclass**: Power Down
- **Access Level**: Operator

Commands

Command	Description	Values
APJ <0 | 1>	Enables or disables IR remote control access to the projector.	0 = Disables IR remote control to the projector 1 = Enables IR remote control to the projector

Examples

Is the projector IR remote control active or not.

(APJ?)

Projector is active (IR remote control are enabled).

(APJ 1)

Projector is not active (IR remote control are temporarily disabled).

(APJ 0)

APW–Auto Power Up

Automatically changes from stand-by mode to Power On mode when the A/C switch is turned on, if an AC interruption has occurred in the previous power cycle.

Parameters

- **Control Group**: Preference
- **Subclass**: Power Down
- **Access Level**: Operator

Commands

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

Examples

Projector remains in Standby mode until the user presses the power key.

(APW 0)

Projector auto powers up when A/C power is switched on if it was in a powered on state (such as not in standby mode) when the A/C power was powered off in the previous power cycle.

(APW 1)

ARO–Aspect Ratio Overlay

Enables or disables the aspect ratio layer over image layer.

Parameters

- **Control Group**: Unsaved
- **Subclass**: Power Up

- **Access Level**: Operator

Commands

Command	Description	Values
ALT <0 | 1>	Enables or disables the aspect ratio overlay.	0 = Disable the aspect ratio overlay 1 = Enables the aspect ratio overlay

Examples

Turn on Aspect Ratio Overlay.

(ARO 1)

Turn off Aspect Ratio Overlay

(ARO 0)

ASH–Auto Shutdown

Enters a Power Saving mode in which the lamps dim and the shutter closes, when Auto Shutdown mode has been selected and no projector activity has been seen for the activation time-out period. If this condition persists for an additional time-out period the projector automatically goes to standby. The presence of any activity within this is combined interval cancels Auto Shutdown and returns the projector to normal operation.

Parameters

- **Control Group**: Saved
- **Subclass**: Power Down
- **Access Level**: Operator

Commands

Command	Description	Values
ASH <0 | 1>	Enables or disables the Auto Shutdown mode.	0 = Turns off Auto Shudown mode 1 = Turns on Autom Shudown mode
ASH+SBTO	Sets the uninterrupted time-out period that must elapse before projector enters Standby mode (the second time-out period or Standby time-out).	-
ASH+ALTO	Sets the uninterrupted time-out period that must elapse time of activity loss until Auto Shutdown is activated (the first time-out period or Activation time-out).	-

Examples

Turn on Auto Shutdown mode.

(ASH 1)

Turn off Auto Shutdown mode.

(ASH 0)

Set standby time-out to 10 minutes.

(ASH+SBTO 10)

Set source activity loss time-out to 10 minutes.

(ASH+ALTO 10)

ASR–Auto Channel Select

Allows the projector to select the channel memory best suited to the input signal. If the current channel does not support Auto Channel Select, the projector does not attempt to select a new channel when the signal changes. If the current channel does support Auto Channel Select, upon signal detection, an existing channel is chosen. If a match is not found, a new channel is created.

Parameters

- **Control Group**: Channel
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
ASR+C0xx	Enables or disables Auto Channel Select on the specified channel.	xx = Channel number from 01 to 99
ASR+MAIN	Enables or disables Auto Channel Select on the channel being used by main.	-
ASR+PIIP ASR+SECD	Enables or disables Auto Channel Select on the channel being used by PIP or secondary.	-

Examples

Get Auto Channel Select state for channel being used by main.

(ASR?)

Get Auto Channel Select state for channel being used by main.

(ASR+MAIN?)

Get Auto Channel Select state for channel being used by PIP.

(ASR+PIIP?)

Enable Auto Channel Select for the channel being used by main.

(ASR 1)

Enable Auto Channel Select for the channel being used by PIP.

(ASR+PIIP 1)

Disable Auto Channel Select for the channel being used by main.

(ASR+MAIN 0)

Disable Auto Channel Select for channel 1.

(ASR+C001 0)

ASU–Auto Setup

Automatically readjusts various video controls for the active video source to produce an optimal image on screen.

If main and PIP/secondary video are using the same channel, the auto setup acts on both, regardless of the sub-code being used.

In some cases for analog video, the user can select the format that best suits their source. This selection helps the auto setup get the correct settings for the tracking and phase controls for analog sources containing the same number of active lines but with different aspect ratios.

- All digital and decoder option cards do not support options for auto setup as digital hardware provides enough information to perform the correct auto setup.
- Analog PC graphics sources (four/five-wire sync) present a list of formats based on the current active lines detected in the video.
- Analog Video Sources (three wire sync on green) always have the options standard and advanced. Video sources use a look up table to determine their format based on video standards. The Advanced auto setup selection measures the start pixel and start line whereas Standard uses the table values as is.

Parameters

- Control Group: Unsaved
- Subclass: Power Up
- Access Level: Operator

Commands

Command	Description	Values
ASU	Performs auto setup on the active video source.	-
ASU+MAIN	Performs a standard auto setup on the main video.	-
ASU+PIIP ASU+SECD	Performs a standard auto setup on the picture-in-picture or secondary video.	-
ASU+FRZE	Hides temporary image artifacts that may appear during the auto setup procedure.	0 = Disables freezing the image during auto setup 1 = Freezes the image during auto setup

Examples

Perform auto setup on the active video source.

(ASU)

Perform standard auto setup on main video.

(ASU)

Freeze image during auto setup.

(ASU+FRZE 1)

Disable image freezing during auto setup.

(ASU+FRZE 0)

Perform standard auto setup on main video.

(ASU+MAIN)

Perform standard auto setup on PIP.

(ASU+PIIP)

BBL–Bottom Blanking

Sets the number of lines to blank (turn to black) at the bottom of the image to blank out any unwanted data near the bottom edge of the image.

A positive amount of blanking makes the image smaller. A negative amount of blanking makes the image larger. Negative blanking is only applicable to analog signals, when the auto setup cannot set the image size correctly. Christie recommends not using negative blanking, but to run auto setup again, ensuring that the content has active pixels on each edge of the image. The maximum amount of bottom blanking allowed is half the image height minus 10. For negative blanking, the image size can only be increased to the limit of the sync.

Parameters

- **Control Group**: Input
- **Subclass**: Power Up

- **Access Level**: Operator

Commands

Command	Description	Values
BBL+INxy	Sets the bottom blanking for slot x, input y.	-
BBL+MAIN	Sets the bottom blanking for the main image.	-
BBL+PIIP BBL+SECD	Sets the bottom blanking for the picture-in-picture or secondary image.	-

Examples

Set bottom blanking to 40 on main video.

(BBL 40)

Set bottom blanking to 40 on main video.

(BBL+MAIN 40)

Set bottom blanking to 40 on PIP video.

(BBL+PIIP 40)

Set bottom blanking to 40 on slot 3 input 2.

(BBL+IN32 40)

Returns the bottom blanking value on main video.

(BBL?)

Returns the bottom blanking value on PIP video.

(BBL+PIIP?)

Returns the bottom blanking value on slot 1 input 2.

(BBL+IN12?)

BDR–Baud Rate

Sets the baud rate for a serial communications port. The default communications settings for all ports is eight data bits, no parity.

Parameters

- **Control Group**: Preference
- **Subclass**: Power Down
- **Access Level**: Advanced

Commands

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

Get baud rate.

(BDR+PRTA?)

(BRD+PRTA!"115200")

BGC–Base Gamma Curve

Selects the gamma table.

You can select from one of the standard tables, or select an arbitrary gamma table downloaded into the projector. Use a separate PC utility to do this. The 2.22 table is a power curve. The standard table is a modified 2.22 curve with an optimized linear portion in the low end of the curve. This is the same as selecting a custom table and setting the function to be 2.22 and the slope to be 1.0. Selecting Gamma Function from the list enables the Gamma Function and Gamma Slope controls.

Parameters

- **Control Group**: Input
- **Subclass:** Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
BGC+INxy	Sets the base gamma curve for slot x, input y.	0 = Standard 1 = 2.22 2 = Gamma Function
BGC+MAIN	Sets the base gamma curve for main video.	
BGC+PIIP BGC+SECD	Sets the base gamma curve for picture-in-picture or secondary video.	

Examples

Set main video to the standard base gamma table.
(BGC 0)

Set main video to the standard base Gamma table.
(BGC+MAIN 0)

Set slot 3, input 2 to the standard base gamma table.
(BGC+IN32 0)

BGF–Base Gamma Function

Defines the gamma power curve to be used when the Gamma table value is set to Gamma Function. This value, combined with Gamma Slope setting, determines the Gamma table to be used. The curve is generally a power curve with a small linear segment at the bottom defined by the slope.

Parameters

- **Control Group**: Input
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
BGF+INxy	Sets the base gamma curve for slot x, input y.	100 to 300 where 100 is 1.0 linear and 300 is a 3.00 power curve
BGF+MAIN	Sets the base gamma curve for main video.	
BGF+PIIP BGF+SECD	Sets the base gamma curve for picture-in-picture or secondary video.	

Examples

Set the base Gamma Function to 1.0 for main video.

(BGF 100)

Set the base Gamma Function to 3.0 for main video.

(BGF+MAIN 300)

Set the base gamma function to 2.22 for slot 3, input 2.

(BGF+IN32 222)

BGS–Base Gamma Slope

Defines the slope to be used for the base custom Gamma table in the small linear section at the bottom of the curve. This slope can be used to bring the low level blacks in the image in or out. This slope, combined with the Gamma function, defines the custom Gamma table.

Parameters

- **Control Group**: Input
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
BGS+INxy	Sets the base gamma curve for slot x, input y.	50 to 200 where 50 is a slope of 0.5 and 200 is a slope of 2.00
BGS+MAIN	Sets the base gamma curve for main video.	
BGS+PIIP BGS+SECD	Sets the base gamma curve for picture-in-picture or secondary video.	

Examples

Set the base gamma slope to 1.0 for main video.

(BGS 100)

Set the base gamma slope to 2.0 for main video.

(BGS+MAIN 200)

Set the base gamma slope to 1.5 for slot 3, input 2.

(BGS+IN32 150)

BKY–Broadcast Key Mode

Toggles Broadcast Key mode to select whether all key presses received by the projector are relayed to all other projectors on the network.

Parameters

- **Control Group**: Preference
- **Subclass**: Power Down
- **Access Level**: Operator

Commands

Command	Description	Values
BKL <0 | 1>	Enables or disables the broadcast key mode.	0 = Disables the broadcast key mode 1 = Enables the broadcast key mode

Examples

Get current Broadcast key state.
(BKY?)

Enable Broadcast Key.
(BKY 1)

Disable Broadcast Key.
(BKY 0)

BLB–Blue Black Level

Compensates for relative variations in the black levels between Red, Green and Blue. This is available on all cards expect the Video decoder.

The correct setting achieves maximum contrast without crushing white or black. When the drive and black level controls are set correctly for a signal, the Comprehensive Color Adjustment, including color temperature, works as expected. Do not use the drive and black level controls

Parameters

- **Control Group**: Input
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
BLB+INxy	Sets the blue black level on slot x, input y to the specified value.	-225 to 255
BLB+MAIN	Sets the blue black level on the main video to the specified value.	-225 to 255
BLB+PIIP BLB+SECD	Sets the blue black level on the picture-in-picture or secondary video to the specified value.	-225 to 255

Examples

Set blue black level to 128 on main video.

(BLB 128)

Set blue black level to 128 on main video.

(BLB+MAIN 128)

Set blue black level to 100 on PIP video.

(BLB+PIIP 100)

Set blue black level to 100 on slot 3 input 2.

(BLB+IN32 100)

Returns the current blue black level value on main video.

(BLB?)

Returns the current blue black level value on PIP video.

(BLB+PIIP ?)

Returns the current blue black level value on slot 1 input 2.

(BLB+IN12 ?)

BLD–Blue Drive

Compensates for different amounts of attenuation between the Red, Green and Blue in the signal. This is available on all cards expect the Video decoder.

The correct setting achieves maximum contrast without crushing white or black. When the drive and black level controls are set correctly for a signal, the Comprehensive Color Adjustment, including color temperature, works as expected. Do not use the drive and black level controls to setup a specific color temperature as this requires separate color temperature adjustments to be made for each source.

Parameters

- **Control Group**: Input
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
BLD+INxy	Sets the blue drive on slot x, input y to the specified value.	-225 to 255
BLD+MAIN	Sets the blue drive on the main video to the specified value.	-225 to 255
BLD+PIIP BLD+SECD	Sets the blue drive on the picture-in-picture or secondary video to the specified value.	-225 to 255

Examples

Set blue drive to 128 on main video.

(BLD 128)

Set blue drive to 128 on main video.

(BLD+MAIN 128)

Set blue drive to 100 on PIP video.

(BLD+PIIP 100)

Set blue drive to 100 on slot 3 input 2.

(BLD+IN32 100)

Return the current blue drive value on PIP video.

(BLD+PIIP ?)

Return the current blue drive value on PIP video.

(BLD+PIIP ?)

Return the current blue drive value on PIP video.

(BLD+PIIP ?)

Return the current blue drive value on slot 1 input 2.

(BLD+IN12 ?)

BOG–Blue Odd Pixel Gain

Adds an offset to input blue gain settings on the analog input card, used to compensate for differences between the A to D converter used to sample even pixels, and the one used for odd pixels. A value of 0 is the null position in which both A to D converters are set to exactly the same value.

Parameters

- **Control Group**: Option
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
BOG+SLx0	Sets the blue gain offset for the second A to D.	-

Examples

Set a blue gain offset to -10 on slot 1.

(BOG+SL10 -10)

BOO–Blue Odd Pixel Offset

Adds an offset to input blue black level settings on the analog input card, used to compensate for differences between the A to D converter used to sample even pixels, and the one used for odd pixels. A value of 0 is the null position in which both A to D converters are set to exactly the same value.

Parameters

- **Control Group**: Option
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
BOO+SLx0	Sets the blue black level offset for the second A to D.	-

Examples

Set a blue black level offset to -10 on slot 1.

(BOO+SL10 -10)

BRT–Brightness

Adjusts the offset applied to the input signal.

It has exactly the same effect as adjusting the input levels, except that it operates an all three colors and can be used to make quick adjustments. For precise control, the input level adjustments should be used. If the setting is too high, black portions of the image are displayed as dark grey,

making the image appear washed-out. If the setting is too low, dark greys are displayed as deep black and detail is lost in the darkest parts of the image. This condition is known as crushing. When adjusting, start from a lower setting and adjust upwards until just above the point where black is crushed.

Parameters

- **Control Group**: Input
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
BRT+INxy	Sets the brightness on slot x, input y to the specified value.	-1000 to 1000
BRT+MAIN	Sets the brightness on the main video t the specified value.	-1000 to 1000
BRT+PIIP BRT+SECD	Sets the brightness on the picture-in-picture or secondary video to the specified value.	-1000 to 1000

Examples

Set brightness to 500 on main video.

(BRT 500)

Set brightness to 500 on main video.

(BRT+MAIN 500)

Set brightness to -250 on PIP video.

(BRT+PIIP -250)

Set brightness to 100 on slot 3 input 2.

(BRT+IN32 100)

Return the current brightness value on main video.

(BRT?)

Return the current brightness value on PIP video.

(BRT+PIIP ?)

Return the current brightness value on slot 1 input 2.

(BRT+IN12 ?)

BRU–Brightness Uniformity

Enables or disables brightness uniformity and adjusts brightness uniformity output based on the current lamp mode.

Parameters

- **Control Group**: Preference
- **Subclass**: Power Down
- **Access Level**: Operator

Commands

Command	Description	Values
BRU+SLCT	Enables or disables brightness uniformity.	0 = Disables brightness uniformity 1 = Enables brightness uniformity
BRU+CRSA	Enables or disables the BRU coarse adjustment.	0 = Disables the BRU coarse adjustment 1 = Enables the BRU coarse adjustment
BRU+UITL	Gets or sets the percent of gain at the top left corner.	-
BRU+UIML	Gets or sets the percent of gain at the left side.	-
BRU+UIBL	Gets or sets the percent of gain at the bottom left corner.	-
BRU+UITR	Gets or sets the percent of gain at the top right corner.	-
BRU+UIMR	Gets or sets the percent of gain at the right side.	-
BRU+UIBR	Gets or sets the percent of gain at the bottom right corner.	-
BRU+UIH1	Gets or sets the percent of gain at the left turn point.	-
BRU+UIH2	Gets or sets the percent of gain at the right turn point.	-
BRU+UI1P	Gets or sets the position of the left turn point.	-
BRU+UI2P	Gets or set the position of the right turn point.	-
BRU+GAIN	Gets or sets the overall gain.	-
BRU+UIRT	Restores all parameters to the factory default for the current lamp.	1

Examples

Get current state of brightness uniformity, 0 is disabled, 1 is enabled.

(BRU+SLCT ?)

Enable brightness uniformity.

(BRU+SLCT 1)

Check if Coarse Adjustment is enabled or not.

(BRU+CRSA ?)

Enable the Coarse Adjustment mode.

(BRU+CRSA 1)

Get current gain at top left corner.

(BRU+UITL ?)

Set gain at top left corner to 0.8.

(BRU+UITL 80)

Get current gain at left edge.

(BRU+UIML ?)

Set gain at left edge to 1.0.

(BRU+UIML 100)

Get current gain at bottom left corner.

(BRU+UIBL ?)

Set gain at bottom left corner to 0.8.

(BRU+UIBL 80)

Get current gain at top right corner.

(BRU+UITR ?)

Set gain at top right corner to 0.8.

(BRU+UITR 80)

Get current gain at right edge.

(BRU+UIMR ?)

Set gain at right edge to 0.8.

(BRU+UIMR 80)

Get current gain at bottom right corner.

(BRU+UIBR ?)

Set gain at bottom right corner to 0.8.

(BRU+UIBR 80)

Get current gain at left turn point.

(BRU+UIH1 ?)

Set gain at left turn point to 0.8.

(BRU+UIH1 80)

Get current gain at right turn point.

(BRU+UIH2 ?)

Set gain at right turn point to 0.8.

(BRU+UIH2 80)

Get current position of left turn point.

(BRU+UI1P ?)

Locate left turn point pixel 375 from the left edge.

(BRU+UI1P 375)

Get current position of right turn point.

(BRU+UI2P ?)

Locate right turn point pixel 900 from the left edge.

(BRU+UI2P 900)

Reset all BRU parameters for current lamp mode.

(BRU+UIRT 1)

Get current overall gain.

(BRU+GAIN ?)

Set overall gain to 1.000.

(BRU+GAIN 1000)

CCD–Output Color Default

Specifies the default color adjustment to use for new channels. The user can specify a standard color and have that color applied by default to all new sources. The user can override this for any specific channel. Using the default subcode applies a default to be used when creating a new channel using auto setup while the filter (either the Yellow Notch Filter or the Color Purity Filter) is not in the video path. Using the subcode DYNF allows a different color table default to be specified while the YNF/CPF is in the video path during auto setup.

Parameters

- **Control Group**: Preference
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
CCD <value>	Applies a default table to use while running auto setup when a YNF/CPF filter is not in place.	-
CCD+DYNF	Applies a default table to use while running auto setup when a YNF/CPF filter is in place.	-

Examples

Make new channels using the MAX drive table, while running auto setup and YNF is out.

(CCD 0)

Make new channels using the HD table, while running auto setup and YNF is in.

(CCD+DYNF 4)

CCI–Interpolated Color

Generates an output color map based on interpolating the values for the standard color temperatures. You can adjust the color temperature of the image. The selected output color table must be on Color Temperature to enable this control.

Parameters

- **Control Group**: Input
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
CCI+INxy	Sets the interpolated color temperature for slot x, input y.	3200K to 9300K
CCI+MAIN	Sets the interpolated color temperature for the main video.	3200K to 9300K
CCI+PIIP CCI+SECD	Sets the interpolated color temperature for picture-in-picture or secondary video.	3200K to 9300K

Examples

Set the interpolated color temperature to 9300K for main video.

(CCI 9300)

CCS–Select Output Color

Selects which of several predefined and four user-defined color maps to use for a specific input signal.

Parameters

- **Control Group**: Input
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
CCS+INxy	Selects the color temperature for slot x, input y.	0 = MaxDrives—Turns off all color adjustments allowing the projector to run at maximum brightness. 2 = Color Temperature—Specifies a color temperature between 3200 and 9300 based on the setting of the Color Temperature control. Color temperature is expressed in degrees Kelvin [3200, 5400, and so on]. Lower numbers give a reddish white, higher numbers appear bluish. There are four standard settings: • 9300K—Close to the white of many computer monitors. • 6500K—Standard for color video, in both standard and high definition forms. • 5400K—Standard for graphics and black-and-white video. • 3200K—Useful if the projected image is to be filmed or shot as part of a studio set illuminated with incandescent lights. For all color temperatures, the color primaries (red, green and blue) are unchanged and reflect the native colors of the projector. 3 = SD Video—Adjusts the color of red, green and blue, as well as the color of white. Optimized for SD video. 4 = HD Video—Adjusts the color of red, green and blue, as well as the color of white. Optimized for HD video. 5 = User 1—Selects a user defined set of color adjustments. 6 = User 2—Selects a user defined set of color adjustments. 7 = User 3—Selects a user defined set of color adjustments. 8 = User 4—Selects a user defined set of color adjustments. The set of four user defined settings are defined in the Configuration menu.
CCS+MAIN	Selects the color temperature for the main video.	
CCS+PIP CCS+SECD	Selects the color temperature for picture-in-picture or secondary video.	

Examples

Set the color temp setting to max drives for main video.

(CCS 0)

CHA–Channel

Changes the current channel.

Switching channels switches to the appropriate option card/input. If the signal signature in the channel does not match the signal on the channel's input, the channel change switches to the auto-channel or to the channel that was defined for the signal signature that is on the channel's input. This command fails if the data in the channel file does not match the current system hardware. Use this command to copy, delete, and edit certain channel properties.

Parameters

- **Control Group**: Unsaved
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
CHA+COPY	Makes a copy of a channel and assigns it a unique number (optionally, specifies a new channel number).	1 to 99
CHA+DLET	Deletes a channel.	1 to 99
CHA+MAIN	Sets the channel being used by main video.	1 to 99
CHA+PIIP CHA+SECD	Sets the channel being used by picture-in-picture or the secondary video.	1 to 99
CHA+INFO	Displays the information on the current channel.	1 to 99

Examples

Select a Four-Port input configuration using slots 1 and 2.

(CHA 1)

Get current active channel.

(CHA?)

Set main to channel 10.

(CHA 10)

Set picture-in-picture to channel 99.

(CHA+PIIP 99)

Make a copy of channel 1, using the next free channel number.

(CHA+COPY 1)

Make a copy of channel 1, and copy to channel 20 (fails if 20 already exists).

(CHA+COPY 1 20)

Delete all unlocked channels.

(CHA+DLET 0)

Delete channel 20.

(CHA+DLET 20)

CLE–Color Enable

Allows the three primary colors (red, green, and blue) to be turned on or off separately. Use this command to look at the colors one at a time or in pairs when doing convergence, light measurements, and so on.

Parameters

- **Control Group**: Unsaved
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
CLE <color>	Enables specific colors in the video path.	0 = White (all colors on) 1 = Red 2 = Green 3 = Blue 4 = Yellow (red and green on) 5 = Cyan (green and blue on) 6 = Magenta (red and blue on)

Examples

Display red portion of image only.

(CLE 1)

Display green and blue portion of image only.

(CLE 5)

Display image normally (all primaries).

(CLE 0)

CLP–Clamping

Generates a clamping pulse for all analog signals that defines where in the signal a black reference can be found.

The Clamp Location sets the clamping pulse to one of three possible locations: tip, back porch, and tri-level. For most signals the correct position is back porch, just after the sync pulse. If the signal has no back porch and no sync pulse in the RG or B signals, clamping can occur at the front or tip of the sync pulse.

For HDTV signals [1080i & 720p] the clamp must be moved past the positive pulse of the tri-level sync pulse, so the tri-level option is correct. For almost all other signals, backporch is correct. Sync tip is needed only if the back porch is too small. For many signals, this control has no effect. Change this setting only if the image appears unusually dim, has horizontal streaks, or shows significant color drift.

Parameters

- **Control Group**: Input
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
CLP+INxy	Sets the black level clamping for slot x, input y.	0 = Back porch 1 = Sync tip 2 = Tri-level
CLP+MAIN	Sets the black level clamping for the main video.	
CLP+PIIP CLP+SECD	Sets the black level clamping for picture-in-picture or secondary video.	

Examples

Set the black level clamping for main video to sync tip.

(CLP 1)

Set the black level clamping for main video to sync tip.

(CLP+MAIN 1)

Set the black level clamping for slot 3 input 2 to sync tip.

(CLP+IN32 1)

CLR–Color

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

Parameters

- **Control Group**: Input

- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
CLR+INxy	Sets the color saturation for slot x, input y.	0 to 1000
CLR+MAIN	Sets the color saturation for the main video.	0 to 1000
CLR+PIIP CLR+SECD	Sets the color saturation for picture-in-picture or secondary video.	0 to 1000

Examples

Set color saturation to 500 on main video.

(CLR 500)

Set color saturation to 500 on main video.

(CLR MAIN 500)

Set color saturation to 250 on PIP video.

(CLR PIIP 250)

Set color saturation to 100 on slot 3 input 2.

(CLR IN32 100)

Return the current color saturation value on main video.

(CLR ?)

Return the current color saturation value on PIP video.

(CLR PIIP ?)

Return the current color saturation value on slot 1 input 2.

(CLR IN12 ?)

CON–Contrast

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

This command has the same effect as adjusting the input levels, except that it operates an all three colors and can be used to make quick adjustments. For precise control, the input level adjustments must be used. If the setting is too high, bright portions of the image not quite at peak white are displayed as peak white and detail is lost in the brightest parts of the image. This condition is known as crushing. If the setting is too low, the image is dimmer than it needs be. Start from a lower setting and adjust upwards until just below the point where white is crushed.

Parameters

- **Control Group**: Input
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
CON+INxy	Sets the contrast for slot x, input y.	0 to 1000
CON+MAIN	Sets the contrast for the main video.	0 to 1000
CON+PIIP CON+SECD	Sets the contrast for picture-in-picture or secondary video.	0 to 1000

Examples

Set contrast to 500 on main video.

(CON 500)

Set contrast to 500 on main video.

(CON MAIN 500)

Set contrast to 250 on PIP video.

(CON PIIP 250)

Set contrast to 100 on slot 3 input 2.

(CON IN32 100)

Return the current contrast value on main video.

(CON ?)

Return the current contrast value on PIP video.

(CON PIP ?)

Return the current contrast value on slot 1 input 2.

(CON IN12 ?)

CRM–Chroma/Luma Delay

Adjusts the time delay between the chroma and the luminance signals in decoded signals. Adjust the delay to eliminate shadows occurring with adjacent colors. It is only useful for video images processed by decoder cards.

Parameters

- **Control Group**: Input
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
CRM+INxy	Sets the luma delay for slot x, input y.	-3 to 3 pixels
CRM+MAIN	Sets the luma delay for the main video.	-3 to 3 pixels
CRM+PIIP CRM+SECD	Sets the luma delay for picture-in-picture or secondary video.	-3 to 3 pixels

Examples

Set luma delay to 3 pixel on main video.

(CRM 3)

Set luma delay to 3 pixel on main video.

(CRM MAIN 3)

Set luma delay to 3 pixel on PIP video.

(CRM PIIP 3)

Set luma delay to -3 pixel on slot 3 input 2.

(CRM IN32 -3)

Returns the current luma delay on main video.

(CRM ?)

Returns the current luma delay on PIP video.

(CRM PIIP ?)

Returns the current luma delay on slot 1 input 2.

(CRM IN12 ?)

CSP–Color Space Selection

Specifies which color space the input signal uses.

This determines how the color components are decoded for accurate color in the display. Color space control only applies to analog input signals. Although the proper color space is normally determined automatically by the projector, you can override the setting. Use RGB unless you are

using component video. Use YPbPr(SDTV) for most video sources. Use YPbPr(HDTV) for high definition signals.

When certain RGB signals are first connected, the projector may not initially recognize them as RGB and may incorrectly decode their color information as YPbPr(SDTV). These signals can include: RGB signals in NTSC, PAL, SECAM frequency ranges, Scan-doubled sync-on-green, Scan-quadrupled sync-on-green. For these signals, change the Color Space to RGB, then define a new channel for future use.

Parameters

- **Control Group**: Input
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
CSP+INxy	Sets the color space on slot x, input y.	0 = RGB 1 = YPbPr (SDTV) 2 = YPbPr (HDTV)
CSP+MAIN	Sets the color space on the main video.	
CSP+PIIP CSP+SECD	Sets the color space on picture-in-picture or secondary vide.	

Examples

Set color space to YPbPr(SDTV) on main video.

(CSP 1)

Set color space to YPbPr(HDTV) on main video.

(CSP+MAIN 2)

Set color space to YPbPr(SDTV) on PIP video.

(CSP+PIIP 1)

Set color space to YPbPr(SDTV) on slot 3 input 2.

(CSP+IN32 1)

Returnsthe current color space value on main video.

(CSP?)

Return the current color space value on PIP video.

(CSP+PIIP?)

Return the current color space value on slot 1 input 2.

(CSP+IN12?)

DED–Dual DVI EDID Type Selection

Sets the preferred EDID Timings on the Dual DVI input card.

Parameters

- **Control Group**: Option
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
DED+SLxy	Sets the EDID timings for slot to the specified type.	0 = Default 1 = 3D 2 = Custom

Examples

Set EDID type to 1 (3D) on slot 3 input 1.

(DED+SL31 1)

Return the current EDID type on slot 1 input 2.

(DED+SL12 ?)

DEF–Factory Defaults

Resets all preference and configuration settings to their default values. To prevent accidental use of this command, the number 111 must follow the command.

Parameters

- **Control Group**: Unsaved
- **Subclass**: Power Down
- **Access Level**: Admin

Commands

Command	Description	Values
DEF 111	Performs the factory default command.	111—Must be entered exactly as is

Examples

Reset the projector to factory defaults.

(DEF 111)

```
(65535 00000 FYI00919 “All settings have been restored to their factory defaults.
Reboot is required to take effect.”)
```

DEQ–DDIC Equalization Level

Sets the DDIC equalization level.

Parameters

- **Control Group**: Option
- **Subclass**: Power Up
- **Access Level**: Admin

Commands

Command	Description	Values
DEQ+SLx0	Sets the equalization level on slot x to the specified level.	0 = Auto 1 = High (suitable when using longer DVI cables) 2 = Low (suitable when using shorter DVI cables

Examples

Set equalization level to 2 (Low) on slot 3.

(DEQ+SL30 2)

Return the current equalization level on slot 1.

(DEQ+SL10 ?)

DIM–Dynamic Iris Mode

Sets the dynamic iris mode for the current channel. The IRS control must be set to Per Channel mode before this control can be enabled.

Parameters

- **Control Group**: Input
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
DIM <value>	Selects the dynamic iris mode.	0 = Off—Turns the dynamic iris off for this channel 1 = Manual—Places the dynamic iris in Manual mode for this channel 2 = Dynamic—Places the dynamic iris in Dynamic mode for this channel

Examples

Set the dynamic iris for the current channel to Dynamic mode.

(DIM 2)

DIS–Dynamic Iris Settings

Selects which of several predefined and four user defined iris strength maps to use for a specific input signal.

Parameters

- **Control Group**: Input
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
DIM <value>	Selects the dynamic iris strength.	0 = Dark Scenes—Selects aggressive settings for high contrast adjustment, ideal for movies with lots of dark scenes, such as horror, thriller. 1 = Medium Scenes—Selects moderate contrast adjustment, ideal for video with some dark scenes, such as action. 2 = Light Scenes—Selects minimum contrast adjustment, ideal for video with only a few dark scenes, animation, or graphic input, such as a PC. 3 = User 1—Selects a user defined set to dynamic iris settings. 4 = User 2—Selects a user defined set to dynamic iris settings. 5 = User 3—Selects a user defined set to dynamic iris settings. 6 = User 4—Selects a user defined set to dynamic iris settings.

Examples

Set the iris for a high contrast ratio, such as input with lots of dark scenes.

(DIS 0)

DLG–Data Logging

Sets data logging level.

Parameters

- **Control Group**: Preference
- **Subclass**: Power Down
- **Access Level**: Operator

Commands

Command	Description	Values
DLG <value>	Selects the data logging level.	0 = Minimal logging of activities—Logging system errors, warnings and events, for example power on/off, lamp on/off, user login/logout. 1 = Normal logging—Most activities logged such as errors, warnings, events, and other info. 2 = Debug logging—All activities are logged.

Examples

Get current logging level.

(DLG?)

(DLG!001)

Set current logging level to 1.

(DLG 1)

DMX–DMX/ArtNet

Sets options for the DMX interface. A user can select whether they want to receive data from both the DMX input card (inserted into the card cage in one of the input slots), or using ArtNet, an Ethernet based DMX protocol which monitors UDP port 6454.

The Input termination (2 Watt, 120 Ohm) is required on the last DMXC card in a loop through configuration. (such as only on the last projector). Termination may be either hardware (by plugging in a termination dongle, and so on) or may be switched in by software, but should not be both.

Christie recommends hardware termination because software termination is only in place when the projector has AC applied. If the network must be terminated without AC applied to the last projector, use a hardware terminator.

Parameters

- **Control Group**: Preference
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
DMX <value>	Selects the source of the DMX/ArtNet input.	0 = DMX Input Card and ArtNet—Monitors for data on both the DMX input card (if plugged in) and ArtNet. If the DMX card is actively receiving data, ArtNet is ignored. 1 = DMX Input Card Only—Monitors only the DMX card for input. 2 = ArtNet Only—Monitors only ArtNet for input. 3 = Disabled—Disables both interfaces.

Command	Description	Values
DMX+CHAN	Sets the base channel for the DMX device. Generally used if multiple projectors are on a single subnet/ universe such as the first projector would use base channel 0. If using the basic personality (20 channels), the second projector should use base channel 21. The DMX specification supports overlap but Christie does not recommend this. **Note:** The base channel setting must allow enough space for the channels required by the selected personality, such as if the basic personality is selected, the base channel may be in the range 1-492. If the advanced personality is selected, the base channel may be in the range 1-448.	-
DMX+PERS	Sets the DMX personality. A personality represents a set of channels the application monitors for changes.	0 = Show—A minimal personality composed of controls most likely to be used while a show is running 1 = Setup—Contains all of the show controls plus additional controls used for setting up a show 2 = Zap—Special personality which uses locks for critical functions (cannot be used with an all-slider type board.
DMX+TERM	Switches termination resistance in/out of the circuit. If software termination is used on the DMX input card, enable this control. If not enabled, use a physical terminator. You may need to clear this setting upon card removal. By default SW termination is disabled.	-
DMX+UNVS	Specifies which universe the projector belongs to, so it can filter out all other data packets. The Universe applies to ArtNet only and does not apply to the DMXC input card.	-
DMX+SUBN	Sets the subnet for this projector. This is not to be confused with a subnet mask. A subnet identifies a set of universes. The subnet and universe in combination uniquely identify the channels a projector is listening on. The Subnet applies to ArtNet only and does not apply to the DMXC input card.	-
DMX+FLTR	If you have a noisy Analog to Digital converter in your DMX/ArtNet device (output oscillates between two values), this filter can be used to eliminate the input noise at the cost of fine control resolution in some controls. Christie does not recommend using this feature unless you experience problems with your DMX input.	0 = Default

Examples

Ignore ArtNet traffic, use only the DMX interface.

(DMX1)

Set the base channel to 50 (such as listen to data starting at channel 50).

(DMX+CHAN 50)

DRK–3D Dark Interval

Controls the time between frames when no image is being projected to the screen. Used for 3D applications to determine the time that the shutter mechanism has to open or close between fields. Keep at default value of zero for all other applications. Increasing this control reduces the peak brightness of the image.

Parameters

- **Control Group:** Input
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
DRK+MAIN	Sets the 3D dark interval for the main image	-
DRK+INxy	Set the 3D dark interval for slot x, input y.	-

Examples

Set 3D dark interval to 0 on main video.

(DRK 0)

Set 3D dark interval to 5.00 milliseconds on main.

(DRK+MAIN 500)

Set 3D dark interval to 3.00 milliseconds on slot 1 input 2.

(DRK+IN12 300)

Returns the 3D dark interval value on main video.

(DRK?)

Returns the 3D dark interval on slot 1 input 2.

(DRK+IN12?)

DTL–Detail

Adjusts the sharpness of the image. The sharpness detail enhancement applied is based on adaptive horizontal, vertical, and diagonal large edge and small edge enhancement processes.

Setting detail above the halfway-point can introduce noise in the image; lower settings can improve a noisy signal. This command does not take effect unless the minimum change required in the (DTT) control is reached.

Parameters

- **Control Group**: Input
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
DTL+INxy	Sets the detail for slot x, input y.	-
DTL+MAIN	Sets the detail for the main video.	-
DTL+PIIP DTL+SECD	Sets the detail for picture-in-in-picture or the secondary video.	-

Examples

Set the detail to mid-point for the main video.

(DTL 50)

DTO–Detail Overshoot

Minimizes ringing on the enhanced edges detail and texture effects.

Parameters

- **Control Group**: Input
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
DTO+INxy	Sets the detail overshoot for slot x, input y.	-
DTO+MAIN	Sets the detail overshoot for the main video.	-
DTO+PIIP DTO+SECD	Sets the detail overshoot for picture-in-picture or the secondary video	-

Examples

Set the detail overshoot to mid point for the main video.

(DTO 50)

DTT–Detail Threshold

Selects a filter sensitivity to noise. A higher value may improve noisy sources especially for higher settings of detail.

Sets the minimum change required before the detail (DTL) function is activated. Images can be sharpened without increasing the background noise.

Parameters

- **Control Group**: Input
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
DTT+INxy	Sets the detail threshold for slot x, input y.	-
DTT+MAIN	Sets the detail threshold for the main video.	-
DTT+PIIP DTT+SECD	Sets the detail threshold for picture-in-picture or the secondary video	-

Examples

Set the detail threshold to mid point for the main video.

(DTT 50)

EBB–Black Level Blending

Selects the black level blend to use on the projector.

Black Level Blending is the process of modifying the pixels in the bright overlapping areas that result from the overlapping of two or more images. Correct adjustment eliminates uneven black levels by matching up black area hues with a target area hue (the intersection of the center lines), and adjusting the overlaps (edges) surrounding the target area. Use the black test pattern to perform this function.

Parameters

- **Control Group:** Configuration
- **Subclass:** Preference
- **Access Level:** Operator

Commands

Command	Description	Values
EBB+SLCT	Enables or disables black edge blending mode or chooses a saved Twist black level blending present.	0 = Disables black edge blending 1 = Enables black edge blending
EBB+CNTV	Changes edge blending black level in the center zone.	-
EBB+TOPV	Changes edge blending black level in the top zone.	-
EBB+LFTV	Changes edge blending black level in the left zone.	-
EBB+RHTV	Changes edge blending black level in the right zone.	-
EBB+BTMV	Changes edge blending black level in the bottom zone.	-
EBB+TLTV	Changes edge blending black level in the top left zone.	-
EBB+TRTV	Changes edge blending black level in the top right zone.	-
EBB+BLTV	Changes edge blending black level in the bottom left zone.	-
EBB+BRTV	Changes edge blending black level in the bottom right zone.	-
EBB+LFTW	Changes edge blending black level width of the left zone.	-
EBB+RHTW	Changes edge blending black level width of the right zone.	-
EBB+TOPW	Changes edge blending black level width of the top zone.	-
EBB+BTMW	Changes edge blending black level width of the bottom zone.	-
EBB+RSTD	Resets all black level blending parameters to the default values.	-

Examples

Set black level blend offset of center zone to 100.

(EBB+CNTV 100)

Set black level blend width of left zone to 200.

(EBB+LFTW 200)

Get black level blend width of right zone

(EBB+RHTW?)

EBL–Edge Blending

Controls edge blending settings so that any of the four edges can be blended with an adjacent projector to achieve an overlapped and seamless image.

Parameters

- **Control Group**: Configuration/Preference
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
EBL+SLCT	Enables or disables standard edge blending mode, or choose a saved Twist blending preset.	0 = Disables standard edge blending mode 1 = Enables standard edge blending mode
EBL+LFTW	Changes edge blending width of the left edge.	-
EBL+LFTM	Changes edge blending curve midpoint of the left edge.	-
EBL+LFTS	Changes edge blending curve slope at the midpoint on the left edge.	-
EBL+RHTW	Changes edge blending width of the right edge.	-
EBL+RHTM	Changes edge blending curve midpoint of the right edge.	-
EBL+RHTS	Changes edge blending curve slope at the midpoint on the right edge.	-
EBL+TOPW	Changes edge blending width of the top edge.	-
EBL+TOPM	Changes edge blending curve midpoint of the top edge.	-

Command	Description	Values
EBL+TOPS	Changes edge blending curve slope at the midpoint on the top edge.	-
EBL+BTMW	Changes edge blending width of the bottom edge.	-
EBL+BTMM	Changes edge blending curve midpoint of the bottom edge.	-
EBL+BTMS	Changes edge blending curve slope at the midpoint on the bottom edge.	-
EBL+STDC	Change the standard blending curve.	-
EBL+OVLP	Enables or Disables edge blending overlap control. This more will make the active portion of the Blend zone very obvious and is intended to make setup easier.	-
EBL+RSTA	Reset all edge blending parameters to default values.	-
EBL+RSTC	Reset all advanced edge blending parameters to default values.	-
EBL+FILT	Adjust to reduce saccadic eye-motion artifacts, sometimes noticeable in blend regions.	-
EBL+DTHF	When this control is enabled, the Eye-Motion Filter will be applied to the entire screen, rather than applying just to the edge blending regions.	-

Examples

Set edge blending left width.

(EBL+LFTW 100)

Get edge blending left width.

(EBL+LFTW ?)

Set blending top edge slope to be 1.5. Only works with standard curve type 1 (5th order).

(EBL+TOPS 150)

Set blending curve to be a cosine curve. default is a fifth-order curve.

(EBL+STDC 1)

Use standard edge blending mode.

(EBL+SLCT 1)

Enable edge blending overlap mode.

(EBL+OVLP 1)

EME–Error Message Enable

Enables the displaying of error messages and determines to which interface the messages are sent. Error messages can be turned off or displayed on the screen, sent out the serial port, or both. This setting does not affect messages for invalid user entries, for which error messages are always displayed.

Parameters

- **Control Group**: Preference
- **Subclass**: Power Down
- **Access Level**: Operator

Commands

Command	Description	Values
EME <value>	Selects interfaces to receive error messages.	0 = Off 1 = Screen 2 = Serial ports 3 = All

Examples

Get current Error Message Enable state.

(EME ?)

Direct error messages to the screen.

(EME 1)

ESC–Edit Secondary Channel Setting

Allows the user the option to independently control primary and secondary channel settings, or to use the same setting for both links, in Interleaved 3D mode. By default, this control is unchecked, meaning any settings applied to the primary input are also applied to the secondary input. In this case, the secondary channel settings cannot be set directly by the user. When checked, the secondary channel settings become editable.

Parameters

- **Control Group**: Preference
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
ESC <value>	Sets primary/second channel independence for Interleave 3D mode.	-

Examples

Enable editing of secondary channel/input settings.

(ESC 1)

FAD–Fade Time

Controls the amount of time it takes to fade between images on a source switch. It also fades in the picture-in-picture and on-screen display, if possible.

Parameters

- **Control Group**: Preference
- **Subclass**: Power Down
- **Access Level**: Operator

Commands

Command	Description	Values
FAD <value>	Sets the time in hundredths of a second to allow the fade.	0 to 150 where: 150 = 1.5 seconds 1 = 10 minutes 0 = Off

Examples

Fade out for one second.

(FAD 100)

FAS–Fan Assist Switch

Enables or disables the ability for all fans to operate at maximum speed during a thermal over-temp condition.

Parameters

- **Control Group**: Saved
- **Subclass**: Power Down
- **Access Level**: Operator

Commands

Command	Description	Values
FAS <0 | 1>	Enables or disables the maximum fan operation.	0 = Disables the maximum fan operation 1 = Enables the maximum fan operation

Examples

Turn on fan assist.

(FAS 1)

Turn off fan assist.

(FAS 0)

FCS–Lens Focus Position Adjustment

Moves the focus motor to a specified position. The range may change after running the Lens Calibration function, which determines the full range allowed by the hardware.

Parameters

- **Control Group**: Configuration
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
FCS <position>	Adjusts the lens focus to the specified position.	-1200 to 1200

Examples

Move lens focus to position 500.

(FCS 500)

FIL–Filter

Applies an internal Low Pass Filter to the current input signal, before the A/D conversion in analog cards. This removes high frequency noise from input signals. HDTV is typically used for 720p and 1080i video sources. The high bandwidth filter should be used for 1080p or higher frequency sources.

Parameters

- **Control Group**: Input
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
FIL+INxy	Sets the filter for slot x, input y.	0 = Off 1 = HDTV-High Bandwidth 2 = HDTV 3 = EDTV 4 = SDTV
FIL+MAIN	Sets the filter for the main video.	
FIL+PIP FIL+SECD	Sets the filter for picture-in-picture or the secondary video.	

Examples

Set the filter for main video to HDTV.

(FIL 2)

Set the filter for main video to HDTV.

(FIL+MAIN 2)

Set the filter for slot 3 input 2 to HDTV.

(FIL+IN32 2)

FLE–Frame Lock Enable

Enables or disables Frame Lock, which controls how the projector controls the output frame timing based on the input signal. When set to Frame Lock, output image frames are locked to the input if possible. When locked, the output is always locked to the primary input, never the PIP image. Free Run sets the output to close to 60Hz for all sources. This control must be set to locked if a 3D-stereo signal is used.

Parameters

- **Control Group**: Preference
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
FLE <0 | 1>	Enables or disables the frame lock.	0 = Disables the frame lock 1 = Enables the frame lock

Examples

Get frame lock enabled status.

(FLE ?)

Free Run output.

(FLE 0)

Enables frame lock.

(FLE 1)

FLW–Serial Flow Control

Sets the flow control for a serial communications port.

Parameters

- **Control Group**: Preference
- **Subclass**: Power Down
- **Access Level**: Advanced

Commands

Command	Description	Values
FLW+PRTA	Sets the mode on port A. (RS232 In)	-
FLW+PRTB	Sets the mode on port A. (RS232 Out)	-
FLW+PRTC	Sets the mode on port C. (RS422)	-

Examples

Get flow control.

(FLW+PRTA?)

(FLW+PRTA!001 "Software")k

Set no flow control on port A.

(FLW+PRTA “NONE”)

Set flow control on port A to software.

(FLW+PRTA “SOFTWARE”)

FMD–Film Mode Detect

Enables or disables film motion detection. This is only available for interlaced or segmented frame sources.

Parameters

- **Control Group**: Input
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
FMD+INxy	Sets the film mode for slot x, input y.	0 = Disabled 1 = Auto 2 = PsF
FMD+MAIN	Sets the film mode for the main video.	
FMD+PIIP FMD+SECD	Sets the film mode for picture-in-picture or the secondary video.	

Examples

Enable auto film mode detect for main video.

(FMD 1)

FRD–Frame Delay

Delays the output signal timing relative to the Input signal timing by a fraction of a frame, and up to one frame. The mimimum latency can vary based on the amount of ascaling applied to the image. When using keystome or warping, an additional latency is required depending on the amount of warp. the control is only available when the input signal is frane locked. In free run mode, or in cases where the signal cannot be frame locked, the mimumim latency defined by the sc aling keystoned/warp is applied to the signal.

Parameters

- **Control Group**: Preference
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
FRD <value>	Sets the amount of delay.	-

Examples

Set the frame delay to 1.5 frames.

(FRD 1500)

FRF–Free Run Frequency

Sets the output video vertical frequency.

See *FLE–Frame Lock Enable* on page 68.

Parameters

- **Control Group**: Preference
- **Subclass**: Power Up

- **Access Level**: Operator

Commands

Command	Description	Values
FRF <value>	Sets the output vertical frequency, used when running in Free Run mode.	-

Examples

Set the free run frequency to 50 Hz.

(FRF 5000)

Get the free run frequency.

(FRF ?)

FRZ–Image Freeze

Freezes the display image to allow a detailed examination of a single frame of an otherwise moving image. Switching channels/inputs automatically switches the projector to unfrozen.

Parameters

- **Control Group**: Unsaved
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
FRZ+MAIN	Freezes or un-freezes the main image.	1=Freezes the main image 0=Unfreezes the main image
FRZ+PIIP FRZ+SECD	Freezes or un-freezes the picture-in-picture or secondary image.	1=Freezes the picture-in-picture or secondary image 0=Unfreezes the picture-in-picture or secondary image

Examples

Freeze the main image.

(FRZ+MAIN 1)

FTB–Fade to Black

Fades the image to/from black over the time period specified.

Parameters

- **Control Group**: Preference
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
FTB <value>	Sets the image intensity.	0 to 1000 where 1000 = 100.0% image and 0 = 0% image (black)
FTB+TIME	Sets a fade time in milliseconds.	0 to 1000
FTB+SLCT	Selects a fade.	0 = Fades to black 1 = Fades back to image

Examples

Set image intensity to 50.0%.

(FTB500)

Set the fade time to 3 seconds.

(FTB+TIME3000)

Fade to black over the time specified by.

(FTB+SLCT 0)

Restore image over the time specified by (FTB+TIME x).

(FTB+TIME x)

(FTB+SLCT 1)

GAM–Gamma Correction

Corrects ambient conditions affecting the display.

The Gamma control affects the shape of the curve determining what grey shades are displayed for a given amount of signal Input between minimum (black) and maximum (white). This is done by performing a linear transform from the user selected gamma setting.

The normal point is 0, meaning the selected gamma table is used unaltered. If there is a lot of ambient light, the image can become washed out, making it difficult or impossible to see details in

dark areas. Increasing the gamma correction setting can compensate for this by transforming the curve towards a gamma of 1.0. Decreasing the control shall transform the gamma towards a gamma of 3.0.

Parameters

- **Control Group**: Preference
- Subclass: Power Down
- **Access Level**: Operator

Commands

Command	Description	Values
GAM <exponent>	Sets the exponent for the power law function used for the gamma transfer function.	-

Examples

Returns current gamma curve.

(GAM?)

Set gamma to 1.0 curve.

(GAM 100)

GIA–Analog BNC Grounded Input Selection

Sets the input signal grounding method to single-ended or differential.

Parameters

- **Control Group**: Option
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
GIA+SLxy	Sets the input signal grounding method for the specified slot and input	0 = Differential (Default) 1 = Single-ended

Examples

Set grounding on slot 3 input 1 to single-ended.

(GIA+SL31 1)

Returns the current grounding method of slot 1 input 1.

(GIA+SL11 ?)

GID–Video Decoder Grounded Input Selection

Sets the input signal grounding method to single-ended or differential.

Parameters

- **Control Group**: Option
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
GID+SLxy	Sets the input signal grounding method for the specified slot and input	0 = Differential (Default) 1 = Single-ended

Examples

Set grounding on slot 3 input 1 to single-ended.

(GID+SL31 1)

Returns the current grounding method of slot 1 input 6.

(GID+SL16 ?)

GIO–General Purpose Input/Output

Controls or monitors the state of the General Purpose inputs and outputs.

The strings have one character for each hardware connector pin, and from left to right, correspond to the pin numbers 2,3,4,6,7,8,9. (Pin 1 is 12V and Pin 5 is Ground—they cannot be read, set or configured).

A low state (or value of 0) is read on an Input pin if the circuit attached to the pin is open. A high state (or value of 1) is read on an Input pin if the circuit attached to the pin is shorted to ground. This corresponds to a switch closing event.

Parameters

- **Control Group**: Configuration
- **Subclass**: Power Down
- **Access Level**: Advanced

Commands

Command	Description	Values
GIO+CNFG	Sets the direction for the individual pins to inputs or outputs.	-
GIO+STAT	Gets the state of all inputs or set the state of all outputs.	-

Examples

Get status of all the inputs (all inputs are low).

(GIO+STAT?)

(GIO+STAT!"0000000")

Set status of the GPOs—2 high, 3 no change, 4 Low, 6 High, 7 Low, 8 Low, 9 Low.

(GIO+STAT "HXLHLLL")

Pulse the first three pins (physical connector pins 2, 3 and 4) for 500 ms.

(GIO+STAT "HHHXXXX" 500)

Pulse pin 6 in a low/high/low pattern and pin 7 high/low/high for 1000 ms.

(GIO+STAT "XXXHLXX" 1000)

Set pins 2, 3 and 8 to Input, 4, 6, 7 and 9 to output (letter O, not zero)

(GIO+CNFG "IIOOOIO")

Set pins 2, and 3 to Output, ignore the rest (letter O not zero)

(GIO+CNFG "OOxxxxx")

GMS–VDIC Grouped-Inputs Mode

Selects a mode to group the last three BNC connectors (input 4/5/6) on a video decoder input card.

Parameters

- **Control Group**: Option
- **Subclass**: Power Down
- **Access Level**: Operator

Commands

Command	Description	Values
GID+SLx0	Sets a grouping mode for the last three BNC connectors on the video decoder card in the selected list.	0 = Three CVBS sources 1 = One SVideo Source and one CVBS source 2 = One YPrPb (component) source

Examples

Use three BNC connectors for CVBS source.

(**GMS+SL10 0)**

Use three BNC connectors for one SVideo and one CVBS sources.

(GMS+SL10 1)

Use three BNC connectors for one YPbPr (component) source.

(GMS+SL10 2)

Get the current mode setting.

(GMS+SL10 ?)

GNB–Green Black Level

Compensates for relative variations in the black levels between red, green, and blue. This is available on all cards expect the Video decoder.

The correct setting achieves maximum contrast without crushing white or black. When the drive and black level controls are set correctly for a signal, the Comprehensive Color Adjustment, including color temperature, works as expected. The drive and black level controls should not be used to setup a specific color temperature as this requires separate color temperature adjustments to be made for each signal.

Parameters

- **Control Group**: Input
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
GNB+INxy	Sets the green black level on slot x, input y to the specified value.	-225 to 225
GNB+MAIN	Sets the green black level on the main video to the specified value.	-225 to 255

Command	Description	Values
GNB+PIIP GNB+SECD	Sets the green black level on the picture-in-picture or secondary video to the specified value.	-225 to 255

Examples

Set green black level to 128 on main video.

(GNB 128)

Set green black level to 128 on main video.

(GNB+MAIN 128)

Set green black level to 100 on picture-in-picture video.

(GNB+PIIP 100)

Set green black level to 100 on slot 3 input 2.

(GNB+IN32 100)

Returns the current green black level value on main video.

(GNB?)

Returns the current green black level value on picture-in-picture video.

(GNB+PIIP ?)

Returns the current green black level value on slot 1 input 2.

(GNB+IN12 ?)

GND–Green Drive

Compensates for different amounts of attenuation between the red, green, and blue in the signal. Available on all cards expect the Video decoder.

The correct setting achieves maximum contrast without crushing white or black. When the drive and black level controls are set correctly for a signal, the Comprehensive Color Adjustment, including color temperature, works as expected. The drive and black level controls should not be used to setup a specific color temperature as this requires separate color temperature adjustments to be made for each source.

Parameters

- **Control Group**: Input
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
GND+INxy	Sets the green drive on slot x, input y to the specified value.	-225 to 225
GND+MAIN	Sets the green drive on the main video to the specified value.	-225 to 255
GND+PIIP GND+SECD	Sets the green drive on the picture-in-picture or secondary video to the specified value.	-225 to 255

Examples

Set green drive to 128 on main video.

(GND 128)

Set green drive to 128 on main video.

(GND+MAIN 128)

Set green drive to 100 on picture-in-picture video.

(GND+PIIP 100)

Set green drive to 100 on slot 3 input 2.

(GND+IN32 100)

Returns the current green drive value on main video.

(GND?)

Returns the current green drive value on picture-in-picture video.

(GND+PIIP ?)

Returns the current green drive value on slot 1 input 2.

(GND+IN12 ?)

GOG–Green Odd Pixel Gain

Adds an offset to input green gain settings on the analog input card. It compensates for differences between the A to D converter used to sample even pixels, and the one used for odd pixels. A value of 0 is the null position in which both A to D converters are set to exactly the same value.

Parameters

- **Control Group**: Option
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
GOG+SLx0	Sets a green black level offset for the second A to D.	-

Examples

Set a green black level offset to -10 on slot 1.

(GOG+SL10-10)

GOO–Green Odd Pixel Offset

Adds an offset to input green black level settings on the analog input card. It compensates for differences between the A to D converter used to sample even pixels, and the one used for odd pixels. A value of 0 is the null position in which both A to D converters are set to exactly the same value.

Parameters

- **Control Group**: Option
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
GOO+SLx0	Sets a green black level offset for the second A to D.	-

Examples

Set a green black level offset to -10 on slot 1.

(GOO+SL10-10)

HDC–DHDIC Dual-Link Configuration

Selects whether to use the two inputs as separate inputs, or combined as a dual-link. Select Automatic to let the card decide, based on the input signal. If the card cannot determine this, it assumes two single links.

Parameters

- **Control Group**: Option
- **Subclass**: Power Down
- **Access Level**: Operator

Commands

Command	Description	Values
HDC+SLx0	Sets single/dual-link mode for the DHDIC.	0 = Automatic 1 = Two single links 2 = Dual link

Examples

Use automatic detection for DHDIC on slot 1.

(HDC+SL10 0)

Use two single links for DHDIC on slot 4.

(HDC+SL40 1)

Use dual-link for DHDIC on slot 1.

(HDC+SL10 2)

Get the current dual-link mode for DHDIC on slot 1.

(HDC+SL10 ?)

HIS–Lamp History

Retrieves a history of lamps installed in the projector, including the currently installed lamp. Each entry indicates lamp identification as well as various usage statistics collected while the lamp was installed.

Parameters

- **Control Group**: Configuration
- **Subclass**: Power Down
- **Access Level**: Status

Commands

Command	Description	Values
HIS <value>	Retrieves the lamp history for the lamps that have been installed in both lamp positions.	The format for each entry is: (HIS!AAA BBB "C" "D" "E" "F" GGG HHH "I"): A = List index B = Lamp number C = Serial number D = Install date E = Uninstall date F = Lamp type G = Total number of strikes H = Number of failed strikes I = Hours in (h:m) format
HIS+LMP1	Retrieves the lamp history for the lamps installed in position 1.	
HIS+LMP2	Retrieves the lamp history for the lamps installed in position 2.	

Examples

```
(HIS?)
(HIS!00000 "8/10/2012 5:22:28 PM" "ymoj2694" "CDXL-30SD" 00078 00001 00000 00000 00304)
(HIS!00001 "7/23/2012 7:58:10 PM" "ydpd3284" "CDXL-20" 00010 00000 00000 00000 00032)
(HIS!00002 "6/9/2012 7:00:50 PM" "yepa2626" "CDXL-30" 00009 00001 00000 00000 00107)
```

HLP–Serial Help

Queries a list of all available serial commands, with brief descriptions and current enabled states.

Parameters

- **Control Group**: Unsaved
- **Subclass**: Power Down
- **Access Level**: Status

Commands

Command	Description	Values
HLP <value>	Requests entire command help listing or list for a single command.	-

Examples

Retrieve entire command Help listing.

(HLP?)

Retrieve all subcodes/descriptions/enables for BRT control.

(HLP? "BRT")

HLT–Projector Health (HLT)

Places any system health errors in the troubleshooting queue. The queue, which contains the problems and a suggested solution for each one, is read-only. All problems in the queue are read using their index number, which starts from 0.

Problems are assigned priorities:

1 = Critical—Results in failure to operate or shutdown.

2 = High—Results in significant loss of functionality but the projector may continue to run.

3 = Low—Results in minor loss of functionality which does not seriously affect projector.

Parameters

- **Control Group**: Unsaved
- **Subclass**: Power Down
- **Access Level**: Operator

Commands

Command	Description	Values
HLT+LSOL	Lists solutions.	-
HLT+LALL	Lists one or all problems and solutions.	-

Examples

Return all queued problems.

(HLT?)

Return problem index 3 in the queue.

(HLT? 3)

Return the solution hint for problem index 4 in the queue.

(HLT+LSOL? 4)

Return all queued problems and their solutions.

(HLT+LALL?)

Return problem index 3 and its solution.

(HLT+LALL? 3)

HOR–Horizontal Position

Moves the horizontal position of the image left or right.

Parameters

- **Control Group**: Input
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
HOR+MAIN	Sets the horizontal position for the main image.	-

Examples

Returns the horizontal position value on main video.

(HOR?)

Set horizontal position to 500 on main video.

(HOR+MAIN 500)

Set horizontal position to 500 on slot 3 input 2.

(HOR+IN32 500)

Set horizontal position to 500 on main video.

(HOR 500)

ILS–Intelligent Lens System

Enables or disables the intelligent lens system (ILS).

Parameters

- **Control Group**: Preference
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
ILS <0 | 1>	Enables or disables the intelligent lens system.	0 = Disables the intelligent lens system. When ILS is disabled, the lens is controlled independently of channels or input signals. 1 = Enables the intelligent lens system. When enabled, the lens position (horizontal, vertical, focus, and zoom offsets) are stored per channel. When the user changes channels, the lens position changes as the new signal is displayed.

Examples

Enable the intelligent lens system.

(ILS 1)

Disable the intelligent lens system.

(ILS 0)

ILV–ILS Settings Valid

Determines whether the ILS settings (LHO, LVO, FCS, ZOM) can be used if ILS is on. If this control is set, the contents of the current channel include valid ILS lens position settings. If not set, this channel does not yet have valid ILS lens position settings. Changing to this channel does not move the lens. Settings become valid as soon as any of the four lens motors are moved while using the current channel, as long as the ILS feature is enabled.

Parameters

- **Control Group**: Configuration
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
ILS <0 | 1>	Determines whether the ILS settings can be used if ILS is on. (Read-only)	0 = Settings are not used 1 = Settings are valid and are used if ILS = 1

Examples

Determine if ILS settings are valid for the current input.

(ILV?)

The LHO, LVO, FCS, ZOM settings are valid and are used if ILS=1.

(ILV!1)

INM–Channel In Menu

Determines if the channel is visible in the Channel list, which is available by pressing the Channel key on the keypad.

Parameters

- **Control Group**: Channel
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
INM+C0xx	Toggles In menu for channel.	xx = Channel number from 01 to 99
INM+MAIN	Toggles In menu for the channel being used by the main video.	-
INM+PIIP INM+SECD	Toggles In menu for the channel being used by picture-in-picture or secondary video.	-

Examples

Get channel in-menu state for channel used by main.

(INM?)

Get channel in-menu state for channel used by main.

(INM+MAIN?)

Hide in-menu for channel 1.

(INM+C001 0)

Get channel in-menu state for channel used by PIP.

(INM+PIIP?)

Show in-menu for the channel being used by main.

(INM 1)

Show in-menu for the channel being used by PIP.

(INM+PIIP 1)

Hide in-menu for the channel being used by main.

(INM+MAIN 0)

IRS–Dynamic Iris

Controls the diameter of the iris in the output light path, allowing a trade off between contrast and brightness.

Adjusting the iris increases or decreases the levels of blacks in dark scenes. Larger values of iris diameter decrease contrast and increase brightness. With dynamic operation, the projector automatically adjusts the iris size according to the frame content. When dynamic iris is disabled, the iris can be manually adjusted to a fixed position. When the dynamic iris is set to off, it is manual at 100% mode. The iris is fully opened. Also see the DIM (Dynamic Iris Mode), DIS (Dynamic Iris Settings), and MIP (manual Iris Position) controls.

Parameters

- **Control Group**: Preference
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
IRS <value>	Determines how the iris is controlled.	0 = Off—Turns dynamic iris off and opens the iris fully. This is a global setting. 1 = Manual—Iris is controlled by the user. The user can manually adjust how far open the iris is. This is a global setting. 2 = Per Channel—The iris is adjusted on a per channel basis. Each channel defines its iris mode/position.

Command	Description	Values
IRS+COPY	Copies settings from one profile to the currently selected user profile, when the DIM control is set to dynamic and the DIS control is set to UserX.	-
IRS+SENC	Sensitivity—Adjusts the number of pixels which get crushed when using dynamic contrast. This value is a trade off between contrast and detail. Increasing sensitivity increases the number of pixels around light objects and push them towards a white color. As the white (contrast) increases, the level of detail decreases.	-
IRS+OPNC	Open speed of the iris—Represents the maximum iris change per frame. Increasing this value allows the iris to travel further in a frame. Decreasing this value allows for a more gradual change in dynamic mode.	-
IRS+CLSC	Close speed of the iris, which is similar to IRS+OPNC—Represents the maximum iris change per frame. Increasing this value allows the iris to travel further in a frame. Decreasing this value allows for a more gradual change in dynamic mode.	-
IRS_WHTC	The level of white compression—Adjusts the gamma curve when the iris is in dynamic mode.	-

Examples

Places iris into manual mode.

(IRS 1)

Places iris into per channel mode. The operation is determined by the DIM channel control.

(IRS 2)

ITG–Test Pattern Grey

Specifies the grey level to use for the Grey flat field internal test pattern. This command is only available while the grey test pattern is displayed.

Parameters

- **Control Group**: Unsaved
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
ITG <value>	Sets the grey level.	0 to 1023 512 (Default on power up)

Examples

Set test pattern grey to mid point.

(ITG 512)

ITP–Internal Test Pattern

Puts a test on the screen or queries the test pattern currently displayed.

Parameters

- **Control Group**: Unsaved
- **Subclass**: Power Up
- **Access Level:** Operator

Commands

Command	Description	Values
ITP <pattern>	Displays a tests pattern on the display.	0 = Off 1 = Grid 2 = Grayscale 16 3 = White 4 = Flat grey 5 = Black 6 = Checker 7 = 13 Point 8 = Color Bars 11 = Aspect Ratio 12 = Edge Blend 14 = Boresight

Examples

Disable test patterns—revert to previous Input signal.

(ITP 0)

Set test pattern to the grid pattern.

(ITP 1)

KEN–Keypad IR Sensor Disable

Enables or disables the IR or wired keypad sensors. You cannot disable the keypad currently in use.

Parameters

- **Control Group**: Preference
- **Subclass**: Power Down
- **Access Level**: Operator

Commands

Command	Description	Values
KEN+FRNT	Enables or disables the IR keypad sensor.	0 = Disables the front IR keypad sensor 1 = Enables the front IR keypad sensor
KEN+REAR	Enables or disables the rear IR keypad sensor.	0 = Disables the rear IR keypad sensor 1 = Enables the rear IR keypad sensor
KEN+WIRE	Enables or disables the wired keypad sensor.	0 = Disables the wired keypad jack 1 = Enables the wired keypad jack

Examples

Get current wired jack enabled state.

(KEN+WIRE?)

Disable front IR sensor.

(KEN+FRNT 0)

Disable the rear IR sensor.

(KEN+REAR 1)

KEY–Key Mode Emulation

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

Parameters

- **Control Group**: Unsaved
- **Subclass**: Power Down
- **Access Level**: Operator

Commands

Command	Description	Values
KEY <value>	Specifies the value of the key to be emulated.	-

Examples

Send the Power key (down/press).

(KEY 46)

Send the Power key (up/release).

(KEY 174)

View the last emulated key that was sent.

(KEY?)

LBL–Left Blanking

Sets the number of lines to blank (turn to black) at the left of the image. Use this command to blank out any unwanted data near the left edge of the image.

A positive amount of blanking makes the image smaller. A negative amount of blanking makes the image larger. Negative blanking is only applicable to analog signals, when the auto setup cannot set the image size correctly. Christie recommends not using negative blanking, but to run auto setup again, ensuring that the content has active pixels on each edge of the image.

The maximum amount of left blanking allowed is half the image width minus 10. For negative blanking, the image size can only be increased to the limit of the sync.

Parameters

- **Control Group**: Input
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
LBL+INxy	Sets the left blanking for slot x, input y.	-
LBL+MAIN	Sets the left blanking for the main image.	-
LBL+PIIP LBL+SECD	Sets the left blanking for the picture-in-picture or secondary image.	-

Examples

Set left blanking to 40 on main video.

(LBL 40)

Set left blanking to 40 on main video.

(LBL+MAIN 40)

Set left blanking to 40 on PIP video.

(LBL+PIIP 40)

Set left blanking to 40 on slot 3 input 2.

(LBL+IN32 40)

Returns the left blanking value on main video.

(LBL?)

Returns the left blanking value on PIP video.

(LBL+PIIP?)

Returns the left blanking value on slot 1 input 2.

(LBL+IN12?)

LCB–Lens System Calibration

Calibrates the lens mount system for each of the four lens axes (horizontal, vertical, zoom and focus) to determine home positions, the motor travel ranges, and the motor backlash values. You must perform a lens calibration for all new lenses for the ILS feature to perform reliably. This control can also reset the lens to horizontal or vertical home positions, and configure if a reset or calibration routine should be run automatically on power up or lens insertion.

Parameters

- **Control Group**: Configuration/Preference/Unsaved
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
LCB	Runs calibration on all four lens motors (no parameters required).	-
LCB+HORZ	Runs calibration on the horizontal motor.	-
LCB+VERT	Runs calibration on the vertical motor.	-
LCB+FOCS	Runs calibration on the focus motor.	-
LCB+ZOOM	Runs calibration on the zoom motor.	-
LCB+HOME	Returns the lens to the horizontal and vertical home position. Focus and zoom are unaffected.	-
LCB+APWR	Enables automatic lens reset on system power-up (checkbox). Christie recommends this to ensure maximum positional accuracy for the ILS feature, particularly if the lens is subject to manual movement between power sessions. This reset only takes place if the ILS feature is enabled.	-
LCB+ANEW	Enables automatic lens calibration when a new lens is inserted (checkbox). Christie recommends this as different lenses have different characteristics.	-
LCB+STAT	Gets the current status for lens motor calibration.	-
LCB+LNID	Gets the lens ID.	-
LCB_MNZF	Enables manual zoom and focus control. When set the zoom and focus motors are de-energized and are not be under the control of ILS. Zoom and focus are adjustable by hand. If not set, all lens motors are under ILS control and users should not attempt to adjust manually, as this damages the motors.	-
LCB+LOCK	Locks all lens motors, preventing the lens from moving. This overrides all other lens functions.	-

Examples

Calibrate all motors.

(LCB)

Get the current status for lens motor calibration.

(LCB+STAT?)

Reset horizontal and vertical motors to their optical home position.

(LCB+HOME)

Enable auto lens reset on power up.

(LCB+APWR 1)

Disable auto lens calibration on lens insertion.

(LCB+ANEW 0)

Get state of auto lens calibration.

(LCB+ANEW?)

Lock all lens motors in their current positions.

(LCB+LOCK1)

Set manual zoom/focus mode. You can adjust the motors by hand now.

(LCB+MNZF 1)

Re-energize zoom/focus motors. The motors automatically re-locate the center flag and stay at their center position.

(LCB+MNZF 0)

LCD–LCD Backlight

Controls the backlight options for the LCD keypad: Backlight time-out length, backlight intensity (brightness), and forcing backlight to stay off.

Parameters

- **Control Group**: Preference
- **Subclass**: Power Down
- **Access Level**: Operator

Commands

Command	Description	Values
LCD+KEEP	Enables or disables the backlight and sets the timer.	0 = Backlight always on 1 = Backlight always off 2 = Timer
LCD+LEVL	Sets the backlight intensity level.	0 = Off 1 = Lowest backlight intensity level 25 = Maximum backlight intensity level
LCD+TIME	Sets the time in seconds that the backlight remains on after a key is pressed.	5 to 600 seconds

Examples

5 seconds after a key is pressed on the keypad, the backlight goes off.

(LCD+TIME 5)

10 minutes after a key is pressed on the keypad, the backlight goes off.

(LCD+TIME 600)

Backlight always stays on.

(LCD+KEEP 0)

Backlight always stays off.

(LCD+KEEP 1)

Backlight stays on for the number of seconds set in LCD+TIME. The backlight always stays on if an alarm is raised or if you are on the lcd test screen.

(LCD+KEEP 2)

Maximum lcd backlight brightness.

(LCD+LEVL 25)

Low LCD backlight brightness.

(LCD+LEVL 10)

LDT–Level Detector

Changes the gamma table settings to make it easy for the user to adjust the input levels.

This control causes the data to be processed so all levels below a specified value are set to black (0) and all above and including it are set to white (1024). This control takes place before the scaler/deinterlacer.

Parameters

- **Control Group**: Unsaved
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
LDT <0 | 1>	Enables or disables the level detector.	0 = Disables the level detector. 1 = Enables the level detector.

Examples

Turn on the level detector.

(LDT 1)

Turn off the level detector.

(LDT 0)

LDV–Level Detector Value

Specifies the value to be used by the level detector. This control takes place before the scaler/deinterlacer.

Parameters

- **Control Group**: Unsaved
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
LDV <value>	Sets the level detector value	1 to 1023

Examples

Set the level detector to 500. All data greater than or equal to 500 is shown in the image.

```
(LDV 500)
```

LHO–Lens Horizontal Position Adjustment

Sets the lens horizontal location to an absolute position.

This control moves the image horizontally by moving the whole display area. This is different from the Position control which moves the image electronically within a fixed display area.

Parameters

- **Control Group**: Configuration
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
LHO <position>	Adjusts the horizontal location of the lens to the specified position.	-2050 to 2050

Examples

Move the lens to position 500 on the horizontal axis.

```
(LHO 500)
```

LLC–LiteLoc Calibration

Calibrates the LiteLoc sensor. As this control is disabled until the projector is ready to be calibrated, the following conditions must be met first:

- The projector must have Dual lamps on.
- The lamps must have warmed up for at least five minutes.

The calibration takes approximately one minute and thirty seconds to complete. The shutter is closed for the duration of the calibration and opens again when the calibration is complete.

Constant Intensity mode cannot be used if the LiteLoc sensor has not been calibrated.

Parameters

- **Control Group**: Preference
- **Subclass**: Power Up
- **Access Level**: Service

Commands

Command	Description	Values
LLC	Calibrates the sensor.	-

Examples

Initiate the calibration cycle.

(LLC)

LMV–Adjust Lens Position/Lens Move

Adjusts all four lens motors simultaneously, or moves any lens motor arbitrarily (such as move motor indefinitely, rather than to some absolute position).

Parameters

- **Control Group**: Unsaved
- **Subclass**: Power Up

- **Access Level**: Operator

Commands

Command	Description	Values
LMV <h v z f>	Moves all lens motors.	h = Horizontal v = Vertical z = Zoom f = Focus
LMV+HSTP	Moves the horizontal lens motor a relative number of steps.	-
LMV+VSTP	Moves the vertical lens motor a relative number of steps.	-
LMV+FSTP	Moves the focus lens motor a relative number of steps.	-
LMV+ZSTP	Moves the zoom lens motor a relative number of steps.	-
LMV+HRUN	Starts, stops, or reverses the horizontal lens motor.	-
LMV+VRUN	Starts, stops, or reverses the vertical lens motor.	-
LMV+FRUN	Starts, stops, or reverses the focus lens motor.	-
LMV+ZRUN	Starts, stops, or reverses the focus lens motor.	-

Examples

Set the lens to H:1000, V:1500, Z:500, F:-500

(LMV 1000 1500 500 -500)

Start to move horizontal motor toward positive max position

(LMV+HRUN1)

Stop the vertical motor.

(LMV+VRUN0)

Start to move horizontal motor toward negative max position.

(LMV+ZRUN-1)

Move the horizontal motor 45 steps in the positive direction.

(LMV+HSTP45)

Move the zoom motor 300 steps in the negative direction.

(LMV+ZSTP-300)

LOC–Localization Language

Sets the localization options such as language and display options for temperature units.

Parameters

- **Control Group**: Preference
- **Subclass**: Power Down
- **Access Level**: Advanced

Commands

Command	Description	Values
LOC+LANG	Sets the system language.	0 = English 1 = French 2 = German 3 = Spanish 4 = Italian 5 = Chinese 6 = Japanese 7 = Korean
LOC+TEMP	Sets the temperature units.	0 = Celsius 1 = Fahrenheit

Examples

Set timezone to standard 12 hour.

(LOC+TIME 1)

Get list of formats.

(LOC+TIME?l)

Get time format.

(LOC+TIME?)(LOC+TIME!001)

LOP–Lamp Operation

Selects the operational mode of the lamps.

If a lamp fails to strike on the first attempt, up to three more attempts to strike are made. If in dual lamp operation, after three failed attempts to stay in dual lamp mode, it switches to single lamp operation. In auto-select single lamp operation, a failure causes a switch to the other lamp. In

single lamp use mode. the projector checks the LSF control (auto lamp switch on fail). If LSF is set, it switches to the other lamp.

Parameters

- **Control Group**: Preference
- **Subclass**: Power Down
- **Access Level**: Operator

Commands

Command	Description	Values
LOP <value>	Sets the lamp operation for single, dual, or automatic selection (single only).	0 = Auto-select a single lamp 1 = Lamp 1 single lamp use 2 = Lamp 2 single lamp use 3 = Dual lamp use

Examples

Use single lamp auto select.

(LOP 0)

Use lamp 1.

(LOP 1)

LOS–Loop Out Source Selection

Configures the HDMI output options and selects the loop out source for the transmitters of the THIC card.

Selecting Direct Loop directly passes through the HDMI input signals: on the same Twin HDMI Input Card, the Input1 signal is looped to Output1 and the Input2 signal is looped to Output2. Selecting Main/PIP Loop loops the Main and PIP video to the outputs, regardless from which card these signals originate. The Main video signal is looped to Output1 and the PIP video signal is looped to Output2. Selecting Disable shuts off the HDMI outputs completely.

Parameters

- **Control Group**: Preference
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
LOS <value>	Sets the loop out source selection.	0 = Disable—Disables loop out on all THIC card 1 = Local—Loops out inputs to the output on the same card, Input1 is looped to Output1 and Input2 is looped to Output2 2 = Main/PIP—Selects loop the main/PIP image out: Main image is looped to Output1 and PIP is looped to Output2

Examples

Shut off loop out.

(LOS 0)

Set loop out source to be local on slot 1.

(LOS 1)

Set loop out source to be the Main/PIP images.

(LOS 2)

Get loop out source selection on slot 1.

(LOS ?)

LPI–Lamp Intensity

Adjusts the lamp intensity (% of full).

Parameters

- **Control Group**: Preference
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
LPI <value>	Sets the lamp intensity.	-

Examples

Set the intensity set point to 80.

(LPI 80)

LPL–Lamp Life

Sets the expected lamp life in hours. If the lamp run time exceeds this value, a warning is displayed in the status system.

The lamp run time is equal to the lamp's original lamp hours plus the amount of time it has been on while installed in the projector.

This is a user settleable limit only and does not guarantee any number of hours for lamp life. This control has no bearing on lamp warranty and is not tied to actual lamp life in any way.

Parameters

- **Control Group**: Saved
- **Subclass**: Power Down
- **Access Level**: Operator

Commands

Command	Description	Values
LPL <hours>	Sets the number of hours before a warning is displayed in the status system about the lamp needing to be replaced.	Positive number 0 = Disables the lamp end-of-life check (Default)

Examples

Set the lamp end of life indicator to 1000 hours.

(LPL 1000)

Disable the lamp life monitoring.

(LPL 0)

LPM–Lamp Mode

Selects the lamp power control method, which determines how the lamp power and intensity are controlled.

If Maximum Brightness, the lamp burns as brightly as possible. Select Intensity mode to maintain a specific brightness level over time—as the lamp ages, the projector increases power as needed to closely maintain the required output from the lamp. Select Power to specify the power level supplied to the lamp. Both Intensity and Power modes allow you to extend lamp life.

Parameters

- **Control Group**: Preference

- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
LPM <mode>	Sets the lamp power control method.	0 = Maximum Brightness 1 = Constant Intensity 2 = Constant Power

Examples

Control lamp(s) with constant power.

```
(LPM 2)
```

LPP–Lamp Power

Sets the lamp power in Watts, which scales the power to lamp gain, the true control parameter.

The Power control represents the amount of power sent to the lamps. Power increases when operating in Intensity mode, until it reaches its maximum. The value remains stable when in Max Brightness or Power mode. If using Power mode, setting a lower power level reduces brightness and extends lamp life.

Parameters

- **Control Group**: Preference
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
LPP <power>	Sets the power going to the lamp in watts.	power = Number of watts to run the lamp at This is dependent on the type of lamp being used.

Examples

Set the power to 300W.

```
(LPP 300)
```

LRG–Lamp Regen

Sets the lamp regeneration time of day. In Dual Lamp mode: Both lamps run until the designated time of day. Each lamp turns off for the time interval, one after the other.

These regeneration times do not overlap.

- **In Lamp 1 Mode:** Lamp 1 runs until the designated time of day, then is switched off for the specified time interval.
- **In Lamp 2 Mode:** Lamp 2 runs until the designated time of day, then is switched off for the specified time interval.
- **In Auto Select Mode:** The current running lamp runs until the designated time of day, then is switched off for the specified time interval. The other lamp is switched on in a seamless switch. At the end of this interval, the auto select selects the best lamp to be run, shutting one of the lamps off.

Parameters

- **Control Group**: Preference
- **Subclass**: Power Down
- **Access Level**: Operator

Commands

Command	Description	Values
LRG+TIME	Sets the time of day when lamp regeneration starts.	-

Examples

Switch the lamp off at 3:50am for the regeneration cycle.

```
(LRG+TIME “03:50”)
```

LSF–Auto Lamp Switch

Enables or disables the ability for single lamps to automatically switch to an alternate lamp when a lamp failure occurs on the current lamp.

Parameters

- **Control Group**: Saved
- **Subclass**: Power Down
- **Access Level**: Operator

Commands

Command	Description	Values
LSF <0 | 1>	Enables or disables a lamp switch.	0 = Disables an automatic lamp switch 1 = Enables an automatic lamp switch

Examples

Turn on automatic lamp switch on failure.

(LSF 1)

Turn off automatic lamp switch on failure.

(LSF 0)

LVO–Lens Vertical Position Adjustment

Sets the lens vertical location to an absolute position.

This control moves the image horizontally by moving the whole display area. This is different from the Position control which moves the image electronically within a fixed display area.

Parameters

- **Control Group:** Configuration
- **Subclass:** Power Up
- **Access Level:** Operator

Commands

Command	Description	Values
LVO <position>	Adjusts the vertical location of the lens to the specified position.	-2050 to 2050

Examples

Move the lens to position 500 on the vertical axis.

(LVO 500)

MBE–Message Box Enable

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

Parameters

- **Control Group**: Preference
- **Subclass**: Power Down
- **Access Level**: Operator

Commands

Command	Description	Values
MBE+AUTO	Enables or disables displaying automatic message boxes. Some user messages are not directly triggered by user actions, for example signal information, function limitation or auto calibration message boxes.	0 = Disables automatically displaying message boxes 1 = Enables automatically displaying message boxes
MBE+USER	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
MBE+3DST	Enables or disables displaying message boxes triggered by 3D setup errors.	0 = Disables displaying message boxes directly triggered by 3D setup errors 1 = Enables displaying message boxes directly triggered by 3D setup errors

Examples

Get current auto message boxes enable state.

(MBE+AUTO ?)

Set auto message boxes to not be displayed.

(MBE+ AUTO 0)

Set auto message boxes to be displayed.

(MBE+AUTO 1)

Get current user message boxes enable state.

(MBE +USER ?)

Set user message boxes to not be displayed.

(MBE+USER 0)

Set user message boxes to be displayed.

(MBE+USER 1)

MCS–Menu Cascading Enable

Enables or disables cascading menus.

When tiling is enabled, this function is not available. The menu is in a fixed position and is non-cascading.

Parameters

- **Control Group**: Preference
- **Subclass**: Power Down
- **Access Level**: Operator

Commands

Command	Description	Values
MCS <0 | 1>	Enables or disables menu cascading	0 = Disables cascading menus and displays a single menu level at a time 1 = Enables cascading menus

Examples

Get the current state of this setting.

(MCS ?)

Disable cascading menus.

(MCS 0)

Enable cascading menus.

(MCS 1)

MDE–Serial Mode

Sets the mode for a serial communications port. Settings such as bits, parity, and stop bits are grouped together into one selection.

Parameters

- **Control Group**: Preference
- **Subclass**: Power Down
- **Access Level**: Advanced

Commands

Command	Description	Values
MDE+PRTA	Sets the mode on port A (RS232 IN).	-
MDE+PRTB	Sets the mode on port B (RS232 OUT).	-
MDE+PRTC	Sets the mode on port C (RS422).	-

Examples

Set mode on port A to 8-bit, no parity, 1 stop bit.

(MDE+PRTA "8N1")

Set mode on port A to 7-bit, even parity, 1 stop bit.

(MDE+PRTA "7E1")

Set mode on port A to 7-bit, odd parity, 1 stop bit.

(MDE+PRTA "7O1")

Get mode (MDE+PRTA!"8N1").

(MDE+PRTA?)

MFT–Menu Font

Sets the font size used by the on-screen display.

Parameters

- **Control Group**: Preference
- **Subclass**: Power Down
- **Access Level**: Operator

Commands

Command	Description	Values
MFT <0 | 1>	Views or sets a large or small font used by the on-screen display.	0 = Small font 1 = Large font

Examples

Get the current font option used by the on-screen display.

(MFT ?)

Use large font for the on-screen display font.

(MFT 1)

MIP–Manual Iris Position

Sets the manual position of the iris for the current channel.

Parameters

- **Control Group**: Input
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
MIP <value>	Sets the manual iris position	0 to 100

Examples

Set the manual iris to 75% for this channel.

(MIP 75)

MLK–Channel Memory Lock

Locks a channel from being edited.

Parameters

- **Control Group**: Channel
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
MLK+C0xx	Locks the channel	xx = Channel number from 01 to 99
MLK+MAIN	Locks the channel being used by main.	0 = Unlocks the channel being used by main 1 = Locks the channel being used by main
MLK+PIIP MLK+SECD	Locks the channel being used by picture-in-picture or secondary.	0 = Unlocks the channel being used by picture-in-picture or secondary 1 = Locks the channel being used by picture-in-picture or secondary

Examples

Get channel locked state for channel used by main.

(MLK?)

Get channel locked state for channel used by main.

(MLK+MAIN?)

Get channel locked state for channel used by PIP.

(MLK+PIIP?)

Lock the channel being used by main.

(MLK 1)

Lock the channel being used by PIP.

(MLK+PIIP 1)

Unlock the channel being used by main.

(MLK+MAIN 0)

Unlock channel 1.

(MLK+C001 0)

MNR–Mosquito Noise Reduction

Dynamically adapts to image content, effectively reducing mosquito artifacts around sharp edges in DCT based compression.

Parameters

- **Control Group**: Input
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
MNR+INxy	Sets the mosquito noise reduction for slot x, input y.	-
MNR+MAIN	Sets the mosquito noise reduction for the main video.	-
MNR+PIIP MNR+SECD	Sets the mosquito noise reduction for picture-in-picture or secondary video.	-

Examples

Set the mosquito noise reduction to mid point for the main video.

(MNR+MAIN 32)

MNU–Menu Settings and Configuration

Sets the menu type, views the on-screen display state, and reads the menu structure.

Parameters

- **Control Group**: Preference
- **Subclass**: Power Down
- **Access Level**: Operator

Commands

Command	Description	Values
MNU <value>	Views or changes the current state of the on-screen display.	0 = Presentation 1 = Main 2 = Submenu

Examples

Get the current state of the OSD.

(MSU ?)

(MNU!0)

MSH–Menu Shift Horizontal

Changes the horizontal position of the main menu. If the position is not from one of the preset positions, MSP is changed to custom.

Parameters

- **Control Group**: Preference
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
MSH <value>	Views or sets the horizontal position of the main menu.	-

Examples

Get current horizontal position of the main menu.

(MSH ?)

Set the main menu horizontal position to 50 pixels from the left edge.

(MSH 50)

MSP–Menu Location

Sets the default menu position on the screen.

When tiling is enabled, this function is not available. The menu is in a fixed position (top-left) and is non-scaling.

Parameters

- **Control Group**: Preference
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
MSP <value>	Views or sets the preset menu position.	0 = 4:3 TopLeft 1 = 4:3 Inset 1 2 = 4:3 Inset 2 3 = 16:9 TopLeft 4 = 16:9 Inset 1 5 = 16:9 Inset 2

Examples

Get current menu position preset.
(MSP ?)

Set the main menu position to 4:3 TopLeft, the top left corner of the screen.
(MSP 0)

MSV–Menu Shift Vertical

Changes the vertical position of the main menu. If the position is not from one of the preset positions, MSP is changed to custom.

Parameters

- **Control Group**: Preference
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
MSV <value>	Views or sets the vertical position of the main menu.	-

Examples

Get current vertical position of the main menu.
(MSV ?)

Set the main menu vertical position to 50 pixels from top edge.
(MSV 50)

NAM–Pixel Phase

Provides optional text assigned to a channel and can appear in the Channel Setup menu, Channel Edit menu, the channel list, and the Status menu.

Parameters

- **Control Group**: Channel
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
NAM+C0xx	Sets the channel name for the channel.	01 to 99
NAM+MAIN	Sets the channel name for the channel being used by main.	-
NAM+PIIP NAM+SECD	Sets the channel name for the channel being used by picture-in-picture or secondary.	-

Examples

Get current active channel name for main video.

(NAM?)

Get channel name being used by main.

(NAM+MAIN?)

Get channel name being used by picture-in-picture.

(NAM+PIIP?)

Set channel name being used by main to Test.

(NAM "Test")

Set channel name being used by PIP to Test.

(NAM+PIIP "Test")

Set channel name being used by main to Test.

(NAM+MAIN "Test")

Set channel name for channel 1 to Test.

(NAM+C001 "Test")

NET–Network Setup

Sets or requests the network setup for this device.

Parameters

- **Control Group**: Configuration/Preference
- **Subclass**: Power Down
- **Access Level**: Admin

Commands

Command	Description	Values
NET+DOMA	Sets the domain name	-
NET+ETH0	Sets the IP address for the first ethernet controller.	-
NET+GATE	Sets the network gateway.	-
NET+HOST	Sets the host name.	-
NET+MAC0	Gets the MAC address of the first ethernet controller.	-
NET+PORT	Sets the PORT number.	-
NET+SUB0	Sets the network subnet mask for the first ethernet controller.	-

Examples

Set new IP address on the first ethernet controller.

(NET+ETH0 "192.168.1.35")

Set the gateway.

(NET+GATE "192.168.0.1")

Set the subnet mask on the first ethernet controller.

(NET+SUB0 "255.255.255.0")

Set the host name.

(NET+HOST "MyHostName")

Set the domain name.

(NET+DOMA "MyDomainName")

Get IP address from first controller. (NET+ETH0! "192.168.1.35").

(NET+ETH0 ?)

Get IP address from second controller. (NET+ETH1! "192.168.1.36").

(NET+ETH1 ?)

Get MAC address from first controller. (NET+MAC0! "00:12:3F:7B:76:B4").

(NET+MAC0 ?)

Get default gateway. (NET+GATE! "192.168.0.1").

(NET+GATE ?)

Set the Port number.

(NET+PORT 3002)

Get the Port number. (NET+PORT! 3002).

(NET+PORT ?)

NRB–Block Artifact Reduction

Locates and reduces block edges produced by discrete cosine transform (DCT) based compression processing.

Parameters

- **Control Group**: Input
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
NRB+INxy	Sets the block artifact reduction (BAR) for slot x, input y.	-
NRB+MAIN	Sets the BAR for the main video.	-
NRB+PIIP NRB+SECD	Sets the BAR for the picture-in-picture or secondary video.	-

Examples

Set the BAR to the mid point for main video.

(NRB 32)

NRD–General Noise Reduction

Selects a filter sensitivity to noise. A higher value may improve noisy sources, although it softens the image.

Parameters

- **Control Group**: Input
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
NRD+INxy	Sets the noise reduction for slot x, input y.	-
NRD+MAIN	Sets the noise reduction for the main video.	-
NRD+PIIP NRD+SECD	Sets the noise reduction for the picture-in-picture or secondary video.	-

Example

Set the noise reduction to the mid point for main video.

(NRD 32)

NTR–Network Routing

Sets routing for ASCII messages

Parameters

- **Control Group**: Preference
- **Subclass**: Power Down
- **Access Level**: Operator

Commands

Command	Description	Values
NTR <value>	Enables or disables routing of Christie Protocol messages.	0 = Separate (Default) 1 = RS232 and RS422 joined 2 = RS232 and Ethernet joined 3 = All joined (includes USB)

Examples

List routing options.
(NTR?L)

Set routing so that each connection is routed separately.
(NTR 0)

Set routing to full daisy-chaining.
(NTR 3)

OPP–Odd Pixel Phase

Adds an offset to the pixel phase setting on this card. It compensates for differences between the A to D converter used to sample even pixels, and the one used for odd pixels. A value of 0 is the null position in which both A and D converters are set to exactly the same value.

Parameters

- **Control Group**: Option
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
OPP+SLx0	Sets a pixel phase offset for the second A to D.	-

Examples

Set a pixel phase offset to -1 on slot 1.
(OPP+SL10 -1)

OSD–On Screen Display

Displays or removes overlay information in the on-screen display (OSD).

Parameters

- **Control Group**: Unsaved
- **Subclass**: Power Down
- **Access Level**: Operator

Commands

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

Example

Get current state of on-screen display.

(OSD ?)

Turn off the on-screen display. The on-screen display runs in the background, even though it is not visible.

(OSD 0)

OST–OSD Transparency

Enables or disables on-screen display transparency.

Parameters

- **Control Group**: Preference
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
OST <0 | 1>	Enables or disables on-screen display transparency.	0 = Disables on-screen display transparency 1 = Enables on-screen display transparency

Examples

Enable OSD transparency.

(OST 1)

PBC–PIP Border Color

Chooses the color of the optional border around the picture-in-picture image. To disable the border, set the border width PBW to zero.

Parameters

- **Control Group**: Preference
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
PBC <value>	Sets the border color for the picture-in-picture window.	0 = Black 1 = Dark Red 2 = Dark Green 3 = Dark Yellow 4 = Dark Blue 5 = Dark Magenta 6 = Dark Cyan 7 = Dark Grey 8 = Light Grey 9 = Red 10 = Green 11 = Yellow 12 = Blue 13 = Magenta 14 = Cyan 15 = White

Examples

Set the picture-in-picture border to red.

(PBC 9)

PBW–PIP Border Width

Selects if a border should be placed around the picture-in-picture window.

Parameters

- **Control Group**: Preference
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
PBW <0 | 1>	Selects the border width for the picture-in-picture window	0 = Removes the border 1 = Enables the border

Examples

Select PIP border width of 10.

(PBW 10)

PDT–Peak Detector

Enables or disables the peak detector test mode to aid in setup of input levels. For each color, pixel values near black are displayed black, pixel values near peak level are displayed full on. All others are displayed in mid-level grey. Adjust input levels for each color so black pixels in the image turn black, and full on pixels turn full on. When adjustment is completed, disable this control to display of all grey levels. This control takes place before the scaler/deinterlacer.

Parameters

- **Control Group**: Unsaved
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
PDT <0 | 1>	Enables or disables peak detector.	0 = Enables the peak detector 1 = Disables the peak detector

Examples

Turn on the peak detector.

(PDT 1)

Turn off the peak detector.

(PDT 0)

PHP–PIP Horizontal Position

Sets the horizontal position of the picture-in-picture window. Specifies where to place the center of the picture-in-picture window horizontally on the panel in pixels.

Parameters

- **Control Group**: Preference
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
PHP <value>	Sets picture-in-picture horizontal position.	-

Examples

Returns the picture-in-picture horizontal position.

(PHP?)

Set the picture-in-picture horizontal position to 100 pixels.

(PHP 100)

PHS–PIP Horizontal Size

Sets the size (width) of the picture-in-picture window in pixels. The active portion of the input signal, as determined by blanking controls, is scaled to fit into the picture-in-picture window. The height of the picture-in-picture window is set to maintain the aspect ratio of the image being captured, as determined by the vertical stretch control.

Parameters

- **Control Group**: Preference
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
PHS <value>	Sets the picture-in-picture horizontal size.	-

Examples

Return the picture-in-picture size.

(PHS?)

Set the picture-in-picture size to 100 pixels.

(PHS 100)

PIP–Picture in Picture

Enables or disables Picture in Picture (PIP) mode. When this control is enabled for the first time, the first valid video signal starting at slot 1 input 1 is routed to the picture-in-picture window. If no signals are present, the first available slot/input combination is selected.

PIP and image transition effects (seamless switching) both require resources to configure a second image processing path. Therefore these two features cannot be active at the same time.

Parameters

- **Control Group**: Preference
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
PIP <value>	Enables or disables the picture-in-picture window.	0 = Disables the picture-in-picture video 1 = Enables the picture-in-picture video (PIP) 2 = Enables picture-by-picture video (PSB)

Examples

Return the state of the PIP control.

(PIP?)

Disable picture-in-picture video.

(PIP 0)

Enable picture-in-picture (PIP) video.

(PIP 1)

Enable picture-by-picture (PBP) video.

(PIP 2)

PJH–Projector Hours

Reports the number of hours elapsed on the projector. This control is read-only.

Parameters

- **Control Group**: Unsaved
- **Subclass**: Power Down
- **Access Level**: Operator

Commands

Command	Description	Values
PJH	Reads the projector hours.	-

Examples

Return the hours elapsed on the projector.

(PJH?)

PLK–User Lockouts

Provides a way to lock various controls in the system, protecting them against accidental or unwanted user adjustment.

Parameters

- **Control Group**: Preference
- **Subclass**: Power Down
- **Access Level**: Admin

Commands

Command	Description	Values
PLK <value>	Sets or gets a sequence of codes/subcodes locked out from user adjustment.	-
PLK+ENBL	Sets the master enabled switch. When unselected, user locks are ignored.	-

Examples

Return the list of user lockouts.

(PLK?)

Lock all codes/subcodes in the system (except the PLK and PWR control, which are unlockable).

(PLK L"*")

Unlock all codes/subcodes in the system, regardless of which method was used to lock them.

(PLK U"*")

Lock all subcodes within the SIN control.

(PLK L"SIN*")

Following the previous example, unlock SIN+PIIP, leaving all other SIN subcodes locked.

(PLK U"SIN+PIIP")

Lock all SIN subcodes, and locks the GAM code.

(PLK L"SIN*" L"GAM")

PMT–Picture Mute

Mutes the displayed image (image goes black) without closing the mechanical shutter. When the image is muted, all DMD mirrors are turned to the off position.

Parameters

- **Control Group**: Unsaved
- **Subclass**: Power Up
- **Access Level**: Operator

Examples

Mute the picture.

```
(PMT 0)
```

Unmute the picture.

```
(PMT 1)
```

PNG–Ping

Returns basic projector information to the user, including the type of device and main software version.

Some devices have multiple CPUs each with its own software version. Only the software version of what is considered to be the master CPU, is returned here.

Parameters

- **Control Group**: Configuration
- **Subclass**: Power Down
- **Access Level**: Status

Commands

Command	Description	Values
PNG	Returns basic projector information (Read-only): <type> <major> <minor> <build> where • Type = 54 (fixed value) • Major, Minor, Build = Software version Valid devices: 40 = ACT 41 = Cinema 42 = CinemaMini 43 = Media Block 44 = Mobius	-

Examples

Send a ping.

(PNG?)

```
(PNG!41 001 000 234) Indicates 'Cinema' type, software: 1 major, 0 minor, 234 beta.
```

PPA–Position Preset Aspect

Ensures that during auto setup for any source, its aspect ratio is maintained when its default size is calculated, when enabled. This is similar to a stretch being defined for a source in the lookup table. If disabled and no stretch is defined, the source is scaled to fit the screen.

Parameters

- **Control Group**: Preference
- **Subclass**: Power Down
- **Access Level**: Operator

Commands

Command	Description	Values
PPA <0 | 1>	Enables or disables the maintain aspect during auto setup.	0 = Disables the maintain aspect during auto setup 1 = Enables the maintain aspect during auto setup

Examples

Disable maintain aspect during auto setup.

(PPA 0)

Enable maintain aspect during auto setup.

(PPA 1)

PPP–PIP Position Preset

Chooses a preset location and size for the PIP window. The Location settings adjust the size and position of the window. Blanking is not affected. While in split screen mode, several channel controls that resize image are disabled. These controls are size, H-Position, and V-Position.

Parameters

- **Control Group**: Preference
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
PPP <value>	Selects the picture-in-picture window location.	0 = Top Right 1 = Top Left 2 = Bottom Left 3 = Bottom Right

Examples

Select top left preset position.

(PPP 0)

PPS–Swap

Swaps the current main and picture-in-picture inputs. It swaps the inputs regardless if valid signals are on either of the inputs.

Parameters

- **Control Group**: Preference
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

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

Example

Swap inputs.

(PPS)

PRT–Serial Port

Returns a list of serial ports available on the device.

Parameters

- **Control Group**: Preference
- **Subclass**: Power Down
- **Access Level**: Status

Commands

Command	Description	Values
PRT	Reads the serial ports.	-

Example

Get current serial port.

(PRT ?)

Get a list of ports.

(PRT ?1)

PTL–Serial Protocol

Sets the protocol for a serial communications port.

Parameters

- **Control Group**: Preference
- **Subclass**: Power Down
- **Access Level**: Operator

Commands

Command	Description	Values
PTL+PRTA	Sets the protocol on port A (RS232 In) pass through.	-
PTL+PRTB	Sets the protocol on port B (RS232 Out).	-
PTL+PRTC	Sets the protocol on port C (RS422).	-

Examples

Set protocol on port A to a pass through a raw data protocol.

(PTL+PRTA "RAW")

Set protocol on port A to a Christie Digital serial protocol.

(PTL+PRTA "CHRISTIE")

Get the current protocol.

(PTL+PRTA?)

PVP–PIP Vertical Position

Sets the vertical position of the picture-in-picture window. Specifies where to place the center of the picture-in-picture window vertically on the panel in pixels.

Parameters

- **Control Group**: Preference
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
PVP <value>	Sets the vertical position of the picture-in-picture window.	-

Examples

Display the picture-in-picture vertical position.

(PVP?)

Set PIP vertical position to 100 pixels.

(PVP 100)

PWR–Power

Changes the power state of the projector.

Parameters

- **Control Group**: Unsaved
- **Subclass:** Power Down
- **Access Level:** Operator

Commands

Command	Description	Values
PWR+RBFS	Reboots the projector into failsafe mode. The projector must be in Standby mode before initiating this command.	0 = Power 0ff (to Standby mode) 1 = Power on (to Lamps On mode) 10 = Cool down lamp is cooling down—controlled by lamp (Read-only) 11 = Warm-up lamp is warming up—controlled by lamp (read-only) 20 = AutoShutdown mode 1 (Read-only) 21 = AutoShutdown mode 2 (Read-only) 22 = AutoShutdown mode 3 (Read-only) 23 = Emergency shutdown, ending in Power off

Examples

Get projector power status.

(PWR ?)

Turn the lamp and all electrical power on.

(PWR1)

Set the projector to Standby mode.

(PWR0)

Reboot into failsafe mode.

(PWR+RBFS 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. Pixel Phase can only be set on Analog input cards.

Parameters

- **Control Group**: Input
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
PXP+INxy	Sets the pixel phase for slot x, input y.	0 to 31
PXP+MAIN	Sets the pixel phase for the main video.	0 to 31
PXP+PIIP PXP+SECD	Sets the pixel phase for the picture-in-picture or secondary video.	0 to 31

Examples

Display the pixel phase for the main video.

(PXP?)

Display the pixel phase on PIP video.

(PXP+PIIP?)

Display the pixel phase for slot 1 input 2.

(PXP+IN12?)

Set the pixel phase to 16 on the main video.

(PXP 16)

Set the pixel phase to 16 on the main video.

(PXP+MAIN 16)

Set the pixel phase to 16 on PIP video.

(PXP+PIIP 16)

Set the pixel phase to 16 on slot 1 input 2.

(PXP+IN12 16)

PXT–Pixel Tracking

Adjusts the position of the pixel sampling clock to match the input signal. It can only be set on Analog input cards. 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.

Parameters

- **Control Group**: Input
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
PXT+INxy	Sets the pixel tracking for slot x, input y.	600 to 3000
PXT+MAIN	Sets the pixel tracking for the main video.	600 to 3000
PXT+PIIP PXT+SECD	Sets the pixel tracking for the picture-in-picture or secondary video.	600 to 3000

Examples

Display the pixel tracking for the main video.

(PXT?)

Display the pixel tracking on picture-in-picture video.

(PXT+PIIP?)

Display the pixel tracking for slot 1 input 2.

(PXT+IN12?)

Set the pixel tracking to 600 on the main video.

(PXT 600)

Set the pixel tracking to 600 on the main video.

(PXT+MAIN 600)

Set the pixel tracking to 600 on picture-in-picture video.

(PXT+PIIP 600)

Set the pixel tracking to 600 on slot 1 input 2.

(PXT+IN12 600)

RAL–Remote Access Level

Sets the default remote serial protocol access level for any of the serial ports.

Parameters

- **Control Group**: Preference
- **Subclass**: Power Down
- **Access Level**: Admin

Commands

Command	Description	Values
RAL < value>	Sets the access level on all Ethernet ports.	0 = No Access—Disables the port 1 = Login Required—Sets read-only access until a separate login is performed (Default) 2 = Free Access—Executes commands at the operator level unless a separate login is performed
RAL+PRTA <value>	Sets the access level for the RS232-IN port.	
RAL+PRTB <value>	Sets the access level for the RS232-OUT port.	
RAL+PRTC <value>	Sets the access level for the RS422 port.	

Examples

Disable remote serial protocol Access level for all Ethernet ports.

(RAL 0)

Get Access level for Ethernet ports (RAL!0).

(RAL?)

Set remote serial protocol Access level on port A (RS232 In) to free access.

(RAL+PRTA 2)

Get Access level (RAL+PRTA!2).

(RAL+PRTA?)

RBL–Right Blanking

Sets the number of lines to blank (turn to black) at the right of the image. Use this command to blank out any unwanted data near the right edge of the image.

A positive amount of blanking makes the image smaller. A negative amount of blanking makes the image larger. Negative blanking is only applicable to analog signals, when the autosetup cannot set the image size correctly. Christie recommends not using negative blanking, but to run autosetup again, ensuring that the content has active pixels on each edge of the image.

The maximum amount of right blanking allowed is half the image width minus 10. For negative blanking, the image size can only be increased to the limit of the sync.

Parameters

- **Control Group**: Input
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
RBL+INxy	Sets the red black level on slot x, input y.	-
RBL+MAIN	Sets the red black level on the main video.	-
RBL+PIIP RBL+SECD	Sets the red black level on the picture-in-picture or secondary video.	-

Examples

Display the right blanking value for the main video.

(RBL?)

Display the right blanking value on picture-in-picture video.

(RBL+PIIP?)

Display the right blanking value for slot 1 input 2.

(RBL+IN12?)

Set the right blanking value to 40 on the main video.

(RBL 40)

Set the right blanking value to 40 on the main video.

(RBL+MAIN 40)

Set the right blanking value to 40 on picture-in-picture video.

(RBL+PIIP 40)

Set the right blanking value to 40 on slot 1 input 2.

(RBL+IN12 40)

RDB–Red Black Level

Compensates for relative variations in the black levels between red, green and blue. Available on all cards expect the video decoder.

The correct setting is when the maximum contrast is achieved without crushing white or black. When the drive and black level controls are set correctly for a signal, the Comprehensive Color Adjustment, including color temperature, works as expected. The drive and black level controls should not be used to setup a specific color temperature as this requires separate color temperature adjustments to be made for each signal.

Parameters

- **Control Group**: Input
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
RDB+INxy	Sets the red black level on slot x input y to the specified value.	-255 to 255
RDB+MAIN	Sets the red black level on the main video.	-255 to 255
RDB+PIIP RDB+SECD	Sets the red black level on the picture-in-picture or secondary video.	-255 to 255

Examples

Display the current red black level for the main video.

(RDB?)

Display the current red black level on picture-in-picture video.

(RDB+PIIP?)

Display the current red black level for slot 1 input 2.

(RDB+IN12?)

Set the red black level to 128 on the main video.

(RDB 128)

Set the red black level to 128 on the main video.

(RDB+MAIN 128)

Set the red black level to 100 on picture-in-picture video.

(RDB+PIIP 100)

Set the red black level to 100 on slot 1 input 2.

(RDB+IN12 100)

RDD–Red Drive

Compensates for different amounts of attenuation between the red, green and blue in the signal. Available on all cards expect the video decoder.

The correct setting achieves maximum contrast without crushing white or black. When the drive and black level controls are set correctly for a signal, the Comprehensive Color Adjustment, including color temperature, works as expected. The drive and black level controls should not be used to setup a specific color temperature as this requires separate color temperature adjustments to be made for each source.

Parameters

- **Control Group**: Input
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
RDD+INxy	Sets the red drive on slot x input y to the specified value.	-255 to 255
RDD+MAIN	Sets the red drive on the main video.	-255 to 255
RDD+PIIP RDD+SECD	Sets the red drive on the picture-in-picture or secondary video.	-255 to 255

Examples

Display the current red drive value for the main video.

(RDD?)

Display the current red drive value on the picture-in-picture video.

(RDD+PIIP?)

Display the current red drive value for slot 1 input 2.

(RDD+IN12?)

Set the red drive value to 128 on the main video.

(RDD 128)

Set the red drive value to 128 on the main video.

(RDD+MAIN 128)

Set the red drive value to 100 on the picture-in-picture video.

(RDD+PIIP 100)

Set the red drive value to 100 on slot 1 input 2.

(RDD+IN12 100)

ROG–Red Odd Pixel Gain

Adds an offset to input red gain settings on the analog input card. It compensates for differences between the A to D converter used to sample even pixels, and the one used for odd pixels. A value of 0 is the null position in which both A to D converters are set to exactly the same value.

Parameters

- **Control Group**: Option
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
ROG+SLx0	Sets a red gain offset for the second A to D.	-

Examples

Set a red gain offset to -10 on slot 1.

(ROG+SL10 -10)

ROO–Red Odd Pixel Offset

Adds an offset to input red black level settings on the analog input card. It compensates for differences between the A to D converter used to sample even pixels, and the one used for odd pixels. A value of 0 is the null position in which both A to D converters are set to exactly the same value.

Parameters

- **Control Group**: Option
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
ROO+SLx0	Sets a red black level offset for the second A to D.	-

Examples

Set a red gain offset to -10 on slot 1.

```
(ROO+SL10 -10)
```

RQR–RGB Quantization Range

Selects the RGB quantization range.

Parameters

- **Control Group**: Input
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
RQR+INxy	Sets the RGB quantization range on slot input y to the specified value.	0 = Full (0~255) 1 = Limited (16~235)
RQR+MAIN	Sets the RGB quantization range on the main video.	
RQR+PIIP RQR+SECD	Sets the RGB quantization range on the picture-in-picture or secondary video.	

Examples

Set the RGB quantization range to limited, expanding numbers to the full range.

(RQR 1)

RTE–Real Time Events

Uses real time events to allow custom user actions to occur based on a system trigger. Various system triggers include power up, input change, errors, or based on time. Time can be absolute, (for example, 12:00:00 on December 25, 2008) or relative (for example, 5 hours and 30 minutes from now).

Special function keys can also be used as a trigger, for example, pressing Func+1 on the remote. Events can also be connected to external hardware triggers using the General Purpose IO port (GPIO).

Parameters

- **Control Group**: Unsaved
- **Subclass**: Power Down
- **Access Level**: Operator

Events

- Single occurrence events:

  `(RTE T YYYY/MM/DD HH:MM:SS S "description" "command")`

- Daily occurring event:

  `(RTE T YYYY/MM/DD HH:MM:SS YYYY/MM/DD D R "description" "command")`

  Where the first date and time is the start date and occurrence time. The second date is the end date.

  R is the Repeat Every interval such as repeat every R days.

- Weekly occurring Event:

  `(RTE T YYYY/MM/DD HH:MM:SS YYYY/MM/DD W R "D" "description" "command")`

Where the first date and time is the start date and occurrence time. The second date is the end date.

R is the Repeat Every interval such as repeat every R weeks.

D is the weekday or weekdays that the command should run on:

M = Monday

T = Tuesday

W = Wednesday

Th = Thursday

F = Friday

S = Saturday

Su = Sunday

For example, MT runs on Monday and Tuesday, TTh runs on Tuesday and Thursday, MTWFSSu runs on Monday, Tuesday, Wednesday, Friday, Saturday, and Sunday.

- Monthly occurring event:

  `(RTE T YYYY/MM/DD HH:MM:SS YYYY/MM/DD M R "description" "command")`

  Where the first date and time is the start date and occurrence time. The second date is the end date.

  R is the Repeat Every interval such as repeat on the same date every R months.

  If the next run cycle month does not have 31 days, the event does not run in that month.

- Function key events:

  `(RTE F K "description" "command")`, where K = the specific function key (1-5, 7-9). Key 6 is reserved and cannot be used.

- System events:

  `(RTE S E T "description" "command")`, where E is the event to respond to:

  0 = Boot Up

  1 = Power ON/OFF

  T = 0 (Either a Power ON or OFF event)

  T = 1 (Power ON only)

  T = 2 (Power OFF only)

  2 = Any System Error

  3 = Good Signal

  4 = No Signal

  5 = Input Change

- GPIO events:

  `(RTE G "AAAAAAA" "description" "command")`

where A is GPIO Input for each pin:

= X (don't care)

= H (when pin is high)

= L (when pin is low)

- Delete all events:

  (RTE X *)

- Delete a single event:

  (RTE X A)

  Where A is the event to be deleted (0-??).

Examples

Single occurrence events

- Close the shutter at 11:48:00 on December 25, 2008.
  (RTE T 2008/12/25 11:48:00 S "description" "(LSH 1)")

Daily occurring event

- Power on the projector every day at 23:00:00, starting from January 1, 2009 until February 1, 2009.
  (RTE T 2009/01/01 23:00:00 2009/02/01 D 1 "description" "(PWR 1)")
- Power on the projector every other day at 23:00:00, starting from January 1, 2009 until February 1, 2009.
  (RTE T 2009/01/01 23:00:00 2009/02/01 D 2 "description" "(PWR 1)")
- Power on the projector every fifth day at 23:00:00, starting from January 1, 2009 until February 1, 2009.
  (RTE T 2009/01/01 23:00:00 2009/02/01 D 5 "description" "(PWR 1)")

Weekly occurring event

- Power off the projector every week, on Saturday and Sunday at 23:00:00, starting from January 1, 2009 until March 1, 2009 (inclusive).
  (RTE T 2009/01/01 23:00:00 2009/03/01 W 1 "SSu" "description" "(PWR 0)")
- Power on the projector every other week, on every weekday at 23:00:00, starting from January 1, 2009 until March 1, 2009 (inclusive).
  (RTE T 2009/01/01 23:00:00 2009/03/01 W 2 "MTWThF" "description" "(PWR 1)")
- Power on the projector every fifth week, on every weekday at 23:00:00, starting from January 1, 2009 until March 1, 2009 (inclusive).
  (RTE T 2009/01/01 23:00:00 2009/03/01 W 5 "MTWThF" "description" "(PWR 1)")

Monthly occurring event

- Power off the projector on the 1st day of every month at 23:00:00, starting January 1, 2009 until January 1, 2010 (inclusive).
  (RTE T 2009/01/1 23:00:00 2010/01/01 M 1 "description" "(PWR 0)")
- Power off the projector on the 12th day of every 12 months at 23:00:00, starting January 12, 2009 until January 1, 2010 (inclusive).
  (RTE T 2009/01/10 23:00:00 2010/01/01 M 12 "description" "(PWR 0)")
- Power off the projector every other month on day 31 starting January 31, 2009 until January 1, 2010 (inclusive).
  (RTE T 2009/01/31 23:00:00 2010/01/01 M 2 "description" "(PWR 0)")

Function key events

- Open the shutter if Func+1 is pressed on the remote.
  (RTE F 1 "description" "(LSH 0)")
- Close the shutter if Func+2 is pressed on the remote.
  (RTE F 2 "description" "(LSH 1)")

System events

- Change color to cyan when system powers up.
  (RTE S 1 1 "description" "(CLE 5)")

GPIO events

- Turn ON the projector if we receive any GPIO Input.
  (RTE G "XXXXXXX" "description" "(PWR 1)")
- Turn ON the projector if we receive any GPIO Input.
  (RTE G "" "description" "(PWR 1)")
- Turn ON the projector if we receive any GPIO Input.
  (RTE G "XX" "description" "(PWR 1)")
- Turn OFF the projector if pin 6 is set to low and pin 7 is high.
  (RTE G "XXXXXLH" "description" "(PWR 0)")
- Freeze the image if pins 1 and 2 are set to high.
  (RTE G "HH" "description" "(FRZ 0)")
- Freeze the image if pins 3,4,7 are set to high.
  (RTE G "XXHHXXH" "description" "(FRZ 0)")
- Freeze the image if pins 1,2 are set to Low and pin 3 is set to high.
  (RTE G "LLHXX" "description" "(FRZ 0)")
- Freeze the image if pins 1,2 are set to Low and pin 3 is set to high.
  (RTE G "LLH" "description" "(FRZ 0)")

SHU–Shutter

Opens or closes the mechanical shutter that completely blocks all light to the screen.

Parameters

- **Control Group**: Unsaved
- **Subclass**: Power Down
- **Access Level**: Operator

Commands

Command	Description	Values
SHU <0 | 1>	Opens or closes the shutter.	0 = Opens the shutter 1 = Closes the shutter

Examples

Open the shutter.

(SHU 0)

Close the shutter.

(SHU 1)

Get the state of the shutter (0 for open, 1 for closed).

(SHU?)

SIN–Select Input

Selects the active input for the video in control (VIC). The VIC can be main or picture in picture (PIP). To specify a new input routing, enter the number of the slot followed by the input. The projector switches to that input location and automatically select the channel best suited to the incoming signal. For example, 1 2 would indicate slot 1 input 2.

Parameters

- **Control Group**: Preference
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
SIN+MAIN	Sets the active input for the main video.	-
SIN+PIIP SIN+SECD	Sets the active input for the picture-in-picture or secondary video.	-

Examples

Get the current main video input.

(SIN?)

Get the current main video input.

(SIN+MAIN?)

Get the current picture in picture video input.

(SIN+PIIP?)

Set main video to slot 1 input 2.

(SIN 12)

Set main video to slot 4 input 5.

(SIN+MAIN 45)

Set picture in picture video to slot 2 input 1.

(SIN+PIIP 21)

SIZ–Size

Controls how much the projector electronically expands or shrinks the image.

It expands or contracts the image in both the vertical and horizontal directions so that the aspect ratio does not change. 1000 is the neutral position where no resizing is done. Scale = value/1000. The horizontal scaling of the image is always to exactly this value but the vertical scale is also controlled by the VST control which stretches the image vertically. When size is changed on picture-in-picture video, nothing visually happens. It gets saved in the picture-in-picture channel and is applied the next time that channel is on main video.

Parameters

- **Control Group**: Input
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
SIZ <value>	Sets the size for the main image.	-

Examples

Display the size value for the main video.

(SIZ?)

Set the size to 500 on the main video.

(SIZ 500)

SMP–Sampling Mode

Sets the color sampling mode for a digital signal to either YCbCr 4:4:4, RGB, or YCbCr 4:2:2. Although the proper sampling mode is determined automatically by the projector, you can override the setting.

Parameters

- **Control Group**: Input
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
SMP+INxy	Sets the sampling mode on slot input y to the specified value.	0 = YCbCr 4:4:4 (or RGB) 1 = YCbCr 4:2:2
SMP+MAIN	Sets the sampling mode on the main video.	
SMP+PIIP SMP+SECD	Sets the sampling mode on the picture-in-picture or secondary video.	

Examples

Display the current sampling mode for the main video.

(SMP?)

Display the current sampling mode on the picture-in-picture video.

(SMP+PIIP?)

Display the current sampling mode for slot 1 input 2.

(SMP+IN12?)

Set the sampling mode to YCbCr422 on main video.

(SMP 1)

Set the sampling mode to YCbCr444 on main video.

(SMP+MAIN 0)

Set the sampling mode to YCbCr422 on PIP video.

(SMP+PIIP 1)

Set the sampling mode to YCbCr422 on slot 3 input 2.

(SMP+IN32 1)

SOR–Screen Orientation

Selects the orientation of the displayed image. It can be displayed normally, inverted horizontally, inverted vertically, or inverted in both directions, as required by the projector installation.

Parameters

- **Control Group**: Preference

- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
SOR <value>	Changes the orientation of the displayed image.	0 = Front Projection (Default) 1 = Rear Projection 2 = Front Projection Inverted 3 = Rear Projection Inverted

Example

Set image orientation to Front projection.
(SOR 0)

SPS–Splash Screen

Uploads a user splash screen (logo) bitmap and configure splash screen display options.

Parameters

- **Control Group**: Preference
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
SPS <value>	Views or sets option indicating when a logo is displayed.	0 = Never displays a logo 1 = Display a logo on startup only 2 = Displays a logo on startup and when there is no signal
SPS+BACK	Views or sets logo background color.	
SPS+DLET	Deletes user logo from storage flash.	
SPS+SLCT	Views or sets which logo to display.	0 = Sets the default splash screen 1 = Sets the user splash screen
SPS+XPOS	Views or sets logo horizontal position.	

Command	Description	Values
SPS+YPOS	Views or sets logo vertical position.	

Examples

Get the display option. If 0, logo is always off. 1, logo is displayed at start up, and so on.

(SPS ?)

Set the display option. Logo is displayed when there is no signal.

(SPS 2)

Use the Christie logo.

(SPS+SLCT 0)

Set background color of user logo screen to blue. Value format: 0xRRGGBB (must be converted to decimal).

(SPS+BACK 225)

Delete user logo from flash.

(SPS+DLET 1)

Set option to show logo image on user logo screen.

(SPS+SIMG 1)

Set option to hide logo image and only display background color on user logo screen.

(SPS+SIMG 0)

Move the logo image on user logo screen to 50th pixel from left screen edge.

(SPS+XPOS 50)

Move the logo image on user logo screen to 50th pixel from top screen edge.

(SPS+YPOS 50)

SPT–Split Screen

Splits screen enable control. A snap shot of the main image can be presented on the right side of the screen to allow evaluation of advanced image processing features. All resizing controls are honoured on both images; however, image processing controls only happen on the left side image. Changing inputs, channels or test patterns disables this control. Picture-in-picture operation must be disabled prior to enabling this control.

Parameters

- **Control Group**: Unsaved
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
SPT <value>	Selects the split screen method.	0 = Off 1 = Side 2 = Top

Examples

Turn off split screen.

(SPT 0)

Turn on split screen to the side.

(SPT 1)

SST–Status

Retrieves the various system status groups.

Parameters

- **Control Group**: Preference
- **Subclass**: Power Down
- **Access Level**: Status

Commands

Command	Description	Values
SST	Returns information on all status groups, with one message per item.	-
SST+ALRM	Returns a summary of any active alarms.	-
SST+CONF	Returns configuration data—model, sn, build date, and so on.	-
SST+COOL	Returns cooling data—cooling fans, air flow, and so on.	-
SST+HLTH	Returns system health.	-
SST+LAMP	Returns lamp operational data.	-
SST+SIGN	Returns signal data—freq, and so on.	-
SST+SYST	Returns system data—power, hours of use, shutter open, and so on.	-
SST+TEMP	Returns temperature data.	-
SST+VERS	Returns version numbers.	-

Examples

Return the projector status.

(SST+ALRM?)

```
(SST+ALRM!000 002 "101" "Prism temperature")
where parameters are P1=index number, P2=error level, P3=value, P4=description.
Error level is 0=no errors or warnings, 1=warning, 2=error, 3=error and warning.
```

STD–Video Standard

Displays or sets the current video standard that is decoding the input signal. The projector automatically determines the standard or you can specify a specific standard from the selection list. Only standards with similar horizontal and vertical frequencies to the current input source are enabled.

Parameters

- **Control Group**: Input
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
STD+INxy	Sets the video standard on slot input y to the specified value in the range of known video standards.	0 = Auto—Automatically determined by decoder. 1 = PAL—Commonly used format in much of Europe, China, Australia, and some South American and African countries. 2 = NTSC—Commonly used format in North America and Japan. 3 = SECAM—Format found primarily in France, Eastern Europe, and much of Africa. 4 = NTSC44—Tape-only standard and is usually used with hybrid signals used to provide compatibility with video material of another TV format without a complete translation. 5 = PAL-M—Format found primarily in Brazil. 6 = PAL-NC—Format found primarily in Argentina, Chile, and some other Latin American countries. 7 = PAL-60
STD+MAIN	Sets the video standard on the main video to the specified value in the range of known video standards.	
STD+PIIP STD+SECD	Sets the video standard on the PIP or Secondary video to the specified value in the range of known video standards.	

Examples

Display the current video standard for the main video.

(STD?)

Display the current video standard on PIP video.

(STD+PIIP?)

Display the current video standard for slot 1 input 2.

(STD+IN32?)

Set the video standard to 0 (PAL) on main video.

(STD 0)

Set the video standard to 1 (NTSC_M) on main video.

(STD+MAIN 1)

Set the video standard to 0 (PAL) on PIP video.

(STD+PIIP 0)

Set the video standard to 3 (NTSC_4_43) on slot 1 input 2.

(STD+IN32 3)

SZP–Size Presets

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

Parameters

- **Control Group**: Unsaved
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
SZP <value>	Sets the preset size type.	0 = Default 1 = None 2 = Full Screen 3 = Full Width 4 = Full Height 5 = Anamorphic 6 = Custom

Examples

Set the size preset to No Resizing.

(SZP 1)

TBL–Top Blanking

Sets the number of lines to blank (turn to black) at the top of the image. This can be used to blank out any unwanted data near the top edge of the image.

A positive amount of blanking makes the image smaller. A negative amount of blanking makes the image larger. Negative blanking is only applicable to analog signals, when the autosetup cannot set the image size correctly. Christie recommends not using negative blanking, but to run autosetup again, ensuring that the content has active pixels on each edge of the image.

Parameters

- **Control Group**: Input
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
TBL+INxy	Sets the top blanking for slot x, input y.	The maximum amount of top blanking allowed is half the image height minus 10. For negative blanking, the image size can only be increased to the limit of the sync.
TBL+MAIN	Sets the top blanking for the main video.	
TBL+PIIP TBL+SECD	Sets the top blanking for the picture-in-picture or secondary video.	

Examples

Display the top blanking for the main video.

(TBL?)

Display the top blanking for picture-in-picture video.

(TBL+PIIP?)

Display the top blanking on slot 1 input 2.

(TBL+IN32?)

Set the top blanking for the main video to 40.

(TBL 40)

Set the top blanking for the main video to 40.

(TBL+MAIN 40)

Set the top blanking for picture-in-picture video to 40.

(TBL+PIIP 40)

Set the top blanking value on slot 1 input 2.

(TBL+IN32 40)

TDD–3D Emitter Delay

Adjusts the output 3D emitter delay to match the active glasses to the L/R frames of the projector. Proper adjustment of this delay eliminates cross talk and odd colors caused by timing differences between the glasses and the projected image. The user-specified delay is added after sync locking.

Parameters

- **Control Group**: Input
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
TDD+INxy	Sets the 3D Sync Input for slot x, input y.	-
TDD+MAIN	Sets the 3D Sync Input for the main image.	-

Examples

Set 3D Emitter Delay to 20.00 milliseconds on main video.

(TDD 2000)

Return the 3D Emitter Delay value on main video.

(TDD?)

Set 3D Emitter Delay to ‘Native 3D’ on main

(TDD+MAIN 1)

Set 3D Emitter Delay to ‘Frame Doubled' on slot 1 input 2

(TDD+IN12 2)

Return the 3D Emitter Delay value on slot 1 input 2

(TDD+IN12?)

TDI–3D Sync Input

Specifies which of the two right-left eye input signals on the cable is active.

The 3D sync signal is generated by the 3D source to ensure left/right eye content is synchronized to the projector and to the user. The 3D stereo cable has two inputs for right eye—left eye signals.

You must ensure that the correct 3D sync input is selected (either Input A or Input B) with each 3D signal source. If there is no external sync, choose None and the sync is generated internally. This allows the content to be displayed, however, the content may be displayed with the left/right eyes swapped or inverted. This function is not used in Interleaved 3D mode as each eye gets a dedicated input and no 3D sync input is required.

Parameters

- **Control Group**: Input
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
TDI+MAIN	Sets the 3D sync input for the main image.	-
TDI+INxy	Sets the 3D sync input for slot x, input y.	-

Examples

Set 3D Sync Input to A on main video.

(TDI 0)

Return the 3D Sync Input value on main video.

(TDI?)

Set 3D Sync Input to Native 3D on main

(TDI+MAIN 1)

Set 3D Sync Input to Frame Doubled on slot 1 input 2

(TDI+IN12 2)

Return the 3D Sync Input value on slot 1 input 2

(TDI+IN12?)

TDM–3D Mode

Selects the 3D mode:

- Off—3D operation is disabled.

- Dual Input 3D—Content from two independent 48-60Hz passive frame locked sources are interleaved into a native 96-120Hz native frame rate. This requires an optional input module and both signals must be from the same signal type.
- Auto 3D—Attempts to automatically determine which 3D mode to use.
- Native 3D—Shows all content at native frame rate from 96-120Hz input and output.
- Frame Doubled 3D—Displays 3D content from a single 48-60Hz signal (24/30Hz per eye) twice to provide 3D content viewed at 96-120Hz by the user.
- Side-by-Side 3D—Transmits content with each eye above one another in a single frame at half resolution, and is extracted and scaled to show in an alternate-frame sequence.
- Top/Bottom 3D—Transmits content with each eye above one another in a single frame at half resolution, and is extracted and scaled to show in an alternate-frame sequence.
- Frame Packed 3D—Transmits content with each eye at full resolution in a double-sized frame, and extracted to show in an alternate-frame sequence. This mode is typically used for BlueRay-3D movies, and 3D video gaming.

Parameters

- **Control Group**: Input
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
TDM+MAIN	Sets the 3D mode for the main image.	-
TDM+INxy	Sets the 3D mode for slot x, input y.	-

Examples

Return the 3D Mode value on main video.
(TDM?)

Set 3D Mode to ‘Off’ on main video.
(TDM 0)

Set 3D mode to ‘Native 3D’ on main
(TDM+MAIN 1)

Set 3D mode to ‘Frame Doubled' on slot 1 input 2
(TDM+IN12 2)

Return the 3D mode value on slot 1 input 2
(TDM+IN12?)

TDN–Invert 3D Input

Adjusts the output 3D emitter delay to match the active glasses to the L/R frames of the projector. Proper adjustment of this delay eliminates cross talk and odd colors caused by timing differences between the glasses and the projected image. The user specified delay is added after sync locking.

Parameters

- **Control Group**: Input
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
TDO+INxy	Sets the 3D Sync Out for slot x, input y.	-
TDO+MAIN	Sets the 3D Sync Out for the main image.	-

Examples

Return the 3D input inversion value on main video.
(TDN?)

Set 3D Sync Out to 'To Emitter' on main
(TDO+MAIN 1)

Set 3D Sync Out to 'To Next' on slot 1 input 2
(TDO+IN12 2)

Return the 3D Sync Out value on slot 1 input 2
(TDO+IN12?)

TDO–3D Sync Out

Defines if the 3D Sync is output and controls how it is processed. It is only valid when a cable connects stereo 3D signals to the projector using the GPIO port. When there is no 3D signal, Sync Output should be Off. Typically only the last projector in the 3D Stereo cable chain is connected to the emitter and should specify To Emitter. All other projectors should select To Next Input if other projectors are used in the chain. When power is off, the output becomes locked to the input—when power is restored, the user specified state is restored.

Parameters

- **Control Group**: Input

- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
TDO+INxy	Sets the 3D Sync Out for slot x, input y.	-
TDO+MAIN	Sets the 3D Sync Out for the main image.	-

Examples

Return the 3D Sync Out value on main video.
(TDO?)

Set 3D Sync Out to Off on main video.
(TDO 0)

Set 3D Sync Out to 'To Emitter' on main
(TDO+MAIN 1)

Set 3D Sync Out to 'To Next' on slot 1 input 2
(TDO+IN12 2)

Return the 3D Sync Out value on slot 1 input 2
(TDO+IN12?)

TDT–3D Test Pattern

Enables a 3D test pattern for diagnostics. The scrolling diagonal lines indicate how well left and right are synchronized. If ghosting occurs, the input may have to be switched or inverted. Adjustments to the emitter delay can also help correct the synchronization.

Parameters

- **Control Group**: Unsaved
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

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

Examples

Disable 3D test pattern.

(TDT 0)

Enable 3D test pattern.

(TDO 1)

TED–Twin HDMI EDID Type Selection

Sets the preferred EDID Timings on the Twin HDMI input card.

Parameters

- **Control Group**: Option
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
TED+SLxy	Sets the EDID timings on slot x to the specified type.	0 = Default 1 = 3D 2 = Custom

Examples

Return the current EDID type on slot 1 input 2.

(TED+SL12?)

Set EDID type to 1 (3D) on slot 3 input 1.

(TED+SL31 1)

TIL–Tiling Control

Sets the projector as part of a tiled array.

Parameters

- **Control Group**: Preference
- **Subclass**: Power Up
- **Access Level**: Admin

Commands

Command	Description	Values
TIL+SLCT	Enables or disables tiling.	0 = Disables tiling 1 = Enables tiling
TIL+RTOT	Sets the total number of rows in the projector array.	-
TIL+CTOT	Sets the total number of columns in the projector array.	-
TIL+RVAL	Sets the row number of this projector.	-
TIL+CVAL	Sets the column number of this projector.	-

Examples

Enable tiling.

(TIL+SLCT 1)

Set the total number of rows of projectors to 2.

(TIL+RTOT 2)

Set the total number of columns of projectors to 2.

(TIL+CTOT 2)

Set the projector to be in the 2nd row.

(TIL+RVAL 2)

Set the projector to be in the 1st column.

(TIL+CVAL 1)

TMD–Time and Date

Sets the date, time, or time zone.

Parameters

- **Control Group**: Preference
- **Subclass**: Power Down
- **Access Level**: Admin

Commands

Command	Description	Values
TMD+TIME <time>	Sets the time for the clock. Time must be set using the 24 hour clock (regardless of the LOC+TIME setting).	time = String in the following format: hh:mm:ss
TMD+DATE <date>	Sets the date for the clock.	date = String in the following format: YYYY/MM/DD

TNT–Tint

Adjusts the balance of red-to-green in your image. It is only useful for video images processed by decoder cards.

Parameters

- **Control Group**: Input
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
TNT+INxy	Sets the tint level on slot x, input y to the specified value.	-45 degrees to 45 degrees
TNT+MAIN	Sets the tint level on the main video to the specified value.	-45 degrees to 45 degrees
TNT+PIIP TNT+SECD	Sets the tint level on the picture-in-picture or secondary video to the specified value.	-45 degrees to 45 degrees

Examples

Return the current tint level on main video.

(TNT ?)

Return the current tint level on picture-in-picture video.

(TNT PIP ?)

Return the current tint level on slot 1 input 2.

(TNT IN12 ?)

Set tint level to 40 on main video.

(TNT MAIN 40)

Set tint level to 20 on picture-in-picture video.

(TNT PIP 20)

Set tint level to 40 on slot 3 input 2.

(TNT IN32 40)

TTM–THIC Transmitter Mode Configuration

Selects a working mode for one of the transmitters on the THIC card.

Parameters

- **Control Group**: Option
- **Subclass**: Power Down
- **Access Level**: Operator

Commands

Command	Description	Values
TTM+SLxy	Sets the transmitter working mode for THIC card.	0 = Default (to select 12-bit per channel HDMI output) 1 = Compatible (to select 8-bit per channel HDMI output) 2 = DVI only (to select 8-bit per channel DVI output)

Examples

Get the transmitter working mode for THIS on slot 1, input 2.

(TTM+SL12)

Use 12 bit HDMI output for THIC on slot 1, input 1.

(TTM+SL11 0)

Use 8 bit HDMI output for THIC on slot 4, input 2.

(TTM+SL42 1)

Use 8 bit DVI output for THIC on slot 1, input 1.

(TTM+SL12)

Set the texture enhancement to 50% for the main video.

(TXE 50)

TXE–Texture Enhancement

Applies texture detail enhancement based on adaptive horizontal, vertical and diagonal large edge and small edge enhancement processes.

Parameters

- **Control Group**: Input
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
TXE+INxy	Sets the texture enhancement for slot x, input y.	-
TXE+MAIN	Sets the texture enhancement for the main video.	-
TXE+PIIP TXE+SECD	Sets the texture enhancement for picture-in-picture or secondary video.	-

Examples

Set the texture enhancement to 50% for the main video.

(TXE 50)

UID–User ID

Allows users to login to the serial interface.

Parameters

- **Control Group**: Unsaved
- **Subclass**: Power Down
- **Access Level**: None

Commands

Command	Description	Values
UID <username password>	Logs in with the username and password. Do not add quotation marks or spaces.	-
UID	Resets the log in to the default settings.	-

Examples

Display the current logged in user and their access level.

(UID?)

Log out the current user.

(UID)

Login as service using the default password.

(UID "service" "service")

VBL–Video Black Input

Affects the black level for video signals. Most NTSC video standards include an offset to black which is useful for setting up CRT projectors. Set this control to 7.5 IRE if the video black level seems excessively elevated. Set to 0 IRE if video black levels are crushed. This control applies to analog cards with YUV color space only.

Parameters

- **Control Group**: Input
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
VBL+INxy	Sets the video black level on slot x, input y to the specified value.	0 = 0 IRE 1 = 7.5 IRE
VBL+MAIN	Sets the video black level on the main video to the specified value.	0 = 0 IRE 1 = 7.5 IREab
VBL+PIIP VBL+SECD	Sets the video black level on the picture-in-picture or secondary video to the specified value.	0 = 0 IRE 1 = 7.5 IRE

Examples

Display the video black level on the main video.

(VBL?)

Set the video black level for the main video to 7.5 IRE.

(VBL 1)

Set the video black level for the main video to 7.5 IRE.

(VBL+MAIN 1)

Set the video black level for PIP video to 0 IRE.

(VBL+IN32 0)

VRT–Vertical Position

Sets the vertical position of the image.

Parameters

- **Control Group**: Input
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
VRT <value>	Sets the vertical position for the main image.	-

Examples

Display the vertical position value on the main video.

(VRT?)

Set the vertical position to 500 on the main video.

(VRT 500)

VST–Vertical Search

Adjusts the height of the image while keeping the width constant. This controls how much the image is electronically stretched vertically. As it does not affect the horizontal width, it changes the aspect ratio of the image.

Vertical Scale = (VST-Value / 1000). * (SIZ-Value / 1000)

Parameters

- **Control Group**: Input
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
VST <value>	Sets the vertical stretch for the main image.	1000 = Neutral position where no stretching is done

Examples

Display the vertical stretch value on the main video.

(VST?)

Set the vertical stretch to 500 on the main video.

(VST 500)

WRP–Warp Selection

Controls the writing and reading of 2D keystone maps, warp maps, edge-blend map, uniformity maps and associated parameters.

The commands below are used from the on-screen display only, and are not applicable for use from the serial commands. If set, they are only applied on power up or if applying them from the on-screen display.

Parameters

- **Control Group**: Configuration/UnsavedPreference
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
WRP+SLCT <value>	Changes the warp map to use on the projector.	0 = Turns off warping 1 = Selects 2D keystone. 2= Selects Twist maps.
WRP+KRST	Resets the keystone settings to zero.	-

Examples

Disable warping.

(WRP+SLCT 0)

Use 2D keystone mode.

(WRP+SLCT 1)

Use Twist map #1.

(WRP+SLCT 2)

YNF–Yellow Notch Filter

Opens or closes the Yellow Notch filter. When closed, the filter is placed within the light path, affecting the color primaries.

Parameters

- **Control Group**: Preference
- **Subclass**: Power Down
- **Access Level**: Operator

Commands

Command	Description	Values
YNF <0 | 1>	Opens or closes the Yellow Notch filter.	0 = Opens the Yellow Notch filter 1 = Closes the Yellow Notch filter

Examples

Close the Yellow Notch filter.

(YNF 1)

Get the Yellow Notch filter position.

(YNF?)

ZOM–Lens Zoom Position Adjustment

Sets the lens zoom to an absolute position.

Parameters

- **Control Group**: Configuration
- **Subclass**: Power Up
- **Access Level**: Operator

Commands

Command	Description	Values
ZOM <position>	Adjusts the lens zoom to the specified position. The range may change after running the Lens Calibration function, which determines the full range allowed by the hardware.	-1200 to 1200

Examples

Move the lens to position 500 for the zoom motor.

(ZOM 500)

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