

F(L)35, FS35 IR, F85

ASCII Commands Protocol Reference Manual

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1. COMMUNICATION SETTINGS

Overview

- Set up LAN Communication
- Set up RS232 communication

1.1 Set up LAN Communication

General

The supported RS232 settings are as follows:

Parameter	Data
Baud rate	19200
Data bits	8
Parity	None. There is no parity bit used to perform error checking.
Stop bits	1. One stop bit is used to define the end of a character.
Flow control	None.

General

The default settings of the projector when shipped are as follows:

Description	Value
DHCP	On
IP address	0.0.0.0
Subnet mask	0.0.0.0
Default gateway	0.0.0.0
TCP/UDP port	1025

Input IP settings on the projector

Before you connect the projector to your LAN make sure that the IP settings are set correctly, according to your LAN configuration.

IP settings can be changed using the projector On Screen Display (OSD) Settings menu.

Set up can be done automatically using DHCP (Dynamic Host Configuration Protocol). When DHCP is enabled, it may take up to a minute for the projector to receive IP settings from the DHCP server. The IP address will be updated and shown in the OSD. If there is no DHCP server in the network the projector will be assigned a "zero configuration" address, 169.254.0.0/16.

Alternatively, DHCP can be manually disabled and the user can manually input the projector IP address, Subnet mask and Gateway in the LAN network menu of the OSD.

To renew an IP address, select "renew" in the OSD LAN settings menu.

Connect the projector and the host

As soon as the projector IP settings are set correctly, you can physically connect the selected host, for example a computer, and the projector. This can be done in two ways:

- use a crossover twisted pair (TP) cable directly from the computer to the projector
- use two straight-through TP cables with a HUB or a switch between them

1.2 Set up RS232 communication

Connect to the projector

Connect the projector and host using a standard straight through serial cable (host : female, projector : male).

Pin 2 connects to Pin 2, Pin 3 connects to Pin 3, and Pin 5 connects to Pin 5.

1. *Communication settings*



Maximum length of the RS-232 cable is 15.25m (50ft).

2. COMMUNICATION PROTOCOL DEFINITIONS

About

This section describes the definitions used in the communications protocol. When the projectors are connected to either RS232 or LAN you can control the projectors through this ASCII based protocol.



Some commands will generate OSD feedback. This can be stopped by turning off the OSD from the projector's menu system or by setting "OSDC" to value 0 (OSD off) or value 1 (OSD show only warnings).

Overview

- Timing
- Serial Communications Protocol
- Examples

2.1 Timing

General timing constraints

Behavior	Constraint
Power on (wake from standby)	At least 30 seconds wait after power up complete before sending next command
Command	Response required before sending next command
No response received	At least 2 seconds before re-sending if no response received
Between commands	Minimum 500 ms delay required between commands
After sending 20 commands	Minimum 5 seconds delay required

2.2 Serial Communications Protocol

Definitions

Like every communication method the serial communication uses a particular protocol (ANSI) which must be respected in order to allow communication to take place.

The header is ASCII colon ':' character.

Use of a separator is optional in the command protocol. The protocol accepts one ASCII SPACE between fields, or no ASCII SPACE between fields.

All acknowledgement protocol use an ASCII SPACE (single) as a separator.

The terminator is ASCII value carriage return (CR)/hex value 0x0D.

The following table gives a summary of the predefined communication terms.

	Header	Message body	Terminator
Limitations	1 byte	N bytes	1 byte
Definition	ASCII colon :	Mnemonic Modifier Value Target	Carriage Return (Hex 0x0D)
Example	:	POWR1	CR

Header

The header informs the projector (in case of transmission) or the computer (in case of reception) that a new data transfer will take place.

Message body

The message body defines the action to be performed. The message body is built up of several fields:

2. Communication protocol definitions

	Mnemonic	Modifier	Value	Target
Limitations	4 bytes	1 byte	N bytes, max 6 bytes	N bytes, max 4
Inclusion	Required	Optional	Optional	Optional
Example	POWR	A	1	CR

Mnemonic bytes (4 bytes)

The mnemonic is a 4 byte ASCII command (key identifier). This is required in all serial communications.

Modifier byte (1–2 bytes)

The modifier is used to constrain or modify the mnemonic command.

Modifier	Description
R	Relative change. Given value will be relative to existing value. e.g. BRIG10 will increase brightness by 10 steps.
A	Not normally used. Manually request acknowledgement/read back the result of the command.
?	Get current value
?M	Get maximum value
?N	Get minimum value
?D	Get default value
?S	Get default step value

Terminator

The terminator informs the projector (in case of transmission) or the computer (in case of reception) that the data transfer is complete and that the interpretation of the command and data bytes can start.

Acknowledgement

If the command is understood by the projector then an 'ACK' command is sent back. The 'ACK' command uses the following protocol:

	Ack.	Address	Separator	Command	Separator	Value	Terminator
Limitations	1 byte	1–3 bytes	1 byte	4 bytes	1 byte	6 bytes	1 byte
Definition	ASCII %	Projector address	ASCII space	Mnemonic	ASCII space	Numeric value	Carriage Return (Hex 0x0D)
Example	%	001	Space	POWR	Space	000001	CR

Some commands could return a value that is more than 6 bytes, for example, strings. This is identified by the acknowledgement including the alphanumeric value 'eXXXXX'.



Address functionality is no longer used. Address bytes will always be 001.

For example:

```
> :seri ?
> %001 SERI e00001 07010001
```

Invalid command

If the input command is not valid, then the projector acknowledgement may include an error message in the value field.

	Ack.	Address	Separator	Command	Separator	Value	Terminator
Limitations	1 byte	1–3 bytes	1 byte	4 bytes	1 byte	6 bytes	1 byte
Definition	ASCII %	Projector address	ASCII space	Mnemonic	ASCII space	Numeric value of error	Carriage Return (Hex 0x0D)
Example	%	001	Space	POWR	Space	!00001	CR

Error code	Error message	Description
I00001	Access denied	User does not have sufficient access rights to perform this command.

Error code	Error message	Description
!00002	Not available	Logic conflict prevents command being available. For example, contrast is not available when the projector is searching for sources.
!00003	Not implemented	Command not available for this projector configuration. See relevant comments section in ASCII commands for information.
!00004	Value out of range	Value is not within valid range.

2.3 Examples

SET commands

Command	Description
:POWR1'CR'	Set power on
%001 POWR 000001'CR'	Acknowledge power on

Command	Description
:BRIG 60'CR'	Set brightness to 60
%001 BRIG 000060'CR'	Acknowledge brightness

Command	Description
:CNTR R1'CR'	Increase contrast
%001 CNTR 000061'CR'	Acknowledge increase contrast

Command	Description
:CNTR R-2'CR'	Decrease contrast
%001 CNTR 000059'CR'	Acknowledge decrease contrast

SET commands with target

Command	Description
:TATB 1 3'CR'	Set aspect trigger behavior 16:10 to off
%001 TATB 000001'CR'	Acknowledge set aspect trigger behavior 16:10 to off

GET commands

Command	Description
:CNTR?'CR'	Get current value contrast
%001 CNTR 000059'CR'	Acknowledge get current value contrast

Command	Description
:BRIG ?N'CR'	Get minimum value brightness
%001 CNTR 000000'CR'	Acknowledge get minimum value brightness

GET commands with target

Command	Description
:TATB ? 3	Get aspect trigger behavior 16:10
%001 TATB 000001 'CR'	Acknowledge get aspect trigger behavior 16:10

Command	Description	Platforms	Operations supported	Level	Value	Target	Comments
Power							
POWR	Power	GP3, GP4	Get, Set	End User	0 - power off, 1 - power on		
POST	Power state	GP3, GP4	Get	End User	See value table POST		

Source selection							
IABS	Set source abs values	GP3, GP4	Get, Set	End User	See value table IABS		
IDVI	Select DVI	GP3, GP4	Get, Set	End User	1 - DVI 1, 2 - DVI 2		
IHDM	Select HDMI	GP3, GP4	Get, Set	End User	1 - HDMI 1, 2 - HDMI 2		
IVGA	Select VGA	GP3, GP4	Get, Set	End User	1 - VGA 1, 2 - VGA 2		
IDHD	Select dual head DVI	GP3, GP4	Get, Set	End User			
IDHH	Select dual head HDMI	GP3, GP4	Get, Set	End User			
IDHX	Select dual head XP2	GP3, GP4	Get, Set	End User			
IXP2	Select XP2	GP3, GP4	Get, Set	End User			
IYPP	Select component	GP3, GP4	Get, Set	End User			
ISTS	Signal Status	GP3, GP4	Get	End User	0 - searching 1 - locked to source		

Picture							
BRIG	Brightness	GP3, GP4	Get, Set	End User			
CNTR	Contrast	GP3, GP4	Get, Set	End User			
CSAT	Saturation	GP3, GP4	Get, Set	End User			
PRST	Picture Reset	GP3, GP4	Get, Set	End User			
PMUT	Picture Mute	GP3, GP4	Get, Set	End User	0 - disable, 1 - enable		
SABS	Set Scaling abs value	GP3, GP4	Get, Set	End User	See value table SABS		
S1T1	Select Scaling 1:1	GP3, GP4	Get, Set	End User			
S169	Select Scaling 16:9	GP3, GP4	Get, Set	End User			
SS43	Select Scaling 4:3	GP3, GP4	Get, Set	End User			
SFLA	Select Scaling Fill All	GP3, GP4	Get, Set	End User			
SFAR	Select Scaling Fill Aspect Ratio	GP3, GP4	Get, Set	End User			
S235	Select Scaling Fill 2.35:1	GP3, GP4	Get, Set	End User			
SANL	Select Scaling Anamorphic Lens	GP3, GP4	Get, Set	End User			
AUTO	Auto adjust current source	GP3, GP4	Set	End User			
FRZE	Freeze Image	GP3, GP4	Get, Set	End User	0 - disable, 1 - enable		
GAFI	Select Gamma Film	GP3, GP4	Get, Set	End User	1 - Film 1, 2 - Film 2		
GAVI	Select Gamma Video	GP3, GP4	Get, Set	End User	1 - Video 1, 2 - Video2		
GACO	Select Gamma Computer	GP3, GP4	Get, Set	End User	1 - Computer 1, 2 - Computer 2		
GABS	Set Gamma abs value	GP3, GP4	Get, Set	End User	See value table GABS		

Picture->RealColor							
CTWP	Color Management Processed Test Patterns	GP3, GP4	Get, Set	End User			
RCMN	Color management Reset to Native	GP3, GP4	Set	End User			
RWHN	Color Management reset white to native	GP3, GP4	Set	End User			

Picture->Calibration							
ACAL	AD calibration	GP3, GP4	Set	End User			

Picture->Advanced							
HPOS	Horizontal position	GP3, GP4	Get, Set	End User	Only for analog sources		
VPOS	Vertical position	GP3, GP4	Get, Set	End User	Only for analog sources		
FREQ	Frequency	GP3, GP4	Get, Set	End User	Only for analog sources		
PHSE	Phase	GP3, GP4	Get, Set	End User	Only for analog sources		
DCSP	Color Space	GP3, GP4	Get, Set	End User	0 - auto, 1 - RGB, 2 - REC 709, 3 - REC 601		
DVST	Input Level	GP3, GP4	Get, Set	End User	0 - auto, 1 - computer, 2 - video		

Picture->Advanced->Input Cropping							
CTYP	Input Cropping Mode	GP3	Get, Set	End User	0 - Disabled, 1 - Auto, 2 - 2.35:1, 3 - Manual		
COFF	Select Input Cropping Mode Disabled	GP3	Get, Set	End User			
CAUT	Select Input Cropping Mode Auto	GP3	Get, Set	End User			
C235	Select Input Cropping Mode 2.35:1	GP3	Get, Set	End User			
CMAN	Select Input Cropping Mode Manual	GP3	Get, Set	End User			
CTOP	Input Cropping Top	GP3	Get, Set	End User	35 - input image height		
CBTM	Input Cropping Bottom	GP3	Get, Set	End User	35 - input image height		

Picture->RealColor							
BCCR	BrilliantColor Control	GP3	Get, Set	End User	See value table BCCR		
BCEN	BrilliantColor Enable	GP3	Get, Set	End User	0 - disable, 1 - enable		
CMOD	Color Management Enable	GP3, GP4	Get, Set	End User	0 - disable, 1 - enable		
CMWH	Color Management White	GP3, GP4	Get, Set	End User	0 - temperature, 1 - coordinate		
CMXV	Color Management X-Coordinate	GP3, GP4	Get, Set	End User			
CMYV	Color Management Y-Coordinate	GP3, GP4	Get, Set	End User			
CMTV	Color Management Temperature	GP3, GP4	Get, Set	End User	3200 - 9300		
RD65	Reset to D65	GP3, GP4	Set	End User			
DSCR	Desired Coords Mode	GP3, GP4	Get, Set	End User	See value table DSCR		
BAGA	Balanced Gains	GP3, GP4	Get, Set	End User	0 - disable, 1 - enable		
DSRX	Desired Red X	GP3, GP4	Get, Set	End User			
DSRY	Desired Red Y	GP3, GP4	Get, Set	End User			
DSRG	Desired Red Gain	GP3, GP4	Get, Set	End User			
DSGX	Desired Green X	GP3, GP4	Get, Set	End User			
DSGY	Desired Green Y	GP3, GP4	Get, Set	End User			
DSGG	Desired Green Gain	GP3, GP4	Get, Set	End User			
DSBX	Desired Blue X	GP3, GP4	Get, Set	End User			
DSBY	Desired Blue Y	GP3, GP4	Get, Set	End User			
DSBG	Desired Blue Gain	GP3, GP4	Get, Set	End User			
DSCX	Desired Cyan X	GP3, GP4	Get, Set	End User			
DSCY	Desired Cyan Y	GP3, GP4	Get, Set	End User			
DSCG	Desired Cyan Gain	GP3, GP4	Get, Set	End User			
DSMX	Desired Magenta X	GP3, GP4	Get, Set	End User			
DSMY	Desired Magenta Y	GP3, GP4	Get, Set	End User			
DSMG	Desired Magenta Gain	GP3, GP4	Get, Set	End User			
DSYX	Desired Yellow X	GP3, GP4	Get, Set	End User			
DSYY	Desired Yellow Y	GP3, GP4	Get, Set	End User			

3. ASCII Command Sets

DSYG	Desired Yellow Gain	GP3, GP4	Get, Set	End User		
DSWG	Desired White Gain	GP3, GP4	Get, Set	End User		
DFRX	Factory Desired Red X	GP3, GP4	Get, Set	Manufacturing		
DFRY	Factory Desired Red Y	GP3, GP4	Get, Set	Manufacturing		
DFRG	Factory Desired Red Gain	GP3, GP4	Get, Set	Manufacturing		
DFGX	Factory Desired Green X	GP3, GP4	Get, Set	Manufacturing		
DFGY	Factory Desired Green Y	GP3, GP4	Get, Set	Manufacturing		
DFGG	Factory Desired Green Gain	GP3, GP4	Get, Set	Manufacturing		
DFBX	Factory Desired Blue X	GP3, GP4	Get, Set	Manufacturing		
DFBY	Factory Desired Blue Y	GP3, GP4	Get, Set	Manufacturing		
DFBG	Factory Desired Blue Gain	GP3, GP4	Get, Set	Manufacturing		
DFCX	Factory Desired Cyan X	GP3, GP4	Get, Set	Manufacturing		
DFCY	Factory Desired Cyan Y	GP3, GP4	Get, Set	Manufacturing		
DFCG	Factory Desired Cyan Gain	GP3, GP4	Get, Set	Manufacturing		
DFMX	Factory Desired Magenta X	GP3, GP4	Get, Set	Manufacturing		
DFMY	Factory Desired Magenta Y	GP3, GP4	Get, Set	Manufacturing		
DFMG	Factory Desired Magenta Gain	GP3, GP4	Get, Set	Manufacturing		
DFYX	Factory Desired Yellow X	GP3, GP4	Get, Set	Manufacturing		
DFYY	Factory Desired Yellow Y	GP3, GP4	Get, Set	Manufacturing		
DFYG	Factory Desired Yellow Gain	GP3, GP4	Get, Set	Manufacturing		
DFWG	Factory Desired White Gain	GP3, GP4	Get, Set	Manufacturing		
MSRX	Measured Red X	GP3, GP4	Get, Set	End User		
MSRY	Measured Red Y	GP3, GP4	Get, Set	End User		
MSRL	Measured Red Luminance	GP3, GP4	Get, Set	End User		
MSGX	Measured Green X	GP3, GP4	Get, Set	End User		
MSGY	Measured Green Y	GP3, GP4	Get, Set	End User		
MSGL	Measured Green Luminance	GP3, GP4	Get, Set	End User		
MSBX	Measured Blue X	GP3, GP4	Get, Set	End User		
MSBY	Measured Blue Y	GP3, GP4	Get, Set	End User		
MSBL	Measured Blue Luminance	GP3, GP4	Get, Set	End User		
MSWX	Measured White X	GP3, GP4	Get, Set	End User		
MSWY	Measured White Y	GP3, GP4	Get, Set	End User		
MSWL	Measured White Luminance	GP3, GP4	Get, Set	End User		
MSDX	Measured BC1 X	GP3	Get, Set	End User		
MSDY	Measured BC1 Y	GP3	Get, Set	End User		
MSDL	Measured BC1 Luminance	GP3	Get, Set	End User		
MSEX	Measured BC2 X	GP3	Get, Set	End User		
MSEY	Measured BC2 Y	GP3	Get, Set	End User		
MSEL	Measured BC2 Luminance	GP3	Get, Set	End User		
MFRX	Factory Measured Red X	GP3, GP4	Get, Set	Manufacturing		
MFRY	Factory Measured Red Y	GP3, GP4	Get, Set	Manufacturing		
MFRL	Factory Measured Red Luminance	GP3, GP4	Get, Set	Manufacturing		
MFGX	Factory Measured Green X	GP3, GP4	Get, Set	Manufacturing		
MFGY	Factory Measured Green Y	GP3, GP4	Get, Set	Manufacturing		
MFGL	Factory Measured Green Luminance	GP3, GP4	Get, Set	Manufacturing		

3. ASCII Command Sets

MFBX	Factory Measured Blue X	GP3, GP4	Get, Set	Manufacturing			
MFBY	Factory Measured Blue Y	GP3, GP4	Get, Set	Manufacturing			
MFBL	Factory Measured Blue Luminance	GP3, GP4	Get, Set	Manufacturing			
MFWX	Factory Measured White X	GP3, GP4	Get, Set	Manufacturing			
MFWY	Factory Measured White Y	GP3, GP4	Get, Set	Manufacturing			
MFWL	Factory Measured White Luminance	GP3, GP4	Get, Set	Manufacturing			
MFDX	Factory Measured BC1 X	GP3	Get, Set	Manufacturing			
MFDY	Factory Measured BC1 Y	GP3	Get, Set	Manufacturing			
MFDL	Factory Measured BC1 Luminance	GP3	Get, Set	Manufacturing			
MFEX	Factory Measured BC2 X	GP3	Get, Set	Manufacturing			
MFEY	Factory Measured BC2 Y	GP3	Get, Set	Manufacturing			
MFEL	Factory Measured BC2 Luminance	GP3	Get, Set	Manufacturing			
CMTF	Color Management Test Patterns	GP3, GP4	Get, Set	End User			

Picture->Advanced->Source Correction							
IBCO	Individual brightness and contrast offset adjustments	GP3, GP4	Get, Set	End User	0 - disable, 1 - enable	0-RGB, 1-IR (if available)	
BOR0	Brightness offset red	GP3, GP4	Get, Set	End User			
BOG0	Brightness offset green	GP3, GP4	Get, Set	End User			
BOB0	Brightness offset blue	GP3, GP4	Get, Set	End User			
COR0	Contrast offset red	GP3, GP4	Get, Set	End User			
COG0	Contrast offset green	GP3, GP4	Get, Set	End User			
COB0	Contrast offset blue	GP3, GP4	Get, Set	End User			

Installation							
DESK	Select orientation - Desktop Front	GP3, GP4	Get, Set	End User			
CEIL	Select orientation - Ceiling Front	GP3, GP4	Get, Set	End User			
RDES	Select orientation - Desktop Rear	GP3, GP4	Get, Set	End User			
RCEI	Select orientation - Ceiling Rear	GP3, GP4	Get, Set	End User			
ORIE	Select orientation - Absolute value	GP3, GP4	Get, Set	End User	See value table ORIE		
SCAN	Source Scan	GP3, GP4	Get, Set	End User	0 - disable, 1 - enable		
IR01	IR Enable 1	GP3, GP4	Get, Set	End User	0 - disable, 1 - enable		
IR02	IR Enable 2	GP3, GP4	Get, Set	End User	0 - disable, 1 - enable		
IR03	IR Enable 3	GP3	Get, Set	End User	0 - disable, 1 - enable		
OSDC	OSD Enable	GP3, GP4	Get, Set	End User	See value table OSDC		
TEST	Test Image	GP3, GP4	Get, Set	End User	0 - 7 different test patterns		
DHED	Dual Head Setup Mode	GP3, GP4	Get, Set	End User	0 - off, 1 - side by side		
SVGA	Sync termination VGA	GP3, GP4	Get, Set	End User	0 - 2.2kOhm, 1 - 75Ohm		
SNCL	Sync level VGA	GP3, GP4	Get, Set	End User	0-255		
SNCS	Sync Level SOG	GP3, GP4	Get, Set	End User	0-31	Infitec only	
OPFI	Infitec filter	GP3	Get, Set	End User	0 - disable, 1 - enable	Infitec only	
CSCC	Infitec CSC	GP3	Get, Set	End User	0 - disable, 1 - enable		
EDIR	Edit resolution	GP3, GP4	Get, Set	End User	See value table EDIR		
EDIT	Eidid type	GP3, GP4	Get, Set	End User	See value table EDIT		

Installation->Lamp							
ECOM	Eco Mode	GP3, GP4	Get, Set	End User	0 - disable, 1 - enable		
LPW1	Lamp1 Power	GP3, GP4	Get, Set	End User			
LPW2	Lamp2 Power	GP3, GP4	Get, Set	End User			
LMOD	Lamp Mode	GP3, GP4	Get, Set	End User	See value table LMOD		
LDLY	Lamp Auto Switch Delay	GP3, GP4	Get, Set	End User			

Installation->LED							
LPW1	LED Power	GP3	Get, Set	End User			
DBDI	LED Power	GP3 LED	Get, Set	End User	Use LPW1, this is for legacy support		
LDMM	LED Dim Mode	GP3 LED	Get, Set	End User	0 - standard, 1 - custom		
LDCR	LED Dim Custom Red	GP3 LED	Get, Set	End User			
LDCG	LED Dim Custom Green	GP3 LED	Get, Set	End User			
LDCB	LED Dim Custom Blue	GP3 LED	Get, Set	End User			

Installation->Trigger							
TRG1	Trigger 1 Mode	GP3, GP4	Get, Set	End User	See value table TRGx		
TRG2	Trigger 2 Mode	GP3, GP4	Get, Set	End User	See value table TRGx		
TATB	Aspect Trigger Behavior	GP3, GP4	Get, Set	End User	See value table TATB	See value table TATB	

Installation->Frame lock setup							
FLSO	Frame lock Source	GP3, GP4	Get, Set	End User	0 - Internal, 1 - External		
FLOS	Frame lock Output Signal	GP3, GP4	Get, Set	End User	0 - Off, 1 - Frame lock, 2 - Pass-through		
FLST	Frame lock Status	GP3, GP4	Get	End User			Print current frame lock status
TSLR	3D source L/R sync	GP3, GP4	Get, Set	End User	0 - None, 1 - BNC sync-in		
TDLR	3D display L/R sync	GP3, GP4	Get, Set	End User	0 - None, 1 - BNC sync-in		
TBOS	3D BNC sync-out signal				See value table TBOS		

Settings							
FCRE	Factory Reset	GP3, GP4	Set	End User			
FCRL	Factory reset level	GP3, GP4	Get, Set	Power User	0 - limited, 1 - full		
PINC	PIN Code	GP3, GP4	Set	End User			Must be executed in standby
CODE	Service Code	GP3, GP4	Set	Power User			
RCID	RCID Internal	GP3, GP4	Get, Set	End User			
DPMS	DPMS	GP3, GP4	Get, Set	End User	0 - disable, 1 - enable		
DPMT	DPMS Timeout	GP3, GP4	Get, Set	End User			
KEYB	Backlight Timeout	GP3, GP4	Get, Set	End User			
MNUT	Menu Timeout	GP3, GP4	Get, Set	End User			
BACK	Background color	GP3, GP4	Get, Set	End User			
SPLH	Splash	GP3, GP4	Get, Set	End User			
LMUT	LED indicators mute	GP3, GP4	Get, Set	End User	0 - off, 1 - on		
BAUD	Baud rate	GP3, GP4	Get, Set	End User	See value table BAUD		

Settings->Set date and time							
RTCH	Real Time Clock Hour	GP3, GP4	Get, Set	End User			
RTCM	Real Time Clock Minute	GP3, GP4	Get, Set	End User			
RTCS	Real Time Clock Second	GP3, GP4	Get, Set	End User			
RTCD	Real Time Clock Day	GP3, GP4	Get, Set	End User			
RTCN	Real Time Clock Month	GP3, GP4	Get, Set	End User			
RTCY	Real Time Clock Year	GP3, GP4	Get, Set	End User			
RTCW	Real Time Clock Day of Week	GP3, GP4	Get	End User			

Profiles							
UMST	Store profile	GP3, GP4	Set	End User	Profile number (0 - 9)		
UMRC	Recall profile	GP3, GP5	Set	End User	Profile number (0 - 9)		

Stereo							
TDSM	Stereo Mode	GP3 120Hz, GP4	Get, Set	End User	See value table TDSM		
TDGT	Glass type	GP3 120Hz, GP4	Get, Set	End User	0 - DLP Link™, 1 - IR, 2 - IR high brightness		
TDGD	Genlock phase delay	GP3 120Hz, GP4	Get, Set	End User			
TDSE	Swap eyes	GP3 120Hz, GP4	Get, Set	End User	0 - off, 1 - on		

IR control							
AUXL	Full spectrum mode enable	GP3 LED IR	Get, Set	End User	0 - disable, 1 - enable		

IR control->RGB adjustments							
DISL	RGB LEDs enable	GP3 LED IR	Get, Set	End User	0 - disable, 1 - enable		
LDMM	LED Dim Mode	GP3 LED IR	Get, Set	End User	0 - standard, 1 - custom		
LPW1	LED Power	GP3	Get, Set	End User			
LDCR	LED Dim Custom Red	GP3 LED IR	Get, Set	End User			
LDCG	LED Dim Custom Green	GP3 LED IR	Get, Set	End User			
LDCB	LED Dim Custom Blue	GP3 LED IR	Get, Set	End User			
IBCO	Individual brightness and contrast offset adjustments	GP3, GP4	Get, Set	End User	0 - disable, 1 - enable	0-RGB, 1-IR (if available)	
BOR0	Brightness offset red	GP3 LED IR	Get, Set	End User			
BOG0	Brightness offset green	GP3 LED IR	Get, Set	End User			
BOB0	Brightness offset blue	GP3 LED IR	Get, Set	End User			
COR0	Contrast offset red	GP3 LED IR	Get, Set	End User			
COG0	Contrast offset green	GP3 LED IR	Get, Set	End User			
COB0	Contrast offset blue	GP3 LED IR	Get, Set	End User			

IR control->IR adjustments							
AUXD	IR LED power	GP3 LED IR	Get, Set	End User			
GAB1	Set Gamma abs value IR channel	GP3 LED IR WUXGA	Get, Set	End User	See value table GABS		
SCMP	sub channel mapping	GP3 LED IR WUXGA and	Get, Set	End User	0 - RGB->RGB, 1 - R->RGB, 2 - G->RGB, 3 - B->RGB		
IBCO	Individual brightness and contrast offset adjustments	GP3, GP4	Get, Set	End User	0 - disable, 1 - enable	0-RGB, 1-IR (if available)	
BOR1	Brightness offset red	GP3 LED IR WUXGA	Get, Set	End User			
BOG1	Brightness offset green	GP3 LED IR WUXGA	Get, Set	End User			
BOB1	Brightness offset blue	GP3 LED IR WUXGA	Get, Set	End User			
COR1	Contrast offset red	GP3 LED IR WUXGA	Get, Set	End User			
COG1	Contrast offset green	GP3 LED IR WUXGA	Get, Set	End User			
COB1	Contrast offset blue	GP3 LED IR WUXGA	Get, Set	End User			
IRFI	IR Filter enable	GP3 LED IR MKII	Get, Set	End User			

Lens control							
FOIN	Focus In	GP3, GP4	Set	End User	1 - Slow, 2 - Medium, 3 - Fast		
FOUT	Focus Out	GP3, GP4	Set	End User	1 - Slow, 2 - Medium, 3 - Fast		
ZOIN	Zoom In	GP3, GP4	Set	End User	1 - Slow, 2 - Medium, 3 - Fast		
ZOUT	Zoom Out	GP3, GP4	Set	End User	1 - Slow, 2 - Medium, 3 - Fast		
IROP	Iris Open	GP3, GP4	Set	End User	1 - Slow, 2 - Medium, 3 - Fast		
IRCL	Iris Close	GP3, GP4	Set	End User	1 - Slow, 2 - Medium, 3 - Fast		
LSDW	Lens Shift Down	GP3, GP4	Set	End User	1 - Slow, 2 - Medium, 3 - Fast		
LSUP	Lens Shift Up	GP3, GP4	Set	End User	1 - Slow, 2 - Medium, 3 - Fast		
LSLF	Lens Shift Left	GP3, GP4	Set	End User	1 - Slow, 2 - Medium, 3 - Fast		
LSRH	Lens Shift Right	GP3, GP4	Set	End User	1 - Slow, 2 - Medium, 3 - Fast		
SHUT	Shutter	GP3, GP4	Set	End User	0 - disable, 1 - enable		
LENS	Lens ID	GP3, GP4	Get	End User			
LMON	Lens Monitoring	GP3, GP4	Get, Set	Power User	0 - disable, 1 - enable		
ZOPO	Zoom position	GP3, GP4	Get, Set	End User			
FOPO	Focus position	GP3, GP4	Get, Set	End User			
IRPO	Iris position	GP3, GP4	Get, Set	End User			

Lamp status							
LRM1	Lamp1 Estimated Remaining Lamp Time	GP3, GP4	Get	End User			
LTR1	Lamp1 Runtime	GP3, GP4	Get	End User			
LHO1	Lamp Channel 1 Total Time	GP3, GP4	Get	End User	See value table LST1 and LST2		
LST1	Lamp1 Status	GP3, GP4	Get	End User			
LRM2	Lamp2 Estimated Remaining Lamp Time	GP3, GP4	Get	End User			
LTR2	Lamp2 Runtime	GP3, GP4	Get	End User			
LHO2	Lamp Channel 2 Total Time	GP3, GP4	Get	End User	See value table LST1 and LST2		
LST2	Lamp2 Status	GP3, GP4	Get	End User			
UTOT	Unit Time Total	GP3, GP4	Get	End User			

Menu navigate							
MENU	Menu Navigate Toggle OSD Menu	GP3, GP4	Set	End User			
NVUP	Menu Navigate Up	GP3, GP4	Set	End User			
NVDW	Menu Navigate Down	GP3, GP4	Set	End User			
NVLF	Menu Navigate Left	GP3, GP4	Set	End User			
NVRH	Menu Navigate Right	GP3, GP4	Set	End User			
NVOK	Menu Navigate Ok	GP3, GP4	Set	End User			

Miscellaneous							
ECHO	Communication Response (on/off)	GP3, GP4	Set	End User			
LANG	Language	GP3, GP4	Get, Set	End User			
SINF	Show OSD Info	GP3, GP4	Set	End User			

Service							
CW11	Color Wheel Index 1	GP3	Get, Set	Power User			
CW12	Color Wheel Index 2	GP3	Get, Set	Power User			
CRST	Reset All Counters	GP3, GP4	Set	Manufacturing			
MAYR	Manufacture Year	GP3, GP4	Get	Manufacturing			
MAWE	Manufacture Week	GP3, GP4	Get	Manufacturing			
LFMP	LFM Performed	GP3, GP4	Set	Power User			
GPEN	Enable Power User Gammas	GP3, GP4	Get, Set	Power User			
AFCL	AD Factory Calibrate	GP3, GP4	Set	Manufacturing			
LSDI	Lens shift disable	GP3, GP4	Get, Set	Power User	0 - enable 1 - disable		
BCPE	Enable Power User brilliant color modes	GP3	Get, Set	Power User	0 - enable 1 - disable		
STRS	Skip reset timeout (mirror exercise)	GP3	Get, Set	Manufacturing	0 - do not skip 1 - skip (WQXGA only)		

Service->LED calibration							
CALM	LED Calibration mode	GP3 LED	Get, Set	Power User	0 - disable, 1 - enable		
LVCA	LED voltage calibration start	GP3 LED	Set	Service Partner			
LVCS	LED voltage calibration status	GP3 LED	Get	Service Partner	0 - done, 1 - in progress, 2 - failed		
LVCE	LED voltage calibration error code	GP3 LED	Get	Service Partner	bit wise error code see value table LVCE		
LIVR	LED input voltage red	GP3 LED	Get	Service Partner			
LIVG	LED input voltage green	GP3 LED	Get	Service Partner			
LIVB	LED input voltage blue	GP3 LED	Get	Service Partner			
LDVR	LED drop out voltage red	GP3 LED	Get	Service Partner			
LDVG	LED drop out voltage green	GP3 LED	Get	Service Partner			
LDVB	LED drop out voltage blue	GP3 LED	Get	Service Partner			
UINV	Update internal sensor values factory	GP3 LED	Set	Manufacturing			
UIVU	Update internal sensor values user	GP3 LED	Set	Power User			
INCS	Internal sensor calibration status	GP3 LED	Get	Power User	0 - done, 1 - in progress, 2 - failed		
INCE	Internal sensor calibration error code	GP3 LED	Get	Power User	bit wise error code see value table INCE		
INTR	Internal sensor value red	GP3 LED	Get	Power User			
INTG	Internal sensor value green	GP3 LED	Get	Power User			
INTB	Internal sensor value blue	GP3 LED	Get	Power User			
INDR	Internal sensor duration value red	GP3 LED	Get	Power User			

INDG	Internal sensor duration value green	GP3 LED	Get	Power User			
INDB	Internal sensor duration value blue	GP3 LED	Get	Power User			

Thermal							
THRM	Thermal Status	GP3, GP4	Get	Power User			
FAN1	Fan Speed 1	GP3, GP4	Get	Power User			
FAN2	Fan Speed 2	GP3, GP4	Get	Power User			
FAN3	Fan Speed 3	GP3, GP4	Get	Power User			
FAN4	Fan Speed 4	GP3, GP4	Get	Power User			
FAN5	Fan Speed 5	GP3, GP4	Get	Power User			
FAN6	Fan Speed 6	GP3, GP4	Get	Power User			
FAN7	Fan Speed 7	GP3, GP4	Get	Power User			
FAN8	Fan Speed 8	GP3, GP4	Get	Power User			
SNS1	Sensor Value 1	GP3, GP4	Get	Power User			
SNS2	Sensor Value 2	GP3, GP4	Get	Power User			
SNS3	Sensor Value 3	GP3, GP4	Get	Power User			
SNS4	Sensor Value 4	GP3, GP4	Get	Power User			
SNS5	Sensor Value 5	GP3, GP4	Get	Power User			
SNS6	Sensor Value 6	GP3, GP4	Get	Power User			
SNS7	Sensor Value 7	GP3, GP4	Get	Power User			
SNS8	Sensor Value 8	GP3, GP4	Get	Power User			

Status							
PLAT	Platform Name String	GP3, GP4	Get	Power User			Extended Protocol
SERI	Serial Number String	GP3, GP4	Get	Power User			Extended Protocol
MODL	Model Name String	GP3, GP4	Get	Power User			Extended Protocol
PART	Part Number String	GP3, GP4	Get	Power User			Extended Protocol
SVER	Software Version	GP3, GP4	Get	Power User			Extended Protocol
PRID	Product ID	GP3, GP4	Get	Power User			
ACSS	Current Access Level	GP3, GP4	Get	End User			
MACA	MAC address	GP3, GP4	Get	End User			Extended Protocol
IPAD	IP address	GP3, GP4	Get	End User	See value table LEST		
LEST	Indicator LED state	GP3, GP4	Get	End User			Extended Protocol
SWSN	SVN SW Revision	GP3, GP4	Get	Power User			
FLFS	Frame lock(2D) frequency	GP3, GP4	Get	End User	See value table FLSS		
FLSS	Frame lock(2D) status	GP3, GP4	Get	End User			
TDFS	3D LR frequency	GP3, GP4	Get	End User			
TDSS	3D LR duty cycle	GP3, GP4	Get	End User	See value table TDSS		
TDSS	3D LR status	GP3, GP4	Get	End User			
X1ID	Xport 1 ID	GP3, GP4	Get	Manufacturing			
X2ID	Xport 2 ID	GP3, GP4	Get	Manufacturing			

Lamp data							
LMBX	Lamp data mailbox	GP3	Get, Set	Manufacturing	Data	0 - Lamp 1, 1 - Lamp 2	
LMBP	Lamp data mailbox position	GP3	Get, Set	Manufacturing	Data	0 - Lamp 1, 1 - Lamp 2	
LMBC	Lamp data mailbox checksum	GP3	Get, Set	Manufacturing	Data	0 - Lamp 1, 1 - Lamp 2	

Value tables

IABS	
Set source abs values	
Value	Description
0	VGA 1
1	VGA 2
2	DVI 1
7	Component
8	HDMI 1
10	DVI 2
11	HDMI 2
12	Dual Head DVI
13	Dual Head HDMI
14	Dual Head XP2
15	XP2 A
16	XP2 B

SABS	
Set scaling abs values	
Value	Description
0	1:1
1	Fill All
2	Fill Aspect Ratio
3	Fill 16:9
4	Fill 4:3
5	Fill 2.35:1
11	Anamorphic Lens

LST1 and LST2	
Lamp status	
Value	Description
0	Defect
1	Warming up
2	Lamp is on
3	Lamp is off
4	Lamp is cooling down
5	Lamp is not present

GABS	
Set Gamma abs value	
Value	Description
0	Film 2.2
1	Film 2.8
2	Video 1
3	Video 2
4	Film 2.4
5	Film 2.6
7	Computer 1
8	Computer 2
9	Linear (when available)
10	AD calibration (when available)
11	DICOM (when available)
12	DICOM ambient 10 LUX (when available)
13	DICOM ambient 60 LUX (when available)
14	DICOM ambient 180 LUX (when available)
15	DICOM ambient 250 LUX (when available)
16	DICOM ambient 300 LUX (when available)
17	DICOM ambient 400 LUX (when available)
20	Custom 1 (when available)
21	Custom 2 (when available)
22	Dynamic (when available)

DSCR	
Desired Coords Mode	
Value	Description
0	Off
1	RGB
2	RGBCMY

ORIE	
Select Orientation abs value	
Value	Description
0	Desktop front
1	Ceiling rear
2	Desktop rear
3	Ceiling front

OSDC	
OSD Enable	
Value	Description
0	OSD off
1	OSD show only warnings
2	OSD on

LMOD	
Lamp Mode	
Value	Description
0	Single lamp 1
1	Single lamp 2
2	Dual lamps
3	Auto lamp switch

BCCR (WQXGA UHP)	
BrilliantColor Control	
Value	Description
0	Off
1	Computer balanced
2	Video balanced
3	Computer native
4	Video native
5	(SRP Half, when available)
5	(SRP Full, when available)

BCCR (1080/WUXGA UHP)	
BrilliantColor Control	
Value	Description
0	Off
1	Video
2	(SRP Full, when available)
3	Computer
4	(SRP Half, when available)

BCCR (LED)	
BrilliantColor Control	
Value	Description
0	VizSim
1	High Brightness
2	SRP 8ms
3	Graphics
4	SRP 6ms (when available)
5	VizSim 180 (when available)
6	VizSim 100 (when available)
7	VizSim 50 (when available)
8	IR 255 (when available)
9	IR 20 (when available)

POST	
Power state	
Value	Description
0	Deep sleep
1	Off
2	Powering up
3	On
4	Powering down
5	Critical powering down
6	Critical off
7	Start
8	Shutting down

LEST	
Status LED state	
Value	Description
0	Green/Blue On
1	Green/Blue Flash
2	Yellow On
3	Yellow Flash
4	Red On
5	Red Flash

DCSP	
Digital colorspace	
Value	Description
0	RGB
1	YPbPr 709
2	YpbPr 601

TRGx	
Trigger mode	
Value	Description
1	On
2	Off
3	Screen
4	Aspect

TATB		
Aspect trigger behavior		
Target	Description	Value
0 - 4:3		
1 - 5:4	on	0
2 - 16:9	off	1
3 - 16:10	no change	2
4 - 2.35:1		
5 - no source		
6 - standby		

EDIR		
Edid resolution		
Target	Description	Value
0 - VGA1	Auto	0
1 - VGA2	Custom (not implemented)	1
2 - DVI1	VGA	2
3 - HDMI1	SVGA	3
12 - DVI2	XGA	4
14 - HDMI2	720 50Hz	5
	720 60Hz	6
	WXGA 1366	7
	SXGA	8
	SX+	9
	1080 deep color	10
	1080 standard	11
	WUXGA	12
	WQXGA (DVI1/2 only)	13

EDIT		
Edid type		
Target	Description	Value
3 - HDMI1	DVI	1
14 - HDMI2	HDMI	2

BAUD	
Trigger mode	
Value	Description
4800	4800
9600	9600
19200	19200
38400	38400
57600	57600
115200	115200

TBOS	
3D BNC sync-out signal	
Value	Description
0	Off
1	3D glass sync
2	3D display sync
3	Passthrough

FLSS	
Framelock signal status	
Value	Description
0	free running
3	locked

TDSS	
3D LR Signal status	
Value	Description
0	free running
1	drifting, free running
2	drifting, locked
3	locked

TDSM	
3D stereo mode	
Value	Description
0	off
1	on

TDSM	
3D stereo mode with DCC120 module	
Value	Description
0	off
1	frame sequential
2	side by side

LVCE	
bit wise error code for LED voltage calibration	
Bit	Description
0	Set red input voltage failed
1	Read red ADC current failed
2	Read red drop out voltage failed
3	Desired red input voltage out of range
4	Red loop count exceed max value
10	Set green input voltage failed
11	Read green ADC current failed
12	Read green drop out voltage failed
13	Desired green input voltage out of range
14	Green loop count exceed max value
20	Set blue input voltage failed
21	Read blue ADC current failed
22	Read blue drop out voltage failed
23	Desired blue input voltage out of range
24	Blue loop count exceed max value

INCE	
bit wise error code for LED sensor calibration	
Bit	Description
0	Write red sensor duration failed
1	Read red sensor value failed
2	Red loop count exceed max value
3	Red sensor value out of range
10	Write green sensor duration failed
11	Read green sensor value failed
12	Green loop count exceed max value
13	Green sensor value out of range
20	Write blue sensor duration failed
21	Read blue sensor value failed
22	Blue loop count exceed max value
23	Blue sensor value out of range