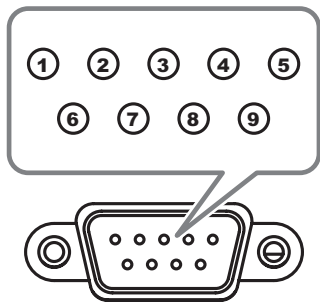


RS232 Commands

RS232 Connector (projector side)



Pin No	Specification
1	N/A
2	RXD
3	TXD
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	N/A

Appendices

RS232 Protocol Function List

RS232 Commands

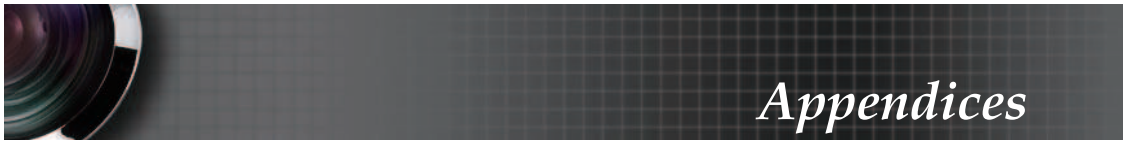
Baud Rate	9600
Data Bits	8
Parity Check	None
Stop Bits	1
Flow Control	None
UART16550 FIFO	Disable

Lead Code	Projector ID		Command ID			space	variable	carriage return
~	X	X	X	X	X		n	CR
Fix code One Digit	Set in OSD 00~99 Two Digit 00 is for universal use		Defined by Optoma 2 or 3 Digit See the Follow content			One Digit	Per item Definition	Fix code One Digit



Due to the difference application for each model. Function is dependent on the model purchased.

Item	Key Definition		ASCII	Pass	Fail
1	Power	n=1	~XX140 n	P	F
2	Laser	N/A			
3	Remote Mouse Up	n=3		P	F
4	Remote Mouse Left	n=4		P	F
5	Remote Mouse Enter	n=5		P	F
6	Remote Mouse Right	n=6		P	F
7	Remote Mouse Down	n=7		P	F
8	Mouse Left Click	n=8		P	F
9	Mouse Right Click	n=9		P	F
10	Up/Page +	n=10		P	F
11	Left/Source	n=11		P	F
12	Enter (for projection MENU)	n=12		P	F
13	Right/Re-SYNC	n=13		P	F
14	Down/Page -	n=14		P	F
15	Keystone +	n=15		P	F
16	Keystone -	n=16		P	F
17	Volume -	n=17		P	F
18	Volume +	n=18		P	F
19	DVI-D/YpBPr/1	n=19		P	F
20	Menu/2	n=20		P	F
21	Zoom/3	n=21		P	F
22	HDMI	n=22		P	F
23	Freeze/5	n=23		P	F
24	AV Mute/6	n=24		P	F
25	S-Video/7	n=25		P	F
26	VGA/8	n=26		P	F
27	Video/9	n=27		P	F



Appendices

Keypad Command

Function			ASCII	Pass	Fail
Power	On/Off	n=1/n=2 & 0	~XX00 n	P	F
Power On with Password			~XX00 1nnmn	P	F
Re-sync		n=1	~XX01 n	P	F
AV Mute	On/Off	n=1/n=2 & 0	~XX02 n	P	F
Mute	On/Off	n=1/n=2 & 0	~XX03 n	P	F
Freeze		n=1	~XX04 n	P	F
UnFreeze		n=2 & 0	~XX04 n	P	F
HDMI		n=1	~XX12 n		
DVI-D		n=2			
VGA 1		n=5			
VGA 2		n=6			
VGA 1 SCART		n=7			
VGA 1 Component		n=8			
S-Video		n=9			
Video		n=10			
VGA 2 Component		n=13			

OSD/Image

Function				ASCII	Pass	Fail
Display Mode	Presentation		n=1	~XX20 n	P	F
	Bright		n=2			
	Movie		n=3			
	sRGB		n=4			
	Classroom		n=7			
	Blackboard		n=8			
	User		n=5			
	3D		n=11			
Brightness		n= -50 - +50	~XX21 n	P	F	
Contrast		n= -50 - +50	~XX22 n	P	F	
Sharpness		n= -15 - +15	~XX23 n	P	F	
Saturation		n= -50 - +50	~XX45 n	P	F	
Tint		n= -50 - +50	~XX44 n	P	F	
IMAGE /Advanced	BrilliantColor™		n= 0 - 10	~XX34 n	P	F
	Degamma	Film	n=1	~XX35 n	P	F
		Video	n=2			
		Graphics	n=3			
		PC	n=4			
	Color Temp.	Warm	n=1	~XX36 n	P	F
		Medium	n=2			
		Cold	n=3			

Appendices

Function				ASCII	Pass	Fail
IMAGE /Advanced	Color Settings	Red Gain	n=-50 ~ 50	-XX24 n	P	F
		Green Gain	n=-50 ~ 50	-XX25 n	P	F
		Blue Gain	n=-50 ~ 50	-XX26 n	P	F
		Red Bias	n=-50 ~ 50	-XX27 n	P	F
		Green Bias	n=-50 ~ 50	-XX28 n	P	F
		Blue Bias	n=-50 ~ 50	-XX29 n	P	F
		Cyan	n=-50 ~ 50	-XX30 n	P	F
		Yellow	n=	-XX31 n	P	F
		Magenta	n=	-XX32 n	P	F
		Reset	n=1	-XX33 n	P	F
	Color Space	Auto	n=1	-XX37 n	P	F
		RGB	n=2			
		YUV	n=3			
IMAGE /Advanced	Input Source Filters	HDMI	n=1	-XX39 n	P	F
		DVI-D	n=2			
		VGA 1	n=5			
		VGA 2	n=6			
		S-Video	n=9			
		Video	n=10			
IMAGE /Advanced	De-Interlace	On	n=1	-XX40 n	P	F
		Off	n=2 & 0			

OSD/Display

Function			ASCII	Pass	Fail
Format	4:3	n=1	-XX60 n	P	F
	16:9 I	n=2			
	16:9 II	n=3			
	Native	n=6			
	Auto	n=7			
Overscan		n=0-10	-XX61 n	P	F
Zoom		n= -30 - +50	-XX62 n	P	F
H Image Shift		n= -50 - +50	-XX63 n	P	F
V Image Shift (16:9)		n= -24 - +24	-XX64 n	P	F
V Keystone		n= -30 - +30	-XX66 n	P	F
3D mode	Off	n = 1	-XX230 n		
	DLP Link	n = 2			
	IR	n = 3			
3D sync invert	Off/ON	n=2 & 0	-XX231 n		



Appendices

OSD/Setup

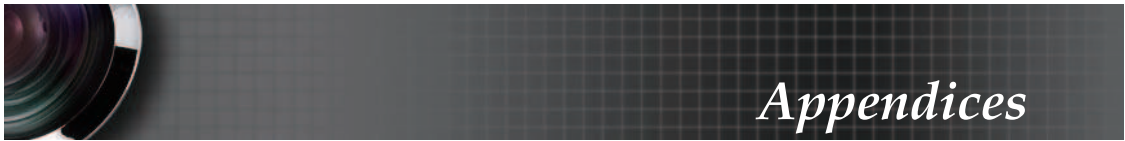
Function				ASCII	Pass	Fail
Language	English		n=1	~XX70 n	P	F
	German		n=2			
	French		n=3			
	Italian		n=4			
	Spanish		n=5			
	Portuguese		n=6			
	Polish		n=7			
	Dutch		n=8			
	Swedish		n=9			
	Norwegian/Danish		n=10			
	Finnish		n=11			
	Greek		n=12			
	Traditional Chinese		n=13			
	Simplified Chinese		n=14			
	Japanese		n=15			
	Korean		n=16			
	Russian		n=17			
	Hungarian		n=18			
	Czechoslovak		n=19			
	Arabic		n=20			
	Thai		n=21			
	Turkish		n=22			
Projection	Front-Desktop		n=1	~XX71 n	P	F
	Rear-Desktop		n=2			
	Front-Ceiling		n=3			
	Rear-Ceiling		n=4			
Menu Location	Top Left		n=1	~XX72 n	P	F
	Top Right		n=2			
	Centre		n=3			
	Bottom Left		n=4			
	Bottom Right		n=5			
Signal	Automatic	Enable/Disable	n=1/n=0 & 2	~XX91 n	P	F
	Frequency		n= 0-31	~XX73 n	P	F
	Phase		n= -5 - +5	~XX74 n	P	F
	H. Position		n= -5 - +5	~XX75 n	P	F
	V. Position		n= -5 - +5	~XX76 n	P	F
Security	Security Timer	Hour/Day/Month	nnmmn	~XX77 n	P	F
	Change Password				send back the password to confirm	
	Security Settings	Enable/Disable	n=1/n=2 & 0	~XX78 n	P	F

Appendices

Function				ASCII	Pass	Fail
Projector ID			n=00-99	~XX79 n	P	F
Audio Settings	Mute	On/Off	n=1/n=2 &0	~XX80 n	P	F
	Volume		n=0-10	~XX81 n	P	F
	Mini-jack		n=1	~XX89 n	P	F
	RCA		n=2	~XX89 n	P	F
Advanced	Logo	Optoma/User	n=1/n=2	~XX82 n	P	F
	Logo Capture		n=1	~XX83 n	P	F
	Closed Captioning	On/Off	n=1/n=2 &0	~XX88 n	P	F
RS232		RS232	n=1	~XX86 n	P	F
		Network	n=2		P	F

OSD/Option

Function				ASCII	Pass	Fail
Source Lock		On/Off	n=1/n=2 &0	~XX100 n	P	F
High Altitude		On/Off	n=1/n=2 &0	~XX101 n	P	F
Information Hide		On/Off	n=1/n=2 &0	~XX102 n	P	F
Keypad Lock		On/Off	n=1/n=2 &0	~XX103 n	P	F
Background Color	Blue		n=1	~XX104 n	P	F
	Black		n=2			
	Red		n=3			
	Green		n=4			
	White		n=5			
Advanced	Direct Power On	On/Off	n=1/n=2 &0	~XX105 n	P	F
	Signal Power On	On/Off	n=1/n=2 &0	~XX113 n	P	F
	Auto Power Off (min)		n=0-180	~XX106 n	P	F
	Sleep Timer (min)		n=000-995	~XX107 n	P	F
	Power Mode(Standby)	Eco/Active	n=1/n=2 &0	~XX114 n	P	F
Lamp Setting	Lamp Hour		n=1	~XX108 n	nnnn	F
	Lamp Reminder	On/Off	n=1/n=2 &0	~XX109 n	P	F
	Brightness Mode	Bright/STD	n=1/n=2	~XX110 n	P	F
	Lamp Reset	Yes	n=1	~XX111 n	P	F
		No	n=2			
Reset		Yes	n=1	~XX112 n	P	F
		No	n=2			
12V Trigger		Off/On	n=2 &0/n=1	~XX192 n	P	F



Appendices

Information Format: INFOa	Standby Mode	a=0
	Warming up	a=1
	Cooling Down	a=2
	Out of Range	a=3
	Lamp Fail	a=4
	Lamp Door Open Error / Thermal Switch Error	a=5
	Fan Lock	a=6
	Over Temperature	a=7
	Lamp Hours Running Out	a=8

Function	RS232 command	Response		
Information display	~XX150 1	Okabbbccddde		
		a = Power State	On	a=1
			Off	a=0
		b = Lamp Hour		bbbb
		c = Input Source	None	c=0
			HDMI	c=1
			DVI-D	c=2
			VGA 1	c=3
			VGA 2	c=4
			S-video	c=5
			Video	c=6
		d = Firmware Version		dddd
		e = Display mode	None	e=0
			Presentation	e=1
			Bright	e=2
			Movie	e=3
			sRGB	e=4
			Blackboard	e=5
			Classroom	e=6
			User	e=7
			3D	e=8
Input Source	~XX121 1	Oka	None	a=0
			HDMI	a=1
			DVI-D	a=2
			VGA 1	a=3
			VGA 2	a=4
			S-video	a=5
			Video	a=6
Software Version	~XX122 1	Okdddd		
Display Mode	~XX123 1	Oka	None	a=0
			Presentation	a=1

Appendices

Function	RS232 command	Response		
			Bright	a=2
			Movie	a=3
			sRGB	a=4
			Blackboard	a=5
			Classroom	a=6
			3D	a=7
			User	a=8
Power State	~XX124 1	Oka	On	a=1
			Off	a=0
Brightness	~XX125 1	Oka		
Contrast	~XX126 1	Oka		
Aspect Ratio	~XX127 1	Oka	4:3	a=0
			16:9-I	a=1
			16:9-II	a=2
			Native	a=3
			Auto	a=4
Color Temperature	~XX128 1	Oka	Warm	a=0
			Medium	a=1
			Cold	a=2
Projection Mode	~XX129 1	Oka	Front-Desktop	a=0
			Rear-Desktop	a=1
			Front-Ceiling	a=2
			Rear-Ceiling	a=3
Model Name	~XX151 1	Oka	EX779	a=1
RS232 Version No	~XX152 1	Oka		