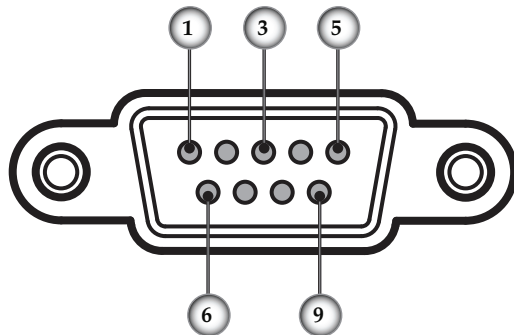


## RS232 Commands and Protocol Function List

### RS232 Pin Assignments



Pin no.	Name	I/O (From Projector Side)
1	NC	—
2	RXD	IN
3	TXD	OUT
4	NC	—
5	NC	—
6	NC	—
7	RS232	—
8	RS232	—
9	NC	—

## RS232 Protocol Function List

### Optoma RS232 Command Table for EP1080

Baud Rate : 9600  
 Data Bits: 8  
 Parity: None  
 Stop Bits: 1  
 Flow Control : None  
 UART16550 FIFO: Disable  
 Projector Return (Pass): P + <CR>  
 Projector Return (Fail): F + <CR>  
 All numerical digits in command parameters are in "ASCII" text format (ex. n = 1 → Code: "1"=31H)      XX=01-99, projector's ID, XX=00 is for all projectors

English

### SEND to projector

332 ASCII Code	HEX Code	Function	Description
-XX00 n	7E 30 30 30 20 a 0D	Power Control	n = 1 Power ON (a=31) 2 Power OFF (a=32)
-XX00 1 -mmn		Power On with Password	
-XX01 1	7E 30 30 30 31 20 31 0D	Resync	
-XX02 n	7E 30 30 30 32 20 a 0D	AV Mute	n = 1 AV Mute On (a=31) 2 AV Mute Off (a=32)
-XX03 n	7E 30 30 30 33 20 a 0D	Mute	n = 1 Mute On (a=31) 2 Mute Off (a=32)
-XX04 1	7E 30 30 30 34 20 a 0D	Freeze control	n = 1 Freeze (a=31) 2 Unfreeze (a=32)
-XX05 1	7E 30 30 30 35 20 31 0D	Zoom Plus (Zoom in)	
-XX06 1	7E 30 30 30 36 20 31 0D	Zoom Minus (Zoom out)	
-XX12 n	7E 30 30 31 32 20 a 0D	Direct Source Selection	n = 1 HDMI (a=31, 32, 35, ...) 2 DVI-D 5 VGA 1 6 VGA 2 7 VGA 1 SCART 8 VGA 1 Component 9 S-Video 10 Video 12 VGA 2 SCART 13 VGA 2 Component
-XX20 n	7E 30 30 32 30 20 a 0D	Display Mode	n = 1 Presentation (a=31, 32, 33, 34, 35, 36) 2 Bright 3 Movie 4 sRGB 5 User 1 6 User 2
-XX21 n	7E 30 30 32 31 20 a 0D	Brightness	n = 000 (a= 30 30 30) ~ +100 (a= 31 30 30)
-XX22 n	7E 30 30 32 32 20 a 0D	Contrast	n = 000 (a= 30 30 30) ~ +100 (a= 31 30 30)
-XX23 n	7E 30 30 32 33 20 a 0D	Sharpness	n = 0 (a= 30) ~ +15 (a= 31 35)
-XX35 n	7E 30 30 33 35 20 a 0D	Degamma	n = 1 Film (a=31, 32, 33, 34) 2 Video 3 Graphics 4 sRGB
-XX36 n	7E 30 30 33 36 20 a 0D	Color Temp.	n = 1 Warm (a=31, 32, 33) 2 Medium 3 Cold
-XX37 n	7E 30 30 33 37 20 a 0D	Color Space	n = 1 Auto (a=31, 32, 33) 2 RGB 3 YUV
-XX39 n	7E 30 30 33 39 20 a 0D	Input Source	n = 1 HDMI (a=31, 32, 35, ...) 2 DVI-D 5 VGA 1 6 VGA 2 7 VGA 1 SCART 8 VGA 1 Component 9 S-Video 10 Video 12 VGA 2 SCART 13 VGA 2 Component
-XX44 n	7E 30 30 31 39 31 20 a 0D	Tint	n = 000 (a= 30 30 30) ~ +100 (a= 31 30 30)
-XX45 n	7E 30 30 31 39 30 20 a 0D	Color	n = 000 (a= 30 30 30) ~ +100 (a= 31 30 30)
-XX60 1	7E 30 30 36 30 20 a 0D	Display Format	n = 1 4:3 (a=31, 32, 35, 36) 2 16:9 5 LBX 6 Native
-XX61 n	7E 30 30 36 31 20 a 0D	Oversca	n = 0 (a= 30) ~ 5 (a= 35)
-XX62 n	7E 30 30 36 32 20 a 0D	Zoom	n = 0 (a= 30) ~ 43 (a= 34 33)

# Appendices

-XX63 n	7E 30 30 36 33 20 a 0D	Image Shift Right / Left	n= 1/2 (a= 31/32)
-XX64 n	7E 30 30 36 34 20 a 0D	Image Shift Up / Down	n= 1/2 (a= 31/32)
-XX66 n	7E 30 30 36 20 a 0D	Keystone Up / Down	n= 1/2 (a= 31/32)
-XX70 n	7E 30 30 37 30 20 a 0D	Language	n = 1 English (a=31, 32, 33, ...) 2 German 3 French 4 Italian 5 Spanish 6 Portuguese 7 Polish 8 Dutch 9 Swedish 10 Norwegian/Danish 11 Finnish 12 Greek 13 Traditional Chinese 14 Simplified Chinese 15 Japanese 16 Korean 17 Russian 18 Hungarian 19 Czechoslovak 20 Arabic
-XX71 n	7E 30 30 37 31 20 a 0D	Projection	n = 1 Front-Desktop (a=31, 32, 33, ...) 2 Rear-Desktop 3 Front-Ceiling 4 Rear-Ceiling
-XX72 n	7E 30 30 37 32 20 a 0D	Menu Location	n = 1 Top Left (a=31, 32, 33, ...) 2 Top Right 3 Centre 4 Bottom Left 5 Bottom Right
-XX73 n	7E 30 30 37 33 20 a 0D	Tracking	n= 000 (a= 30 30 30) ~ +200 (a= 32 30 30) Each step adds 10
-XX74 n	7E 30 30 37 34 20 a 0D	Phase	n= 000 (a= 30 30 30) ~ 100 (a= 31 30 30)
-XX75 n	7E 30 30 37 35 20 a 0D	Position Right / Left	n= 1/2 (a= 31/32)
-XX76 l	7E 30 30 37 36 20 a 0D	Position Up / Down	n= 1/2 (a= 31/32)
-XX77 n	7E 30 30 37 37 20 31mmddhh 0D	Security Timer	Month/Day/Hour n=mmddhh mm= 00 (aa=30 30) ~ 12 (aa=31 32) dd = 00 (aa=30 30) ~ 31 (aa=33 31) hh = 00 (aa=30 30) ~ 24 (aa=32 34)
-XX78 n	7E 30 30 37 38 20 a 0D	Security Settings	n = 1 Security On (a=31, 32) 2 Security Off
-XX79 n	7E 30 30 37 39 20 a 0D	Projector ID	n= 00 (a=30 30) ~99 (a=39 39)
-XX80 n	7E 30 30 38 30 20 a 0D	Mute	n = 1 Mute On (a=31, 32) 2 Mute Off
-XX81 n	7E 30 30 38 31 20 31 a 0D	Volume	n=0 (a=30) ~ 15 (a=31 35)
-XX82 n	7E 30 30 38 32 20 a 0D	Logo	n = 1 Optoma (a=31, 32) 2 User
-XX83 n	7E 30 30 38 33 20 a 0D	Logo Capture	
-XX100 n	7E 30 30 31 30 30 20 a 0D	Source Lock	n = 1 On (a=31, 32) 2 Off
-XX101 n	7E 30 30 31 30 31 20 a 0D	High Altitude	n = 1 On (a=31, 32) 2 Off
-XX102 n	7E 30 30 31 30 32 20 a 0D	Information Hide	n = 1 On (a=31, 32) 2 Off
-XX103 n	7E 30 30 31 30 33 20 a 0D	Keypad Lock	n = 1 On (a=31, 32) 2 Off
-XX104 n	7E 30 30 31 30 34 20 a 0D	Background Color	n = 1 Blue (a=31, 32, 33, 34, 35) 2 Black 3 Red 4 Green 5 White
-XX105 n	7E 30 30 31 30 35 20 a 0D	Advanced	Direct Power On n = 1 On (a=31, 32) 2 Off
-XX113 n	7E 30 30 31 31 33 20 a 0D		Signal Power On n = 1 On (a=31, 32) 2 Off
-XX106 n	7E 30 30 31 30 36 20 a 0D		Auto Power Off (min) n= 0 (a= 30) ~ 60 (a= 36 30) Each step adds 5
-XX107 n	7E 30 30 31 30 37 20 a 0D		Sleep Timer (min) n= 0 (a= 30) ~ 60 (a= 36 30) Each step adds 5
-XX108 l	7E 30 30 31 30 38 20 31 0D	Lamp Setting	Lamp Hour
-XX109 n	7E 30 30 31 30 39 20 a 0D		Lamp Reminder n = 1 On (a=31, 32) 2 Off
-XX110 n	7E 30 30 31 31 30 20 a 0D		Brightness Mode n = 1 Bright (a=31, 32)

# Appendices

-XX111 n	7E 30 30 31 31 31 20 a 0D	Lamp Reset	2 STD n = 1 Yes (a=31, 32) 2 No
-XX112 n	7E 30 30 31 31 32 20 a 0D	Reset	n = 1 Yes (a=31, 32) 2 No

## Virtual remote console to projector

332 ASCH Code	HEX Code	Function	Description
-XX140 n	7E 30 30 31 34 30 20 a 0D	n = 1 Power (a=31, 32, 33, ...) 2 Re-sync 3 Keystone 4 AV Mute 5 Freeze 6 Display 7 Zoom in 8 Zoom out 9 Volume + 10 Volume - 11 Enter (for projection MENU) 12 Menu 13 Left 14 Up 15 Right 16 Down 18 Format (1) 19 PIP (2) 20 Swap (3) 21 SRC (4) 22 DVI (5) 23 Video (6) 24 VGA-1 (7) 25 HDMI (8) 26 S-Video (9) 27 VGA-2 (0)	

## SEND from projector automatically

332 ASCH Code	HEX Code	Function	Projector Return	Description
		When in: Standby/Warming/Cooling/Out of range/Lamp fail Temperature fail/ Thermal error	INFOn	n : 0/1/2/3/4 = Standby/Warming/Cooling/Out of Range/Lamp Fail 5/6 /Temperature fail / Thermal error

## READ from projector

332 ASCH Code	HEX Code	Function	Projector Return	Description
-XX121 1	7E 30 30 31 32 31 20 31 0D	Input Source Commands	OKaa	aa : 01/02/04/05/06/07/08=HDMI/DVI/VGA1/VGA2/Video/ S-Video
-XX122 1	7E 30 30 31 32 32 20 31 0D	Software Version	OKaaaa	
-XX123 1	7E 30 30 31 32 33 20 31 0D	Display Mode	OKa	a : 1/2/3/4/5/6=Presentation/Bright/Movie/sRGB/User1/User2
-XX124 1	7E 30 30 31 32 34 20 31 0D	Power State	OKa	a : 1/0=On/Off
-XX125 1	7E 30 30 31 32 35 20 31 0D	Brightness	OKn	n : 000 to 100
-XX126 1	7E 30 30 31 32 36 20 31 0D	Contrast	OKn	n : 000 to 100
-XX127 1	7E 30 30 31 32 37 20 31 0D	Aspect Ratio	OKa	a : 0/1/2/3=4:3 / 16:9 / LBX / Native
-XX128 1	7E 30 30 31 32 38 20 31 0D	Color Temperature	OKa	a : 0/1/2=Warm/Medium/Cold
-XX129 1	7E 30 30 31 32 39 20 31 0D	Projection Mode	OKa	a : 0/1/2/3=Front-Desktop/Rear-Desktop /Front-Ceiling/Rear-Ceiling
-XX150 1	7E 30 30 31 35 30 20 31 0D	Information	OKabbbccddde	a : 1/0=On/Off bbbb: Lamp Hour cc: source 00/01/02/03/04/05/07= None/DVI/VGA1/VGA2/S-Video/Video/HDMI dddd: FW version e : Display mode 0/1/2/3/4/5/6=None/Presentation/Bright/Movie/sRGB/User1/User2 n : 0 EP1080
-XX151 1	7E 30 30 31 35 31 20 31 0D	Model name	OKn	