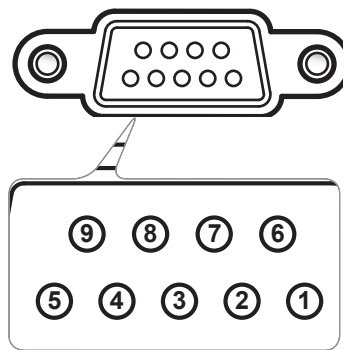


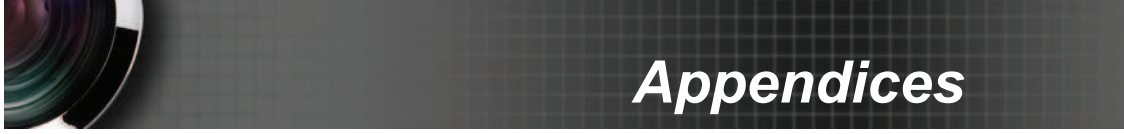
Appendices

RS232 Commands and Protocol Function List

RS232 Pin Assignments



Pin no.	Spec. (from projector side)
1	N/A
2	RXD
3	TXD
4	N/A
5	GND
6	N/A
7	N/A
8	N/A
9	N/A



Appendices

RS232 Protocol Function List


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

Projector Return (Pass): P
 Projector Return (Fail): F
 XX=00-99, projector's ID,
 XX=00 is for all projectors
 There is a <CR> after all ASCII commands.
 0D is the HEX code for <CR> in ASCII code.

	X	X	X	X	X	X	n	CR		
	Projector ID		Command ID		space	variable	carriage return			
Power	Power	On/Off			m=0 & 2	-XX00 n	P	F		
	Re-sync					-XX01 n	P	F		
	Direct Source Commands	MEMI 1				n15	-XX02 n	P	F	
		VGA				n16	-XX03 n	P	F	
		VGA Component				n17	-XX04 n	P	F	
		Video				n18	-XX05 n	P	F	
		Component RCA				n19	-XX06 n	P	F	
		HDMI 1				n20	-XX07 n	P	F	
	Display Mode	MEMI 2				n11	-XX08 n	P	F	
		CFRm3				n12	-XX09 n	P	F	
Film					n13	-XX10 n	P	F		
Bright					n14	-XX11 n	P	F		
Private					n15	-XX12 n	P	F		
Reference					n16	-XX13 n	P	F		
User					n17	-XX14 n	P	F		
ISP Day					n18	-XX15 n	P	F		
ISP Night					n19	-XX16 n	P	F		
3D					n20	-XX17 n	P	F		
Brightness	Brightness				m=50 +50	-XX21 n	P	F		
	Contrast				m=50 +50	-XX22 n	P	F		
	Sharpness				m=50 +50	-XX23 n	P	F		
	Test				m=50 +50	-XX24 n	P	F		
	Color	RGB Gain/Bias	Red Gain			m=50 +50	-XX25 n	P	F	
			Green Gain			m=50 +50	-XX26 n	P	F	
			Blue Gain			m=50 +50	-XX27 n	P	F	
			Red Bias			m=50 +50	-XX28 n	P	F	
			Green Bias			m=50 +50	-XX29 n	P	F	
			Blue Bias			m=50 +50	-XX30 n	P	F	
Color Settings		Color Temperature	Reset			n11	-XX31 n			
			D90			n12	-XX32 n			
			D95			n13	-XX33 n			
			D93			n14	-XX34 n			
Color Gamut	Reset				n15	-XX35 n				
	Native				n16	-XX36 n				
	Adobe				n17	-XX37 n				
	DLP Cinema				n18	-XX38 n				
CMS	Reset	Red			n19	-XX39 n				
		Green			n20	-XX40 n				
		Blue			n21	-XX41 n				
		Cyan			n22	-XX42 n				
		Yellow			n23	-XX43 n				
		Magenta			n24	-XX44 n				
	x offset	50 = 50				m=50 +50	-XX45 n			
		y offset	50 = 50			m=50 +50	-XX46 n			
		Brightness	50 = 50			m=50 +50	-XX47 n			
		Reset				n25	-XX48 n			
Advanced	Gamma	Film	Curve Type	Film/Video/Graphics/1/8		m=5 + +6	-XX49 n	P	F	
			Offset	1/1.92/0.2/1.2/2/3/2.4/2.5/2.6		m=5 + +5	-XX50 n	P	F	
		Video	Reset				n26	-XX51 n		
			Curve Type	Film/Video/Graphics/1/8		m=5 + +6	-XX52 n	P	F	
		Graphics	Offset	1/1.92/0.2/1.2/2/3/2.4/2.5/2.6		m=5 + +5	-XX53 n	P	F	
			Reset				n27	-XX54 n		
		Standard	Curve Type	Film/Video/Graphics/1/8		m=5 + +6	-XX55 n	P	F	
			Offset	1/1.92/0.2/1.2/2/3/2.4/2.5/2.6		m=5 + +5	-XX56 n	P	F	
		Color Space	Reset				n28	-XX57 n		
			Auto				n29	-XX58 n	P	F
Noise Reduction	PureEngine	Auto			n30	-XX59 n	P	F		
		RGB (0-255)*	* RGB (0-255) supports when MEMI is detected		n31	-XX60 n	P	F		
		WOB (0 - 255)	WOB (0 - 255) supports when HDMI is detected		n32	-XX61 n	P	F		
		YUV			n33	-XX62 n	P	F		
		PureMotion	OFF			m=0 - 10	-XX63 n	P	F	
		LOW			n34	-XX64 n	P	F		
		HIGH			n35	-XX65 n	P	F		
		UltraDetail	ON			n36	-XX66 n	P	F	
		PureColor	OFF			n37	-XX67 n	P	F	
		1			n38	-XX68 n	P	F		
2			n39	-XX69 n	P	F				
3			n40	-XX70 n	P	F				
4			n41	-XX71 n	P	F				
5			n42	-XX72 n	P	F				
PureEngine Demo	OFF			n43	-XX73 n	P	F			
LED Brightness	Power	H Spd			n44	-XX74 n	P	F		
		V Spd			n45	-XX75 n	P	F		
		100%/95%/80%/60%/75%/70%/65%/60%/50%			m=0 n=1 m=2 n=3 m=4 m=5 m=6 m=7 m=8 m=9	-XX76 n	P	F		
		DynamicBack 1			n46	-XX77 n	P	F		
		DynamicBack 2			n47	-XX78 n	P	F		
Format	DynamicBack 3	4:3			n48	-XX79 n	P	F		
		16:9			n49	-XX80 n	P	F		
		16:10	Don't support when Anamorphic lens is fixed		n50	-XX81 n	P	F		
		Native	Don't support when Anamorphic lens is motorized or fixed		n51	-XX82 n	P	F		
		Auto235	Supporting! When Anamorphic lens is fixed or motor		n52	-XX83 n	P	F		
Edge masking	Auto235	Supporting! When Anamorphic lens is fixed or motor			n53	-XX84 n	P	F		
		SuperWide	Don't support when Anamorphic lens is motorized or fixed		n54	-XX85 n	P	F		

Appendices

	X	X	X	X	X	n	CR		
	Projector ID		Command ID		space	variable	carriage return		
DISPLAY		Zoom		m0-10		--X062 n	P	F	
		H Image Shift		m -100 +100		--X063 n	P	F	
		V Image Shift		m -100 +100		--X064 n	P	F	
		V Keystone		m -30 +30		--X066 n	P	F	
	3D		3D->2D	3D / L / R	2D->2D; 3D->3D / 3D->L; 3D->R		m1m2m3	P	F
				Auto			m0	P	F
				SSS	Decoding HDMI1.3		m1	P	F
				Top and Bottom	3D timing		m2	P	F
				Frame Sequential			m3	P	F
				Low			m4	P	F
		3D Sync. Invert	2D->3D	Mid		m5	P	F	
			On/Off	High		m6	P	F	
						m0m1	--X0231 n		
SYSTEM		Menu Location	Top Left			m1	--X072 n	P	F
			Top Right			m2			
			Centre			m3			
			Bottom Left			m4			
			Bottom Right			m5			
		LED Hours				m1	--X0108 n	Okommm	return LED hour
						m1	--X0071 n	P	F
		Projection	Front-Desktop			m2			
			Rear-Desktop			m3			
			Front-Ceiling			m4			
			Rear-Ceiling			m5			
		Test Pattern	None / Grid / White Pattern			m0m1m2	--X0195 n		
						m1	--X0194 n	P	F
		Background Color				m2			
			Blue			m3			
			Black			m4			
			Gray			m5			
		IR Function	All/Off/Top			m0, m1 / m2	--X011 n	P	F
		12V Trigger A	Off/On			m0m1	--X0192 n		
		12V Trigger B	Off/On/Auto/SS/Auto 3D			m0m1m2m3	--X0193 n		
		4:3	4:3 check			--X0205 0			
		16:9	16:9 check			--X0205 2			
			16:9 uncheck			--X0205 3			
		Letter Box	letter box check			--X0205 4			
			letter box uncheck			--X0205 5			
		Native	native check			--X0205 6			
			native uncheck			--X0205 7			
		Ext							
SETUP		Language	English			m1	--X070 n	P	F
			German			m2			
			French			m3			
			Italian			m4			
			Spanish			m5			
			Portuguese			m6			
			Polish			m7			
			Dutch			m8			
			Swedish			m9			
			Norwegian/Danish			m10			
			Finnish			m11			
			Greek			m12			
			Traditional Chinese			m13			
			Simplified Chinese			m14			
			Japanese			m15			
			Korean			m16			
			Russian			m17			
			Hungarian			m18			
			Czech			m19			
			Arabic			m20			
			Thai			m21			
			Turkish			m22			
		Input Source Filters	HDMI 1			m1	--X039 n	P	F
			HDMI 2			m7			
			VGA			m5			
			3 x RCA Component			m8			
			Video			m10			
		Source Lock	On/Off			m1m0 & 2	--X0100 n	P	F
		High Altitude	On/Off			m1m0 & 2	--X0101 n	P	F
		Information Help	On/Off			m1m0 & 2	--X0102 n	P	F
	Auto Power Off (min)				m0-180	--X0108 n	P	F	
		Automatic	Enable/Disable		m1m0	--X091 n			
		Frequency/Tracking			m0-100	--X073 n	P	F	
		Phase			m-50 +50	--X074 n	P	F	
		H. Position			m-50 +50	--X075 n	P	F	
		V. Position			m-50 +50	--X076 n	P	F	
		White level			m-50 +50	--X0200 n			
		Black level			m-50 +50	--X0201 n			
		Saturation			m-50 +50	--X0202 n			
		Hue			m-50 +50	--X0203 n			
		IRE	0 IRE / 7.5 IRE		m1m0	--X0204 n			
	Reset	Yes			m1	--X0112 n	P	F	
		No			m2				
Information from Projector Automatically when:									
	Standby Mode				a=0	INFOa			
	Warming up				a=1	INFOa			
	Cooling Down				a=2	INFOa			
	Out of Range				a=3	INFOa			
	LED Fail				a=4				
	Thermal Switch Error				a=5				
	Fan Lock				a=6				
	Over Temperature				a=7				
	Lamp Hours Running Out				a=8				
READ/Return Information from projector									
	Information				m1	--X0150 n	Okabbbbcccd555n		
	a = Power State	Off/On			a=01				
	b = LED Hour				bbbbb				
	c = Input Source Commands	None			c=00				
		VGA			c=02				
		Video			c=03				
		HDMI1			c=07				
		HDMI2			c=08				
	d = Firmware Version				ddddd				
	e = Display mode	None			ee=0				
		Cinema			ee=1				
		Single			ee=2				
		Film			ee=11				
		Photo			ee=3				
		Reference			ee=4				
		User			ee=5				
		ISF Day			ee=7				
		ISF Night			ee=8				
		3D			ee=9				
	Model Name	Depends			a=012	--X0151 n	Ok		



Appendices

-	X	X	X	X	n	CR	
	Projector ID		Command ID		space	variable	carriage return
RS232 Version No.		Depends		m=1 a=777	--XX152 n	Oka	
Input Source Commands	None/VGA/Video/HDMI1 HDMI2/Component			m=1	--XX121 n	Oka	a=0/2/5/7/8/11
Software Version				m=1	--XX122 n	Oka	
Display Mode	None/Cinema/Single/Photo/ Reference/User/ISF Day/ ISF Night/3D/Film			m=1	--XX123 n	Oka	a=0/1/2/3/4/5/7/8/9/11
Power State	On/Off			m=1	--XX124 n	Oka	a=1/0
Brightness				m=1	--XX125 n	Oka	
Contrast				m=1	--XX126 n	Oka	
Aspect Ratio	4:3/16:9/LBX/Native/Auto235/ Auto235_Subtitle			m=1	--XX127 n	Oka	aa=1/2/5/6/8/9/11 for 4:3/16:9/LBX/ Native/Auto235/ Auto235_Subtitle
Color Temperature	D50/D65/D70/D75/D83/D93/ Native			m=1	--XX128 n	Oka	a=1/2 /3/4/5/6/7
Projection Mode	Front-Desktop Rear-Desktop Front-Ceiling Rear-Ceiling			m=1	--XX129 n	Oka	a=0/1/2/3 for Front- Desktop/Rear-Desktop /Front-Ceiling/Rear- Ceiling
Remote Control	Up			m=10	--XX140 n		
	Left			m=11			
	Enter			m=12			
	Right			m=13			
	Down			m=14			
	Menu			m=20			
	Re-sync			m=1			