M535 Series
Projector RS232 Command Control
Installation Guide

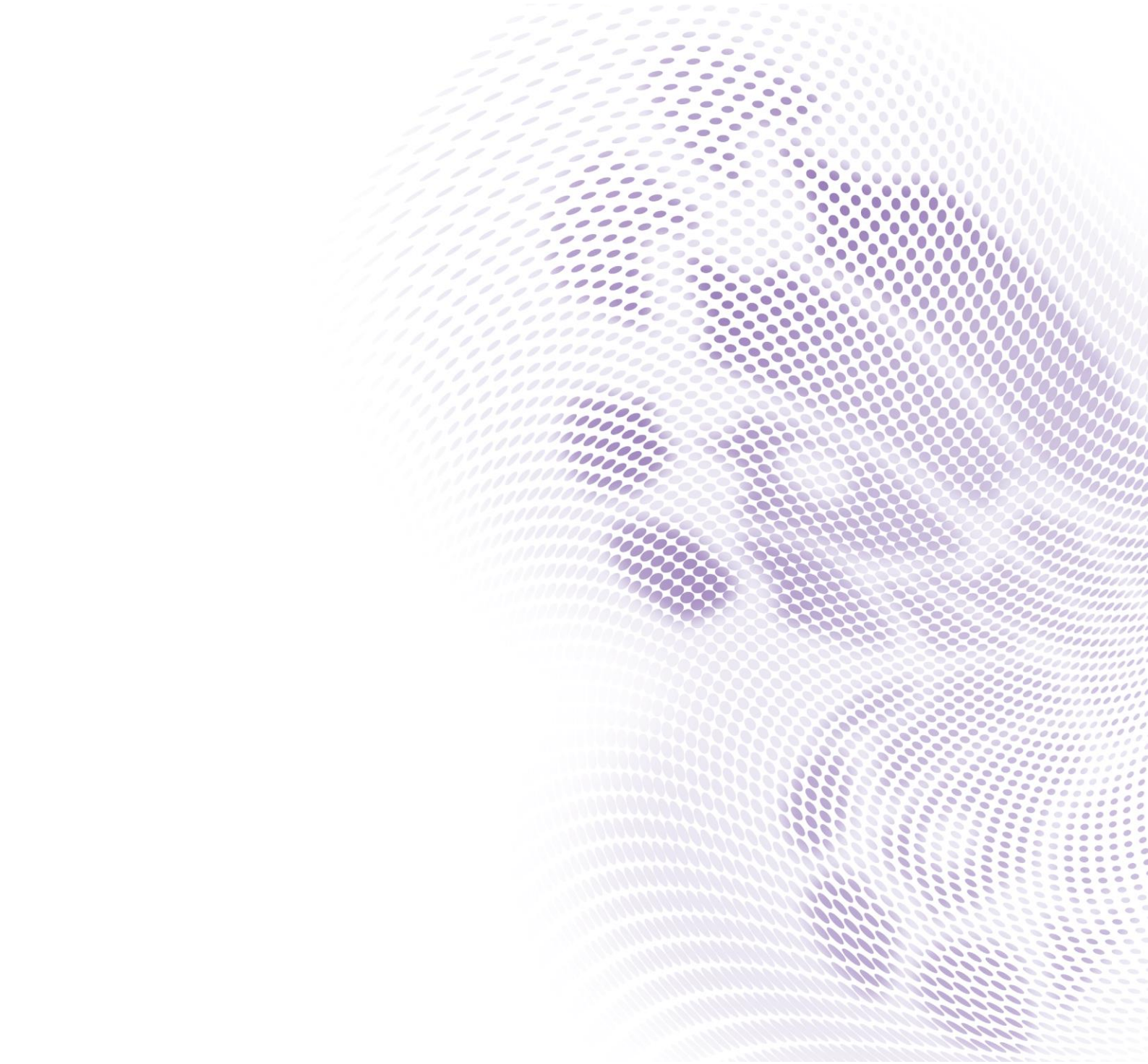


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Introduction

The document describes how to control your BenQ projector via RS232 from a computer. Follow the procedures to complete the connection and settings first, and refer to the command table for RS232 commands.

Available functions and commands vary by model. Check the specifications and user manual of the purchased projector for product functions.

Wire arrangement

Wire Arrangement		
P1	Color	P2
1	Black	1
2	Brown	3
3	Red	2
4	Orange	4
5	Yellow	5
6	Green	6
7	Blue	7
8	Purple	8
9	Gray	9
Case	Drain wire	Case

RS232 pin assignment

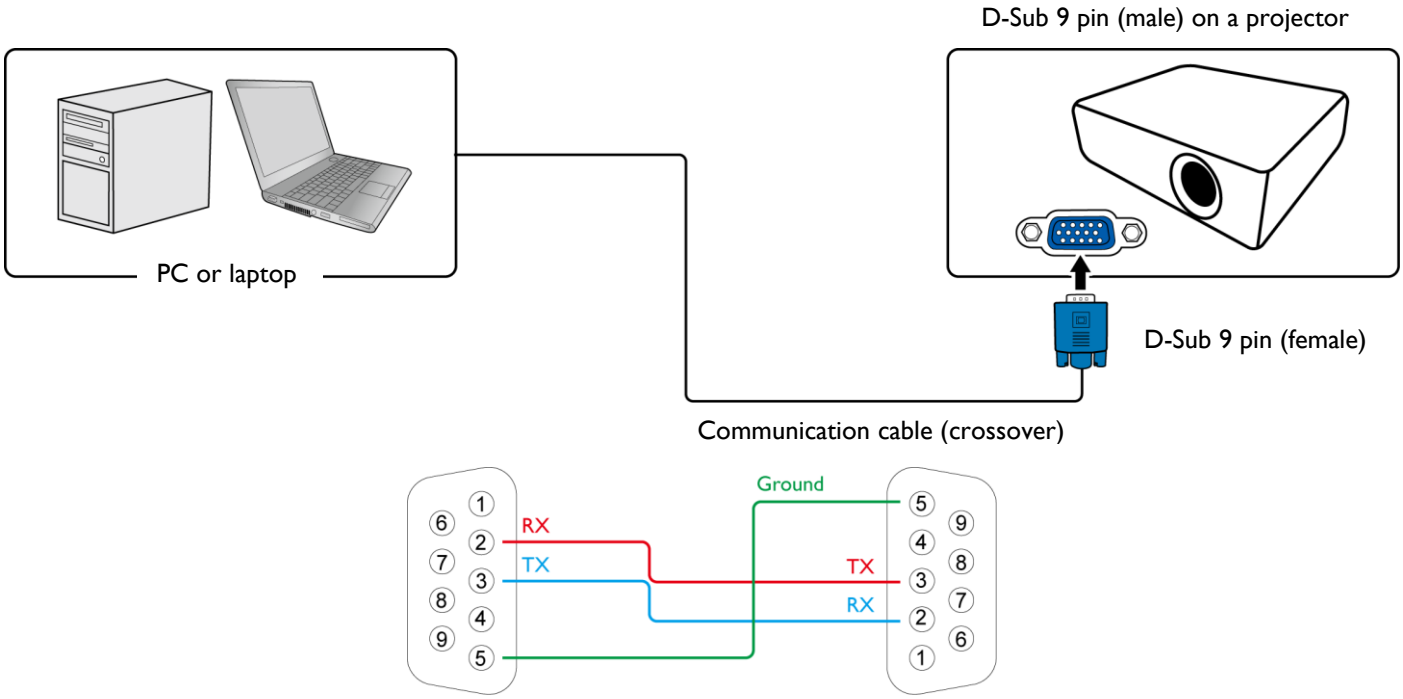


Pin	Description	Pin	Description
1	NC	2	RXD
3	TXD	4	NC
5	GND	6	NC
7	RTS	8	CTS
9	NC		

Connections and communication settings

Choose one of the connections and set up properly before RS232 control.

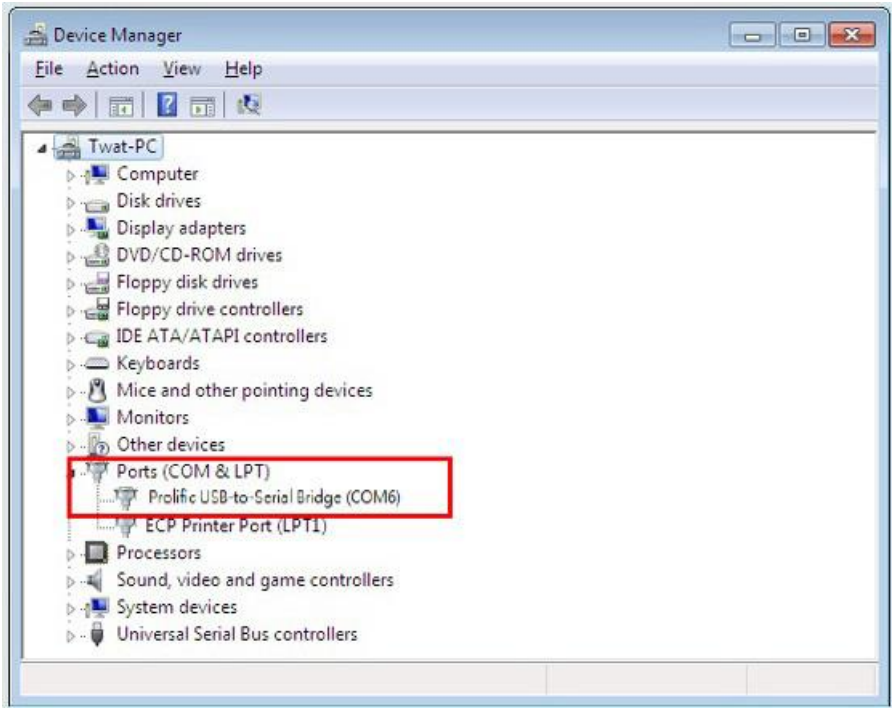
RS232 serial port with a crossover cable



Settings

On-screen images in this document are for reference only. The screens may vary depending on your Operating System, I/O ports used for connection, and the specifications of the connected projector.

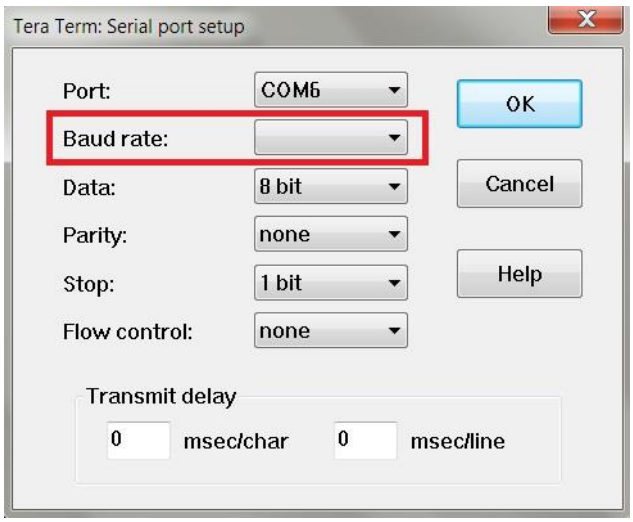
1. Determine the COM Port name used for the RS232 communications in **Device Manager**.



2. Choose **Serial** and the corresponding COM port as the communication port. In this given example, COM6 is selected.

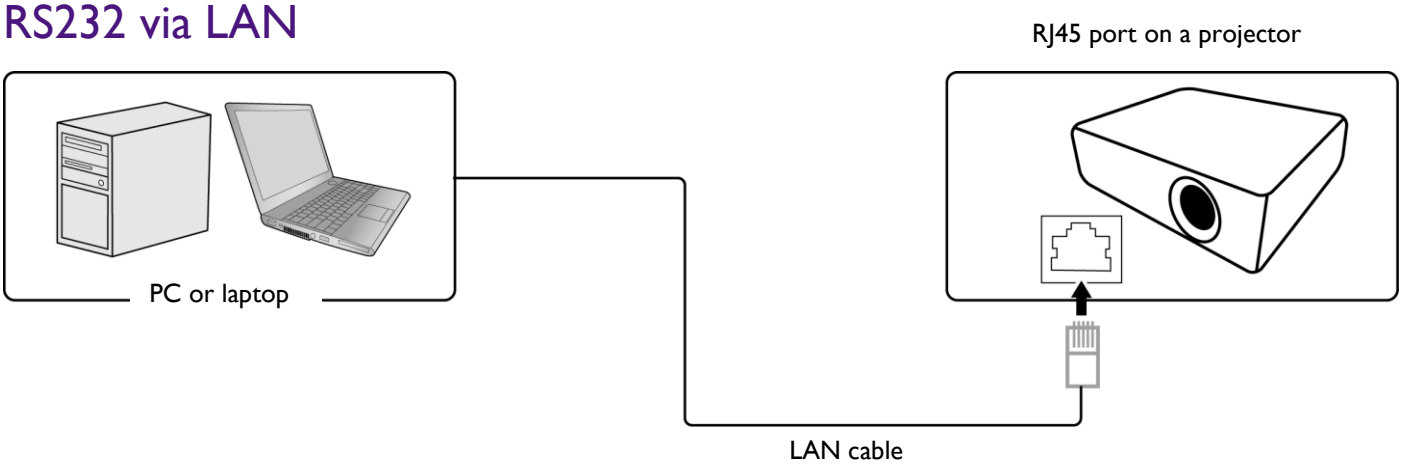


3. Finish **Serial port setup**.



Baud rate	9600 / 14400 / 19200 / 38400 / 57600 / 115200 bps Check the baud rate of the connected projector from its OSD menu.
Data length	8 bit
Parity check	None
Stop bit	1 bit
Flow control	None

RS232 via LAN

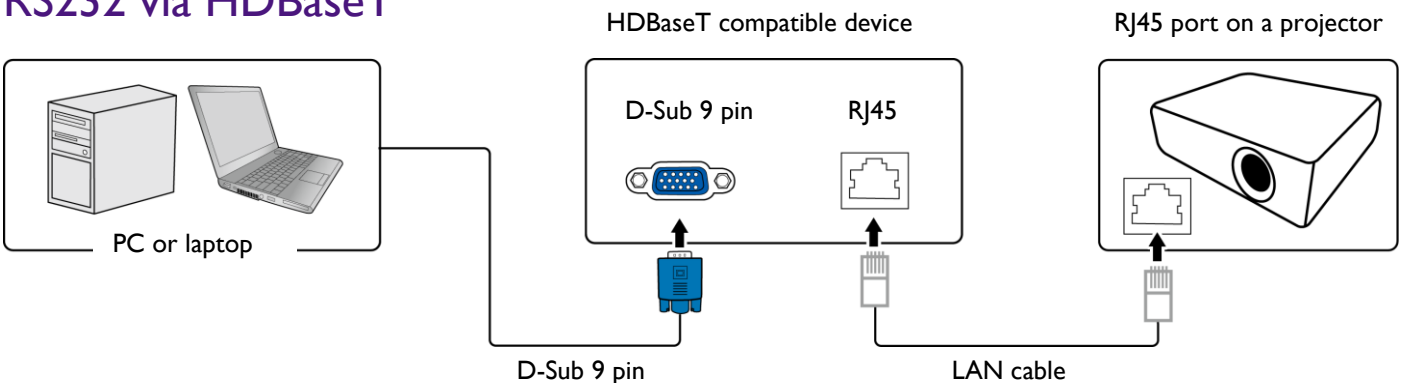


Settings

1. Find the Wired LAN IP address of the connected projector from the OSD menu and make sure the projector and the computer are within the same network.
2. Input **8000** in the **TCP port #** field.



RS232 via HDBaseT

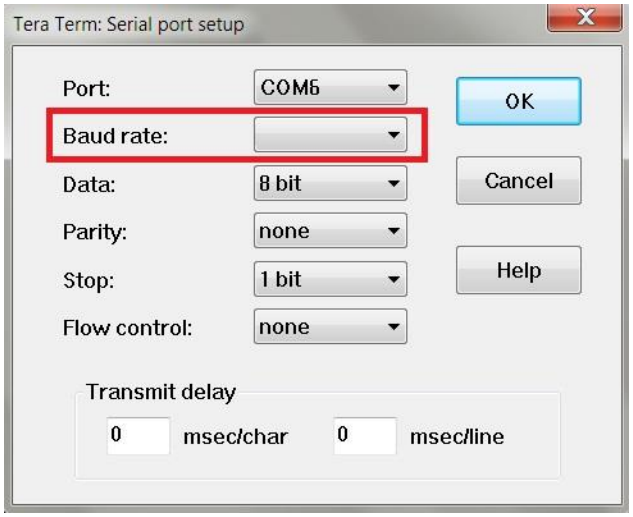


Settings

1. Determine the COM Port name used for the RS232 communications in **Device Manager**.
2. Choose **Serial** and the corresponding COM port as the communication port. In this given example, COM6 is selected.



3. Finish **Serial port setup**.



Baud rate	9600 / 14400 / 19200 / 38400 / 57600 / 115200 bps Check the baud rate of the connected projector from its OSD menu.
Data length	8 bit
Parity check	None
Stop bit	1 bit
Flow control	None

Command table

- Available features differ by projector specification, input sources, settings, etc..
- Commands are working if the standby power is 0.5W or a supported baud rate of the projector is set.
- Uppercase, lowercase, and a mixture of both types of characters are accepted for a command.
- If a command format is illegal, it will echo **Illegal format**.
- If a command with correct format is not valid for the projector model, it will echo **Unsupported item**.
- If a command with correct format cannot be executed under certain condition, it will echo **Block item**.
- If RS232 control is performed via LAN, a command works whether it starts and ends with **<CR>**. All the commands and behaviors are identical with the control through a serial port.

Function	Type	Operation	ASCII	Support
Power	Write	Power On	<CR>*pow=on#<CR>	Yes
	Write	Power off	<CR>*pow=off#<CR>	Yes
	Read	Power Status	<CR>*pow=?#<CR>	Yes
Source Selection	Write	COMPUTER/YPbPr	<CR>*sour=RGB#<CR>	Yes
	Write	COMPUTER 2/YPbPr2	<CR>*sour=RGB2#<CR>	Yes
	Write	COMPUTER 3/YPbPr3	<CR>*sour=RGB3#<CR>	No
	Write	Component	<CR>*sour=ypbr#<CR>	No
	Write	Component2	<CR>*sour=ypbr2#<CR>	No
	Write	DVI-A	<CR>*sour=dviA#<CR>	No
	Write	DVI-D	<CR>*sour=dvid#<CR>	No
	Write	HDMI/MHL	<CR>*sour=hdmi#<CR>	Yes
	Write	HDMI 2/MHL2	<CR>*sour=hdmi2#<CR>	Yes
	Write	Composite	<CR>*sour=vid#<CR>	Yes
	Write	S-Video	<CR>*sour=svid#<CR>	Yes
	Write	Network	<CR>*sour=network#<CR>	No
	Write	USB Display	<CR>*sour=usbdisplay#<CR>	No
	Write	USB Reader	<CR>*sour=usbreader#<CR>	No
	Write	Wireless	<CR>*sour=wireless#<CR>	No
	Write	HDbaseT	<CR>*sour=hdbaset#<CR>	No
	Write	DisplayPort	<CR>*sour=dp#<CR>	No
	Read	Current source	<CR>*sour=?#<CR>	Yes
Audio Control	Write	Mute On	<CR>*mute=on#<CR>	Yes
	Write	Mute Off	<CR>*mute=off#<CR>	Yes
	Read	Mute Status	<CR>*mute=?#<CR>	Yes
	Write	Volume +	<CR>*vol=+#<CR>	Yes
	Write	Volume -	<CR>*vol=-#<CR>	Yes

	Read	Volume Status	<CR>*vol=?#<CR>	Yes
	Write	Mic.Volume +	<CR>*micvol=+#<CR>	No
	Write	Mic.Volume -	<CR>*micvol=-#<CR>	No
	Read	Mic.Volume Status	<CR>*micvol=?#<CR>	No
Audio source select	Write	Audio pass Through off	<CR>*audiosour=off#<CR>	Yes
	Write	Audio-Computer1	<CR>*audiosour=RGB#<CR>	Yes
	Write	Audio-Computer2	<CR>*audiosour=RGB2#<CR>	Yes
	Write	Audio-Video/S-Video	<CR>*audiosour=vid#<CR>	Yes
	Write	Audio-Component	<CR>*audiosour=ypbr#<CR>	No
	Write	Audio-HDMI	<CR>*audiosour=hdmi#<CR>	Yes
	Write	Audio-HDMI2	<CR>*audiosour=hdmi2#<CR>	Yes
	Read	Audio pass Status	<CR>*audiosour=?#<CR>	Yes
Picture Mode	Write	Dynamic	<CR>*appmod=dynamic#<CR>	No
	Write	Presentation	<CR>*appmod=preset#<CR>	Yes
	Write	sRGB	<CR>*appmod=srgb#<CR>	Yes
	Write	Bright	<CR>*appmod=bright#<CR>	Yes
	Write	Living Room	<CR>*appmod=livingroom#<CR>	No
	Write	Game	<CR>*appmod=game#<CR>	No
	Write	Cinema	<CR>*appmod=cine#<CR>	Yes
	Write	Standard/Vivid	<CR>*appmod=std#<CR>	No
	Write	Football	<CR>*appmod=football#<CR>	No
	Write	DICOM	<CR>*appmod=dicom#<CR>	No
	Write	User1	<CR>*appmod=user1#<CR>	Yes
	Write	User2	<CR>*appmod=user2#<CR>	Yes
	Write	User3	<CR>*appmod=user3#<CR>	No
	Write	ISF Day	<CR>*appmod=isfday#<CR>	No
	Write	ISF Night	<CR>*appmod=isfnight#<CR>	No
	Write	3D	<CR>*appmod=threed#<CR>	Yes
	Read	Picture Mode	<CR>*appmod=?#<CR>	Yes
Picture Setting	Write	Contrast +	<CR>*con=+#<CR>	Yes
	Write	Contrast -	<CR>*con=-#<CR>	Yes
	Read	Contrast value	<CR>*con=?#<CR>	Yes
	Write	Brightness +	<CR>*bri=+#<CR>	Yes
	Write	Brightness -	<CR>*bri=-#<CR>	Yes
	Read	Brightness value	<CR>*bri=?#<CR>	Yes
	Write	Color +	<CR>*color=+#<CR>	Yes
	Write	Color -	<CR>*color=-#<CR>	Yes
	Read	Color value	<CR>*color=?#<CR>	Yes

	Write	Sharpness +	<CR>*sharp=+#<CR>	Yes
	Write	Sharpness -	<CR>*sharp=-#<CR>	Yes
	Read	Sharpness value	<CR>*sharp=?#<CR>	Yes
	Write	Color Temperature-Warmer	<CR>*ct=warmer#<CR>	No
	Write	Color Temperature-Warm	<CR>*ct=warm#<CR>	Yes
	Write	Color Temperature-Normal	<CR>*ct=normal#<CR>	Yes
	Write	Color Temperature-Cool	<CR>*ct=cool#<CR>	Yes
	Write	Color Temperature-Cooler	<CR>*ct=cooler#<CR>	No
	Write	Color Temperature-lamp native	<CR>*ct=native#<CR>	Yes
	Read	Color Temperature Status	<CR>*ct=?#<CR>	Yes
	Write	Aspect 4:3	<CR>*asp=4:3#<CR>	Yes
	Write	Aspect 16:6	<CR>*asp=16:6#<CR>	No
	Write	Aspect 16:9	<CR>*asp=16:9#<CR>	Yes
	Write	Aspect 16:10	<CR>*asp=16:10#<CR>	Yes
	Write	Aspect Auto	<CR>*asp=AUTO#<CR>	Yes
	Write	Aspect Real	<CR>*asp=REAL#<CR>	Yes
	Write	Aspect Letterbox	<CR>*asp=LBOX#<CR>	No
	Write	Aspect Wide	<CR>*asp=WIDE#<CR>	No
	Write	Aspect Anamorphic	<CR>*asp=ANAM#<CR>	No
	Read	Aspect Status	<CR>*asp=?#<CR>	Yes
	Write	Digital Zoom In	<CR>*zoomI#<CR>	Yes
	Write	Digital Zoom out	<CR>*zoomO#<CR>	Yes
	Write	Auto	<CR>*auto#<CR>	Yes
	Write	Brilliant color on	<CR>*BC=on#<CR>	Yes
	Write	Brilliant color off	<CR>*BC=off#<CR>	Yes
	Read	Brilliant color status	<CR>*BC=?#<CR>	Yes
Operation Settings	Write	Projector Position-Front Table	<CR>*pp=FT#<CR>	Yes
	Write	Projector Position-Rear Table	<CR>*pp=RE#<CR>	Yes

	Write	Projector Position-Rear Ceiling	<CR>*pp=RC#<CR>	Yes
	Write	Projector Position-Front Ceiling	<CR>*pp=FC#<CR>	Yes
	Write	Quick auto search	<CR>*QAS=on#<CR>	Yes
	Write	Quick auto search	<CR>*QAS=off#<CR>	Yes
	Read	Quick auto search status	<CR>*QAS=?#<CR>	Yes
	Read	Projector Position Status	<CR>*pp=?#<CR>	Yes
	Write	Direct Power On-on	<CR>*directpower=on#<CR>	Yes
	Write	Direct Power On-off	<CR>*directpower=off#<CR>	Yes
	Read	Direct Power On-Status	<CR>*directpower=?#<CR>	Yes
	Write	Signal Power On-on	<CR>*autopower=on#<CR>	Yes
	Write	Signal Power On-off	<CR>*autopower=off#<CR>	Yes
	Read	Signal Power On-Status	<CR>*autopower=?#<CR>	Yes
	Write	Standby Settings-Network on	<CR>*standbynet=on#<CR>	No
	Write	Standby Settings-Network off	<CR>*standbynet=off#<CR>	No
	Read	Standby Settings-Network Status	<CR>*standbynet=?#<CR>	No
	Write	Standby Settings-Microphone on	<CR>*standbymic=on#<CR>	No
	Write	Standby Settings-Microphone off	<CR>*standbymic=off#<CR>	No
	Read	Standby Settings-Microphone Status	<CR>*standbymic=?#<CR>	No
	Write	Standby Settings-Monitor Out on	<CR>*standbymnt=on#<CR>	Yes
	Write	Standby Settings-Monitor Out off	<CR>*standbymnt=off#<CR>	Yes
	Read	Standby Settings-Monitor Out	<CR>*standbymnt=?#<CR>	Yes

		Status		
Baud Rate	Write	2400	<CR>*baud=2400#<CR>	Yes
	Write	4800	<CR>*baud=4800#<CR>	Yes
	Write	9600	<CR>*baud=9600#<CR>	Yes
	Write	14400	<CR>*baud=14400#<CR>	Yes
	Write	19200	<CR>*baud=19200#<CR>	Yes
	Write	38400	<CR>*baud=38400#<CR>	Yes
	Write	57600	<CR>*baud=57600#<CR>	Yes
	Write	115200	<CR>*baud=115200#<CR>	Yes
	Read	Current Baud Rate	<CR>*baud=?#<CR>	Yes
Lamp Control	Read	Lamp Hour	<CR>*ltim=?#<CR>	Yes
	Read	Lamp2 Hour	<CR>*ltim2=?#<CR>	No
	Write	Normal mode	<CR>*lampm=lnor#<CR>	Yes
	Write	Eco mode	<CR>*lampm=eco#<CR>	Yes
	Write	Smart Eco mode(ImageCare)	<CR>*lampm=seco#<CR>	Yes
	Write	Smart Eco mode(LampCare)	<CR>*lampm=seco2#<CR>	No
	Write	Smart Eco mode(lumenCare)	<CR>*lampm=seco3#<CR>	No
	Write	Dimming mode	<CR>*lampm=dimming#<CR>	No
	Write	Custom mode	<CR>*lampm=custom#<CR>	No
	Write	Dual Brightest	<CR>* lampm =dualbr#<CR>	No
	Write	Dual Reliable	<CR>* lampm =dualre#<CR>	No
	Write	Single Alternative	<CR>* lampm =single#<CR>	No
	Write	Single Alternative Eco	<CR>* lampm =singleeco#<CR>	No
	Read	Lamp Mode Status	<CR>*lampm=?#<CR>	Yes
Miscellaneous	Read	Model Name	<CR>*modelname=?#<CR>	Yes
	Write	Blank On	<CR>*blank=on#<CR>	Yes
	Write	Blank Off	<CR>*blank=off#<CR>	Yes
	Read	Blank Status	<CR>*blank=?#<CR>	Yes
	Write	Freeze On	<CR>*freeze=on#<CR>	Yes
	Write	Freeze Off	<CR>*freeze=off#<CR>	Yes
	Read	Freeze Status	<CR>*freeze=?#<CR>	Yes
	Write	Menu On	<CR>*menu=on#<CR>	Yes
	Write	Menu Off	<CR>*menu=off#<CR>	Yes
	Write	Up	<CR>*up#<CR>	Yes

	Write	Down	<CR>*down#<CR>	Yes
	Write	Right	<CR>*right#<CR>	Yes
	Write	Left	<CR>*left#<CR>	Yes
	Write	Enter	<CR>*enter#<CR>	Yes
	Write	3D Sync Off	<CR>*3d=off#<CR>	Yes
	Write	3D Auto	<CR>*3d=auto#<CR>	Yes
	Write	3D Sync Top Bottom	<CR>*3d=tb#<CR>	Yes
	Write	3D Sync Frame Sequential	<CR>*3d=fs#<CR>	Yes
	Write	3D Frame packing	<CR>*3d=fp#<CR>	Yes
	Write	3D Side by side	<CR>*3d=sbs#<CR>	Yes
	Write	3D inverter disable	<CR>*3d=da#<CR>	Yes
	Write	3D inverter	<CR>*3d=iv#<CR>	Yes
	Write	2D to 3D	<CR>*3d=2d3d#<CR>	No
	Write	3D nVIDIA	<CR>*3d=nvidia#<CR>	No
	Read	3D Sync Status	<CR>*3d=?#<CR>	Yes
	Write	Remote Receiver-front+rear	<CR>*rr=fr#<CR>	No
	Write	Remote Receiver-front	<CR>*rr=f#<CR>	No
	Write	Remote Receiver-rear	<CR>*rr=r#<CR>	No
	Write	Remote Receiver-top	<CR>*rr=t#<CR>	No
	Write	Remote Receiver-top+front	<CR>*rr=tf#<CR>	No
	Write	Remote Receiver-top+rear	<CR>*rr=tr#<CR>	No
	Read	Remote Receiver Status	<CR>*rr=?#<CR>	No
	Write	Instant On-on	<CR>*ins=on#<CR>	Yes
	Write	Instant On-off	<CR>*ins=off#<CR>	Yes
	Read	Instant On Status	<CR>*ins=?#<CR>	Yes
	Write	Lamp Saver Mode-on	<CR>*lpsaver=on#<CR>	No
	Write	Lamp Saver Mode-off	<CR>*lpsaver=off#<CR>	No
	Read	Lamp Saver Mode Status	<CR>*lpsaver=?#<CR>	No
	Write	Projection Log In Code on	<CR>*prjlogincode=on#<CR>	No
	Write	Projection Log In Code off	<CR>*prjlogincode=off#<CR>	No
	Read	Projection Log In Code	<CR>*prjlogincode=?#<CR>	No

		Status		
	Write	Broadcasting on	<CR>*broadcasting=on#<CR>	No
	Write	Broadcasting off	<CR>*broadcasting=off#<CR>	No
	Read	Broadcasting Status	<CR>*broadcasting=?<CR>	No
	Write	AMX Device Discovery-on	<CR>*amxdd=on#<CR>	No
	Write	AMX Device Discovery-off	<CR>*amxdd=off#<CR>	No
	Read	AMX Device Discovery Status	<CR>*amxdd=?#<CR>	No
	Read	Mac Address	<CR>*macaddr=?#<CR>	No
	Write	High Altitude mode on	<CR>*Highaltitude=on#<CR>	Yes
	Write	High Altitude mode off	<CR>*Highaltitude=off#<CR>	Yes
	Read	High Altitude mode status	<CR>*Highaltitude=?#<CR>	Yes

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