



HD-HSC-SP-RX

100m 4K HDBaseT Receiver with 4k@60Hz Scaler

API Command Set



Version: V1.0.0

244 Bergen Boulevard, Woodland Park, NJ 07424 • Tel 973-785-4347 • FAX 973-785-3318 • Web: www.fsrinc.com

Note: Prior to sending any API commands, unit must be set to API Command Mode using the “UART Connection Command” listed below. When in “Pass-through” (normal default mode), the HD-HSC-SP-Rx RS-232 port allows a bidirectional RS-232 connection at any baud rate to be sent over the HDBT link. While in API command mode, the HDBT RS-232 link is disabled until the Pass-through mode is restored via “Factory Reset”, or “CONNECT SCA” command.

About RS232 Setting

The settings for the RS232 port are:

1. Baud Rate – 115200
2. Data Bits – 8 bits
3. Parity – None
4. Stop Bits – 1 bit
5. Flow Control – None

About Telnet Connection

Before sending the telnet command , establish a telnet connection to the corresponding device.

The form of the telnet command is as follows:

telnet ip port

ip: The IP of required device

port: Port number of the device (Fixed port number is 23)

Example: The IP of required device is 192.168.2.128,

The telnet command is *telnet 192.168.2.128* **Factory default is 192.168.2.128**

About the Command Set

Take Command *SET SCALER prm[CR/LF]* as an example:

1. *[SET SCALER]* denotes command key words and is not case sensitive.
2. *[prm]* denotes parameters, case in-sensitive, incorrect parameters number will not be recognized.
3. *[CR/LF]* is needed, all commands end up with [CR/LF].

IDX	Function Description	More Details		Note
RS232 Port Operating Mode				
1	Uart connection CMD	Syntax Command: CONNECT prm[CR/LF] Return: CONNECT prm[CR/LF] Description: prm = {PTH, UPG, SCA} PTH: Pass-through mode UPG: Upgrade Valens FW mode SCA: Scaler (API Command Mode)	Example Command: CONNECT PTH[CR/LF] Return: CONNECT PTH[CR/LF] Description: Connect RS-232 port to HDBT link for normal pass-through mode	This command is used to set the HD-HSC-SP-RX RS-232 port to any of the 3 available modes; Pass-through mode (normal operating/default mode after factory reset), Scaler mode (needed for all other API commands), and Upgrade mode (used to flash Valens firmware). This command must be in all CAPS with only one space unless sent via TELNET, in which case it is not case sensitive.
2	Get uart connection status	Syntax Command: Telnet: GET CONNECT [CR/LF] Return: Telnet: CONNECT prm[CR/LF] Description: prm = {PTH, UPG, SCA} PTH: Pass-through mode UPG: Upgrade Valens FW mode SCA: Scaler (API Command Mode)	Example Command: Telnet: GET CONNECT [CR/LF] Return: Telnet: CONNECT PTH[CR/LF] Description: Returns RS-232 Port Mode, in this case “Pass-through” mode is indicated.	This command is used to quiry the HD-HSC-SP-RX RS-232 Port operating mode. This command must be in all CAPS with only one space unless sent via TELNET, in which case it is not case sensitive.
EDID				
3	Set Input EDID	Syntax Command: SET EDID input prm[CR/LF] Return: EDID input prm[CR/LF] Description: prm = {3840x2160@30, 3840x2160@30_FSR, 1920x1200@60,1920x1080@60,1280x800@60 ,1280x720@60,1024x768@60, copy}	Example Command: SET EDID input 3840x2160@30[CR/LF] Return: EDID input 3840x2160@30[CR/LF] Description: Set input FIX EDID max timing 3840x2160@30	Set RS-232 Port operating mode to SCA (API Command Mode) in order for API commands 3-12 to work.

IDX	Function Description	More Details		Note
Video				
4	Set Output Resolution	Syntax Command: SET SCALER prm[CR/LF] Return: SCALER prm[CR/LF] Description: prm = {3840x2160@60, 3840x2160@50, 3840x2160@30, 3840x2160@25, 3840x2160@24, 1920x1200@60, 1920x1080@60, 1920x1080@50, 1280x720@60, 1280x720@50, 1600x1200@60, 1680x1050@60, 1600x900@60, 1440x900@60, 1366x768@60, 1360x768@60, 1280x1024@60, 1280x960@60, 1280x768@60, 1280x800@60, 1024x768@60, 800x600@60, AUTO} Auto (preferred native timing of the display)	Example Command: SET SCALER 3840x2160@60[CR/LF] Return: SCALER 3840x2160@60[CR/LF] Description: Set output resolution to be 3840x2160@60Hz	
5	Get Output Resolution	Syntax Command: GET SCALER[CR/LF] Return: SCALER prm1: prm2[CR/LF] Description: prm1 = {AUTO, FIX} prm2 = {3840x2160@60, 3840x2160@30, 1920x1200@60, 1920x1080@60, 1280x720@60, 1600x1200@60, 1280x800@60, 1024x768@60, Auto} Auto (preferred native timing of the display)	Example Command: GET SCALER[CR/LF] Return: SCALER AUTO: 1920 x1080@60[CR/LF] Description: Get output resolution 1920 x1080@60	
CEC Control				
6	Set CEC POWER ON/OFF	Syntax Command: DISPLAY prm[CR/LF] Return: DISPLAY prm[CR/LF] Description: CECPWR_ONOFF will control sink power on or off prm = {on, off}	Example Command: DISPLAY on[CR/LF] Return: DISPLAY on[CR/LF] Description: Set CEC control sink power on	Set CEC power on/off takes effect immediately

IDX	Function Description	More Details		Note
7	Set CEC AUTO POWER ON/OFF	Syntax Command: DISPLAY AUTO prm[CR/LF] Return: DISPLAY AUTO prm[CR/LF] Description: prm = {on, off}	Example Command: DISPLAY AUTO on[CR/LF] Return: DISPLAY AUTO on[CR/LF] Description: Set CEC control sink power on automatically	If the auto CEC is disabled, all commands related to auto CEC are not valid anymore
8	Set CEC POWER Delay Time	Syntax Command: DISPLAY AUTO DELAY prm[CR/LF] Return: DISPLAY AUTO DELAY prm MINUTES[CR/LF] Description: CECAUTO_DELAY is short for CEC auto Power Delay Timing prm = {0,1,2,3,...} // according to the actual	Example Command: DISPLAY AUTO DELAY 2[CR/LF] Return: DISPLAY AUTO DELAY 2 MINUTES[CR/LF] Description: Set CEC power delay time to 2 minutes	The maximum delay time is 30-min
Volume				
9	Adjust volume gain	Syntax Command: SET VOL prm[CR/LF] Return: VOL prm[CR/LF] Description: prm = {0~100}	Example Command: SET VOL 100[CR/LF] Return: VOL 100[CR/LF] Description: Adjust the volume to 100	
10	Get current adjustment gain of volume	Syntax Command: GET VOL[CR/LF] Return: VOL prm[CR/LF] Description: prm = {0~100}	Example Command: GET VOL[CR/LF] Return: VOL 100 [CR/LF] Description: The current volume gain is 100	
System Info				
11	Factory Reset	Syntax Command: RESET[CR/LF] Return: RESTET[CR/LF] Description: Restore the device to factory default settings	Example Command: RESET[CR/LF] Return: RESTET[CR/LF] Description: Restore the device to factory default settings	NOTE: Reset also changes the internal serial connection to "PTH", or Passthrough mode. No other API commands will be honored until sending a "CONNECT SCA" in all caps with only one space. See Uart connection CMD above.

IDX	Function Description	More Details		Note
		Syntax	Example	
12	System Reboot	Command: REBOOT[CR/LF] Return: REBOOT[CR/LF] Description: Reboot the device.	Command: REBOOT[CR/LF] Return: REBOOT[CR/LF] Description: Reboot the device.	
Update Info				
		Syntax	Example	
13	Get target f/w Version	Command: GET VER [CR/LF] Return: VER prm [CR/LF] Description: VER = {ver} prm = {...} // according to actual f/w version	Command: GET VER [CR/LF] Return: VER 1.0[CR/LF] Description: The firmware version of the device is V1.0	
14	Upgrade Module	Command: UPG [CR/LF] Return: UPG [CR/LF] Description: UPG = upgrade	Command: UPG CR/LF] Return: UPG [CR/LF] Description: Upgrade module	Upgrade via serial port: In addition to return "UPG [CR/LF]", when upgrade completed, will return "UPG_COMPLETE[CR/LF]"; Upgrade via Telnet: Only return "UPG [CR/LF]"
LAN Configuration				
		Syntax	Example	
15	Set Static IP Address	Command: SET IPADDRESS STATIC ip4addr xx.xx.xx.xx netmask xx.xx.xx.xx [CR/LF] Return: IPADDRESS STATIC ip4addr xx.xx.xx.xx netmask xx.xx.xx.xx[CR/LF] Description: IPADDRESS = {ipaddress} STATIC = {static}	Command: SET IPADDRESS STATIC ip4addr 192.168.2.128 netmask 255.255.255.0 [CR/LF] Return: IPADDRESS STATIC ip4addr 192.168.2.128 netmask 255.255.255.0 [CR/LF] Description: Set the Static IP address to 192.168.2.128, netmask to 255.255.255.0	

IDX	Function Description	More Details		Note
		Syntax	Example	
16	Get IP Address and Netmask	Command: GET IPADDRESS [CR/LF] Return: IPADDRESS STATIC IP4ADDR xx.xx.xx.xx NETMASK xx.xx.xx.xx[CR/LF] Description: IPADDRESS = {ipaddress} STATIC = {static}	Command: GET IPADDRESS [CR/LF] Return: IPADDRESS STATIC IP4ADDR 192.168.2.128 NETMASK 255.255.255.0 [CR/LF] Description: IP Address is 192.168.2.128, netmask is 255.255.255.0	
RS232 Configuration				
		Syntax	Example	
17	Set UART Baud Rate	Command: SET BAUD prm[CR/LF] Return: BAUD prm[CR/LF] Description: control display via RS232 command prm = {9600, 57600, 115200,}	Command: SET BAUD 9600[CR/LF] Return: BAUD 9600[CR/LF] Description: Set UART Baud Rate to 9600	
18	Set UART End Character	Syntax Command: SET ENDCHAR prm[CR/LF] Return: ENDCHAR prm[CR/LF] Description: Set UART end Char prm = {null, cr, lf, crlf} null = NULL cr = 0X0D lf = 0X0A crlf = 0X0D 0X0A	Example Command: SET ENDCHAR cr[CR/LF] Return: ENDCHAR cr[CR/LF] Description: Set UART end Char is cr.	
19	Get UART End Character	Syntax Command: GET ENDCHAR[CR/LF] Return: ENDCHAR prm[CR/LF] Description: Get UART end Char. prm = {null, cr, lf, crlf} null = NULL cr = 0X0D lf = 0X0A crlf = 0X0D 0X0A	Example Command: GET ENDCHAR[CR/LF] Return: ENDCHAR cr[CR/LF] Description: Get UART end Char is cr.	

IDX	Function Description	More Details		Note
		Syntax	Example	
20	Configure UART CMD—Power On	Command: DON prm[CR/LF] Return: DON prm[CR/LF] Description: Configure UART power on command. prm = {pwr on cmd, ASCII type}	Command: DON pwron[CR/LF] Return: DON pwron[CR/LF] Description: Set ASCII string "pwron" to control the projector power on.	
21	Configure UART CMD—Power On	Command: DON_HEX prm[CR/LF] Return: DON_HEX prm[CR/LF] Description: Configure UART power on command. prm = {pwr on cmd, Hexadecimal type}	Command: DON_HEX 0X00 0X01 0X0A[CR/LF] Return: DON_HEX 0X00 0X01 0X0A[CR/LF] Description: Set HEX data "0X00 0X01 0X0A" to control the projector power on.	
22	Get UART CMD—Power ON	Command: DON?[CR/LF] Return: prm1 prm2[CR/LF] Description: Get UART power on command. prm1 = {DON, DON_HEX} prm2 = {pwr on cmd}	Command: DON?[CR/LF] Return: DON pwron[CR/LF] Description: Get the command which control the projector power on is ASCII string "pwron".	
23	Config UART CMD—Standby	Command: DOF prm[CR/LF] Return: DOF prm[CR/LF] Description: Configure UART Standby command. prm = {standby cmd, ASCII type}	Command: DOF pwroff[CR/LF] Return: DOF pwroff[CR/LF] Description: Set ASCII string "pwroff" to control the projector standby.	
24	Config UART CMD—Standby	Command: DOF_HEX prm[CR/LF] Return: DOF_HEX prm[CR/LF] Description: Configure UART Standby command. prm = {standby cmd, Hexadecimal type}	Command: DOF_HEX 0X00 0X01 0X0A[CR/LF] Return: DOF_HEX 0X00 0X01 0X0A[CR/LF] Description: Set HEX data"0X00 0X01 0X0A" to control the projector standby.	

IDX	Function Description	More Details		Note
		Syntax	Example	
25	Get UART CMD—Standby	Command: DOF?[CR/LF] Return: prm1 prm2 [CR/LF] Description: Get UART standby command. prm1 = {DOF, DOF_HEX} prm2 = {standby cmd}	Command: DOF?[CR/LF] Return: DOF pwroff [CR/LF] Description: Get the command which control the projector standby is ASCII string "pwroff".	
26	Configure UART Auto Power Enable	Command: DFG1[CR/LF] Return: ON[CR/LF] Description: Set projector auto power on, the command is the same as "Set the CEC auto power on"	Command: DFG1[CR/LF] Return: ON[CR/LF] Description: Set projector auto power on, the command is the same as "Set the CEC auto power on"	
27	Configure UART Auto Power Disable	Command: DFG0[CR/LF] Return: OFF[CR/LF] Description: Set projector auto power off, the command is the same as "Set the CEC auto power off"	Command: DFG0[CR/LF] Return: OFF[CR/LF] Description: Set projector auto power off, the command is the same as "Set the CEC auto power off"	
28	Set UART CMD	Command: DISP prm[CR/LF] Return: DISPLAY prm[CR/LF] Description: Set the display power on/off. prm = {on, off}	Command: DISP ON[CR/LF] Return: DISPLAY ON[CR/LF] Description: Set the display power on	Before sending this command, please configure DON, DOF and Baud rate

