



HD-HSC-SP-RX

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

API Command Set



Version: V1.0.0

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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	<p style="text-align: center;">Syntax</p> <p>Command: CONNECT prm[CR/LF]</p> <p>Return: CONNECT prm[CR/LF]</p> <p>Description: prm = {PTH, UPG, SCA} PTH: Pass-through mode UPG: Upgrade Valens FW mode SCA: Scaler (API Command Mode)</p>	<p style="text-align: center;">Example</p> <p>Command: CONNECT PTH[CR/LF]</p> <p>Return: CONNECT PTH[CR/LF]</p> <p>Description: Connect RS-232 port to HDBT link for normal pass-through mode</p>	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	<p style="text-align: center;">Syntax</p> <p>Command: Telnet: GET CONNECT [CR/LF]</p> <p>Return: Telnet: CONNECT prm[CR/LF]</p> <p>Description: prm = {PTH, UPG, SCA} PTH: Pass-through mode UPG: Upgrade Valens FW mode SCA: Scaler (API Command Mode)</p>	<p style="text-align: center;">Example</p> <p>Command: Telnet: GET CONNECT [CR/LF]</p> <p>Return: Telnet: CONNECT PTH[CR/LF]</p> <p>Description: Returns RS-232 Port Mode, in this case "Pass-through" mode is indicated.</p>	This command is used to query 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	<p style="text-align: center;">Syntax</p> <p>Command: SET EDID input prm[CR/LF]</p> <p>Return: EDID input prm[CR/LF]</p> <p>Description: prm = {3840x2160@30, 3840x2160@30_FSR, 1920x1200@60, 1920x1080@60, 1280x800@60, 1280x720@60, 1024x768@60, copy}</p>	<p style="text-align: center;">Example</p> <p>Command: SET EDID input 3840x2160@30[CR/LF]</p> <p>Return: EDID input 3840x2160@30[CR/LF]</p> <p>Description: Set input FIX EDID max timing 3840x2160@30</p>	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	<p style="text-align: center;">Syntax</p> <p>Command: SET SCALER prm[CR/LF]</p> <p>Return: SCALER prm[CR/LF]</p> <p>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}</p> <p>Auto (preferred native timing of the display)</p>	<p style="text-align: center;">Example</p> <p>Command: SET SCALER 3840x2160@60[CR/LF]</p> <p>Return: SCALER 3840x2160@60[CR/LF]</p> <p>Description: Set output resolution to be 3840x2160@60Hz</p>	
5	Get Output Resolution	<p style="text-align: center;">Syntax</p> <p>Command: GET SCALER[CR/LF]</p> <p>Return: SCALER prm1: prm2[CR/LF]</p> <p>Description: prm1 = {AUTO, FIX} prm2 = {3840x2160@60, 3840x2160@30, 1920x1200@60, 1920x1080@60, 1280x720@60, 1600x1200@60, 1280x800@60, 1024x768@60, Auto}</p> <p>Auto (preferred native timing of the display)</p>	<p style="text-align: center;">Example</p> <p>Command: GET SCALER[CR/LF]</p> <p>Return: SCALER AUTO: 1920 x1080@60[CR/LF]</p> <p>Description: Get output resolution 1920 x1080@60</p>	
CEC Control				
6	Set CEC POWER ON/OFF	<p style="text-align: center;">Syntax</p> <p>Command: DISPLAY prm[CR/LF]</p> <p>Return: DISPLAY prm[CR/LF]</p> <p>Description: CECPWR_ONOFF will control sink power on or off prm = {on, off}</p>	<p style="text-align: center;">Example</p> <p>Command: DISPLAY on[CR/LF]</p> <p>Return: DISPLAY on[CR/LF]</p> <p>Description: Set CEC control sink power on</p>	Set CEC power on/off takes effect immediately

IDX	Function Description	More Details		Note
7	Set CEC AUTO POWER ON/OFF	<p>Syntax</p> <p>Command: DISPLAY AUTO prm[CR/LF]</p> <p>Return: DISPLAY AUTO prm[CR/LF]</p> <p>Description: prm = {on, off}</p>	<p>Example</p> <p>Command: DISPLAY AUTO on[CR/LF]</p> <p>Return: DISPLAY AUTO on[CR/LF]</p> <p>Description: Set CEC control sink power on automatically</p>	If the auto CEC is disabled, all commands related to auto CEC are not valid anymore
8	Set CEC POWER Delay Time	<p>Syntax</p> <p>Command: DISPLAY AUTO DELAY prm[CR/LF]</p> <p>Return: DISPLAY AUTO DELAY prm MINUTES[CR/LF]</p> <p>Description: CECAUTO_DELAY is short for CEC auto Power Delay Timing prm = {0,1,2,3...} // according to the actual</p>	<p>Example</p> <p>Command: DISPLAY AUTO DELAY 2[CR/LF]</p> <p>Return: DISPLAY AUTO DELAY 2 MINUTES[CR/LF]</p> <p>Description: Set CEC power delay time to 2 minutes</p>	The maximum delay time is 30-min
Volume				
9	Adjust volume gain	<p>Syntax</p> <p>Command: SET VOL prm[CR/LF]</p> <p>Return: VOL prm[CR/LF]</p> <p>Description: prm = {0~100}</p>	<p>Example</p> <p>Command: SET VOL 100[CR/LF]</p> <p>Return: VOL 100[CR/LF]</p> <p>Description: Adjust the volume to 100</p>	
10	Get current adjustment gain of volume	<p>Syntax</p> <p>Command: GET VOL[CR/LF]</p> <p>Return: VOL prm[CR/LF]</p> <p>Description: prm = {0~100}</p>	<p>Example</p> <p>Command: GET VOL[CR/LF]</p> <p>Return: VOL 100 [CR/LF]</p> <p>Description: The current volume gain is 100</p>	
System Info				
11	Factory Reset	<p>Syntax</p> <p>Command: RESET[CR/LF]</p> <p>Return: RESTET[CR/LF]</p> <p>Description: Restore the device to factory default settings</p>	<p>Example</p> <p>Command: RESET[CR/LF]</p> <p>Return: RESTET[CR/LF]</p> <p>Description: Restore the device to factory default settings</p>	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
12	System Reboot	<p>Syntax</p> <p>Command: REBOOT[CR/LF]</p> <p>Return: REBOOT[CR/LF]</p> <p>Description: Reboot the device.</p>	<p>Example</p> <p>Command: REBOOT[CR/LF]</p> <p>Return: REBOOT[CR/LF]</p> <p>Description: Reboot the device.</p>	
Update Info				
13	Get target f/w Version	<p>Syntax</p> <p>Command: GET VER [CR/LF]</p> <p>Return: VER prm [CR/LF]</p> <p>Description: VER = {ver} prm = {...} // according to actual f/w version</p>	<p>Example</p> <p>Command: GET VER [CR/LF]</p> <p>Return: VER 1.0[CR/LF]</p> <p>Description: The firmware version of the device is V1.0</p>	
14	Upgrade Module	<p>Syntax</p> <p>Command: UPG [CR/LF]</p> <p>Return: UPG [CR/LF]</p> <p>Description: UPG = upgrade</p>	<p>Example</p> <p>Command: UPG CR/LF]</p> <p>Return: UPG [CR/LF]</p> <p>Description: Upgrade module</p>	<p>Upgrade via serial port: In addition to return "UPG [CR/LF]", when upgrade completed, will return "UPG_COMPLETE[CR/LF]";</p> <p>Upgrade via Telnet: Only return "UPG [CR/LF]"</p>
LAN Configuration				
15	Set Static IP Address	<p>Syntax</p> <p>Command: SET IPADDRESS STATIC ip4addr xx.xx.xx.xx netmask xx.xx.xx.xx [CR/LF]</p> <p>Return: IPADDRESS STATIC ip4addr xx.xx.xx.xx netmask xx.xx.xx.xx[CR/LF]</p> <p>Description: IPADDRESS = {ipaddress} STATIC = {static}</p>	<p>Example</p> <p>Command: SET IPADDRESS STATIC ip4addr 192.168.2.128 netmask 255.255.255.0 [CR/LF]</p> <p>Return: IPADDRESS STATIC ip4addr 192.168.2.128 netmask 255.255.255.0 [CR/LF]</p> <p>Description: Set the Static IP address to 192.168.2.128, netmask to 255.255.255.0</p>	

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

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

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

