



User Manual

48Gbps 2x8 HDMI Splitter

Model PT-SP-HD28-48G

Designed in Germany

Version V1.0

Preface

Read this user manual carefully before using this product. Pictures shown in this manual are for reference only. Different model layouts and specifications are subject to the physical product.

This manual is for operation instructions only, not for any maintenance usage.

In the constant effort to improve our product, we reserve the right to make changes in functions or parameters without prior notice or obligation.

Trademarks

Product model and logo are trademarks. Any other trademarks mentioned in this manual are acknowledged as the properties of the trademark owner. No part of this publication may be copied or reproduced without the prior written consent.

FCC Statement

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. It has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a commercial installation.

Operation of this equipment in a residential area is likely to cause interference, in which case the user at their own expense will be required to take whatever measures may be necessary to correct the interference.

Any changes or modifications not expressly approved by the manufacturer would void the user's authority to operate the equipment.



REACH | 1907/2006/EU

ROHS | 2011/65/EU

PureLink hereby declares that this product PureTools PT-SP-HD28-48G complies with Directives 1907/2006/EU and 2011/65/EU.

EMC / LVD (Electro Magnetic Compatibility / Low Voltage Directive)

PureLink GmbH hereby declares that this product PureTools PT-SP-HD28-48G complies with Directives 2014/30/EU and 2014/35/EU. The full text of the EU Declaration of Conformity is available at the following Internet address:

http://www.purelink.de/ce/4251364745182_CE.pdf



SAFETY PRECAUTIONS

To ensure the best from the product, please read all instructions carefully before using the device. Save this manual for further reference.

- Unpack the equipment carefully and save the original box and packing material for possible future shipment.
- Follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.
- Do not dismantle the housing or modify the module. It may result in electrical shock or burn.
- Using supplies or parts not meeting the products' specifications may cause damage, deterioration or malfunction.
- Refer all servicing to qualified service personnel.
- To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.
- Do not put any heavy items on the extension cable in case of extrusion.
- Do not remove the housing of the device as opening or removing housing may expose you to dangerous voltage or other hazards.
- Install the device in a place with fine ventilation to avoid damage caused by overheat.
- Keep the module away from liquids.
- Spillage into the housing may result in fire, electrical shock, or equipment damage. If an object or liquid falls or spills on to the housing, unplug the module immediately.
- Do not twist or pull by force ends of the optical cable. It can cause malfunction.
- Do not use liquid or aerosol cleaners to clean this unit. Always unplug the power to the device before cleaning.
- Unplug the power cord when left unused for a long period of time.
- Information on disposal for scrapped devices: do not burn or mix with general household waste, please treat them as normal electrical wastes.

Content

1. Product Introduction.....	2
1.1 Introduction.....	2
1.2 Features.....	2
1.3 Package List.....	3
2. Panel Description.....	3
2.1 Front Panel.....	3
2.2 Rear Panel.....	6
3. IR Remote.....	7
4. IR Pin Definition.....	7
5. Specification.....	8
6. API Commands.....	11
7. System Diagram.....	21
8. Firmware Upgrade.....	22
7. After-Sales Service.....	24
Asking for Assistance.....	25

1. Product Introduction

1.1 Introduction

This 2×8 splitter features dual HDMI input switching and distributes up to eight HDMI outputs simultaneously, supporting video resolutions up to 8K@60Hz 4:2:0 12-bit. Each output port independently supports 8K to 4K/2K downscaling and HDR to SDR conversion. Audio de-embedding is available for digital optical output and balanced/unbalanced analogue audio, with adjustable gain. The unit offers both automatic and manual input switching, along with EDID management. Control options include front panel buttons, an IR remote, and API commands.

1.2 Features

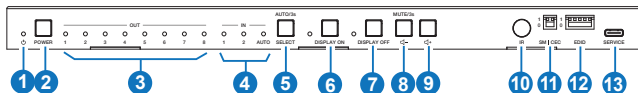
- HDCP 2.3 and HDCP 1.4 compliant
- 48Gbps video bandwidth
- Video resolution up to 8K@60Hz 4:2:0 12bit, 8K@30Hz 4:4:4 12bit, 4K@120Hz 4:4:4 12bit
- VRR, ALLM, QMS, QFT, SBTM are full supported
- Supports HDR, HDR10, HDR10+, Dolby Vision, ALLM/VRR pass-through
- Supports 8K->4K/2K downscaling on each output for legacy display
- Supports HDR to SDR conversion on each output for legacy display
- Supports audio de-embedding to output digital optical audio and analog audio with gain adjustment.
- Comprehensive EDID options and HDCP 1.4/2.3 handshake management
- Supports auto and manual input switching
- CEC control for display on/off and volume adjustment
- Built-in equalizer, retiming and driver
- Controlled by front panel buttons, IR remote and API commands

1.3 Package List

- 1× 48Gbps 2x8 HDMI Splitter
- 1× 12V/2.5A Multinational Locking Power Supply with US/EU/UK/AU Conversion Plug
- 1× IR Remote
- 1× IR Wideband Receiver (1.5m)
- 1× 5pin-3.5mm Phoenix Connector
- 1× 3pin-3.5mm Phoenix Connector
- 2× Mounting Ear
- 4× Machine Screw (KM3*6)
- 1× User Manual

2. Panel Description

Front Panel



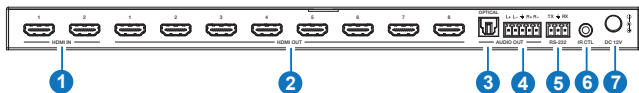
No.	Name	Function Description
1	Power LED	When the device is powered on, the power LED is green; When the device is standby, the power LED is red.
2	POWER button	Press to power on; Press and hold for 3 seconds to enter standby mode.
3	OUT LED (1-8)	When HDMI OUT 1/2/3/4/5/6/7/8 port connects to a display device and outputs signal, the corresponding green LED will be on.
4	IN 1/2 & AUTO LED	When HDMI IN 1/2 is select as the signal input channel, the corresponding LED will be on. When the auto swithing mode is enabled, the AUTO LED will be on.

No.	Name	Function Description
5	AUTO/3s SELECT button	■ Short press to switch the input source. ■ Press and hold for 3 seconds to switch between AUTO and Manual mode.
6	DISPLAY ON button & LED	Press the button to turn on the display, and at this time the LED is on.
7	DISPLAY OFF button & LED	Press the button to turn off the display, and at this time the LED is on.
8	MUTE/3s & Volume-	■ Short press to turn down the volume. ■ Press and hold for 3 seconds to mute the sound. Short press the Volume+ button to unmute. Note: The volume of current product and the downstream display devices will be controlled at the same time.
9	Volume+	Short press to turn up the volume. Note: The volume of current product and the downstream display devices will be controlled at the same time.
10	IR window	IR signal receiving window.
11	SM/CEC DIP switch	■ SM is used for HDCP setting. SM=1: HDCP follows the source. SM=0: Force HDCP 1.4 (If the input signal is HDCP 2.2/1.4, the output is HDCP 1.4; If the input signal is without HDCP, the output is the same). ■ CEC is used for CEC setting. CEC=1 (Disabled): Prevents CEC communications between the source and sink devices. CEC=0 (Enabled): Allow CEC communication between the source and sink devices.
12	EDID DIP switch	Used for EDID setting. * The EDID list is defined below.
13	SERVICE	Used for firmware update and API commands. The fixed baudrate is 115200.

* The defined EDID list is as follow:

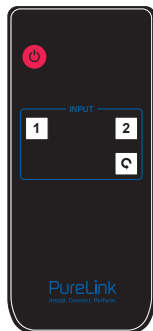
DIP_11111: EDIDpass-through (Copyfrom Sink 1)(default)
DIP_11110: HDMI 1080p60Hz,Audio2CH PCM
DIP_11101: HDMI 1080p@60Hz, Audio 5.1CH DTS/DOLBY
DIP_11100: HDMI 4K@60Hz 4:4:4, 8-bit, Audio 2CH PCM
DIP_11011: HDMI 4K@60Hz 4:4:4, 8-bit, Audio 5.1CH DTS/DOLBY
DIP_11010: HDMI4K@120Hz 4:4:4,8-bit,Audio2CH PCM
DIP_11001: HDMI 4K@120Hz 4:4:4, 8-bit, Audio 5.1CH DTS/DOLBY
DIP_11000: HDMI 4K@120Hz 4:4:4, 10-bit HDR/DV, Audio 2CH PCM
DIP_10111: HDMI 4K@120Hz 4:4:4, 10-bit HDR/DV, Audio 5.1CH DTS/DOLBY
DIP_10110: HDMI 4K@120Hz 4:4:4, 12-bit HDR/DV, Audio 2CH PCM
DIP_10101: HDMI4K@120Hz4:4:4,12-bitHDR/DV,Audio5.1CH DTS/DOLBY
DIP_10100: HDMI5K@60Hz 4:4:4,8-bit, Audio 2CH PCM
DIP_10011: HDMI 5K@60Hz 4:4:4, 8-bit, Audio 5.1CH DTS/DOLBY
DIP_10010: HDMI8K@60Hz4:2:0,10-bitHDR/DV,Audio2CHPCM
DIP_10001: HDMI 8K@60Hz 4:2:0, 10-bit HDR/DV, Audio 5.1CH DTS/DOLBY
DIP_10000: HDMI 8K@60Hz 4:2:0, 12-bit HDR/DV, Audio 2CH PCM
DIP_01111: HDMI 8K@60Hz 4:2:0, 12-bit HDR/DV, Audio5.1CH DTS/DOLBY
DIP_01110: HDMI 8K@60Hz 4:2:0, 12-bit HDR/DV, Audio 2CH PCM - Inc VRR/DSC
DIP_01101: HDMI 8K@60Hz 4:2:0,12-bit HDR/DV,Audio5.1CH DTS/DOLBY-
IncVRR/DSC
DIP_01100: EDID pass-through (Copy from Sink 2)
DIP_01011: EDID pass-through (Copy from Sink 3)
DIP_01010: EDID pass-through (Copy from Sink 4)
DIP_01001: Reserved
DIP_01000: Reserved
DIP_00111: Reserved
DIP_00110: Reserved
DIP_00101: User EDID 1
DIP_00100: User EDID 2
DIP_00000: SoftwareEDIDs

Rear Panel



No.	Name	Function Description
1	HDMI IN (1~2)	HDMI signal input ports, connected to source devices such as PC or PS5 with HDMI cable.
2	HDMI OUT (1~8)	HDMI signal output ports, connected to display devices such as TV or Monitor with HDMI cable.
3	OPTICAL (AUDIO OUT)	Digital audio output port, connected to an audio device.
4	L/R (AUDIO OUT)	Analog audio output port, supporting balanced audio output (with a maximum support of 2Vrms) and unbalanced audio output (with a maximum support of 1Vrms). Balanced connection method: L+, L-, $\frac{1}{2}$, R+, R- Unbalanced connection method: L+, $\frac{1}{2}$, R+
5	RS-232	RS-232 serial port, connected to a PC or control system for API command control.
6	IR CTL	12V IR input port, connected to the IR receiver cable.
7	DC 12V	DC 12V/2.5A power input port.

3. IR Remote

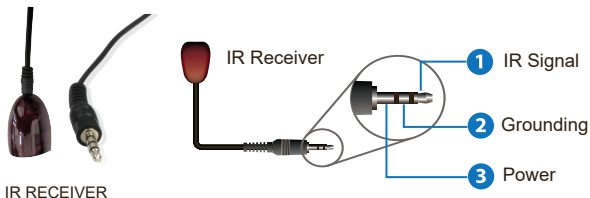


 : Power on the product or set it to standby mode.

1/2 : Press 1/2 button to select HDMI signal source IN 1/2.

 : Press this button to cyclically switch HDMI signal source IN 1/2.

4. IR Pin Definition



5. Specification

Technical		
HDMI Compliance	HDMI 2.1	
HDCP Compliance	HDCP 2.3	
Video Bandwidth	48Gbps	
Video Resolution	Up to 8K@60Hz 4:2:0 12bit, 8K@30Hz 4:4:4 12bit, 4K@120Hz 4:4:4 12bit	
Color Depth	8/10/12-bit	
Color Space	RGB, YCbCr_4:4:4, YCbCr_4:2:2, YCbCr_4:2:0	
HDR	HDR, HDR10, HDR10+, Dolby Vision, HLG	
Audio Format	HDMI input/output: LPCM, Dolby Digital/Plus/EX, Dolby True HD, Dolby Atmos, DTS, DTS-EX, DTS-96/24, DTS High Res, DTS-HD Master Audio, DSD Audio de-embedding output: Optical: LPCM/Dolby/DTS 5.1CH Analog: LPCM 2CH	
Audio Parameters	Output Impedance	300 Ohm
	Output Level (Maximum)	8.2dBu (2Vrms)
	Frequency Response	(+0.5dB, -1dB) 20Hz to 20KHz
	Dynamic Range	>90dB@0dBu, 1kHzA-weighted
	Audio S/N Ratio	>90dB@0dBu, 1kHzA-weighted
	Audio THD+N	< 0.01% at +4dBu, 1KHz
	Audio Output Delay	<1ms
IR Level	12Vp-p	
IR Frequency	Wideband 20K-60KHz	

Transmission Distance	3m/9.8ft over HDMI cable
ESD Protection	IEC 61000-4-2: ±8kV (air-gap discharge) & ±4kV (contact discharge)
Connection	
Input	2× HDMI IN [HDMI type A, 19-pin female]
Output	8× HDMI OUT [HDMI type A, 19-pin female] 1× OPTICAL [S/PDIF] 1× L/R [5pin-3.5mm phoenix connector]
Control	1× RS-232 [3pin-3.5mm phoenix connector] 1× IR CTL [3.5mm stereo mini-jack] 1× SERVICE [USB type C, upgrade port]
Mechanical	
Housing	Metal Enclosure
Color	Black
Dimensions	320mm [W] × 100mm [D] × 21.5mm [H]
Weight	860g
Power Supply	DC 12V/2.5A
Power Consumption	7.8W (Max)
Operation Temperature	0 ~ 40°C
Storage Temperature	-20 ~ 60°C
Operating Humidity	20%~80% relative humidity, non-condensing
Storage Humidity	10%~90% relative humidity, non-condensing

* All the input/output resolutions in the following list have been fully tested in lab conditions. Other resolutions may also function without issues.

No.	Resolution	No.	Resolution
1	640x480p60Hz	2	800x600p60Hz
3	1024x768p60Hz	4	1280x1024p60Hz
5	1360x768p60Hz	6	1440x900p60Hz
7	1440x1050p60Hz	8	1600x1200p60Hz
9	720x480i59.94Hz (480i59)	10	720x480p59.94Hz (480p59)
11	720x576i50Hz (576i50)	12	720x576p50Hz (576p50)
13	1280x720p50Hz (720p50)	14	1280x720p59.94Hz (720p59)
15	1280x720p60Hz (720p60)	16	1920x1080i50Hz (1080i50)
17	1920x1080i59.94Hz (1080i59)	18	1920x1080i60Hz (1080i60)
19	1920x1080p23.98Hz (1080p23)	20	1920x1080p24Hz (1080p24)
21	1920x1080p25Hz (1080p25)	22	1920x1080p29.97Hz (1080p29)
23	1920x1080p30Hz (1080p30)	24	1920x1080p50Hz (1080p50)
25	1920x1080p59.94Hz (1080p59)	26	1920x1080p60Hz (1080p60)
27	3840x2160p23.98Hz (2160p23)	28	3840x2160p24Hz (2160p24)
29	3840x2160p25Hz (2160p25)	30	3840x2160p29.97Hz (2160p29)
31	3840x2160p30Hz (2160p30)	32	3840x2160p50Hz (2160p50)
33	3840x2160p59.94Hz (2160p59)	34	3840x2160p60Hz (2160p60)
35	3840x2160p100Hz (2160p100)	36	3840x2160p120Hz (2160p120)
37	4096x2160p23.98Hz	38	4096x2160p24Hz
39	4096x2160p25Hz	40	4096x2160p29.97Hz
41	4096x2160p30Hz	42	4096x2160p50Hz
43	4096x2160p59.94Hz	44	4096x2160p60Hz
45	4096x2160p100Hz	46	4096x2160p120Hz
47	5120x2160p50Hz	48	5120x2160p60Hz
49	7680x4320p23.98Hz	50	7680x4320p24Hz
51	7680x4320p25Hz	52	7680x4320p29.97Hz
53	7680x4320p30Hz	54	7680x4320p50Hz
55	7680x4320p60Hz		

6. API Commands

The product also supports RS-232 command control. Connect the RS-232 port of the PT-SP-HD28-48G to the PureLink PTM-RS100 configurable RS-232 cable (or other appropriate cable) and your control device. The DIP settings are as follows:



Then open a Serial Command tool on PC to send ASCII commands to control the product. The ASCII command list of the product is shown below.

ASCII Command				
- Service port (USB-C virtual RS-232) communication protocol (Internal debug) Baud rate: 115200 (Fixed); Data bit: 8; Stop bit: 1; Parity bit: none The end mark of command is "<CR><LF>" - Phoenix RS-232 port communication protocol (Connect to control system) Baud rate: 4800~115200 (Configurable); Data bit: 8; Stop bit: 1; Parity bit: none The end mark of command is "<CR><LF>"				
Command	Function	Example	Feedback	Default
?	Get the list of all commands	?		
help	Get the list of all commands	help		
get fw version	Get firmware version	get fw version	MCU version: 1.00.03 Chip 1 PS8419 version: 13.28 Chip 2 PS8419 version: 13.28	

Command	Function	Example	Feedback	Default
set power on/off	Set device power on/off	set power on set power off	Power on... System Initializing... Initialization Finished! FW: 1.0.0 Power off...	
get power	Get device power status	get power	Power on	
set reboot	Reboot the device	set reboot	Reboot... System Initializing... Initialization Finished! FW: 1.0.0	
set reset	Reset to factory defaults	set reset	Sure to RESET to default settings? Type "Yes" after next prompt to confirm...	
get status	Get system status	get status	Please refer to the note at the end of the list	
set IR on/off	Set IR on/off	set IR on set IR off	Set IR on Set IR off	on
get IR	Get IR on/off status	get IR	IR on	
set key x on/off	Set front panel key (x=0~6) on/off x=0: All keys x=1: Power key x=2: Select key x=3: Display on key x=4: Display off key x=5: Volume down key x=6: Volume up key	set key 0 on set key 2 off	Set all key on Set select key off	on
get key x	Get front panel key (x=0~6) on/off status	get key get key 0 get key 2	All key on All key on Select key on	

Command	Function	Example	Feedback	Default
set baud x	Set RS-232 baud rate to x bps x=1: 4800 x=2: 9600 x=3: 19200 x=4: 38400 x=5: 57600 x=6: 115200	set baud 6	Set baud rate 115200	115200
get baud	Get RS-232 baud rate	get baud	Baud rate 115200	
set input x	Set input video (x=0~2) x=0: Off x=1~2: HDMI input 1~2	set input 1	Set input HDMI 1	1
get input	Get input port	get input	Input HDMI 1	
get hdmi5v	Get input HDMI 5V	get hdmi5v	HDMI 1: 5V HDMI 2: none	
set autoswitch x	Set auto-switching on/off (HDMI 5V detection) x=On, Off	set autoswitch on	Set autoswitch on	on
get autoswitch	Get auto-switching status	get autoswitch	Autoswitch on	
set output x downscale y	Set output (x=0~8) downscaling mode (y=0~1) x=0: all outputs x=1~8: HDMI output 1~8 y=0: Automatically according to display's capability y=1: Bypass video y=2: Force 1080p	set output 0 downscale 0	Set all outputs downscale auto	0
get output x downscale	Get output (x=0~8) downscaling mode	get output 0 downscale	HDMI output 1 downscale auto HDMI output 2 downscale auto HDMI output 7 downscale auto HDMI output 8 downscale auto	

Command	Function	Example	Feedback	Default
set output x display y	Set output (x=0-8) display mode (y=0-3) x=0: all outputs x=1-8: HDMI output 1-8 y=0: Off (disable TMDS output) y=1: Input video y=2: AVMUTE y=3: Internal pattern Note: When y is 1, 2, or 3, x must be 0.	set output 0 display 2	Set all outputs display internal pattern	1
get output x display	Get output (x=0-8) display mode	get output 0 display	HDMI output 1 display internal pattern HDMI output 2 display internal pattern HDMI output 7 display internal pattern HDMI output 8 display internal pattern	
set output x HDCP y	Set output (x=0-8) HDCP mode (y=0-3) x=0: all outputs x=1-8: HDMI output 1-8 y=0: Reserved y=1: Follow sink y=2: Follow source y=3: Force HDCP 1.4 y=4: Force HDCP 2.2	set output 0 HDCP 1	Set all outputs HDCP follow sink	1
get output x HDCP	Get output (x=0-8) HDCP mode	get output 0 HDCP	HDMI output 1 HDCP follow sink HDMI output 2 HDCP follow sink HDMI output 7 HDCP follow sink HDMI output 8 HDCP follow sink	

Command	Function	Example	Feedback	Default
set CEC on/off	Set CEC on/off	set CEC on set CEC off	Set CEC enable Set CEC disable	Disable
get CEC	Get CEC on/off status	get CEC	CEC enable CEC disable	
set generator x y	Set internal signal generator resolution (x=1~15) pattern (y=1~13) x=01: 8K30Hz x=02: 4K120Hz x=03: 4K100Hz x=04: 5K60Hz x=05: 5K50Hz x=06: 5K30Hz x=07: 5K25Hz x=08: 5K24Hz x=09: 4K60Hz x=10: 4K50Hz x=11: 4K25Hz x=12: 4K24Hz x=13: 1080P60Hz x=14: 480P60Hz x=15: 5760P50Hz y=01: Color bar y=02: Checkboard y=03: Strip y=04: Red y=05: Green y=06: Blue y=07: White y=08: Ramp y=09: Red ramp y=10: Green ramp y=11: Blue ramp y=12: PRBS y=13: Black	set generator 1 1	Set generator 8K30Hz color bar	
get generator	Get internal signal generator output resolution and pattern	get generator	Generator 8K30Hz color bar	

Command	Function	Example	Feedback	Default
set analog mute x	Set analog audio mute on/off x=On, Off	set analog mute on	Set analog mute on	off
get analog mute	Get analog audio mute status	get analog mute	off	
set analog gain x	Set analog audio gain (x=0dB ~ -79dB)	set analog gain -79dB	Set analog gain -79dB	0dB
get analog gain	Get analog audio gain value	get analog gain	Analog gain -79dB	
set edid x to y	Set input ports (x=0~2) to EDID (y=0~41) x=0: all inputs x=1~2: HDMI input 1~2 y=00: HDMI 1080p@60Hz, Audio 2CH PCM (default) y=01: HDMI 1080p@60Hz, Audio 5.1CH DTS/DOLBY y=02: HDMI 1080p@60Hz, Audio 7.1CH DTS/DOLBY/HD y=03: HDMI 4K@60Hz 4:4:4, 8-bit, Audio 2CH PCM y=04: HDMI 4K@60Hz 4:4:4, 8-bit, Audio 5.1CH DTS/DOLBY y=05: HDMI 4K@60Hz 4:4:4, 8-bit, Audio 7.1CH DTS/DOLBY/HD y=06: HDMI 4K@120Hz 4:4:4, 8-bit, Audio 2CH PCM y=07: HDMI 4K@120Hz 4:4:4, 8-bit, Audio 5.1CH DTS/DOLBY y=08: HDMI 4K@120Hz 4:4:4, 8-bit, Audio 7.1CH DTS/DOLBY/HD y=09: HDMI 4K@120Hz 4:4:4, 10-bit HDR/DV, Audio 2CH PCM y=10: HDMI 4K@120Hz 4:4:4, 10-bit HDR/DV, Audio 5.1CH DTS/DOLBY y=11: HDMI 4K@120Hz 4:4:4, 10-bit HDR/DV, Audio 7.1CH DTS/DOLBY/HD	set edid 0 to 0	Set all inputs EDID to SDF_00: HDMI 1080p@60Hz, Audio 2CH PCM (default)	0

Command	Function	Example	Feedback	Default
set edid x to y	(Continued) y=12: HDMI 4K@120Hz 4:4:4, 12-bit HDR/ DV, Audio 2CH PCM y=13: HDMI 4K@120Hz 4:4:4, 12-bit HDR/ DV, Audio 5.1CH DTS/DOLBY y=14: HDMI 4K@120Hz 4:4:4, 12-bit HDR/ DV, Audio 7.1CH DTS/DOLBY/HD y=15: HDMI 4K@120Hz 4:4:4, 12-bit HDR/ DV, Audio 2CH PCM - Inc VRR/DSC y=16: HDMI 4K@120Hz 4:4:4, 12-bit HDR/ DV, Audio 5.1CH DTS/DOLBY - Inc VRR/DSC y=17: HDMI 4K@120Hz 4:4:4, 12-bit HDR/ DV, Audio 7.1CH DTS/DOLBY/HD - Inc VRR/ DSC y=18: HDMI 5K@60Hz 4:4:4, 8-bit, Audio 2CH PCM y=19: HDMI 5K@60Hz 4:4:4, 8-bit, Audio 5.1CH DTS/DOLBY y=20: HDMI 8K@60Hz 4:2:0, 10-bit HDR/DV, Audio 2CH PCM y=21: HDMI 8K@60Hz 4:2:0, 10-bit HDR/DV, Audio 5.1CH DTS/DOLBY y=22: HDMI 8K@60Hz 4:2:0, 10-bit HDR/DV, Audio 7.1CH DTS/DOLBY/HD y=23: HDMI 8K@60Hz 4:2:0, 12-bit HDR/DV, Audio 2CH PCM y=24: HDMI 8K@60Hz 4:2:0, 12-bit HDR/DV, Audio 5.1CH DTS/DOLBY y=25: HDMI 8K@60Hz 4:2:0, 12-bit HDR/DV, Audio 7.1CH DTS/DOLBY/HD y=26: HDMI 8K@60Hz 4:2:0, 12-bit HDR/DV, Audio 2CH PCM - Inc VRR/DSC y=27: HDMI 8K@60Hz 4:2:0, 12-bit HDR/DV, Audio 5.1CH DTS/DOLBY - Inc VRR/DSC y=28: HDMI 8K@60Hz 4:2:0, 12-bit HDR/DV, Audio 7.1CH DTS/DOLBY/HD - Inc VRR/DSC y=29: DVI 1920x1080@60Hz, Audio None y=30: DVI 1920x1200@60Hz, Audio None y=31: HDMI 1920x1200@60Hz, Audio 2CH PCM	set edid 0 to 0	Set all inputs EDID to SDF_00: HDMI 1080p@60Hz, Audio 2CH PCM (default)	0

Command	Function	Example	Feedback	Default
set edid x to y	(Continued) y=32: EDID pass-through (Copy from Sink 1) y=33: EDID pass-through (Copy from Sink 2) y=34: EDID pass-through (Copy from Sink 3) y=35: EDID pass-through (Copy from Sink 4) y=36: Reserved y=37: Reserved y=38: Reserved y=39: Reserved y=40: User EDID 1 y=41: User EDID 2	set edid 0 to 0	Set all inputs EDID to SDF_00: HDMI 1080p@60Hz, Audio 2CH PCM (default)	0
get edid x	Get input ports EDID x=0: all inputs x=1~2: HDMI input 1~2	get edid 0	HDMI input 1 EDID SDF_00: HDMI 1080p@60Hz, Audio 2CH PCM (default) HDMI input 2 EDID SDF_00: HDMI 1080p@60Hz, Audio 2CH PCM (default)	
get edid data x	Get input ports EDID data x=0: all inputs x=1~2: HDMI input 1~2	get edid data 0	HDMI input 1 EDID <00 FF FF FF....> HDMI input 2 EDID <00 FF FF FF....>	
set user edid x <y>	Set user defined EDID (x=1~2) x=1: User Defined 1 x=2: User Defined 2 y = 00 FF FF FF (y is 256 bytes EDID data)	set user edid 1 <00 FF FF FF....>	User defined 1 EDID is loaded successfully	
get user edid x	Get user defined EDID (x=1~2) x=1: User Defined 1 x=2: User Defined 2	get user edid 1	User defined 1 EDID <00 FF FF FF....>	

Command	Function	Example	Feedback	Default
set output x HDMI 5V y	Set output (x=0~8) HDMI 5V (y=0~2) x=0: all outputs x=1~8: HDMI output 1~8 y=0: Off y=1: On y=2: Auto(Follow input 5V)	set output 0 HDMI 5V 1	Set all outputs HDMI 5V on	Auto
get output x HDMI 5V	Get output (x=0~8) HDMI 5V status	get output 0 HDMI 5V	HDMI output 1 HDMI 5V on HDMI output 2 HDMI 5V on HDMI output 7 HDMI 5V on HDMI output 8 HDMI 5V on	
set output audio vol+	Increase output line volume	set output audio vol+	Increase output line volume 96	
set output audio vol-	Decrease output line volume	set output audio vol-	Decrease output line volume 95	
get output audio vol	Get output line volume value	get output audio vol	Output line volume 95	

Note: The feedback of the command of “r status” is as following.

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Status Info PT-SP-HD28-48G Splitter

FW 1.0.0

Power	Key	IR	Baud	AutoSwitch
On	On	On	115200	On

Input	Cable	EDID
01	Connected	DIP_0000: EDID pass-through
02	Connected	DIP_0000: EDID pass-through

Output	FromIn	Cable	Resolution	ColorSpace	ColorDepth	Scaler	HDCP
01	01	Connected	3840x2160p60Hz	YUV 4:2:0	12bit	Off	Sink
02	01	Connected	3840x2160p60Hz	YUV 4:2:0	12bit	Off	Sink
03	01	Connected	3840x2160p60Hz	YUV 4:2:0	12bit	Off	Sink
04	01	Connected	3840x2160p60Hz	YUV 4:2:0	12bit	Off	Sink
05	01	Connected	1920x1080p60Hz	YUV 4:4:4	8bit	On	Sink
06	01	Connected	3840x2160p60Hz	YUV 4:2:0	12bit	Off	Sink
07	01	Connected	7680x4320p30Hz	RGB 4:4:4	8bit	Off	Sink
08	01	None	None	None	None	Off	Sink

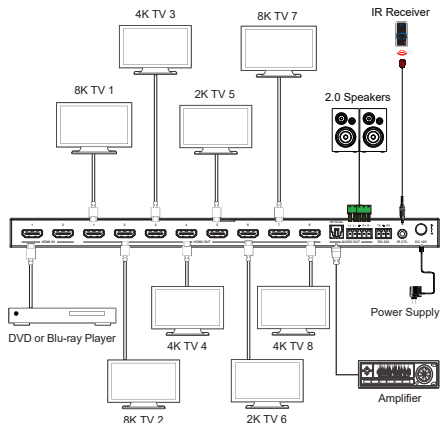
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7. System Diagram

Usage Precaution

- Make sure all components and accessories included before installation.
- System should be installed in a clean environment with proper temperature and humidity.
- All of the power switches, plugs, sockets, and power cords should be insulated and safe.
- All devices should be connected before power on.

The following diagrams illustrate typical input and output connections that can be utilized with this device:



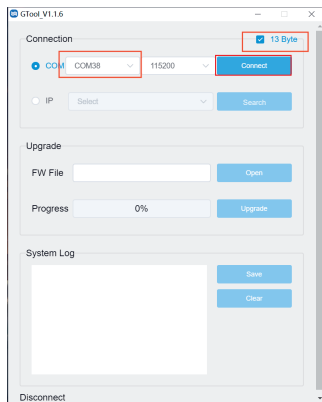
The terms HDMI and HDMI High-Definition Multimedia interface, and the HDMI Logo are trademarks or registered trademarks of HDMI Licensing LLC in the United States and other countries.

8. Firmware Upgrade

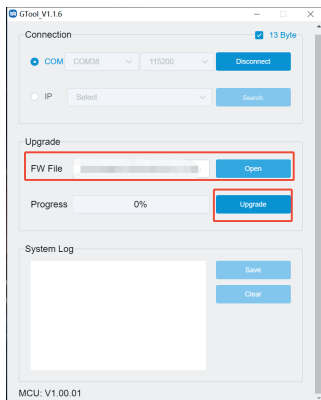
Please follow the steps as below to upgrade firmware by the Service port on the front panel:

1. Prepare the PC tool (.exe) and the latest upgrade file (.bin) on PC. Rename the upgrade file as "MCU_MAIN_PT-SP-HD28-48G_Vxx.xx.xx.bin".
2. Connect the Service port on the splitter to the PC with USB cable.
3. Connect the power supply to the splitter and power on.

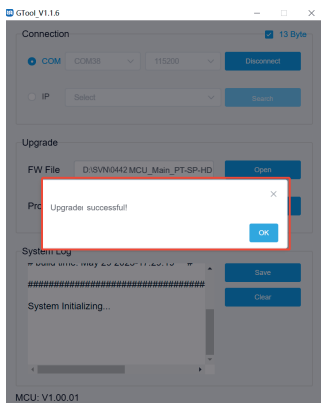
4. Click the channel on PC, check "13 Byte", and then click "Connect".



5. Click "Open" to select the upgrade file MCU_Main_PT-SP-HD28-48G_Vxx.xx.xx.bin, then click "Upgrade".



6. When the upgrade is completed, it will pop up "Upgrade successful!". If the firmware updating is fail, the name of upgrade file (.bin) should be confirmed, and then follow the above steps to update again.



7. Remove the USB cable after firmware upgrade.

8. After-Sales Service

If there appear some problems when running the product, please check and deal with the problems referring to this user manual. Any transport costs are borne by the users during the warranty.

1) Product Limited Warranty: This product will be free from defects in materials and workmanship for three years (The purchase invoice shall prevail).

Proof of purchase in the form of a bill of sale or receipted invoice which is evidence that the unit is within the Warranty period must be presented to obtain warranty service.

2) What the warranty does not cover (servicing available for a fee):

- Warranty expiration.
- Factory applied serial number has been altered or removed from the product.
- Damage, deterioration or malfunction caused by:
 - Normal wear and tear.
 - Use of supplies or parts not meeting our specifications.
 - No certificate or invoice as the proof of warranty.
 - The product model showed on the warranty card does not match with the model of the product for repairing or had been altered.
 - Damage caused by force majeure.
 - Servicing not authorized by distributor.
 - Any other causes which does not relate to a product defect.
 - Delivery, installation or labor charges for installation or setup of the product.

3) Technical Support: For any questions or problems, contact your distributor or reseller and tell them the respective product name and version, the detailed failure situation as well as the formation of the cases.

Asking for Assistance

Technical Support:

Phone: +49 5971 800299 - 0

Fax: +49 5971 800299 – 99

Technical Support Hours:

8:30 AM to 5:00 PM Monday thru Thursday

8:30 AM to 4:00 PM Friday

Write to:

PureLink GmbH

Von-Liebig-Straße 10

D - 48432 Rheine

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