



## User Manual

Teleconference Switcher 4K (60Hz 4:4:4) USB-C and HDMI

Model PT-PSW-21C

Designed in Germany

## 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 manufacture 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-PSW-21C** complies with Directives 1907/2006/EU und 2011/65/EU.

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

PureLink GmbH hereby declares that this product **PureTools PT-PSW-21C** 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/4251364718360\\_CE.pdf](http://www.purelink.de/ce/4251364718360_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 protrusion.
  - Do not remove the housing of the device as opening or removing the housing may expose you to dangerous voltage or other hazards.
  - Install the device in a place with sufficient 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.
-

## Table of Content

1. Product Introduction.....	1
1.1 Features .....	1
1.2 Package List .....	2
2. Specification .....	3
3. Panel Description.....	5
3.1 Front Panel.....	5
3.2 Rear Panel.....	6
4. System Connection.....	7
4.1 Usage Precaution .....	7
4.2 System Diagram .....	7
5. Button Control.....	8
5.1 Manual Switching .....	8
5.2 Automatic Switching .....	8
5.3 Display Control .....	9
5.4 EDID Setting.....	9
6. RS232 Control .....	11
6.1 RS232 Control Software .....	11
6.2 RS232 Command .....	16
6.2.1 Device Control .....	16
6.2.2 Source Switching.....	17
6.2.3 User-defined EDID .....	17
6.2.4 CEC/RS232 Function Setting .....	18
6.2.5 Display Control .....	19
6.2.6 Switcher Baud Rate Setting.....	19
6.2.7 Third-party Device Control.....	20
7. Panel Drawing .....	26

---

8. Troubleshooting & Maintenance .....	27
9. After-Sales Service .....	28

## 1. Product Introduction

Thanks for choosing the HDMI 2.0 2x1 Presentation Switcher. The switcher is designed to switch HDMI input or USB-C input to one HDMI output. It supports video resolution up to 4Kx2K@60Hz 4:4:4 8bit, 1080P, and 3D. Besides passing EDID information from the display, there are multiple built-in EDID settings which can be selected by the 4-pin DIP switch on the front panel.

The switcher supports stereo and multichannel audio on the HDMI inputs. In addition to the audio embedded in the HDMI output stream, the audio is simultaneously de-embedded to a balanced analog audio output. It also supports device extension by providing one type-B USB port for host connection, and two type-A USB ports for HID devices such as camera, microphone, keyboard etc.

The switcher features multiple methods of control. When in the AUTO mode, the switcher will automatically switch to the first detected source device. When the active source is removed, the switcher will switch to the lowest numbered input. The switcher can be manually controlled by the front panel buttons and RS232 command. CEC allows the display device can be controlled by the front panel buttons and RS232 CEC commands.

### 1.1 Features

- 18G 2x1 switcher with HDMI and USB-C inputs.
- Supports automatic switching.
- Controllable via front panel buttons and RS232.
- Supports HDMI 2.0, 4Kx2K@60Hz 4:4:4, HDR 10, Dolby Vision, HDCP 2.2.
- Provides charging on USB-C port up to 40W.
- Provides USB data (USB 3.0/2.0) and 4K video transmission on USB-C port.
- Balanced analog audio for audio de-embedding.
- Peripheral units (e.g. microphone and camera) can be connected by type-A USB (USB 3.0/2.0) ports and automatically switched along with HDMI and USB-C input as USB DEVICES for corresponding HOST.

- Smart EDID management capable for various applications and customized setting.
- Front panel buttons trigger both CEC and RS232 commands for display control. (ON, OFF, MUTE, VOL+, VOL -).

## 1.2 Package List

- 1x PT-PSW-21C 18G 2x1 Presentation Switcher
- 2x Mounting Ears with 4 Screws
- 4x Plastic Cushions
- 1x 5-pin Terminal Block
- 1x Power Cord
- 1x Power Adapter (24V DC, 2.71A)
- 1x User Manual

**Note:** Please contact your distributor immediately if any damage or defect in the components is found.

## 2. Specification

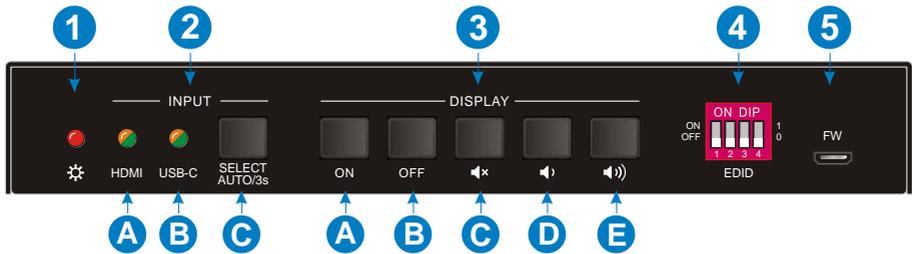
Video	
Video Input	(1) HDMI, (1) USB-C
Video Input Connector	(1) Type-A female HDMI, (1) Type-C USB
HDMI Input Resolution	Up to 4Kx2K@60Hz 4:4:4 8bit
USB-C Input Resolution	Up to 4Kx2K@30Hz 4:4:4
Video Output	(1) HDMI
Video Output Connector	(1) Type-A female HDMI
HDMI Output Resolution	Up to 4Kx2K@60Hz 4:4:4 8bit
HDMI Version	2.0
HDCP Version	2.2
USB Version	3.0
HDR 10	Supported
CEC	Supported
HPD	Supported
Audio	
Audio Output	(1) AUDIO OUT (Stereo balanced L/R)
Audio Output Connector	(1) 5-pin terminal block
HDMI Audio Format	LPCM 7.1 audio, Dolby Atmos®, Dolby® TrueHD, Dolby Digital® Plus, DTS: X™, and DTS-HD® Master Audio™ pass-through
Stereo balanced L/R audio Format	PCM
Max Output Level	2.0Vrms ± 0.5dB. 2V = 16dB headroom above -10dBV (316mV) nominal consumer line level signal
THD+N	<0.05% (-80dB), 20Hz ~ 20KHz bandwidth, 1KHz sine at 0dBFS level (or max level)
SNR	>80dB, 20Hz ~ 20KHz bandwidth
Crosstalk Isolation	>70dB, 10KHz sine at 0dBFS level (or max level before clipping)
L-R Level Deviation	< 0.3dB, 1KHz sine at 0dBFS level (or max level before clipping)
Frequency Response Deviation	<±0.5dB 20Hz ~ 20KHz
Output Load Capability	1KΩ and higher (supports 10x paralleled 10KΩ loads)
Stereo Channel Separation	>70dB@1KHz

---

Control Part	
Control	(1) EDID, (1) FW, (1) RS232, (1) HOST, (2) DEVICE
Control Connector	(1) 4-pin DIP switch, (1) Micro-USB, (1) 3-pin terminal block, (1) Type-B USB 3.0, (2) Type-A USB 3.0
General	
HDMI 2.0 Cable Length	4K@60Hz 4:4:4 ≤ 5m, 4K@60Hz 4:2:0 ≤ 10m, 1080P ≤ 15m
Bandwidth	18Gbps
Operation Temperature	-10℃ ~ +55℃
Storage Temperature	-25℃ ~ +70℃
Relative Humidity	10% ~ 90%
External Power Supply	Input: AC 100~240V, 50/60Hz, Output: 24V DC 2.71A
Power Consumption	54W (Max)
Dimension (W*H*D)	168.0mm x 24.5mm x 95.0mm
Net Weight	245g

## 3. Panel Description

### 3.1 Front Panel

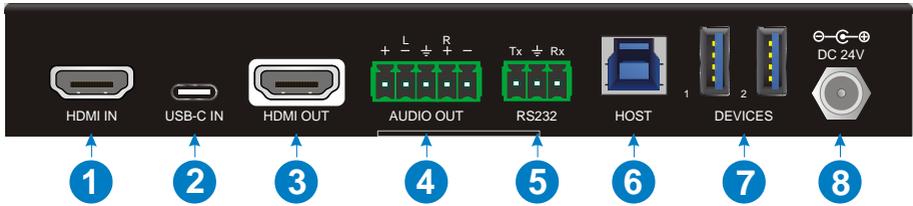


- ① **Power LED:** The LED lights up red when the device is power on.
- ② **INPUT:**
  - A. **HDMI:** The LED lights up green when the HDMI input is selected in AUTO mode, or lights up orange when the HDMI input is selected in manual mode.
  - B. **USB-C:** The LED lights up green when the USB-C input is selected in AUTO mode, or lights up orange when the USB-C input is selected in manual mode.
  - C. **SELECT AUTO/3s:** Press the button to select the next input source, or press and hold the button at least 3 seconds to enable auto switching mode. Note that the factory default switching mode is AUTO.
- ③ **DISPLAY:**
  - A. Press **ON** to turn on the display.
  - B. Press **OFF** to turn off the display.
  - C. Press  to mute/unmute display audio.
  - D. Press  to decrease the audio volume gradually, or press and hold it to decrease the audio volume constantly.

E. Press  to increase the audio volume gradually, or press and hold it to increase the audio volume constantly.

- ④ **EDID:** 4-pin DIP switch for EDID setting.
- ⑤ **FW:** Micro-USB port for firmware upgrade.

### 3.2 Rear Panel



- ① **HDMI IN:** Type-A female HDMI input port to connect HDMI video source.
- ② **USB-C IN:** Type-C USB with charging capability to connect the Macbook or other device with SlimPort output.  
*Note: The USB 3.0 cable is recommended to be used to ensure optimal machine performance.*
- ③ **HDMI OUT:** Type-A female HDMI output port to connect video display.
- ④ **AUDIO OUT:** 5-pin terminal block for balanced audio output.
- ⑤ **RS232:** 3-pin terminal block to connect control device (e.g. PC) or third-party device for RS232 control.
- ⑥ **HOST:** Type-B USB ports for host connection.
- ⑦ **DEVICES:** Two type-A USB ports to connect HID devices (e.g. microphone and camera). The HID devices are used to control the HOST when the HDMI input has been selected, or to control the USB-C source device (e.g. Macbook) when the USB-C input has been selected.
- ⑧ **DC 24V:** DC barrel port for power adapter connection.

## 4. System Connection

### 4.1 Usage Precaution

- Make sure all components and accessories are 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.

### 4.2 System Diagram



## 5. Button Control

### 5.1 Manual Switching

When the switcher is in the manual switching mode, press the **SELECT AUTO/3s** button repeatedly to cycle through the two video inputs, and the corresponding source LED lights up orange immediately.

### 5.2 Automatic Switching

Press and hold the **SELECT AUTO/3s** button at least three seconds to enable automatic switching. The current input source will not be changed, and its source LED will turn green.

When in the AUTO mode, the switcher will switch according to the following rules:

- *Press and hold the **SELECT AUTO/3s** button at least three seconds again can exit AUTO mode, but the input source will not be changed, and the corresponding source LED will turn orange.*
- *New input: Upon detecting a new input, the switcher will automatically select the new input.*
- *Press the **SELECT AUTO/3s** button also can forcibly change the input source.*
- *Reboot: Once power is restored to the switcher, it will automatically reconnect the input before powered off.*
- *Source removed: When an active source is removed, the switcher will switch to the other active input.*

## 5.3 Display Control

The switcher supports CEC, and the **DISPLAY** buttons on the front panel are designed for Display On/Off and volume adjustment.

- **ON**: Display On.
- **OFF**: Display Off.
-  : Mute/unmute display audio.
-  : Volume down display audio.
-  : Volume up display audio.

## 5.4 EDID Setting

The Extended Display Identification Data (EDID) is used for the source device to match its video resolution with the connected display. By default, the source device obtains its EDID from the first connected display. Meanwhile, since the displays with different capabilities are connected to the switcher, the 4-pin DIP switch on the front panel can be used to set the EDID to a built-in fixed value. Use the following table to determine the setting for the 4-pin DIP switch for specific video resolution and audio capabilities.

The switch represents “0” when in the lower (**OFF**) position, and it represents “1” while putting the switch in the upper (**ON**) position.



Switch Status	Video Resolution	Audio Format
0000 (Default)	EDID pass-through	
0001	1280x720@60Hz RGB 4:4:4	Stereo
0010	1920x1080@60Hz	DVI
0011	1920x1080@60Hz 2D	PCM 2.0
0100	1920x1080@60Hz RGB 4:4:4	Stereo
0101	1920x1080@60Hz RGB 4:4:4	High Definition
0110	1920x1200@60Hz RGB 4:4:4	Stereo
0111	3840x2160@60Hz RGB 4:2:0 HDR	Stereo
1000	3840x2160@60Hz RGB 4:2:0 HDR	High Definition
1001	3840x2160@60Hz RGB 4:4:4	Stereo
1010	3840x2160@60Hz RGB 4:4:4	High Definition
1011	User-define EDID (Please refer to the <b><i>6.2.3 User-defined EDID</i></b> )	
1100		
1101		
1110		
1111		

**Note:** The EDID DIP switch only used for setting the EDID of HDMI source device, and the EDID of USB-C source device automatically follows the HDCP version of display device.

## 6. RS232 Control

Connect the RS232 port to control device (e.g. PC) with RS232 cable. The switcher can be controlled by sending RS232 commands.

### 6.1 RS232 Control Software

Here take the software **docklight** as an example.

- **Installation**

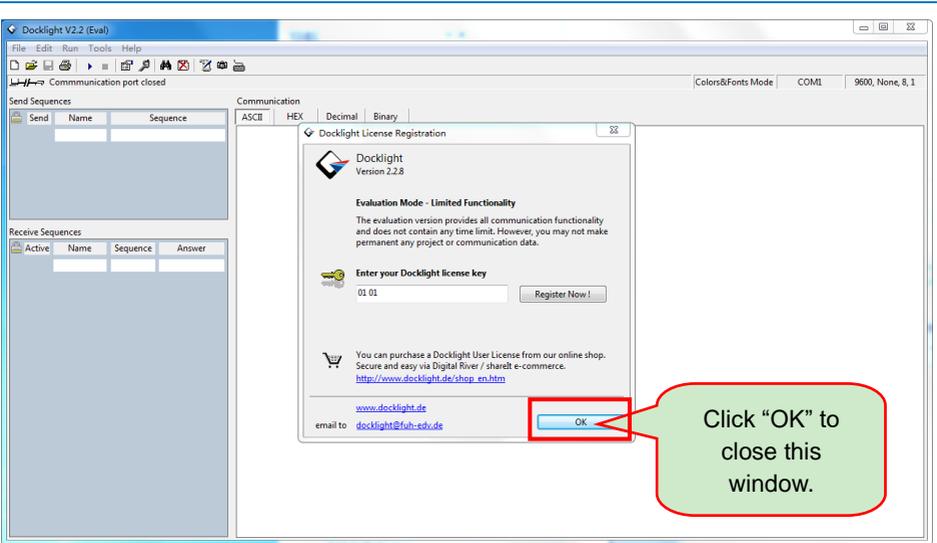
Please download the latest Software Version from the link below:

<https://docklight.de/download/Docklight.zip>

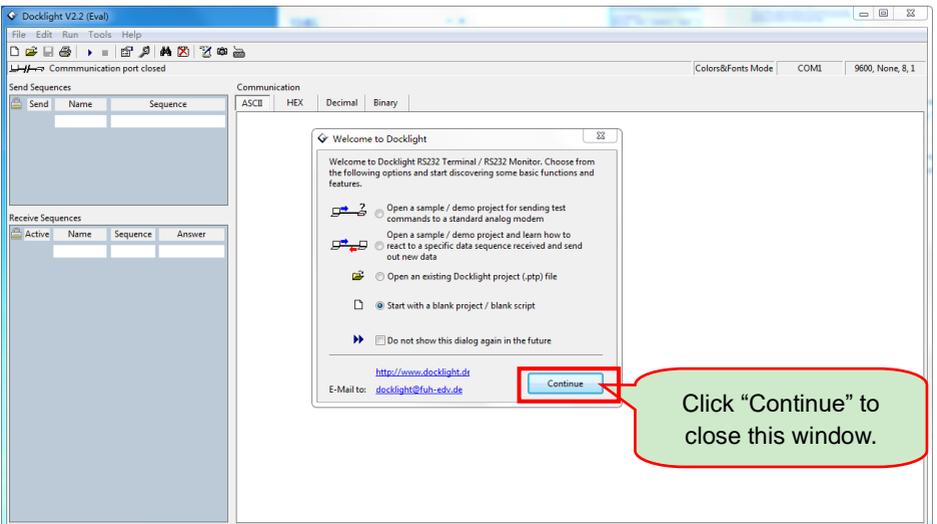
Then follow the installation wizard for installation on Windows 7 and 10.

After the installation, Docklight can be run for the first time and should look like the below screen shot:

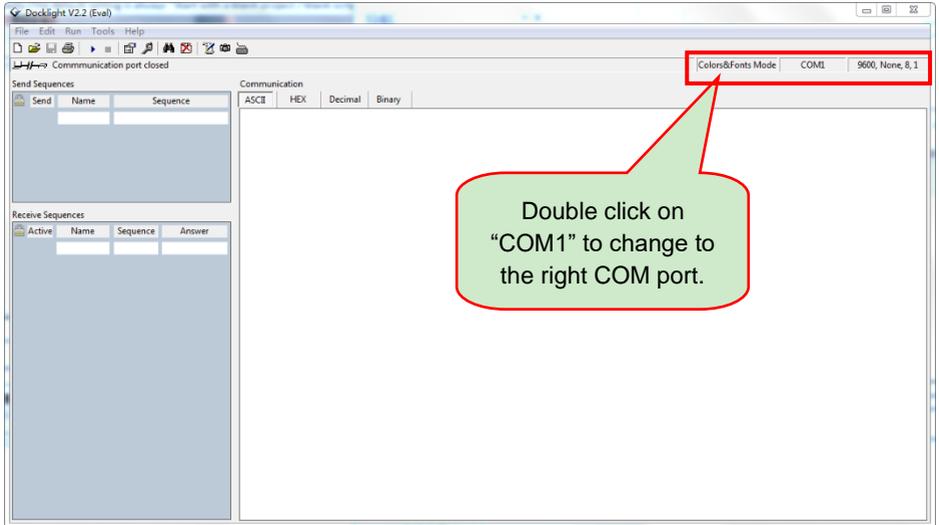
Registration is not necessary unless you wish to save settings on exit, so unless you wish to register click on "OK" to close the window.



The next pop-up window can also be closed with "Continue". An empty project is enough to send and receive commands easily (The default setting is always "Start with a blank project / blank script ")

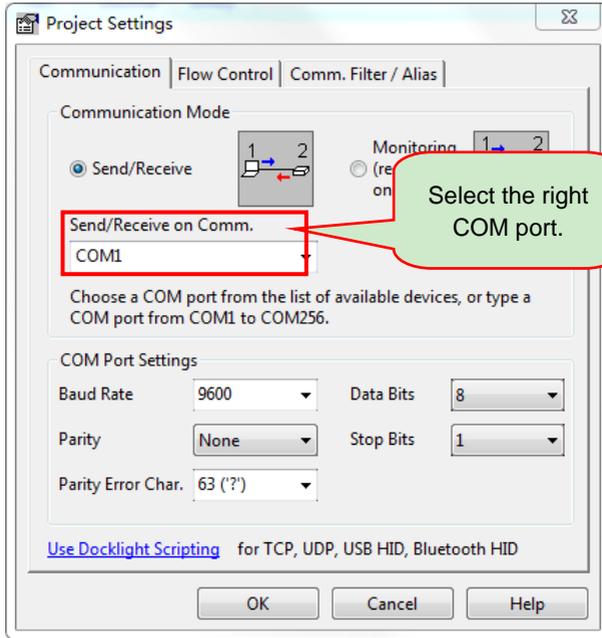


Now you are in the main view, where commands are sent and feedback is received. The next step is to select the correct COM port of the PC. To do this, double-click on "COM1" in the corresponding setup window.



In the following window, select the drop-down menu labeled "Send / Receive on Comm Channel", select the appropriate COM port and then click on "OK" at the bottom right corner.

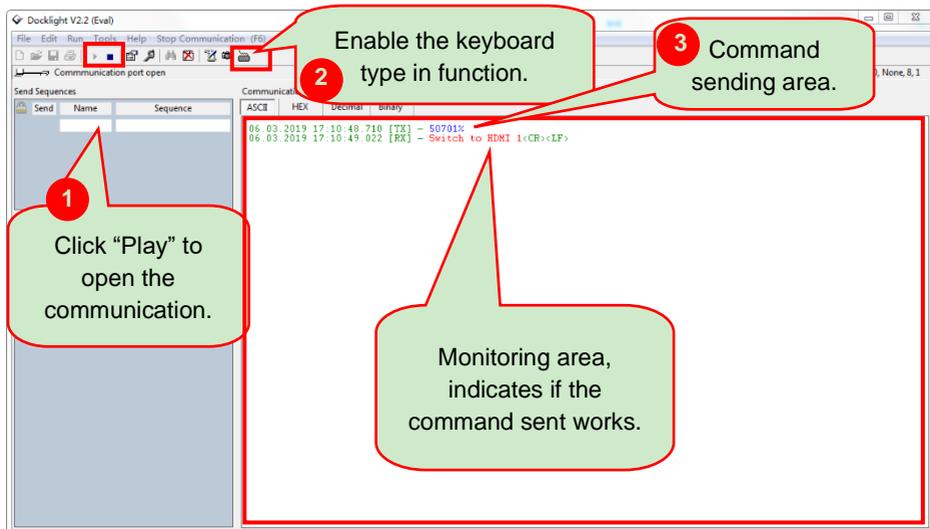
All other settings can be left at default for most applications, but refer to device RS232 settings to be sure.



In order to be able to send commands, open communication with the device by clicking on "Play". **(1)**

Then the keyboard function must be activated, so that commands can be written in the "communication window". **(2)**

Finally enter the command, for example "50701%". This is then confirmed by pressing "Enter" to send. Any response from the connected device will appear in red. **(3)**



## 6.2 RS232 Command

**Communication protocol:** RS232 Communication Protocol

Baud rate: 9600

Data bit: 8

Stop bit: 1

Parity bit: none

**Note:**

- All commands must end with "<CR><LF>".
- In the commands, "[“and ”]“ are symbols for easy reading and do not need to be typed in actual operation.
- Please type the command carefully.

### 6.2.1 Device Control

Command	Function	Feedback Example
#GET_FIRMWARE_VERSION	Get the firmware version.	@V1.0.0
#FACTORY_RESET	Factory reset.	@FACTORY_RESET
#REBOOT	System reboot	@REBOOT
#HELP	Get the command details.	Example: #HELP SET_AV Feedback: @SELECT VIDEO AND AUDIO INPUT PORT #SET_AV PARAM1 PARAM1=H,C H - HDMI C - TYPE-C

### 6.2.2 Source Switching

Command	Function	Feedback Example
#SET_AV H	Switch to HDMI input.	@AV H
#SET_AV C	Switch to USB-C input.	@AV C
#GET_AV	Get the current input source.	@AV H
		@AV C
#SET_AUTO_SWITCH 1	Enable auto switching mode.	@AUTO_SWITCH 1
#SET_AUTO_SWITCH 0	Disable auto switching mode.	@AUTO_SWITCH 0
#GET_AUTO_SWITCH	Get the auto switching status.	@AUTO_SWITCH 1
		@AUTO_SWITCH 0

### 6.2.3 User-defined EDID

There are five EDID values can be customized by sending the below command.

Command	Function & Operation												
#UPLOAD_USER_EDID [X].	<p>X =1-5, represents the EDID, its DIP switch status shows as below:</p> <table border="1" data-bbox="516 946 899 1131"> <thead> <tr> <th>X</th> <th>DIP Switch Status</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>1011</td> </tr> <tr> <td>2</td> <td>1100</td> </tr> <tr> <td>3</td> <td>1101</td> </tr> <tr> <td>4</td> <td>1110</td> </tr> <tr> <td>5</td> <td>1111</td> </tr> </tbody> </table> <p><b>Operation:</b></p> <p><b>Step 1:</b> Prepare the EDID file (.bin).</p> <p><b>Step 2:</b> Set the 4-pin DIP switch status, for example: "1011".</p> <p><b>Step 3:</b> Send the command "#UPLOAD_USER_EDID 1.", and the feedback is "@USER_EDID 1 READY PLEASE SEND EDID DATA IN 10S".</p> <p><b>Step 4:</b> Send the EDID file (.bin). If successfully upload, the feedback is: "OK".</p>	X	DIP Switch Status	1	1011	2	1100	3	1101	4	1110	5	1111
X	DIP Switch Status												
1	1011												
2	1100												
3	1101												
4	1110												
5	1111												

## 6.2.4 CEC/RS232 Function Setting

The ending mark of command is "<CR><LF>".

Command	Description	Command & Feedback Example
#SET_SYNCACT_CEC 1	Enable the function of automatically sending CEC commands. When detecting video input signal or not detecting any video signal, the switcher will automatically send the corresponding CEC command to control the display device.	@SYNCACT_CEC 1
#SET_SYNCACT_CEC 0	Disable the function of automatically sending CEC commands.	@SYNCACT_CEC 0
#GET_SYNCACT_CEC	Get the function setting status of automatically sending CEC commands.	@SYNCACT_CEC 1
#SET_SYNCACT_RS232 1	Enable the function of automatically sending RS232 commands. When detecting video input signal or not detecting any video signal, the switcher will automatically send the corresponding RS232 command to control the display device.	@SYNCACT_RS232 1
#SET_SYNCACT_RS232 0	Disable the function of automatically sending RS232 commands.	@SYNCACT_RS232 0
#GET_SYNCACT_RS232	Get the function setting status of automatically sending RS232 commands.	@SYNCACT_RS232 1
#SET_DTIME [PARAM1]: [PARAM2]	When not detecting video input signal, set the auto power-off time of display device to [PARAM1]: [PARAM2]. The default time is 15 minutes. [PARAM1]=0-30 minutes. [PARAM2]=0-1800 seconds.	#SET_DTIME 1:30
		@DTIME 1:30
#GET_DTIME	Get the auto power-off time of display device.	@DTIME 30:0

### 6.2.5 Display Control

Command	Function	Feedback Example
#SET_AUDIO_MUTE	Mute/unmute the display audio through CEC and RS232 channels.	@AUDIO_MUTE_UNMUTE
#SET_VOL +	Increase the display audio through CEC and RS232 channels.	@VOL -
#SET_VOL -	Decrease the display audio through CEC and RS232 channels.	@VOL +
#SET_DISPLAY 1	Power on the display.	@DISPLAY 0
#SET_DISPLAY 0	Power off the display.	@DISPLAY 1

### 6.2.6 Switcher Baud Rate Setting

Command	Function	Feedback Example
#SET_RS232_BAUD 0	Set the RS232 baud rate to 115200.	@RS232_BAUD 0
#SET_RS232_BAUD 1	Set the RS232 baud rate to 57600.	@RS232_BAUD 1
#SET_RS232_BAUD 2	Set the RS232 baud rate to 38400.	@RS232_BAUD 2
#SET_RS232_BAUD 3	Set the RS232 baud rate to 19200.	@RS232_BAUD 3
#SET_RS232_BAUD 4	Set the RS232 baud rate to 9600.	@RS232_BAUD 4
#SET_RS232_BAUD 5	Set the RS232 baud rate to 4800.	@RS232_BAUD 5
#SET_RS232_BAUD 6	Set the RS232 baud rate to 2400.	@RS232_BAUD 6
#GET_RS232_BAUD	Get the RS232 baud rate.	@RS232_BAUD 0
		@RS232_BAUD 1
		@RS232_BAUD 2
		@RS232_BAUD 3
		@RS232_BAUD 4
		@RS232_BAUD 5
		@RS232_BAUD 6

### 6.2.7 Third-party Device Control

When you connect a third-party device (e.g. projector) to the RS232 port of switcher, the third-party device can be controlled simultaneously by the below RS232 commands while pressing the front panel button (ON, OFF, MUTE, VOLUME + or VOLUME -).

Note: The below commands don't need ending mark.

Command	Description	Command & Feedback Example
#SET_ON_[PARAM1]_[PARAM2]:XXXX	<p>Set the ASCII RS232 command <b>XXXX</b> to be sent to control the third-party device when the <b>DISPLAY ON</b> button is pressed.</p> <ul style="list-style-type: none"> <li>[PARAM1] = 00-06 (Baud Rate) <ul style="list-style-type: none"> <li>00 - 115200</li> <li>01 - 57600</li> <li>02 - 38400</li> <li>03 - 19200</li> <li>04 - 9600</li> <li>05 - 4800</li> <li>06 - 2400</li> </ul> </li> <li>[PARAM2] = 00-99. The delay time of sending command.</li> <li>XXXX: Any ASCII code (up to 48 bytes).</li> </ul>	<p>#SET_ON_05_30:1234567</p> <p>@BAUDRATE: 4800 @DELAY TIME: 30 s @DISPLAY ON TO SEND:1234567</p>
#SET_H_ON_[PARAM1]_[PARAM2]:XX XX	<p>Set the HEX RS232 command <b>XX XX</b> to be sent to control the third-party device when the <b>DISPLAY ON</b> button is pressed.</p> <ul style="list-style-type: none"> <li>[PARAM1] = 00-06 (Baud Rate) <ul style="list-style-type: none"> <li>00 - 115200</li> <li>01 - 57600</li> <li>02 - 38400</li> <li>03 - 19200</li> <li>04 - 9600</li> <li>05 - 4800</li> <li>06 - 2400</li> </ul> </li> <li>[PARAM2] = 00-99. The delay time of sending command.</li> </ul>	<p>#SET_H_ON_05_30:31 32 33 34 35</p> <p>@BAUDRATE: 4800 @DELAY TIME: 30 s @DISPLAY ON HEX TO SEND:31 32 33 34 35</p>

Command	Description	Command & Feedback Example
	<ul style="list-style-type: none"> <li>● <b>XX XX</b>: Any HEX code (0-9, A-F; up to 20 bytes. It must have a blank between 2 different <b>XX</b>).</li> </ul>	
<p>#SET_OF_[PARAM1]_[PARAM2]:XXXX</p>	<p>Set the ASCII RS232 command <b>XXXX</b> to be sent to control the third-party device when the <b>DISPLAY OFF</b> button is pressed.</p> <ul style="list-style-type: none"> <li>● [PARAM1] = 00-06 (Baud Rate) 00 - 115200 01 - 57600 02 - 38400 03 - 19200 04 - 9600 05 - 4800 06 - 2400</li> <li>● [PARAM2] = 00-99. The delay time of sending command.</li> <li>● <b>XXXX</b>: Any ASCII code (up to 48 bytes).</li> </ul>	<p>#SET_OF_05_30:ABCDEF G</p> <p>@BAUDRATE: 4800 @DELAY TIME: 30 s @DISPLAY OFF TO SEND:ABCDEF G</p>
<p>#SET_H_OF_[PARAM1]_[PARAM2]:XX XX</p>	<p>Set the HEX RS232 command <b>XX XX</b> to be sent to control the third-party device when the <b>DISPLAY OFF</b> button is pressed.</p> <ul style="list-style-type: none"> <li>● [PARAM1] = 00-06 (Baud Rate) 00 - 115200 01 - 57600 02 - 38400 03 - 19200 04 - 9600 05 - 4800 06 - 2400</li> <li>● [PARAM2] = 00-99. The delay time of</li> </ul>	<p>#SET_H_OF_05_30:41 42 43 44 45</p> <p>@BAUDRATE: 4800 @DELAY TIME: 30 s @DISPLAY OFF HEX TO SEND:41 42 43 44 45</p>

Command	Description	Command & Feedback Example
	<p>sending command.</p> <ul style="list-style-type: none"> <li>● XX XX: Any HEX code (0-9, A-F; up to 20 bytes. It must have a blank between 2 different XX).</li> </ul>	
<p>#SET_AM_[PARAM1]_[PARAM2]:XXXX</p>	<p>Set the ASCII RS232 command XXXX to be sent to control the third-party device when the <b>VOLUME MUTE</b> button is pressed.</p> <ul style="list-style-type: none"> <li>● [PARAM1] = 00-06 (Baud Rate) 00 - 115200 01 - 57600 02 - 38400 03 - 19200 04 - 9600 05 - 4800 06 - 2400</li> <li>● [PARAM2] = 00-99. The delay time of sending command.</li> <li>● XXXX: Any ASCII code (up to 48 bytes).</li> </ul>	<p>#SET_AM_05_30:ABCDEF G</p> <p>@BAUDRATE: 4800 @DELAY TIME: 30 s @VOLUME MUTE TO SEND:ABCDEF G</p>
<p>#SET_H_AM_[PARAM1]_[PARAM2]:XX XX</p>	<p>Set the HEX RS232 command XX XX to be sent to control the third-party device when the <b>VOLUME MUTE</b> button is pressed.</p> <ul style="list-style-type: none"> <li>● [PARAM1] = 00-06 (Baud Rate) 00 - 115200 01 - 57600 02 - 38400 03 - 19200 04 - 9600 05 - 4800 06 - 2400</li> <li>● [PARAM2] = 00-99. The delay time of sending command.</li> </ul>	<p>#SET_H_AM_05_30:31 32 33 34 35</p> <p>@BAUDRATE: 4800 @DELAY TIME: 30 s @VOLUME MUTE HEX TO SEND:31 32 33 34 35</p>

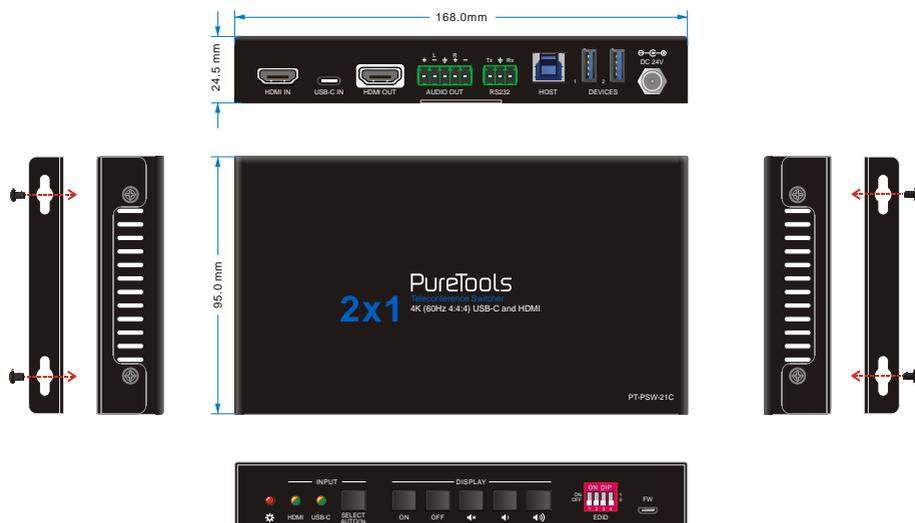
Command	Description	Command & Feedback Example
	<ul style="list-style-type: none"> <li>XX XX: Any HEX code (0-9, A-F; up to 20 bytes. It must have a blank between 2 different XX).</li> </ul>	
Command	Description	Command & Feedback Example
#SET_AU_[PARAM1]_[PARAM2]:XXXX	<p>Set the ASCII RS232 command XXXX to be sent to control the third-party device when the <b>VOLUME UP</b> button is pressed.</p> <ul style="list-style-type: none"> <li>[PARAM1] = 00-06 (Baud Rate) <ul style="list-style-type: none"> <li>00 - 115200</li> <li>01 - 57600</li> <li>02 - 38400</li> <li>03 - 19200</li> <li>04 - 9600</li> <li>05 - 4800</li> <li>06 - 2400</li> </ul> </li> <li>[PARAM2] = 00-99. The delay time of sending command.</li> <li>XXXX: Any ASCII code (up to 48 bytes).</li> </ul>	<p>#SET_AU_05_30:ABCDEF G</p> <p>@BAUDRATE: 4800 @DELAY TIME: 30 s @VOLUME + TO SEND:ABCDEF G</p>
#SET_H_AU_[PARAM1]_[PARAM2]:XX XX	<p>Set the HEX RS232 command XX XX to be sent to control the third-party device when the <b>VOLUME UP</b> button is pressed.</p> <ul style="list-style-type: none"> <li>[PARAM1] = 00-06 (Baud Rate) <ul style="list-style-type: none"> <li>00 - 115200</li> <li>01 - 57600</li> <li>02 - 38400</li> <li>03 - 19200</li> <li>04 - 9600</li> <li>05 - 4800</li> </ul> </li> </ul>	<p>#SET_H_AU_05_30:31 32 33 34 35</p> <p>@BAUDRATE: 4800 @DELAY TIME: 30 s @VOLUME + HEX TO SEND:41 42 43 44 45</p>

Command	Description	Command & Feedback Example
	<p>06 - 2400</p> <ul style="list-style-type: none"> <li>• [PARAM2] = 00-99. The delay time of sending command.</li> <li>• XX XX: Any HEX code (0-9, A-F; up to 20 bytes. It must have a blank between 2 different XX).</li> </ul>	

Command	Description	Command & Feedback Example
#SET_AD_[PARAM1]_[PARAM2]:XXXX	<p>Set the ASCII RS232 command XXXX to be sent to control the third-party device when the <b>VOLUME DOWN</b> button is pressed.</p> <ul style="list-style-type: none"> <li>• [PARAM1] = 00-06 (Baud Rate) 00 - 115200 01 - 57600 02 - 38400 03 - 19200 04 - 9600 05 - 4800 06 - 2400</li> <li>• [PARAM2] = 00-99. The delay time of sending command.</li> <li>• XXXX: Any ASCII code (up to 48 bytes).</li> </ul>	<p>#SET_AD_05_30:ABCDEF G</p> <p>@BAUDRATE: 4800 @DELAY TIME: 30 s @VOLUME - TO SEND:ABCDEF G</p>
#SET_H_AD_[PARAM1]_[PARAM2]:XX XX	<p>Set the HEX RS232 command XX XX to be sent to control the third-party device</p>	<p>#SET_H_AD_05_30:41 42 43 44 45</p>

Command	Description	Command & Feedback Example
	<p>when the <b>VOLUME DOWN</b> button is pressed.</p> <ul style="list-style-type: none"> <li>● [PARAM1] = 00-06 (Baud Rate) <ul style="list-style-type: none"> <li>00 - 115200</li> <li>01 - 57600</li> <li>02 - 38400</li> <li>03 - 19200</li> <li>04 - 9600</li> <li>05 - 4800</li> <li>06 - 2400</li> </ul> </li> <li>● [PARAM2] = 00-99. The delay time of sending command.</li> <li>● XX XX: Any HEX code (0-9, A-F; up to 20 bytes. It must have a blank between 2 different XX).</li> </ul>	<pre>@BAUDRATE: 4800 @DELAY TIME: 30 s @VOLUME - HEX TO SEND:41 42 43 44 45</pre>

## 7. Panel Drawing



## 8. Troubleshooting & Maintenance

Problems	Potential Causes	Solutions
Output image with snowflake	Bad quality of the connecting cable.	Try another high quality cable.
	Fail or loose connection.	Make sure the connection is good
No output image when switching	No signal at the input / output end.	Check with oscilloscope or multimeter if there is any signal at the input/ output end.
	Fail or loose connection.	Make sure the connection is good.
	The switcher is broken.	Send it to authorized dealer for repairing.
<b>POWER</b> indicator doesn't work or does not respond to any operation	Fail connection of power cord.	Make sure the power cord connection is good.
Static becomes stronger when connecting the video connectors	Bad grounding.	Check the grounding and make sure it is connected well.
Cannot control the device by control device (e.g. a PC) through RS232 port	Wrong RS232 communication parameters.	Type in correct RS232 communication parameters.
	Broken RS232 port.	Send it to authorized dealer for checking.

**Note:** If your problem still persists after following the above troubleshooting steps, please find further assistance.

## 9. 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 period.

- 1) Product Limited Warranty:** The product will be free from defects in materials and workmanship for **two 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 shown 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

[www.purelink.de](http://www.purelink.de)

[info@purelink.de](mailto:info@purelink.de)

---