



## User Manual

4x2, Seamless Multi-view Switcher

Model PT-PSW-42MV

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-42MV** 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-42MV** 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/4251364734315\\_CE.pdf](http://www.purelink.de/ce/4251364734315_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.
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## 1. Introduction

Thank you for choosing the PureLink PT-PSW-42MV presentation switcher. It offers four HDMI inputs as well as one DisplayPort and USB-C input each, switching to one HDBaseT output as well as one local HDMI monitoring output. The HDBaseT out can be paired with a compatible HDBaseT receiver to extend a 4K@30Hz signal up to 40 meters or a FullHD/1080p signal over 70 meters using a single CATx cable and also supports PoC.

The switcher features an external line audio input that can be embedded into any HDMI signal, providing a microphone input for audio mixing. The presentation switcher provides multiview functionality and supports up to 16 multi-mode layouts. It features a wide range of control possibilities via front panel buttons, built-in web GUI, IR remote, RS232 and CEC.

### 1.1 Features

- 4x2 4K Presentation Switcher with HDBaseT output.
- Supports seamless switching as well as auto switching functions.
- HDMI 1.4 and HDCP 2.2 compliant.
- Extends HDMI signals to a distance up to 40 meters at 4K or up to 70 meters at 1080p.
- Supports line audio embedding, audio de-embedding and microphone audio mixing.
- Supports multiview with up to 16 selectable modes.
- Controllable via front panel buttons, GUI, IR remote, RS232 and CEC.

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## 1.2 Package List

### Switcher

- 1x 4x2 4K Presentation Switcher
- 2x Mounting Ears with 4 Screws
- 4x Plastic Cushions
- 2x 3-pin Terminal Blocks
- 2x 5-pin Terminal Blocks
- 1x IR Remote
- 1x IR Receiver
- 1x IR Emitter
- 1x Power Adapter (24V DC 5A)
- 1x Power Cord
- 1x User Manual

### Receiver

- 1x HDBaseT Receiver
- 2x Mounting Ears with 4 Screws
- 4x Plastic Cushions
- 1x 3-pin Terminal Block

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



## 2. Specification

### Switcher

Video	
Video Input	(4) HDMI IN (1~4), (1) DP, (1) USB-C
Input Connector	(4) Type-A female HDMI, (1) DisplayPort, (1) Type-C USB
HDMI Input Resolution	HDMI: Up to 4K@30Hz 4:4:4
	DP: Up to 4K@30Hz 4:4:4
	USB-C: Up to 4K@30Hz 4:4:4
Video Output	(1) HDMI, (1) HDBaseT
Output Connector	(1) Type-A female HDMI, (1) RJ45
Output Resolution	HDMI: Up to 4K@30Hz 4:4:4
	HDBaseT: Up to 4K@30Hz 4:4:4
HDMI Version	Up to 1.4
HDCP Version	Up to 2.2
Audio Input	
Audio Input	(1) LINE, (1) MIC
Audio Input Connector	(2) 3-pin terminal blocks
Frequency Response	20Hz ~ 20kHz, $\pm 3$ dB
Max Input Level	2.0Vrms $\pm 0.1$
L-R Level Deviation	< 0.3dB, 1kHz sine at 0dBFS level (or max level before clipping)
Input Impedance	> 10K $\Omega$
LINE/MIC Audio Format	PCM 2.0
HDMI/DP Audio Format	PCM 2.0 48K
L+R Audio Output	
Output	(1) L+R
Output Connector	(1) 5-pin terminal block
Frequency Response	20Hz ~ 20kHz, $\pm 1$ dB
Max Output Level	2.0 $\pm 0.1$ Vrms

<b>L+R Audio Output</b>	
THD+N	< 0.05%, 20Hz ~ 20kHz bandwidth, 1kHz sine at 0dBFS level (or max level)
SNR	> 80dB, 20Hz ~ 20kHz bandwidth
Crosstalk Isolation	< -70dB, 10kHz sine at 0dBFS level
L-R Level Deviation	< 0.3dB, 1kHz sine at 0dBFS level (or max level before clipping)
Output Load Capability	1KΩ and higher (Supports 10x paralleled 10KΩ loads)
Noise Level	-80dB
<b>SPDIF Audio Output</b>	
SPDIF OUT	(1) SPDIF
Audio Out Connector	(1) Toslink
Max Output level	±0.3dBFS
Frequency Response	20Hz ~ 20kHz, ±1dB
THD+N	< 0.05%, 20Hz ~ 20kHz bandwidth, 1kHz sine at 0dBFS level (or max level)
Signal-to-Noise Ratio	> 90dB, 20Hz ~ 20kHz bandwidth
Crosstalk Isolation	< -70dB, 10kHz sine at 0dBFS level (or max level before clipping)
Noise	- 90dB
Audio Format	PCM 2.0
<b>Control</b>	
Control port	(1) CONTACT IN, (1) IR IN, (1) IR OUT, (1) IR EYE, (1) FIRMWARE, (1) RS232, (1) TCP/IP
Control Connector	(1) 5-pin terminal block, (3) 3.5mm jack, (1) Type-A USB, (1) 3-pin terminal block, (1) RJ45
<b>General</b>	
Operation Temperature	-5°C ~ +55°C
Storage Temperature	-25°C ~ +70°C
Relative Humidity	10% ~ 90%
External Power Supply Input	AC 100~240V, 50/60Hz; Output: 24V DC 5A
Power Consumption	90W (max)
USB-C Power Charging	60W (max)

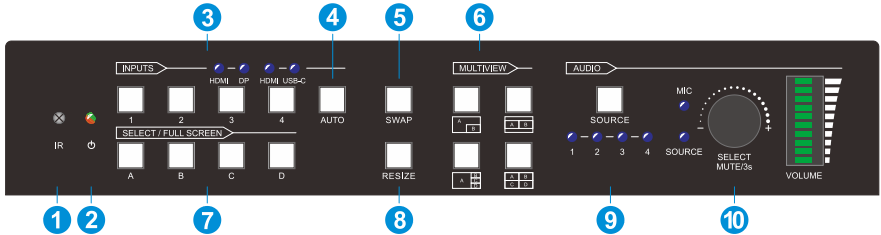
Dimension (W*H*D)	250mm x 44mm x 200mm
Net Weight	1.6kg

Receiver

Input and Output	
Input	(1) HDBT IN
Input Connector	(1) RJ45
Output	(1) HDMI OUT
Output Connector	(1) Type-A female HDMI
Control	(1) IR IN, (1) IR OUT, (1) RS232
Control Connector	(2) 3.5mm jack, (1) 3-pin terminal block
General	
Maximum Video Resolution	4K@60Hz 4:2:0, including 1080p@60Hz
Transmission Mode	HDBaseT
Transmission Distance	4K up to 40m, 1080p up to 70m
Bandwidth	10.2Gbps
Video Standard	HDMI 1.4 with HDCP 2.2
Power Consumption	7 W(max)
Operation Temperature	-5 °C ~ +55 °C
Storage Temperature	-25 °C ~ +70 °C
Operating Humidity	0% ~ 90%
Power Supply	Input Power: 24VDC 1.25A or Power over cable (PoC); AC Adaptor Input Power: 100~240VAC, 50/60Hz
Dimension (W*H*D)	115mm x 16.2mm x 109mm
Net Weight (g)	196g

### 3. Panel Description

#### 3.1 Switcher Front Panel



No.	Name	Description
①	<b>IR LED</b>	Built-in IR sensor, receives IR signal sent from IR remote.
②	<b>POWER LED</b>	Illuminates red when switcher is in standby mode or illuminates green when device is powered on.
③	<b>INPUT BUTTONS (1-4)</b>	Input source selectors. <ul style="list-style-type: none"> <li>HDMI/DP LED: Indicates HDMI or DP source for the third input channel.</li> <li>HDMI/USB-C LED: Indicates HDMI or USB-C source for the fourth input channel.</li> </ul>
④	<b>AUTO BUTTON</b>	Auto switching mode selector.
⑤	<b>SWAP</b>	Cycle swap the video source of window display in anticlockwise.
⑥	<b>MULTIVIEW</b>	Total four buttons for choosing Multi-view mode.
⑦	<b>SELECT/FULL SCREENS (A-B)</b>	Four buttons for choosing multiview mode.
⑧	<b>RESIZE</b>	Adjust the windows size.

⑨	<b>AUDIO SOURCE</b>	Select the audio source. The corresponding LED (1-4) will illuminate blue. When LINE audio is selected, the button itself illuminates blue.
⑩	<b>VOLUME</b>	<p>Variable audio control.</p> <ul style="list-style-type: none"> <li>Press the volume knob to select microphone or source audio control.</li> <li>Rotate the knob to increase or decrease the volume of the selected audio.</li> <li>Press and hold the knob at least 3 seconds to mute the selected audio, rotate the knob to unmute.</li> </ul>

### 3.2 Switcher Rear Panel



No.	Name	Description
①	<b>INPUTS</b>	Four HDMI inputs, one DisplayPort and one USB-C input.
②	<b>OUTPUTS</b>	One HDMI and one HDBaseT output. The HDBaseT output supports 48V PoC.
③	<b>AUDIO IN</b>	<p>LINE: Line audio input which can be embedded in any HDMI input.</p> <p>MIC: Microphone input for audio mixing. Set 48V phantom power mode switch as needed: ON for condenser microphone; OFF for dynamic microphone.</p>

④	<b>AUDIO OUT</b>	L+R: Balanced analog audio output for audio de-embedding. SPDIF: Digital SPDIF audio output for audio de-embedding.
⑤	<b>CONTROL</b>	CONTACT IN: Implement external sensors, buttons and other devices for input source selection. IR IN: Connects to IR receiver for IR pass-through. IR OUT: Connects to IR emitter for IR pass-through. IR EYE: Connects to IR receiver for local switcher control. FIRMWARE: Type-A USB for firmware upgrade. RS232: 3-pin terminal block for RS232 control. TCP/IP: RJ45 port to control the switcher via GUI.
⑥	<b>DC 24V</b>	DC connector for power adapter connection.

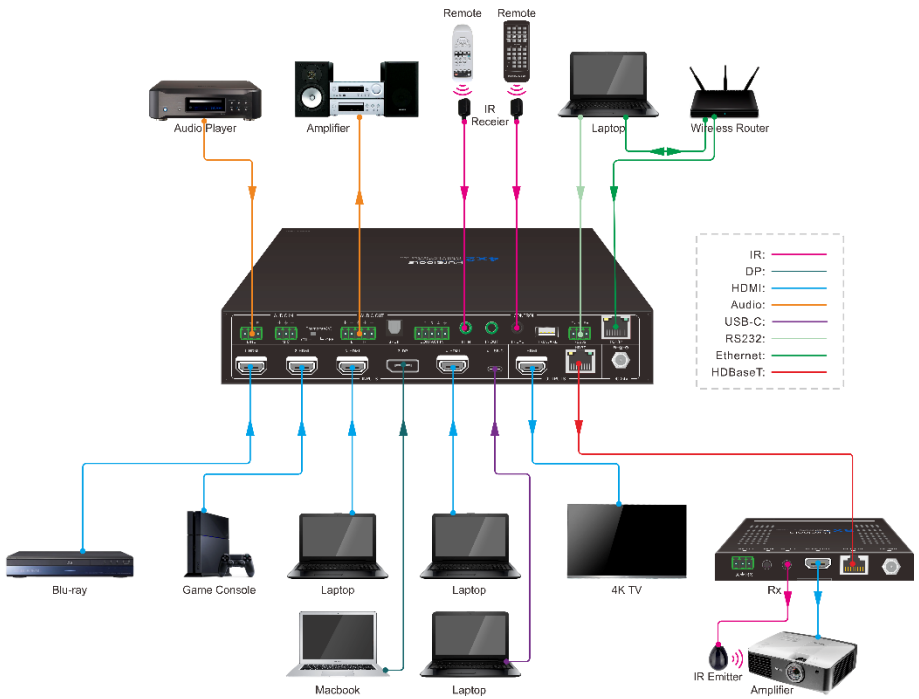
### 3.3 Receiver Front and Rear Panel



No.	Name	Description
①	<b>LINK: HDBT Link Status Indicator</b>	OFF: No Link. GREEN: Link Successful. Blinking GREEN: Link abnormal.
②	<b>HDCP: HDCP Indicator</b>	OFF: No HDMI traffic. GREEN: Traffic with HDCP. Blinking GREEN: Traffic without HDCP.
③	<b>POWER LED</b>	Illuminates red when device is powered on.
④	<b>RS232</b>	3-pin terminal block for RS232 control.
⑤	<b>IR IN</b>	Connects to IR receiver for IR pass-through.

⑥	<b>IR OUT</b>	Connects to IR emitter for IR pass-through.
⑦	<b>HDMI Output:</b>	Connect with HDMI display.
⑧	<b>HDBaseT input:</b>	Connect to the HDBT OUT port on the transmitter via CAT5e/ CAT6a cable.
⑨	<b>DC 24V</b>	DC connector for power adapter connection.

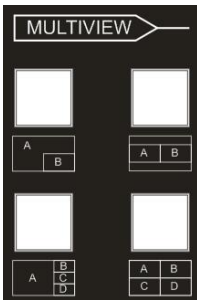
### 3.4 System Diagram



## 4. Front Panel Control

### 4.1 Multi-view Mode Selection

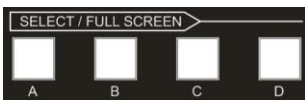
There are four multiview modes that can be selected using the front panel buttons.



The factory default multi-view mode is quartered window mode, and there is a one-one correspondence between the four input sources and the four output windows: input 1 -> window A, input 2 -> window B, input 3 -> window C, input 4-> window D. The button LEDs (A~D) illuminate blue.

When switching to two-window (A&B) mode, the corresponding mode LED will illuminate blue, and the window A and B LEDs illuminate blue. The factory default correspondence between the two input sources and the two output windows is: input 1 -> window A, input 2 -> window B.

### 4.2 Full Screen Setting



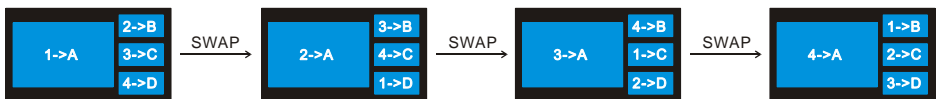
Press A-D window buttons to select the corresponding window to display in full-screen. Meanwhile, the corresponding input source button LED and window button A LED both illuminate blue, other window buttons and the previous multiview mode button LED turn off.



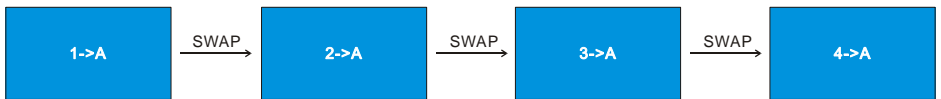
### 4.3 Swap Window Setting

Press the SWAP button to cycle through the video sources of the windows display in anticlockwise direction. The SWAP LED illuminates once when its corresponding button is pressed.

**Example: In Multiview Mode**



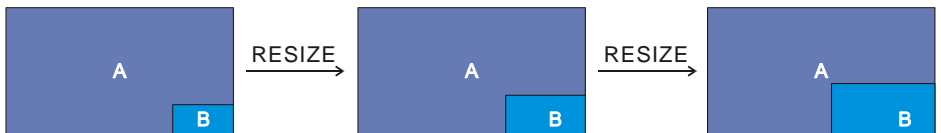
**Example: In Full Screen Mode**



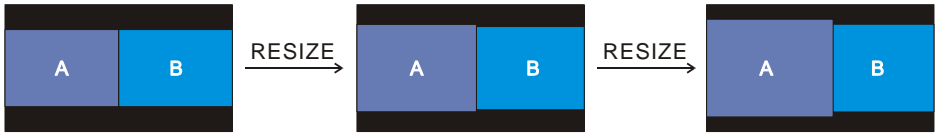
### 4.4 Window Size Setting

The window A/B/C/D size can be adjusted by repeatedly pressing the RESIZE button. The button LED illuminates once when its button is pressed once. Please refer to the GUI Multiview Tab for more details.

**Example: PIP (Picture in Picture)**



**Example: Bisection**



**Example: One Large and Three Small**



## 4.5 Video Signal Switching

- **In the multiview mode**

Operation: Inputs# + Windows#

Example: Switch Input 1 to Window B:

Press **INPUT 1** (The input 1 LED illuminates blue, the windows A~D LEDs flash.) →  
Press **Windows B** (The windows A, C and D LEDs turns off, then input 1 and windows B LED flash three times, last, input 1 LED turns off and windows A~D LEDs illuminate blue.)

- **In Full Screen Mode**

**1) Manual Switching**

Operation: Inputs# + Windows#

Example: Switch Input 2 to Window A:

Press **INPUT 2** (The input 2 LED illuminates blue.) → Press **Windows A** (The input 2 and windows A LEDs illuminate blue).

**2) Auto Switching**

Press **AUTO** button to enable or disable auto-switching mode. Note that auto-switching mode only works in full screen mode.

When in auto-switching mode, the switcher will switch according to the following rules:

- The switcher will switch to the available active inputs with the priority: 1-HDMI > 2-HDMI > 3-HDMI > 3-DP > 4-HDMI > 4-USB-C. When input source and output window are connected, the corresponding LEDs illuminate blue.
- New input: The switcher will automatically select the new input once detecting a new input.
- Reboot: If power is restored to the switcher, it will automatically reactivate the input that was active before it was powered off.
- In auto-switching mode, the input source also can be switched by the manual switching steps, but not exit auto-switching mode.
- When full screen mode is switched into multi-view mode, the auto-switching mode will not exit.

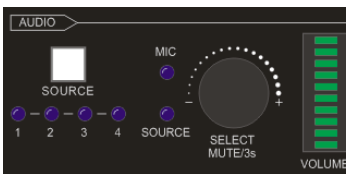
## 4.6 Video Switching Status Inquiry

In the multiview mode (Window A, B, C and D LED illuminate blue).

Operation: Windows#

Example: Press and hold Windows B button at least 3 seconds (Window A, C and D LED go out, and then the corresponding input source LED will illuminate blue). After 3 seconds, Window A, B, C and D LED illuminate blue.

## 4.7 Audio Control



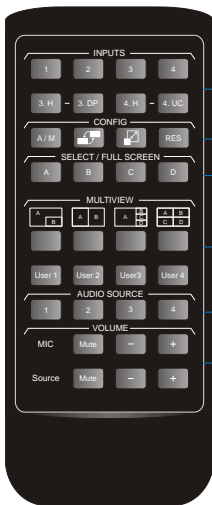
By default, the HDMI and HDBT output audio follows the video source in the full screen mode, but in the multiview mode, the output audio is embedded from the 1-HDMI input. The audio source can be changed by pressing the **SOURCE** button.

Press the volume knob to select microphone or source audio control. Rotate the knob to increase or decrease the volume of the selected audio. Press and hold the knob at least 3 seconds to mute the selected audio, rotate the knob to unmute.

## 5. IR Remote Control

The switcher provides an IR EYE port for IR receiver connection to be controlled by the IR remote shown below.

**Note:** There is no long pressing function on this IR remote, and its button functions are the same as the front panel buttons.



- ① **INPUTS:** Six buttons for input source selection.
- ② **CONFIG:**
  - A/M button for auto-switching mode setting.
  - SWAP button to cycle swap the video source in the window display.
  - RESIZE button for window size adjustment.
  - RES button for output resolution selection.
- ③ **SELECT/FULL SCREEN:** A-D buttons for output window selection and full screen setting.
- ④ **MULTIVIEW:** Four buttons for built-in multiview mode selection and four buttons for user-defined mode selection. The user-defined multiview modes can be set via GUI.
- ⑤ **AUDIO SOURCE:** Four buttons for audio source selection.
- ⑥ **VOLUME:**
  - Microphone audio: Mute, volume up and volume down.
  - Source audio: Mute, volume up and volume down.

## 6. GUI Control

The switcher can be controlled via TCP/IP. The default IP settings are:

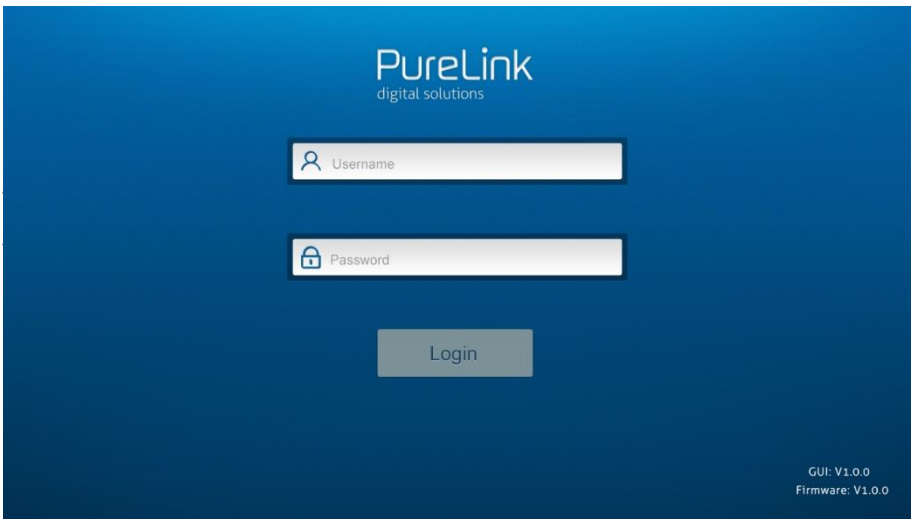
IP Address: 192.168.0.178

Subnet Mask: 255.255.255.0

Note: It also supports UDP, allowing to be found in the network by other devices.

The corresponding port is 7001. The return format is json.

Type 192.168.0.178 in the internet browser to get to the log-in webpage:



## 6.1 Control Tab

### 6.1.1 Video Control



- The source selection buttons, Auto button and window A-D buttons are same as the buttons of front panel button. Please find [4.5 Video Signal Switching](#) for more details.
- Click “Power Off” to enter system standby mode.
- Click “log off” to sign off the GUI control

### 6.1.2 Display Control



- **Display:** Click “On” or “Off” to power on or off the display device.
- **Command:** Type desired command to be sent in this box to control the display device and then click “Send”
- **Relay 1~2:** Used for projection screen control. The HDBaseT receiver which is connected to the switcher needs to have two relay ports. Click “Manual” and the projection screen starts to roll up or down. Click “Manual” again to stop the process. After setting the auto stop time, click “Auto” and the projection screen starts to roll up or down until the auto stop time is up. Audio Control

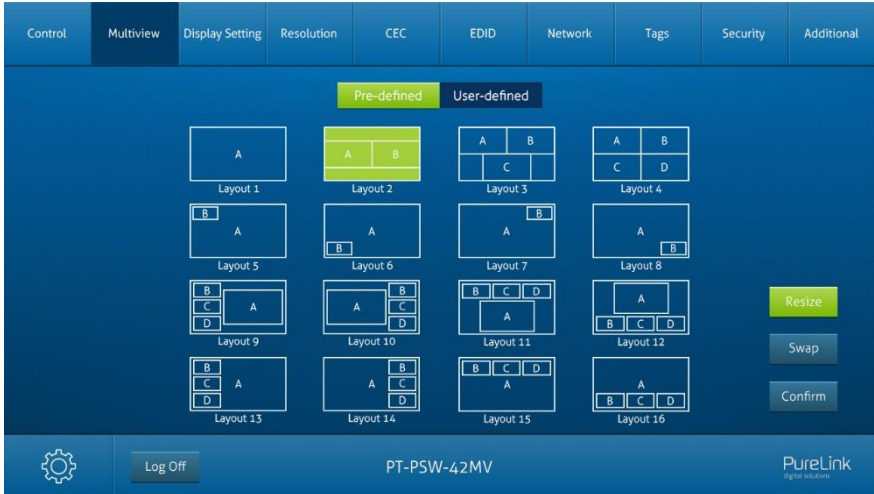


- **Source:** Select audio source for audio outputs, HDMI and HDBaseT outputs.
- **Source Volume:** Volume bar, volume up, volume down and mute buttons for source audio control.
- **Audio Out Delay:** Set the delay time of audio output to 0~150ms.
- **MIC:** Turn on or off microphone input.
- **MIC Volume:** Volume bar, volume up, volume down and mute buttons for microphone audio control.



## 6.2 Multiview Tab

### 6.2.1 Pre-defined



- Up to 16 multiview modes can be selected.
- **RESIZE:** Click the button to adjust the window size. Note that only Layout 2, Layout 5–Layout 8, Layout 9–Layout 12 can be adjusted window size.
- **SWAP:** Click the button to cycle through the video sources of the windows display in anticlockwise direction.
- Click gear icon to enter the below interface to select input source for each window



## 6.2.2 User-defined



- **User Layout:** Select the user-defined layout number 1~4.
- **Window Select:** Select the input source for each window, and then adjust window size by setting start position and end position. Click "Save" to save the user-defined layout.

## 6.3 Display Setting Tab



- **Automatic Display Control:** Enable or disable the function to automatically control display device.
- **No Signal Timeout:** Set the auto power off time that the display device will automatically power off after no signal is detected and the set time is up.
- **Baud Rate:** Supports 9600, 19200, 38400, 57600 or 115200.
- **Command Format:** The default command format is ASCII, and HEX can be selected.
- **Command Ending:** NULL, CR, LF or CR+LF can be chosen.
- **Display Off:** Type RS232 command to turn off display device, and then click "Save". Select "x2" to send the command two times.
- **Display Off x2 Delay:** Set the delay time of sending the Display Off command again, and then click "Save".

- **Display On:** Type RS232 command to turn on display, and then click "Save".
- **Input Delay:** Set the delay time in seconds between the "Display On" and "Display Input Select" commands.
- **Display Input Select:** Type the RS232 command to select the current input source of switcher for the display device.
- **Trigger:** "Display On" -> Wait "Delay" ->Send "Display Input Select".

## 6.4 Resolution Tab



- Select the output resolution for HDMI and HDBaseT outputs.
- Select "Auto for Rx" for the output resolution to follow the display device.

## 6.5 CEC Tab

### 6.5.1 Source Control



- Select the HDMI input source which needs to be controlled, and then click function buttons.

### 6.5.2 Display Control



- Select the output display device which needs to be controlled, and then click function buttons.

### 6.5.3 User-defined CEC Command



- Select input source or display device, and then type CEC command in the corresponding Trigger 1 or Trigger 2 box to be sent to control the selected device.

## 6.6 EDID Tab

### 6.6.1 EDID Setting



- Select the compatible built-in EDID for the selected input source.

### 6.6.2 EDID Upload



- Upload user-defined EDID by following the steps below:

Step 1: Prepare the EDID file (.bin) on the control PC.

Step 2: Click the "User-defined" box, and then select the EDID file (.bin).

Step 3: Click "Apply" to upload the user-defined EDID.

## 6.7 Network Tab

The screenshot shows the Network configuration tab in the PureTools interface. The top navigation bar includes tabs for Control, Multiview, Display Setting, Resolution, CEC, EDID, Network (selected), Tags, Security, and Additional. The main content area displays the MAC Address as 44-33-4C-C9-35-12. Below this, there are radio buttons for DHCP and Static IP, with the Static IP option selected. The IP Address field is set to 192.168.0.178, the Subnet Mask is 255.255.255.0, and the Gateway is 192.168.0.1. A Confirm button is located below the input fields. At the bottom of the interface, there is a Log Off button on the left, the device model PT-PSW-42MV in the center, and the PureLink logo on the right.

- Static IP or Dynamic Host Configuration Protocol (DHCP).
- Modify the static IP Address, Subnet Mask, and Gateway.



## 6.8 Tags Tab



- Modify the multiview layout labels.

## 6.9 Security Tab



- Modify the login password.

- Lock or unlock the front panel buttons
- GUI automatically log on/off setting button
- User 2/ User 3 account control selection setting

## 6.10 Additional Tab

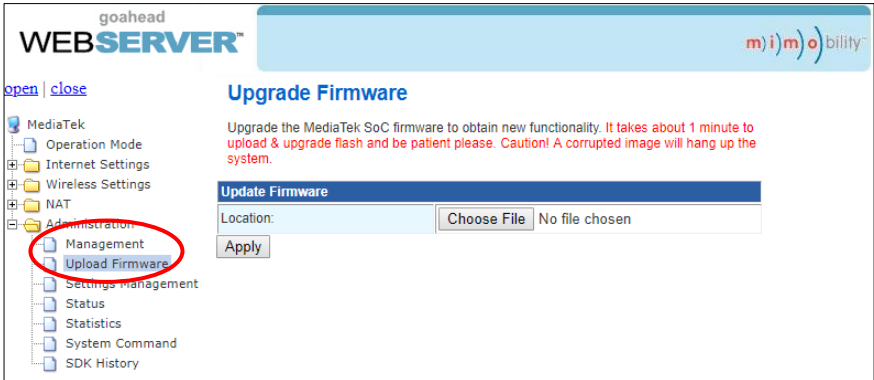


- Set the baud rate of switcher and restore the switcher to factory default settings.

## 6.11 GUI Upgrade

Please visit <http://192.168.0.178:100> for GUI online upgrade.

Type the username and password (the same as the GUI log-in setting, modified password will be available only after rebooting) to log into the configuration interface. After that, click "Administration" in the source menu to get to "Upload Firmware" as shown below:



Select the desired update file and press "Apply" to start upgrade.

**Note:** Please don't do anything during the upgrade process to avoid upgrade failure.

---

## 7. RS232 Control

The RS232 port on the switcher has two control methods.

- 1) Local control: Connect the RS232 port to control device (e.g. PC) to control the switcher by RS232 commands.
- 2) Display device control: The RS232 signal is passed through to the RS232 port of the connected HDBaseT receiver to control the display device (e.g. projector) connected to the receiver.

### RS232 Commands:

The command lists are used to control the switcher. The RS232 control software (e.g. docklight) needs to be installed on the control PC to send RS232 commands.

After installing the RS232 control software, please set the parameters of COM number, baud rate, data bit, stop bit and the parity bit correctly.

Baud rate: 9600

Data bit: 8

Stop bit: 1

Parity bit: none

### Note:

- All commands need end with "<CR><LF>".
- In the commands, "[" and "]" are symbols for easy reading and do not need to be typed in actual operation.
- Type the command carefully, it is case-sensitive.

## 7.1 RS232 Control Software

We are using the software "Docklight" as an example..

- **Installation**

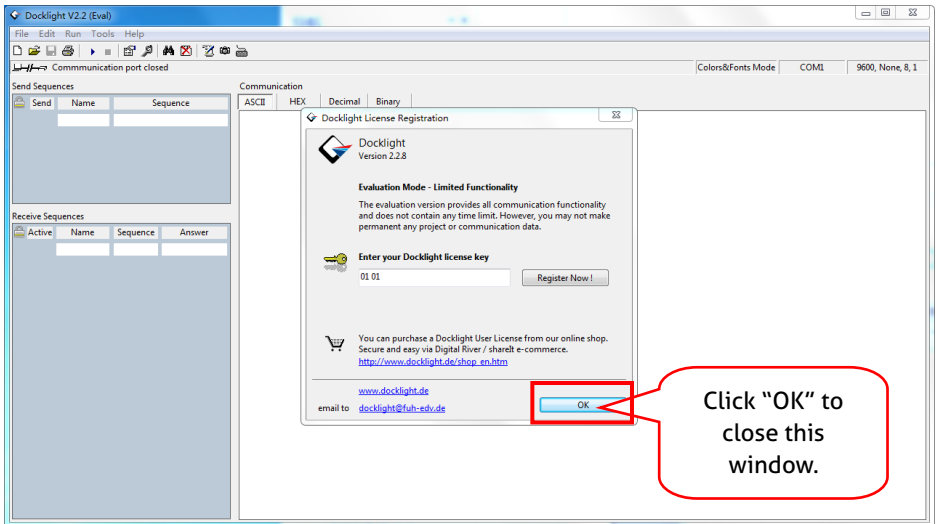
Please download the latest Software Version from the link below:

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

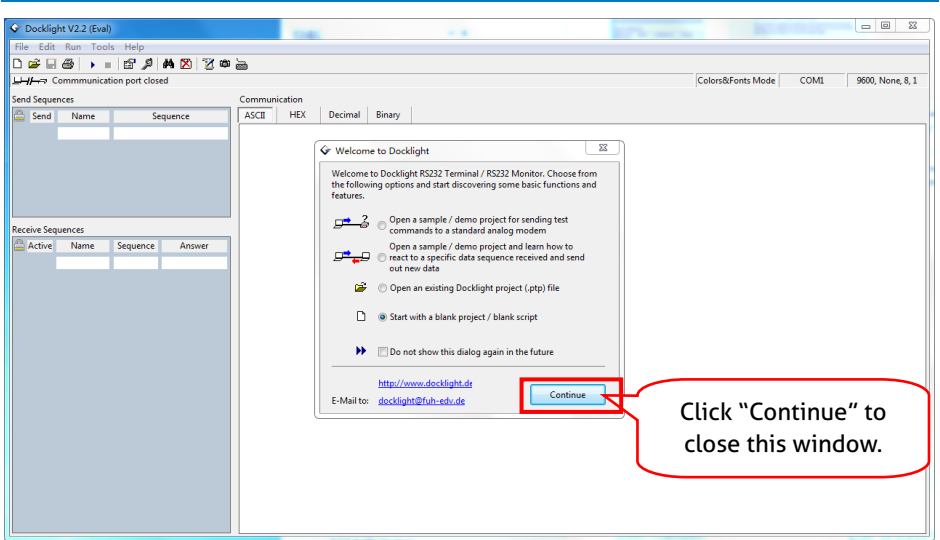
Then follow the installation wizard for installation on Windows 7 and 10.

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

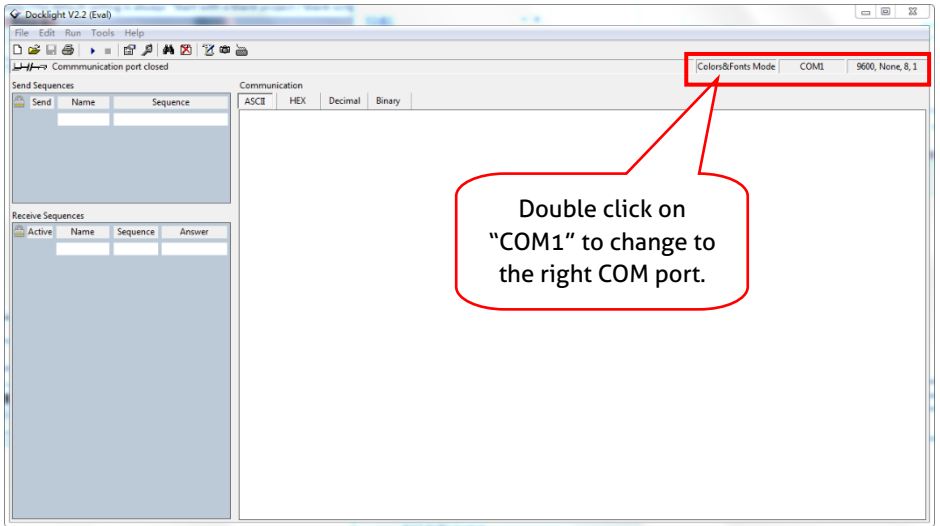
Registration is not necessary unless you wish to save settings on exit, so unless you wish to register click on "OK" to close the window.



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")

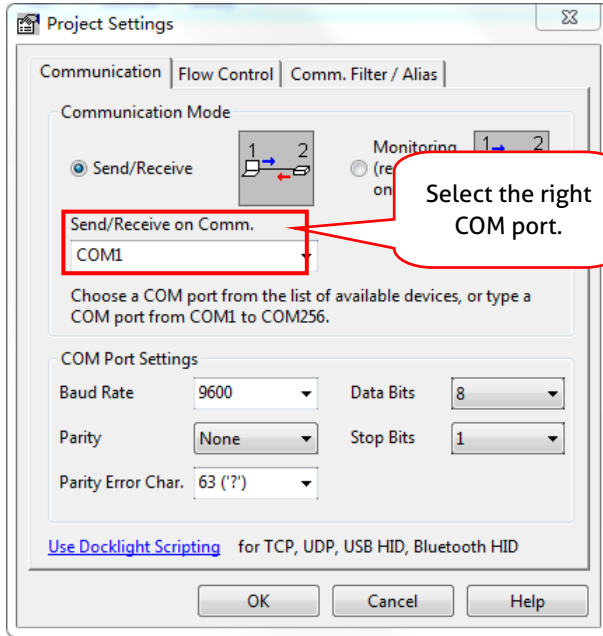


Now you are in the main view, where commands are sent and feedback is received. The next step is to select the correct COM port of the PC. To do this, double-click on "COM1" in the corresponding setup window.



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.



- (1)** In order to be able to send commands, open communication with the device by clicking on "Play".
- (2)** Then the keyboard function must be activated, so that commands can be written in the "communication window".
- (3)** 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.



The screenshot shows the Docklight V2.2 (Eval) interface. It includes a menu bar (File, Edit, Run, Tools, Help), a toolbar with a 'Play' button highlighted by callout 1, and a 'Send Sequences' table. The 'Communication' pane is active, showing a table with columns for ASCII, HEX, Decimal, and binary. Two rows of data are visible, with the second row containing a red error message: 'Switch to HDMI 1<CR><LF>'. Callout 2 points to the 'Keyboard type in function' button in the toolbar, and callout 3 points to the 'Command sending area' at the top of the communication pane. A large red-bordered area at the bottom of the communication pane is labeled as the 'Monitoring area'.

1 Click "Play" to open the communication.

2 Enable the keyboard type in function.

3 Command sending area.

Monitoring area, indicates if the command sent works.

## 7.2 System Commands

Command	Description	Command Example and Feedback
>GetFirmwareVersion	Get the firmware version.	<V1.0.0
>SetFactoryReset	Set to factory defaults.	<FactoryReset_True
>SetReboot	System reboot.	<Reboot_EN
>SetHelp [Param]	Get the command details. [Param] = Any command. [Param] = Null (All commands)	>SetHelp SetAV <Select the input source >SetAV InParam,OutParam InParam = 1-6 1 - HDMI 1 2 - HDMI 2 3 - HDMI 3 4 - DP 3 5 - HDMI 4 6 - TYPE-C 4 OutParam = A - D(NO THIS PARAMETER TO SET TO A)
>GetIpAddress	Get the IP to access GUI.	<IpAddress: 192.168.0.178 <SubNetMask: 255.255.255.0 <GateWay: 192.168.0.1
>SetKeyboardLock [Param]	Lock/unlock the front panel buttons. [Param] = EN,DIS EN - Lock DIS - Unlock (Default)	>SetKeyboardLock EN >SetKeyboardLock DIS <KeyboardLock True <KeyboardLock False
>GetKeyboardLock	Get the front buttons locking status.	<KeyboardLock True
>SetPowerOn [Param]	Enter/exit standby mode [Param] = EN,DIS EN - Exit standby (Default) DIS - Enter standby	>SetPowerOn EN >SetPowerOn DIS <PowerOn True <PowerOn False
>GetPowerOn	Get the system standby status.	<PowerOn True

Command	Description	Command Example and Feedback
>GetStatus	Get the system status.	<V1.0.0 <Video OUT A B C D IN 1 2 3 5 <AudioSource 1 <OutputResolution 8 ... ..

### 7.3 Signal Switching Commands

Command	Description	Command Example and Feedback
>SetAV [InParam],[OutParam]	Switch input source to output window. [InParam] = 1 ~ 6 1 - HDMI 1 2 - HDMI 2 3 - HDMI 3 4 - DP 3 5 - HDMI 4 6 - USB-C 4 [OutParam] = A ~ D (No this parameter when switching input source to window A)	>SetAV 3 >SetAV 1,A  <AV 3,A <AV 1,A
>GetAV [OutParam]	Get the input source of window [OutParam]. [OutParam] = A-D (No this parameter when get input sources of all windows)	>GetAV >GetAV A  <Video OUT A B C D IN 1 2 3 4 <AudioSource 1 <Video 1, A
>SetAutoSwitch [Param]	Enable/disable auto switching mode. [Param] = EN,DIS EN - Enable (Default) DIS - Disable	>SetAutoSwitch EN >SetAutoSwitch DIS  <AutoSwitch True <AutoSwitch False
>GetAutoSwitch	Get the auto switching status.	<AutoSwitch True

Command	Description	Command Example and Feedback
>SetInput3Type [Param]	Select the input source for the third input channel. [Param] = H, DP H - HDMI input DP - DP input	>SetInput3Type H
		<Input3Type H
>GetInput3Type	Get the input source of the third input channel.	<Input3Type H
>SetInput4Type	Select the input source for the fourth input channel. [Param] = H, C H - HDMI input C – USB-C input	>SetInput4Type H
		<Input4Type H
>GetInput4Type	Get the input source for the fourth input channel.	<Input4Type H

## 7.4 Audio Setting Commands

Command	Description	Command Example and Feedback
>SetMicAudioMute [Param]	Mute/Unmute microphone audio. [Param] = EN, DIS EN - Mute. DIS - Unmute (Default)	>SetMicAudioMute EN
		>SetMicAudioMute DIS
		<MicAudioMute True <MicAudioMute False
>GetMicAudioMute	Get the microphone audio mute status	<MicAudioMute False
>SetMicVOL [Param]	Set the microphone audio volume to [Param]. [Param] = 0~60 (Default: 60)	>SetMicVOL 6
		<MicVOL 6
>GetMicVOL	Get the microphone audio volume.	<MicVOL 6
>SetSourceAudioMute [Param]	Mute/Unmute source audio. [Param] = EN, DIS EN - Mute. DIS - Unmute (Default)	>SetSourceAudioMute EN
		>SetSourceAudioMute DIS
		<SourceAudioMute True <SourceAudioMute False

Command	Description	Command Example and Feedback
>GetSourceAudioMute	Get the source audio mute status	<SourceAudioMute True
>SetSourceVOL [Param]	Set the source audio volume to [Param]. [Param] = 0~60 (Default: 60)	>SetSourceVOL 6 <SourceVOL 6
>GetSourceVOL	Get the source audio volume.	<SourceVOL 60
>SetAudioSource [Param]	Set the source audio of output to [Param]. [Param] = 1~5. 1 – HDMI 1 (Default) 2 – HDMI 2 3 – HDMI/DP 3 4 – HDMI/USB-C 4 5 – LINE IN	>SetAudioSource 2 <AudioSource 2
>GetAudioSource	Get the source audio of output.	<AudioSource 1
>SetAudioMix [Param]	Enable/Disable audio mixing. [Param] = EN, DIS EN - Enable (Default) DIS - Disable	>SetAudioMix EN <AudioMix True
>GetAudioMix	Get audio mixing status.	<AudioMix True
>SetFullModeAudioSwitch [Param]	Set whether the audio follows video switching in full screen mode. [Param] = EN, DIS EN - Enable (Default) DIS - Disable	>SetFullModeAudioSwitch EN <FullModeAudioSwitch True
>GetFullModeAudioSwitch	Get whether the audio follows video switching in full screen mode.	<FullModeAudioSwitch True
>SetAudioDelay [Param]	Set the delay time of audio output to [Param]. [Param] = 0 ~ 170 (ms) (Default: 0).	>SetAudioDelay 20 <AudioDelay 20
>GetAudioDelay	Get the delay time of audio output.	<AudioDelay 20

## 7.5 Function Setting Commands

Command	Description	Command Example and Feedback
<b>&gt;SetRS232Baudrate [Param]</b>	Set the baud rate of RS232 port to [Param]. [Param] = 1 ~ 5 1 - 115200 2 - 57600 3 - 38400 4 - 19200 5 - 9600 (Default)	>SetRS232Baudrate 5  <RS232Baudrate 5
<b>&gt;GetRS232Baudrate</b>	Get the baud rate of RS232 port.	<RS232Baudrate 5
<b>&gt;SetOutputResolution [Param]</b>	Set the output resolution to [Param]. [Param] = 1 ~ 8 1 - 1024x768@60Hz 2 - 1280x720@60Hz 3 - 1360x768@60Hz 4 - 1600x1200@60Hz 5 - 1920x1080@60Hz 6 - 1920x1200@60Hz 7 - 3840x2160@30Hz (Default) 8 - AUTO	>SetOutputResolution 4  <OutputResolution 4
<b>&gt;GetOutputResolution</b>	Get the output resolution.	<OutputResolution 4
<b>&gt;GetInputResolution [Param]</b>	Get the input resolution. [Param] = 1~4. 1 - HDMI 1 2 - HDMI 2 3 - HDMI/DP 3 4 - HDMI/USB-C 4	>GetInputResolution 1  <InputResolution: 1 1920x1080 60Hz  <HdcpHdmiOutput 1







Command	Description	Command Example and Feedback
>SetAutoCommand [Param]	Set whether to automatically send RS232 commands after signal detection. [Param] = EN, <b>DIS</b> EN - Enable (Default) <b>DIS</b> - Disable	>SetAutoCommand EN
		<AutoCommand True
>GetAutoCommand	Get whether to automatically send RS232 commands after signal detection.	<AutoCommand True
>SetAutoStandby [Param]	Enable/disable auto standby after no signal detection. [Param] = EN, <b>DIS</b> EN - Enable <b>DIS</b> - Disable (Default)	>SetAutoStandby EN
		<AutoStandby True
>GetAutoStandby	Get auto standby setting status.	<AutoStandby True
>SetAutoRelay [Param]	Enable/Disable auto power off function of relay. [Param] = EN, <b>DIS</b> EN - Enable <b>DIS</b> - Disable (Default)	>SetAutoRelay EN
		<AutoRelay True
>GetAutoRelay	Get auto power off setting status of relay.	<AutoRelay True
>SetPanelCEC [Param]	Set the delay time to send CEC, RS232 and standby commands after removing input signal removed. [Param] = 0~1800 (s) (Default: 600s)	>SetPanelCEC 9
		<PanelCEC 9
>GetPanelCEC	Get the delay time to send CEC, RS232 and standby commands after removing input signal removed.	<PanelCEC 9
>SetOffMsgLoopCnt [Param]	Set the number of times of sending Display Off command. [Param] = 1 ~ 2 (Default: 1)	>SetOffMsgLoopCnt 1
		<OffMsgLoopCnt 1
>GetOffMsgLoopCnt	Get the number of times of sending Display Off command.	<OffMsgLoopCnt 1
>SetOffMsgLoopDelayTime [Param]	Set the delay time of sending Display Off command. [Param] = 5 ~ 100 (1=100ms) (Default: 10)	>SetOffMsgLoopDelayTime 5
		<OffMsgLoopDelayTime 5
>GetOffMsgLoopDelayTime	Get the delay time of sending Display Off command.	<OffMsgLoopDelayTime 5

Command	Description	Command Example and Feedback
>SetInputMsgDelayTime [Param]	Set the delay time of sending Display Input Select command. [Param] = 1 ~ 100 (s) (Default: 3)	>SetInputMsgDelayTime 10 <InputMsgDelayTime 10
>GetInputMsgDelayTime	Get the delay time of sending Display Input Select command.	<InputMsgDelayTime 10
>SetDisplayOn [Param]	Power on/off the display device. (Send RS232 and CEC commands at the same time). [Param] = EN, DIS EN - Power on DIS - Power off	>SetDisplayOn EN >SetDisplayOn DIS <DisplayOn True <DisplayOn False
>SetHdbtPOCOn [Param]	Enable or disable PoC. [Param] = EN, DIS EN - Enable (Default) DIS - Disable	>SetHdbtPOCOn EN <HdbtPOCOn True
>GetHdbtPOCOn	Get PoC status.	<HdbtPOCOn True

## 7.6 CEC Commands

Command	Description	Command Example and Feedback
>SetCecSrcMenu [Param]	Send CEC MENU command to source device. [Param] = 1 ~ 4 1 - HDMI 1 2 - HDMI 2 3 - HDMI 3 4 - HDMI 4	>SetCecSrcMenu 1 <CecSrcMenu 1
>SetCecSrcUp [Param]	Send CEC UP command to source device. [Param] = 1 ~ 4 (HDMI 1~4)	>SetCecSrcUp 1 <CecSrcUp 1
>SetCecSrcDown [Param]	Send CEC DOWN command to source device. [Param] = 1 ~ 4 (HDMI 1~4)	>SetCecSrcDown 1 <CecSrcDown 1
>SetCecSrcLeft [Param]	Send CEC LEFT command to source device. [Param] = 1 ~ 4 (HDMI 1~4)	>SetCecSrcLeft 1 <CecSrcLeft 1
>SetCecSrcRight [Param]	Send CEC RIGHT command to source device. [Param] = 1 ~ 4 (HDMI 1~4)	>SetCecSrcRight 1 <CecSrcRight 1

Command	Description	Command Example and Feedback
>SetCecSrcBack [Param]	Send CEC BACK command to source device. [Param] = 1 ~ 4 (HDMI 1~4)	>SetCecSrcBack 1 <CecSrcBack1
>SetCecSrcEnter [Param]	Send CEC ENTER command to source device. [Param] = 1 ~ 4 (HDMI 1~4)	>SetCecSrcEnter 1 <CecSrcEnter 1
>SetCecSrcOn [Param]	Send CEC ON command to source device. [Param] = 1 ~ 4 (HDMI 1~4)	>SetCecSrcOn 1 <CecSrcOn 1
>SetCecSrcOff [Param]	Send CEC OFF command to source device. [Param] = 1 ~ 4 (HDMI 1~4)	>SetCecSrcOff 1 <CecSrcOff 1
>SetCecSrcStop [Param]	Send CEC STOP command to source device. [Param] = 1 ~ 4 (HDMI 1~4)	>SetCecSrcStop 1 <CecSrcStop 1
>SetCecSrcPlay [Param]	Send CEC PLAY command to source device. [Param] = 1 ~ 4 (HDMI 1~4)	>SetCecSrcPlay 1 <CecSrcPlay 1
>SetCecSrcPause [Param]	Send CEC PAUSE command to source device. [Param] = 1 ~ 4 (HDMI 1~4)	>SetCecSrcPause 1 <CecSrcPause 1
>SetCecSrcPrev [Param]	Send CEC PREV command to source device. [Param] = 1 ~ 4 (HDMI 1~4)	>SetCecSrcPrev 1 <CecSrcPrev 1
>SetCecSrcNext [Param]	Send CEC NEXT command to source device. [Param] = 1 ~ 4 (HDMI 1~4)	>SetCecSrcNext 1 <CecSrcNext 1
>SetCecSrcRewind [Param]	Send CEC REWIND command to source device. [Param] = 1 ~ 4 (HDMI 1~4)	>SetCecSrcRewind 1 <CecSrcRewind 1
>SetCecSrcFastForward [Param]	Send CEC Fast-forward command to source device. [Param] = 1 ~ 4 (HDMI 1~4)	>SetCecSrcFastForward 1 <CecSrcFastForward 1
>SetCecDisplayOn [Param]	Send CEC ON command to display device. [Param] = 1 ~ 2 (1 - HDMI, 2 - HDBT)	>SetCecDisplayOn 1 <CecDisplayOn 1
>SetCecDisplayOff [Param]	Send CEC OFF command to display device. [Param] = 1 ~ 2 (1 - HDMI, 2 - HDBT)	>SetCecDisplayOff 1 <CecDisplayOff 1
>SetCecDisplaySource [Param]	Send CEC SOURCE command to display device. [Param] = 1 ~ 2 (1 - HDMI, 2 - HDBT)	>SetCecDisplaySource 1 <CecDisplaySource 1

Command	Description	Command Example and Feedback
>SetCecDisplayMute [Param]	Send CEC MUTE command to display device. [Param] = 1 ~ 2 (1 - HDMI, 2 - HDBT)	>SetCecDisplayMute 1 <CecDisplayMute 1
>SetCecDisplayVol+ [Param]	Send CEC VOLUME UP command to display device. [Param] = 1 ~ 2 (1 - HDMI, 2 - HDBT)	>SetCecDisplayVol+ 1 <CecDisplayVol+ 1
>SetCecDisplayVol- [Param]	Send CEC VOLUME DOWN command to display device. [Param] = 1 ~ 2 (1 - HDMI, 2 - HDBT)	>SetCecDisplayVol- 1 <CecDisplayVol- 1

## 7.7 Special Commands

Command	Description	Command Example and Feedback
>SetDisplayInputSendChar_[Param]:XX XX	Set the ASCII "Display Input Select" command "XXXX" to be sent to display device when power on the switcher. [Param] = 1-5 (Baud rate of RS232 port) 1 - 115200 2 - 57600 3 - 38400 4 - 19200 5 - 9600 XXXX= ASCII data to be sent (Up to 48 characters).	>SetDisplayInputSendChar_5:1234567  <Baudrate: 9600 <Display input select to send:1234567

Command	Description	Command Example and Feedback
<p><b>&gt;SetDisplayInputSendHex_[Param]:XX XX</b></p>	<p>Set the HEX "Display Input Select" command "XX XX" to be sent to display device when power on the switcher. [Param] = 1-5 (Baud rate of RS232 port) 1 - 115200 2 - 57600 3 - 38400 4 - 19200 5 - 9600 XX XX= HEX data to be sent (X = 0-9, A-F and up to 20 XX).</p>	<p>&gt;SetDisplayInputSendHex_5:30 31 32 33</p> <hr/> <p>&lt;Baudrate: 9600 &lt;Display input select to send HEX:30 31 32 33</p>
<p><b>&gt;SetPowerOnSendChar_[Param]:XXXX</b></p>	<p>Set the ASCII "Power On" command "XXXX" to be sent to display device when power on the switcher. [Param] = 1-5 (Baud rate of RS232 port) 1 - 115200 2 - 57600 3 - 38400 4 - 19200 5 - 9600 XXXX= ASCII data to be sent (Up to 48 characters).</p>	<p>&gt;SetPowerOnSendChar_5:1234567</p> <hr/> <p>&lt;Baudrate: 9600 &lt;Power on to send:1234567</p>
<p><b>&gt;SetPowerOnSendHex_[Param]:XX XX</b></p>	<p>Set the HEX "Power On" command "XX XX" to be sent to display device when power on the switcher. [Param] = 1-5 (Baud rate of RS232 port) 1 - 115200 2 - 57600 3 - 38400 4 - 19200 5 - 9600 XX XX= HEX data to be sent (X = 0-9, A-F and up to 20 XX).</p>	<p>&gt;SetPowerOnSendHex_5:30 31 32 33</p> <hr/> <p>&lt;Baudrate: 9600 &lt;Power on to send HEX:30 31 32 33</p>

Command	Description	Command Example and Feedback
<p><b>&gt;SetSleepSendChar_ _ [Param]:XXXX</b></p>	<p>Set the ASCII "Power Off" command "XXXX" to be sent to display device when the switcher enter standby mode. [Param] = 1-5 (Baud rate of RS232 port) 1 - 115200 2 - 57600 3 - 38400 4 - 19200 5 - 9600 XXXX= ASCII data to be sent (Up to 48 characters).</p>	<p>&gt;SetSleepSendChar_5: ABCDEF  &lt;Baudrate: 9600 &lt;Enter sleep to send:ABCDEF</p>
<p><b>&gt;SetSleepSendHex_  [Param]:XX XX</b></p>	<p>Set the HEX "Power Off" command "XX XX" to be sent to display device when the switcher enter standby mode. [Param] = 1-5 (Baud rate of RS232 port) 1 - 115200 2 - 57600 3 - 38400 4 - 19200 5 - 9600 XX XX= HEX data to be sent (X = 0-9, A-F and up to 20 XX).</p>	<p>&gt;SetSleepSendHex_5: 41 42 43 44  &lt;Baudrate: 9600 &lt;Enter sleep to send HEX:41 42 43 44</p>

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## 8. Firmware Upgrade

- 1) Prepare the latest upgrade file (.bin) and rename it as "FW\_MV bin" on PC.
- 2) Power off the switcher and connect the **FIRMWARE** port of switcher to the PC with type-A USB cable.
- 3) Power on the switcher and then the PC will automatically detect a U-disk named of "BOOTDISK".
- 4) Directly copy the latest upgrade file (.bin) to the "BOOTDISK" U-disk.
- 5) Reopen the U-disk to check whether there is a filename named "SUCCESS.TXT". If yes, the firmware was updated successfully. Otherwise, the firmware upgrade has failed. Please confirm the correct name of the upgrade file (.bin) and then follow the above steps to upgrade again.
- 6) Remove the type-A USB cable after firmware upgrade.
- 7) After firmware upgrade, the switcher should be restored to factory default by sending command.

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

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## 9. After-Sales Service

If problems occur while operating the product, please use the troubleshooting and maintenance information in this manual to deal with these problems. Any transport costs are borne by the user during the warranty period.

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

A proof of purchase is the evidence that the unit is within the warranty period. A bill of sale or receipted invoice must be presented to obtain warranty service.

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

- Warranty has expired
- The factory applied serial number has been altered or removed from the product.
- Damage, deterioration or malfunction caused by:
  - Normal wear and tear.
  - Use of accessories, supplies or parts, not meeting our specifications.
  - No bill of delivery or invoice as proof of warranty.
  - The product model displayed on the warranty card does not match the product model for repairing or it has been altered.
- Damage caused by force majeure.
- Servicing, not authorized by distributor.
- Any other cause not related to a product defect.
- Delivery, installation or labor charges for product installation and/or product setup.

- 3) Technical Support:** For any questions or problem troubleshooting inquiries, contact your distributor or reseller. Please provide the respective product name and version, a detailed description of the failure situation as well as how the failure occurred.





## 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)

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