User Manual
PT-HDBT-220WP

PureTools

User Manual

3x1 Wallplate Transmitter Switcher Kit

Model PT-HDBT-220WP

Designed in Germany

VersionV1.2

User Manual
PT-HDBT-220WP

PureTools

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.

FC

REACH | 1907/2006/EU

ROHS | 2011/65/EU

PureLink hereby declares that this product **PureTools PT-HDBT-220WP** 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-HDBT-220WP** 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/4251364706787_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.

Table of Content

1. Product Introduction

1.1 Introduction

Thank you for choosing the PT-HDBT-220WP 3x1 Wallplate Transmitter Switcher Kit, which consists of a wallplate transmitter switcher and a receiver. The kit is designed to switch and extend HDMI or USB-C source signal to far-end display device, and the transmission distance is up to 131ft/40m at 4K and 229ft/70m at 1080p video by using a single CATx cable.

The switcher features two HDMI and one USB-C inputs, it can be selected by the **SOURCE AUTO** button on the front panel. The switcher supports CEC. The **DISPLAY ON/OFF** button on front panel is used to control the far-end display device, and it can be programmed by IR learning or RS232 command to ensure the compatibility with various display devices. Moreover, bidirectional 24V PoC allows the switcher to powered from the compatible HDBaseT receiver, or the receiver can be powered from the switcher.

1.2 Feature

- Supports HDMI signal up to 4K@60Hz 4:4:4, USB-C signal up to 4K@30Hz 4:4:4.
- Supports HDMI V2.0 standard and HDCP 2.2 compliant. Ensures display of content-protected media and interoperability with other HDCP compliant devices.
- Active input automatic detective.
- Extending HDMI signal 4K@60Hz up to 131ft/40m and 1080p@60Hz up to 229ft/70m.
- The USB-C supports video and USB data transmission.
- Supports RS232 control with HDBaseT connection and local control.
- Supports bidirectional IR pass-through to control display device from local and control source device from remote.
- Supports CEC to turn on/off display by the DISPLAY ON/OFF button, and the button can be programmed by IR learning feature or RS232 command.
- Supports bi-directional 24V PoC power supply and wide voltage power receiving (12~48V), only one power adapter required.
- Supports USB 2.0 KVM solutions.
- Micro-USB port for firmware upgrade.

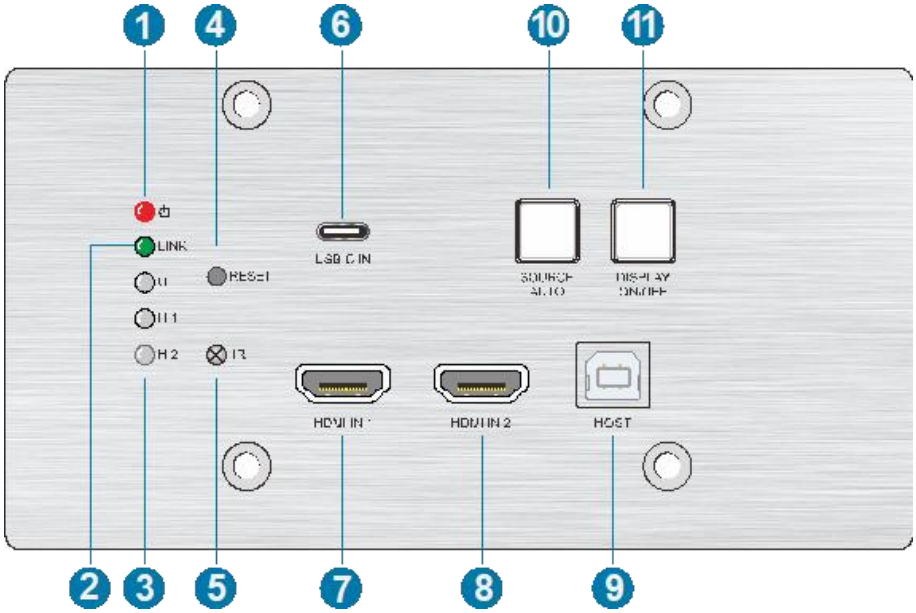
1.3 Package List

- 1 x Wallplate Transmitter Switcher
- 1 x 2-pin Terminal Blocks
- 2x 3-pin Terminal Blocks
- 1x Receiver
- 2x Mounting Ears with 2 Screws
- 1x 3-pin Terminal Block
- 1x Power Adaptor (24V DC 1.25A）
- 1x User Manual

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

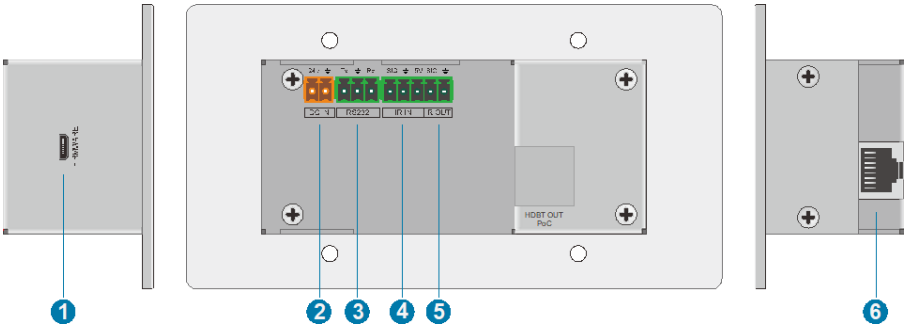
2. Panel Description

2.1 Switcher Front Panel



No.	Name	Description
①	POWER LED	The LED illuminates red when power is applied.
②	LINK LED	The LED illuminates green when the switcher is successfully connected to the receiver by a CATx cable.
③	Input LED	U: The LED illuminates green to indicate the USB-C input is selected. H 1: The LED illuminates green to indicate the HDMI input 1 is selected. H 2: The LED illuminates green to indicate the HDMI input 2 is selected.
④	RESET	Press the button to reboot the switcher.
⑤	IR	Built-in IR sensor for IR learning feature. It also supports IR pass-through to receive IR signal from IR remote to control display device.
⑥	USB-C IN	Connects to the Macbook or other device with SlimPort output.
⑦	HDMI IN 1	Connects to the HDMI source device.
⑧	HDMI IN 2	Connects to the HDMI source device.
⑨	HOST	Connects to the PC, which can be controlled by KVM devices.
⑩	SOURCE AUTO	Press the button to select the next input source, or press and hold it at least 3 seconds to enable auto-switching mode. For more details, please refer to the 6.1 Signal Switching.
⑪	DISPLAY ON/OFF	Press the button to turn on/off the display. For more details, please refer to the **Display Control**.

2.2 Switcher Rear Panel



No.	Name	Description
①	FIRMWARE	Micro-USB port for firmware upgrade.
②	DC IN	Connects to 24V power supply.
③	RS232	Connects to a control device (such as PC) to send RS232 command to control this switcher by RS232, or control the far-end third-party device. For more details, please refer to the 6. RS232 Control.
④	IR IN	Connects to IR receiver to control far-end display device by IR pass-through.
⑤	IR OUT	Connects to IR emitter to control local source device by IR pass-through.
⑥	HDBT OUT (PoC)	Connects to the HDBT IN port of the receiver by a CATx cable. It supports 24V PoC to enable the switcher can be powered from receiver.

3. Specification

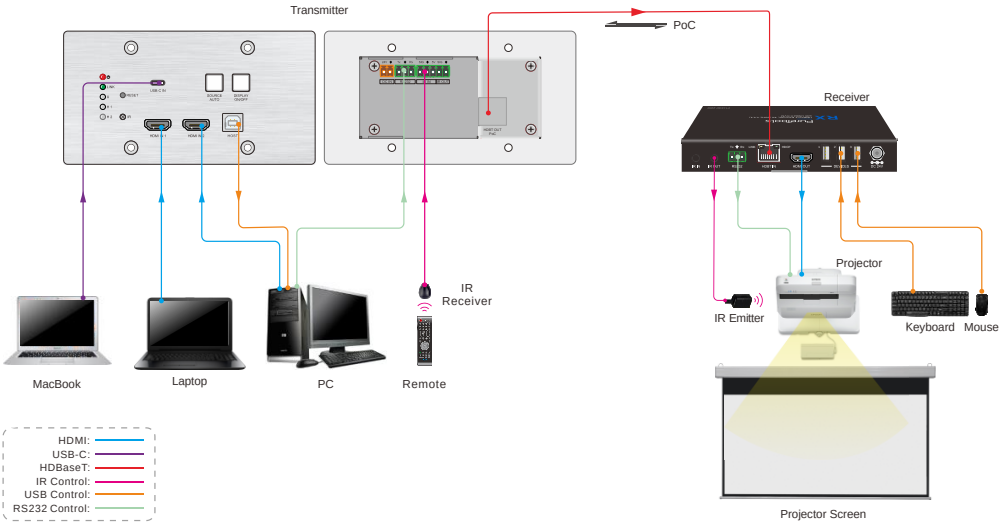
Switcher

Input	
Input	(2) HDMI, (1) USB-C
Input Connector	(2) Female type A HDMI, (1) Type-C USB
HDMI Input Resolution	Up to 4K@60Hz 4:4:4
USB-C Input Resolution	Up to 4K@30Hz 4:4:4
Output	
Output	(1) HDBT OUT
Output Connector	(1) RJ45
HDBT Output Resolution	Up to 4K@60Hz 4:4:4
Control	
Control Ports	(1) IR, (1) HOST, (1) FIRMWARE, (1) RS232, (1) IR IN, (1) IR OUT
Control Connector	(1) Built-in IR sensor, (1) Type-B USB 2.0, (1) Micro-USB, (2) 3-pin terminal block, (1) 2-pin terminal block
General	
Bandwidth	18Gbps
HDMI Version	2.0
HDCP Version	2.2
Transmission Distance	1080p ≤ 230 feet (70 meters),4K@60Hz ≤ 131 feet (40 meters)
External Power Supply	Input:100V to 240V AC; Output: 24VDC 1.25A
Power Consumption	20W (Max, add extra HDBaseT receiver)
Operation Temperature	-5 to +55℃ (+23° to +131°F)
Storage Temperature	-25 to +70℃ (-13° to +158°F)
Relative Humidity	10% to 90%
Dimension (W*H*D)	146mm x 86mm x 42mm
Net Weight	240g

Receiver

Input	
Input	(1) HDBT
Input Connector	(1) RJ45
Output	
Output	(1) HDMI
Output Connector	(1) Type-A female HDMI
Control	
Control port	(1) FW, (1) IR IN, (1) IR OUT, (1) RS232, (3) USB IN
Control Connector	(1) Micro-USB, (2) 3.5mm jacks, (1) 3-pin terminal block, (3) Type-A USB 2.0
General	
Bandwidth	18Gbps
HDMI Version	2.0
HDCP Version	2.2
Video Resolution	Up to 4K@60Hz 4:4:4
Transmission Distance	1080p ≤ 230 feet (70 meters), 4K@60Hz ≤ 131 feet (40 meters)
AC Adapter Input Power	100 to 240V AC, 50/60Hz
Input Power	24V DC 1.25A
Power Consumption	20W (Max, work with the switcher)
Operation Temperature	-5 to +55℃ (+23° to +131°F)
Storage Temperature	-25 to +70℃ (-13° to +158°F)
Relative Humidity	10% to 90%, Non-condensing
Dimension (W*H*D)	152mm x 23.5mm x 84mm
Net Weight	300g

4. System Diagram



5. IR Control

This product supports backwards and forwards IR, allowing IR signals to be passed over the CAT cable to the source device or the display.

Source IR Control (Backwards IR)

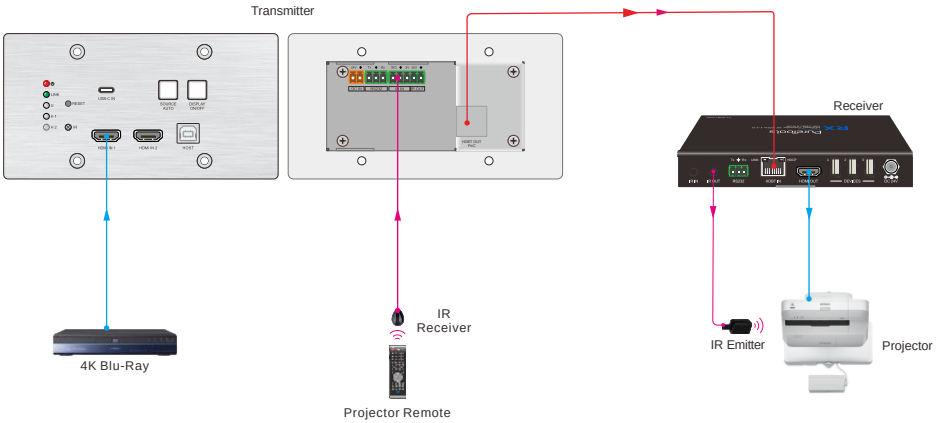
This allows you to control a source device at the display (TV) end, where the receiver is.

1) Plug the IR emitter into the IR OUT port in the switcher.
2) Find the IR location on your source device (where you normally point the remote control) and then place the IR emitter in front of it.
3) Plug the IR receiver into the IR IN port in the receiver.
4) Attach the IR receiver onto or near the display (TV) where you would point your remote control to use your TV.

Display IR Control (Forwards IR)

This allows you to control a display (TV) at the source device's end, where the switcher is. For example, you have a projector at the receiver's end and you want to turn it on and control it at the source device's end.

1) Plug the IR emitter into the IR OUT port in the receiver.
2) Find the IR location on your display (TV), (where you normally point the remote control) and then place the IR emitter directly in front of it.
3) Plug the IR receiver into the IR IN port in the switcher.
4) Attach the IR receiver onto anywhere you would like to control it.



6. Button Control

NOTE: The front panel buttons are locked by factory default. When you press any button on the front panel, it will not be able to operate and the button light will blink twice.At this time, you need to use instructions to unlock the button function, please refer to the RS232 Commands at page 20 for details.

Signal Switching

1) Press the **SOURCE AUTO** button to switch to next source device, and then the corresponding input LED will turn green.
2) Press and hold the **SOURCE AUTO** button at least 3 seconds to enable auto switching mode, and it abides by the following principles:
    - The switcher will switch to the first available active input starting at HDMI IN 1> HDMI IN 2 > USB-C. If there is no device input and the display supports CEC, the display will automatically shut down in 10 minutes.
    - New input: Once a new input signal detected, the switcher will automatically switch to this new signal.
    - Source removed: When an active source is removed, the switcher will switch to the first available active input starting at HDMI IN 1.

- Reboot: The switcher can save the last configuration before losing power. If the last switching mode is auto switching, the switcher will automatically enter auto switching mode once rebooted, then detect all inputs and memorize their connection status for future rebooting using. If the last selected input source is still available, the switcher will switch to this input. Otherwise, it will switch to the first available active input source starting at HDMI IN 1.
- Exit auto switching mode: Press and hold the **SOURCE AUTO** button for 3 seconds again to exit the auto mode, and the input source will not be changed.

Display Control

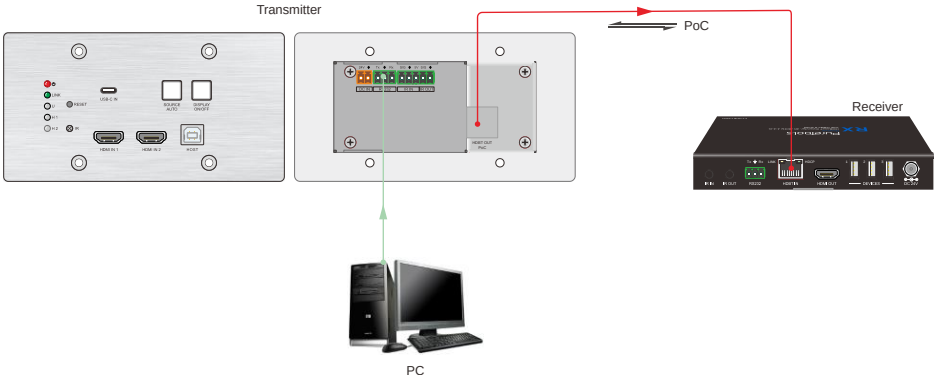
1) Press the blue-backlight **DISPLAY ON/OFF** button to turn on/off the display by automatically sending CEC and RS232 command (Programming required). When sending the ON command, the button will turn blue; when sending the OFF command, and the button will be off.
2) The **DISPLAY ON/OFF** button can be programmed by IR learning feature or RS232 command for compatibility with various display devices. For more details, please refer to the ***7 Button User-defined***.

7. RS232 Control

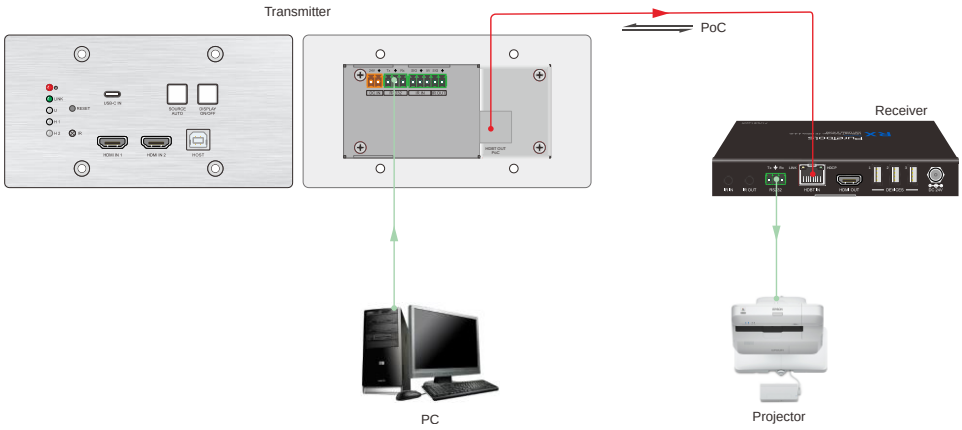
7.1 RS232 Connection

According the RS232 control mode, there are three types of RS232 connection for different application.

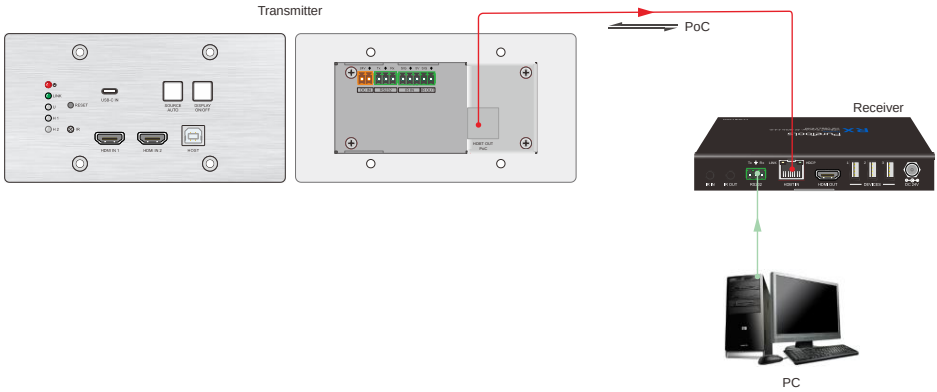
1) When only control the switcher, please connect a control device (e.g. PC) to the RS232 port of the switcher, the connection diagram shown as below:



2) If the far-end third-party device (e.g. projector) need be controlled by PC, please connect the third party device (e.g. projector) to the RS232 port of receiver. The connection diagram shown as below:



3) If the switcher needs to be controlled by receiver end, the control device (e.g. PC) can be connected to the RS232 port of the receiver, the connection diagram shown as below:



7.2 RS232 Commands

After set all needed input and output devices according to the RS232 connection diagram, please install the RS232 control software (e.g. docklight) into the control PC to send RS232 command.

After installing the RS232 control software, please set the parameters of COM number, baud rate, data bit, stop bit and the parity bit correctly, and then you are able to send command in command sending area.
When controlling the switcher, the serial port settings for all RS232 commands is:

Baud rate: 9600 Data bit: 8 Stop bit: 1 Parity bit: none

The command need to be ended with <CR><LF>

Device Control

Command	Description	Command Example and Feedback
>GetFirmwareVersion	Get firmware version.	<V1.0.0
>SetFactoryReset	Restore factory default.	<FactoryReset_True
>SetReboot	System reboot.	<Reboot_EN
>SetHelp PARAM	Get the command function and usage.	>SetHelp SetAV <Switch an input AV signal to outputs >SetAV Param Param = H1, H2, C H1 - HDMI1 H2 - HDMI2 C - USB-C
>SetRS232Baudrate PARAM	Set the RS232 baud rate. PARAM = 1 ~ 5 1 - 115200 2 - 57600 3 - 38400 4 - 19200 5 - 9600	>SetRS232Baudrate 1 <RS232Baudrate 115200
>GetRS232Baudrate	Get the RS232 baud rate.	<RS232Baudrate 115200

Source Switching

Command	Description	Command Example and Feedback
>SetAV PARAM	Switch input to output. PARAM=H1, H2, C H1 - HDMI1 H2 - HDMI2 C - USB-C	>SetAV H1 >SetAV C
		<AV H1 <AV C
>GetAV	Get the current input source.	<AV H1
		<AV H2
		<AV C
>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 source switching mode.	<AutoSwitch True

CEC/RS232/IR Function

Command	Description	Command Example and Feedback
>SetAutoCec PARAM	Enable/disable 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. PARAM = EN, Dis EN - Enable (Default) Dis - Disable	>SetAutoCec EN
		<AutoCec True
>GetAutoCec	Get the function setting status of automatically sending CEC commands.	<AutoCec True

Command	Description	Command Example and Feedback
>SetAutoCommand PARAM	Enable/disable 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. PARAM = EN, Dis EN - Enable (Default) Dis - Disable	>SetAutoCommand EN <AutoCommand True
>GetAutoCommand	Get the function setting status of automatically sending RS232 commands.	<AutoCommand True
>SetAutoIR PARAM	Enable/disable the function of automatically sending IR signal. When detecting video input signal or not detecting any video signal, the switcher will automatically send the corresponding IR signal to control the display device. PARAM = EN, Dis EN - Enable (Default) Dis - Disable	>SetAutoIR EN <AutoIR True
>GetAutoIR	Get the function setting status of automatically sending IR signal.	<AutoIR True
>SetDisplayOn PARAM	Power on/off display device. (Simultaneously send CEC and RS232 commands). PARAM = EN, Dis EN - ON Dis - OFF	>SetDisplayOn EN >SetDisplayOn Dis <DisplayOn True <DisplayOn False

Command	Description	Command Example and Feedback
>SetOffMsgLoopCnt PARAM	Set the number of times to send the DISPLAY OFF RS232 command. PARAM=1 ~ 2	>SetOffMsgLoopCnt 1 <OffMsgLoopCnt 1
>GetOffMsgLoopCnt	Set the number of times to send the DISPLAY OFF RS232 command.	>GetOffMsgLoopCnt <OffMsgLoopCnt 1
>SetOffMsgLoopDelayTime PARAM	Set the sending interval between two Display OFF RS232 commands. PARAM=5 ~ 100 (1=100ms)	>SetOffMsgLoopDelay Time 5 <OffMsgLoopDelayTim e 5
>GetOffMsgLoopDelayTime	Get the sending interval between two Display OFF RS232 commands.	<OffMsgLoopDelayTim e 5
>SetPanelCEC PARAM	Set the delay time of sending DISPLAY OFF CEC command. When no signal input, the display device will be automatically turned off when the delay time is up. PARAM = 0 ~ 1800 (second)	>SetPanelCEC 600 <PanelCEC 600
>GetPanelCEC	Get the delay time of sending CEC command of turning off display device.	<PanelCEC 600

EDID Management

The Extended Display Identification Data (EDID) is used by the source device to match its video resolution with the connected display. By default, the source device obtains its EDID from the connected display, but if EDID communication is failed, 4K@30Hz 8bit Stereo Audio will be used as default output resolution.
In addition, since USB-C input only supports 4K@30Hz, so some limitations have been done on USB-C input. If the video resolution of display is lower than 4K@30Hz (including 4K@30Hz), the source device will copy and output it. But if the video resolution of display is higher than 4K@30Hz, the video resolution of source device will be fixed at 4K@30Hz.

Meanwhile, since the display with different capabilities is connected to the switcher, the below RS232 commands can be used to set the EDID to a fixed value to ensure the compatibility in video resolution.

Command	Description	Command Example and Feedback
>SetInPortEdid PARAM	Set EDID. PARAM = 0 ~ 9 0 - Bypass 1 - 1920x1080@60 8bit Stereo 2 - 1920x1080@60 8bit High Definition Audio 3 - 3840x2160@30Hz 8bit Stereo Audio 4 - 3840x2160@30Hz Deep Color High Definition Audio 5 - 3840x2160@60Hz Deep Color Stereo Audio 6 - 3840x2160@60 Deep Color High Definition Audio 7 - 3840x2160@60 Deep Color HDR Stereo 8 - 3840x2160@60 Deep Color HDR High Definition Audio 9 - USER EDID	>SetInPortEdid 0 <InPortEdid 0
#GET_EDID_MODE	Get the current EDID.	<InPortEdid 0
>SetUpdateEdid	Upload the user-defined EDID.	<User edid ready,Please send edid data in 10s. <SetUpdateEdid_True/False <Time out to send edid

HDCP Mode

Command	Description	Command Example and Feedback
>SetHdcpHdmiOutput PARAM	Set the HDCP mode of HDMI output. PARAM = 1 ~ 2 1 - Active (Default) 2 - HDCP 1.4	>SetHdcpHdmiOutput 1 <HdcpHdmiOutput 1
>GetHdcpHdmiOutput	Get the HDCP mode of HDMI output.	<HdcpHdmiOutput 1

Third-party Device Control

<table>
<tr><th>Command</th><th>Description</th><th>Command Example and Feedback</th></tr>
<tr><td rowspan="2">>SetPowerOnSendChar_PARAM:XXXX</td><td rowspan="2">Send the ASCII command "XXXX" to the remote third-party device while the switcher is powered on.
PARAM = 1~7. Represents the baud rate of the third-party device.
<table><tr><th>PARAM</th><th>Baud Rate</th></tr><tr><td>1</td><td>115200</td></tr><tr><td>2</td><td>57600</td></tr><tr><td>3</td><td>38400</td></tr><tr><td>4</td><td>19200</td></tr><tr><td>5</td><td>9600</td></tr><tr><td>6</td><td>4800</td></tr><tr><td>7</td><td>2400</td></tr></table></td><td>>SetPowerOnSendChar_5:1234</td></tr>
<tr><td><Baudrate: 9600
Display on to send:1234</td></tr>
<tr><td rowspan="2">>SetPowerOnSendHex_PARAM:XX XX</td><td rowspan="2">Send the ASCII command "XXXX" to the remote third-party device while the switcher is powered on.
PARAM = 1~7. Represents the baud rate of the third-party device.
<table><tr><th>PARAM</th><th>Baud Rate</th></tr><tr><td>1</td><td>115200</td></tr><tr><td>2</td><td>57600</td></tr><tr><td>3</td><td>38400</td></tr><tr><td>4</td><td>19200</td></tr><tr><td>5</td><td>9600</td></tr><tr><td>6</td><td>4800</td></tr><tr><td>7</td><td>2400</td></tr></table></td><td>>SetPowerOnSendHex_5:30 31</td></tr>
<tr><td><Baudrate: 9600
Display on to send HEX:30 31</td></tr>
</table>

8. Button User-defined

Press the **DISPLAY ON/OFF** button can turn on/off the display. If the incompatible display device needs to be used, the **DISPLAY ON/OFF** button can be programed by IR learning feature or RS232 command.

- **IR learning feature:**

Please according the below IR learning steps to define the **DISPLAY ON/OFF** button.

1) To enter IR learning mode, press and hold both the **DISPLAY ON/OFF** and **SOURCE AUTO** button until the both the button LEDs flash alternately. Please note that the IR learning mode will self-terminate after 30 seconds of inactivity.
2) Press the **DISPLAY ON/OFF** button to choose the command to be set:
   - ✓ Rapid flashing indicates that **DISPLAY ON** mode is selected.
   - ✓ Slow flashing indicates that **DISPLAY OFF** mode is selected.
3) Point the IR remote at the IR sensor and press the respective button on the IR remote.
4) The **DISPLAY ON/OFF** button LED will stop flashing and remain lit to indicate that IR command has been learnt.
5) Press **SOURCE AUTO** button 3s to exit the IR learning mode and the switcher return to initial state.

- **Programed by RS232 command:**

The **DISPLAY ON/OFF** button also can be defined by the following commands.

The command is ended without <CR><LF>

Command	Description	Command Example and Feedback
>SetPowerOnSendChar_PARAM:XXXX	Set the ASCII RS232 command "XXXX" to be sent to the third-party device (e.g. projector) when the **DISPLAY ON** button has been pressed. PARAM = 1~7. Baud rate of the third-party device. 1 - 115200 5 - 9600 2 - 57600 6 - 4800 3 - 38400 7 - 2400 4 - 19200	>SetPowerOnSendChar_5:1234567 <Baudrate: 9600 Display on to send:1234567
>SetKeyboardLock Dis	Unlock panel button	<KeyboardLock False
> SetKeyboardLock EN	Lock panel button	<KeyboardLock True
>GetKeyboardLock	Get current lock status	<KeyboardLock True <KeyboardLock False

Command	Description	Command Example and Feedback
>SetPowerOnSendHex_ PARAM:XX XX	Set the HEX RS232 command "XX XX" to be sent to the third-party device (e.g. projector) when the **DISPLAY ON** button has been pressed. PARAM = 1~7. Baud rate of the third-party device. 1 - 115200 5 - 9600 2 - 57600 6 - 4800 3 - 38400 7 - 2400 4 - 19200	>SetPowerOnSendHex _5:30 31 32 33 <Baudrate: 9600 Display on to send HEX:30 31 32 33
>SetSleepSendChar_PARAM:XXXX	Set the ASCII RS232 command "XXXX" to be sent to the third-party device (e.g. projector) when the **DISPLAY OFF** button has been pressed. PARAM = 1~7. Baud rate of the third-party device. 1 - 115200 5 - 9600 2 - 57600 6 - 4800 3 - 38400 7 - 2400 4 - 19200	>SetSleepSendChar_05:ABCDEFG <Baudrate: 9600 Display off to send:ABCDEFG
>SetSleepSendHex_ PARAM:XX XX	Set the HEX RS232 command "XXXX" to be sent to the third-party device (e.g. projector) when the **DISPLAY OFF** button has been pressed. PARAM = 1~7. Baud rate of the third-party device. 1 - 115200 5 - 9600 2 - 57600 6 - 4800 3 - 38400 7 - 2400 4 - 19200	>SetPowerOnSendHex _05:41 42 43 44 <Baudrate: 9600 Display off to send HEX:41 42 43 44

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.

1) **Product Limited Warranty:** This 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 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.

10. Firmware Upgrade

Please follow the below steps to upgrade firmware of switcher or receiver by the Micro-USB port:

1) Prepare the latest upgrade file (.bin) of switcher or receiver and rename it as "FW_MERG.bin" on PC.
2) Power off the switcher or receiver and connect the Micro-USB (FW) port of switcher or receiver to the PC with USB cable.
3) Power on the switcher or receiver, and then the PC will automatically detect a U-disk named of "BOOTDISK".
4) Double-click to open the U-disk, a file named of "READY.TXT" will be showed.
5) Directly copy the latest upgrade file (.bin) to the "BOOTDISK" U-disk.
6) Reopen the U-disk to check whether there is a filename "SUCCESS.TXT", if yes, the firmware was updated successfully, otherwise, the firmware updating is fail, the name of upgrade file (.bin) should be confirmed again, and then follow the above steps to update again.
7) Remove the USB cable and reboot the switcher or receiver after firmware upgrade.

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

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