User Manual

2x4 USB 3.2 Gen 1 ProAV Hub

Model PT-SW-U324

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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 writ ten consent.

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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 areais 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-SW-U324 complies with Directives 1907/2006/EU and 2011/65/EU.

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

PureLink GmbH hereby declares that this product PureTools PT-SW-U324 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/4251364749180_CE.pdf

CE

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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.

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- 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.

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1. Product Introduction

1.1 Introduction

This is a 2/4-port USB 3.2 Gen1 peripheral sharing device that allows users to share 4 USB devices between 2 different general computers by using USB 3.2 Gen 1 Type-B to Type-A cables. It allows for a neat and tidy installation. It is USB 3.2 Gen1 compliant, which can support data transfer rate up to 5Gbps, and backwards compatible with USB 2.0 and USB 1.1. It is perfect for high-bandwidth devices, such as USB docking stations or USB 3.x cameras. In addition, It also features RS-232 command port and select buttons for simple control. With its compact and all-in-one design, you can create a space saving, convenient and productive work environment.
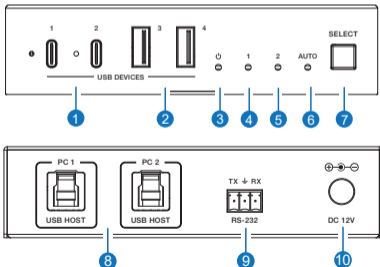
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1.2 Features

- Enables 2 computers to share 4 USB 3.2 Gen1 devices
- USB 3.2 Gen1 compliant, supporting data transfer rates of up to 5Gbps
- LED indicates which computer is active
- Over-current protection
- 5V/1.5A out for USB-C device port , 5V/1A out for USB-A device port
- USB device ports compliant with USB 3.2 Gen1, USB 2.0 and USB 1.1
- Support USB Multiple Transaction Translator architecture
- Plug and Play – no drivers or external power adapter needed
- Multiplatform support – Windows, Linux and Mac
- Auto switching (last in gets priority)
- Switching via front panel button or RS-232

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1.3 Package List

- 1× 2x4 USB 3.2 Gen 1 Switcher
- 1× 12V/3A Power Supply with EU Conversion Plug
- 2× Mounting Ear
- 4× Machine Screw (M3*6)
- 1× User Manual

2. Panel Description

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No.	Name	Function Description
1	USB DEVICES (1/2)	Downlink USB-C ports, with output power 5V/1.5A. Connect to USB devices such as USB 3.x camera or hard disk.
2	USB DEVICES (3/4)	Downlink USB-A ports, with output power 5V/1A. Connect to USB devices such as USB 3.x camera or hard disk.
3	Power LED	The green LED will be on when the unit is powered on.
4	PC1 LED	The green LED will be on when the uplink PC1 is selected.
5	PC2 LED	The green LED will be on when the uplink PC2 is selected.
6	Auto LED	The green LED will be on when the auto switching mode is enabled. **Note:** The default mode is auto switching. It can be set via API command.
7	Select button	Press this button to select the uplink PC1 or PC2 circularly.
8	USB HOST (PC1/PC2)	Uplink USB-B HOST ports, connected to PC or host.
9	RS-232	RS-232 serial port, with baud rate 19200. Supporting API commands input and MCU firmware update.
10	DC 12V	DC 12V/3A power input port.

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3. Specification

Technical	
USB Protocol	USB 3.2 Gen 1
Transfer Rate	5Gbps
Transmission Distance	1.5m/4.9ft over USB cable
ESD Protection	IEC 61000-4-2: ±8kV (Air-gap discharge), ±4kV (Contact discharge)
Connection	
Input	2× USB HOST [USB 3.2 Gen 1 Type B, 9-pin female, USB tier 1]
Output	2× USB-C DEVICE [USB Type C, 24-pin female, USB tier 3] 2× USB-A DEVICE [USB Type A, 9-pin female, USB tier 2]
Control	1× RS-232 [3pin-3.5mm phoenix connector, firmware upgrade port]

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Mechanical	
Housing	Metal Enclosure
Color	Black
Dimensions	125mm (W) × 80mm (D) × 30mm (H)
Weight	317g
Power Supply	Input: AC 100-240V 50/60Hz, Output: DC 12V/3A (US/EU standard, CE/FCC/UL certified)
Power Consumption	30W (Max)
Operation Temperature	32 ~ 104°F / 0 ~ 40°C
Storage Temperature	-4 ~ 140°F / -20 ~ 60°C
Operating Humidity	20%~80% relative humidity, non-condensing
Storage Humidity	10%~90% relative humidity, non-condensing

4. API Commands

The product also supports RS-232 command control. Connect the RS-232 port to the appropriate cable and your control device. Then open a Serial Command tool on PC to send ASCII commands to control the product. The ASCII command list of the product is shown below.

ASCII Command				
DB9 port RS-232 communication protocol (Connect to control system) Baud rate: 19200 (Fixed) Data bit: 8 Stop bit: 1 Parity bit: none The end mark of command is "<CR><LF>"				
Command	**Function**	**Example**	**Feedback**	**Default**
?	Get the list of all commands	?		
help	Get the list of all commands	help		
get fw version	Get firmware version	get fw version	1.0.0	
set reboot	Reboot the device	set reboot	Reboot... System Initializing... Initialization Finished! FW: 1.0.0	

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Command	Function	Example	Feedback	Default
set reset	Reset to factory defaults	set reset	Sure to RESET to default settings? Type "Yes" after next prompt to confirm...	Input 1
get status	Get system status	get status	Please refer to the note at the end of the list.	
set key on/ off	Set front panel key on/off	set key on set key off	Set key on. Set key off.	on
get key	Get front panel key on/off status	get key	Key on.	
set input x	Set USB host input (x=1~2) x=1: USB host input 1 x=2: USB host input 2	set input 1	Set USB host input 1.	1
get input	Get USB host input port	get input	1	
get usb5v	Get USB host input 5V	get usb5v	Host 1: 5V Host 2: none	

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Command	Function	Example	Feedback	Default
set autoswitch x	Set auto-switching on/off (USB 5V detection) x=On, Off	set autoswitch x	Set autoswitch on.	on
get autoswitch	Get auto-switching status	get autoswitch	Autoswitch on.	
set output x usb5v y	Set USB device output (x=0~4) 5V to y x=[0...4]:0:All, 1:USB-C 1, 2:USB-C 2, 3:USB-A 3, 4:USB-A 4 y=0: Disable 5V output y=1: Follow host y=2: Force 5V always output	set output 0 usb5v 1	Set all USB device output 5V:follow host.	1
get output x usb5v	Get USB device output (x=0~4) 5V status	get output 0 usb5v	USB-C 1 5V: follow host USB-C 2 5V: follow host USB-A 3 5V: follow host USB-A 4 5V: follow host	

Note: The feedback of the command of "r status" is as follow.

```
========================================
Status Info 2x4 USB 3.2 Gen1 Switcher
FW 1.0.0


Key    AutoSwitch   Input
On     On           01


Input  Cable
01     Connected
02     None


Output  USB_5V
01      Follow_host
02      Follow_host
03      Follow_host
04      Follow_host
========================================
```
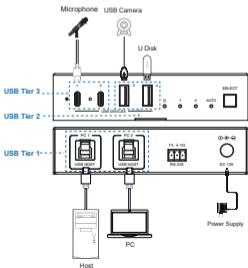
5. System Diagram

Usage Precaution

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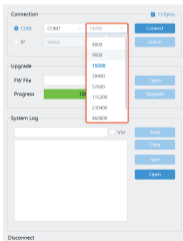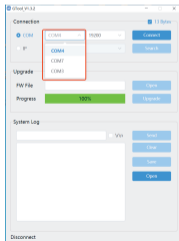- All devices should be connected before power on.

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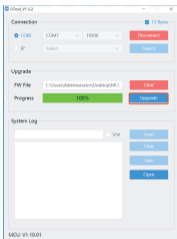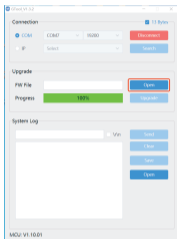
6. Firmware Upgrade

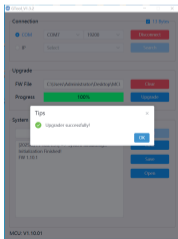Please follow the steps as below to upgrade firmware via the RS-232 port.

1. Prepare the PC tool (.exe) and the latest upgrade file (.bin) on PC.
2. Connect the RS-232 port on the switcher to the PC.
3. Connect the power supply to the switcher and power on.
4. Run GTool.exe on PC.
5. Select the connection port and baudrate, and then click "Connect". "13 Bytes" must be checked.

6. Click "Open" to select the prepared upgrade file, and then click "Upgrade".

7. Upgrade is completed.

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7. After-Sales Service

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

1) Product Limited Warranty: This product will be free from defects in materials and workmanship for three years (The purchase invoice shall prevail).
Proof of purchase in the form of a bill of sale or receipted invoice which is evidence that the unit is within the Warranty period must be presented to obtain warranty service.

2) What the warranty does not cover (servicing available for a fee):
• Warranty expiration.
• Factory applied serial number has been altered or removed from the product.
• Damage, deterioration or malfunction caused by:
  • Normal wear and tear.
  • Use of supplies or parts not meeting our specifications.
  • No certificate or invoice as the proof of warranty.

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- 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.

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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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