User Manual

Milestone PRO

MPTP-TU100S-3.0H

100m USB3.2 Gen1 Extender over HDBT

Version: MPTP-TU100S-3.0H_2024V1.0

Preface

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

This manual is only for operation instruction, please contact the local distributor for maintenance assistance. The functions described in this version were updated till November 3, 2023. In the constant effort to improve the product, we reserve the right to make functions or parameters changes without notice or obligation. Please refer to the dealers for the latest details.

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.

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 Contents

1. Product Introduction

Thanks for choosing the 100m USB 3.2 Gen1 extender. The extender is designed to transmit USB signal up to 100m distance. MPTP-TU100S-3.0H is the host port of the extender, it contains one Type-B and one Type-C for PC or laptop connect. It also has two local USB-A port with 5V500mA power supply for speakerphone and headset. The extender also supports bi-directional 24V PoC power.

The extender features multiple methods of control. When in the AUTO mode, MPTP-TU100S-3.0H will automatically switch to the first detected host. When the active host is removed, the unit will switch to another host when the host is connected to a PC/Laptop. The unit can be manually controlled by the front panel buttons and RS232 commands.

1.1 Features

- 2x1 USB 3.2 Gen1 switcher;
- Support extend USB signal up to 100m;
- Support RS232 passthrough/control/upgrade;
- Auto/manual switching mode;
- Bi-directional 24V PoC power supply.

1.2 Package List

- 1x MPTP-TU100S-3.0H
- 1x Power Adapter (DC 24V, 1.5A)
- 1x Mounting Kit
- 1x 3-pin Terminal Block
- 4x Rubber feet
- 1x User Manual

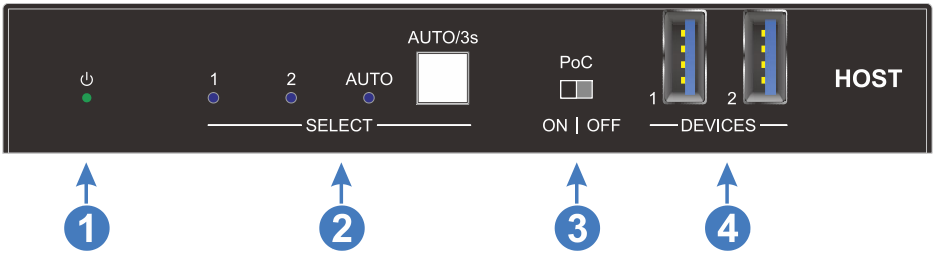
Note: *Please contact your distributor immediately if any damage or defect in the components is found.*

2. Specification

MPTP-TU100S-3.0H	
Host Connector	(1) Type-B USB (1) Type-C USB
Devices Connector	(2) Type-A USB
Devices Power	5V 500mA total
USB Version	USB 3.2 Gen1
Control Part	
Control	(1) Button, (1) RS232, (1) DIP switch
Control Connector	(1) White Button, (1) 3-pin terminal block, (1)2-pin DIP switch
General	
Transmit distance	Up to 100m with CAT6A cable (The current version only reaches the 70m extension)
Data Rate	5Gbps
Operation Temperature	-10℃ ~ +55℃
Storage Temperature	-25℃ ~ +70℃
Relative Humility	10% ~ 90%
External Power Supply	DC 24V 1.5A
Power Consumption	6.4W (Max)
Dimension (W*H*D)	133.0mm x 21.5mm x 105.0mm
Net Weight	325g

3. Panel Description

3.1 Front Panel



① **Power LED:** The LED illuminates green when the unit is power on.

② **Select:**

1/2 LED: The LED illuminates bule when switching to the corresponding host.

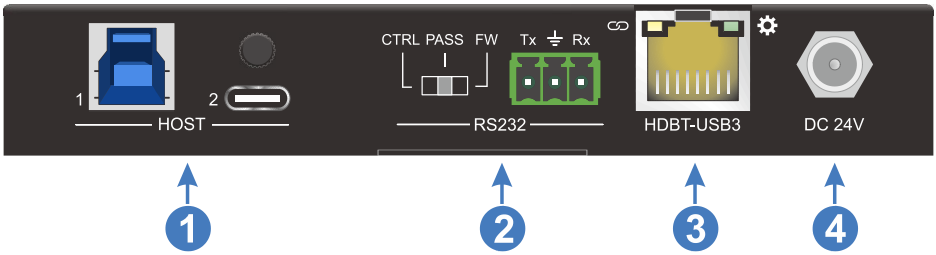
Auto LED: The LED illuminates bule when in auto switching mode and light off when in manual switching mode.

AUTO/3s: Press button to switch the host. Press and hold the button 3 seconds to switch the switching mode. Note that the factory default switching mode is AUTO.

③ **PoC:** 1x DIP switch, turn on/off the PoC.

④ **Devices:** 2x Type-A USB 3.2 Gen1, shared 5V500mA total and limit 5V500mA per port. Connecting to the speakerphone and headset.

3.2 Rear Panel



① **Host:** Type-B and Type-C USB 3.2 Gen1, connecting to the PC/Laptop.

② **RS232:** 1x 3-pin DIP switch for select the RS232 port function.

CTRL: Control the unit via sending the RS232 commands.

PASS: RS232 passthrough.

FW: Firmware upgrade.

③ **HDBT-USB3:** 1x RJ45 port for connecting with the device unit of the extender.

The yellow light indicates the connection status of the HDBT, and the green LED is the data light.

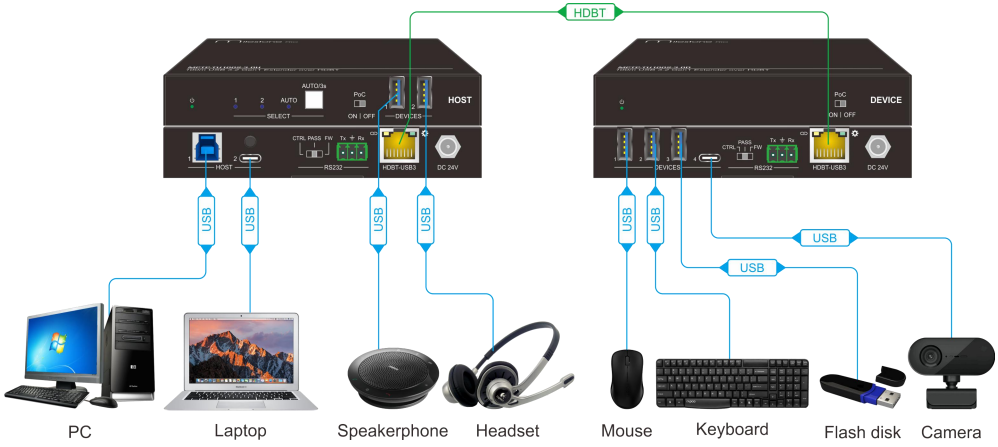
④ **DC 24V:** DC barrel port for DC24V 1.5A power adapter connection.

4. System Connection

4.1 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.

4.2 System Diagram



5. Button Control

5.1 Manual Switching

When the unit is in the manual switching mode, press the **AUTO/3s** button repeatedly to cycle through the two hosts, and the corresponding host LED illuminates blue immediately.

5.2 Automatic Switching

Press and hold the **AUTO/3s** button at least three seconds to enable automatic switching. The current host will not be changed, and the auto LED will turn blue.

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

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

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

- **Installation:** Copy the control software file to the control PC.
- **Uninstallation:** Delete all the control software files in corresponding file path.

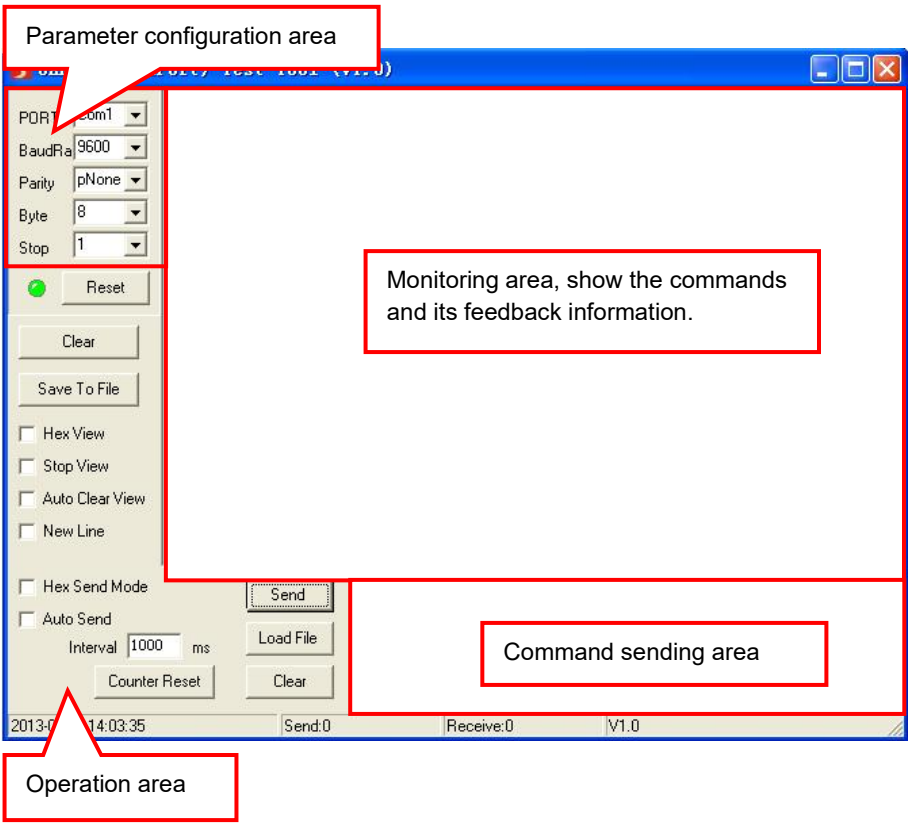
Basic Setting:

Connect the switcher with all input devices and output devices needed, then to connect it with a PC which is installed with RS232 control software. Double-click the software icon to run this software.

Here takes the software **CommWatch.exe** as an example:

CommWatch.exe

The main view is shown as below:



Please set the parameters of COM number, baud rate, data bit, stop bit and the parity bit correctly, and then you will be able to send command in command sending area.

6.2 RS232 Command

Communication protocol: RS232 Communication Protocol
Baud rate: 9600 Data bit: 8 Stop bit: 1 Parity bit: none

Note: *All commands need to be ended with "<CR><LF>".*

6.2.1 System Control

Command	Description	Example & Command Feedback
>Help	Query commands	>Help

>GetStatus	Query status	>GetStatus
		<MPTP-TU100S-3.0H <FW Version: V1.0.0a <POC Off <AutoSwitch Mode Off <USB 01 <Device Power Follow Host Mode Off <Device1 Power On <Device2 Power On <SetRS232Baud: 9600
>Reboot	Restart the unit	>Reboot
		<Reboot
>SetUSB	Switch the local USB-A to HOST[Param1] Param1 = 01,02	>SetUSB 01
		<SetUSB 01

>FactoryReset	Factory default the unit	>FactoryReset
		<FactoryReset
>SetDeviceFollow [Param1]	Set the devices power mode: Param = On (Follow mode, turn off the power when no host connect) Param = Off (Always on, always provide the power to devices)	>SetDeviceFollow On
		<Set Device Power Follow Host Mode On
>GetDeviceFollow	Query devices power mode	>GetDeviceFollow
		<Device Power Follow Host Mode On
>SetAutoSwitch	Set the auto switching mode status Param = On, Off	>SetAutoSwitch On/Off
		<SetAutoSwitch On <SetAutoSwitch Off
>GetAutoSwitch	Query auto switching mode status	>GetAutoSwitch
		<SetAutoSwitch On
>SetRS232Baud	Set the baud rate of the unit. Param = 9600(default), 19200, 38400, 57600, 115200	>SetRS232Baud 9600
		<SetRS232Baud: 9600
>SetDevicePower [param1] [param2]	Control the devices power supply on/off Param1 = 00~02 00: All devices 01~02: Device1~ Device2 Param2 = On/Off	>SetDevicePower 0 Off
		<Set All Device Power Off
>GetDevicePower	Query devices power status	>GetDevicePower
		<Device1 Power On <Device2 Power On

7. Panel Drawing