



OR-442USB

4x4+2 USB3.2 Data Matrix Switch

OPERATION MANUAL

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Version 1.1

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SAFETY PRECAUTIONS

Please read all instructions before attempting to unpack, install or operate this equipment and before connecting the power supply. Please keep the following in mind as you unpack and install this equipment:

- Always follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.
- To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.
- Never spill liquid of any kind on or into this product.
- Never push an object of any kind into this product through any openings or empty slots in the unit, as you may damage parts inside the unit.
- Do not attach the power supply cabling to building surfaces.
- Use only the supplied power supply unit (PSU). Do not use the PSU if it is damaged.
- Do not allow anything to rest on the power cabling or allow any weight to be placed upon it or any person walk on it.
- To protect the unit from overheating, do not block any vents or openings in the unit housing that provide ventilation and allow for sufficient space for air to circulate around the unit.
- Please completely disconnect the power when the unit is not in use to avoid wasting electricity.

VERSION HISTORY

REV.	DATE	SUMMARY OF CHANGE
v1.00	23/12/2025	Initial release

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1. INTRODUCTION

This OR-442USB is a 3.2 Gen 2 4x4 Matrix Switch that provides a simple and efficient solution for plug-and-play, point-to-point, and sharing USB devices. With the ability to connect 4 USB 3.2 Gen 2 devices with support for up to 10Gbps transfer rates, and 2 dedicated USB 2.0 device ports for keyboard and mouse connections.

The 4 USB Type-C hosts and 6 USB devices support fully matrixed switching. The location of the USB host device is automatically set by hot plug detection, but can also be manually controlled using front panel buttons, triggers and RS-232 commands.

This flexible USB connectivity makes the switch ideal for frequent data transfer and device management across informational, industrial, educational, and commercial applications.

2. APPLICATIONS

- /// Workspaces with multiple PCs and shared USB peripheral control
- /// Shared high-speed storage devices
- /// USB device management
- /// Security and access control
- /// Industrial control

3. PACKAGE CONTENTS

- /// 1× 4x4 USB 3.2 Matrix Switch
- /// 1× 24V/2.7A DC Power Adapter
- /// 1× Terminal Block (3-pin)
- /// 1× Terminal Block (5-pin)
- /// 1× Shockproof Feet (Set of 4)
- /// 1× Operation Manual

4. SYSTEM REQUIREMENTS

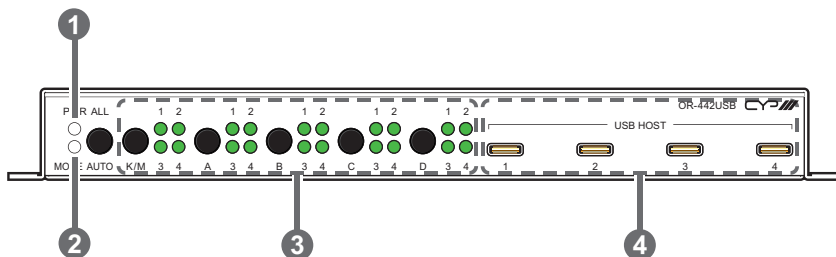
- /// USB host equipment such as PCs or laptops.
- /// USB device equipment such as USB flash drive, camera, speaker, microphone, keyboard or mouse.

5. FEATURES

- /// 4 USB 3.2 USB-C hosts, 4 USB 3.2 device ports, and 2 USB 2.0 device ports
- /// Supplies up to 900mA/5V to 4 USB 3.2 device ports (A~D) and 500mA/5V USB 2.0 device ports (K/M)
- /// Controllable via front-panel buttons, RS-232, and triggers
- /// Supports wide USB peripherals with plug-and-play:
 - **USB 3.2 Gen 2:** 2 USB-A and 2 USB-C ports, up to 10Gbps
 - **USB 2.0:** 2 USB-A ports for keyboard and mouse
- /// USB host selection is controllable via front panel buttons or auto connect detection
- /// Supports three different modes: All mode/ Auto mode/ Matrix mode
 - **All Mode:** Simultaneously assigns all devices to a single host
 - **Auto Mode:** Automatically assigns all devices to the host when connected
 - **Matrix Mode:** Freely assigns one or more devices to any host

6. OPERATION CONTROLS AND FUNCTIONS

6.1 Front Panel

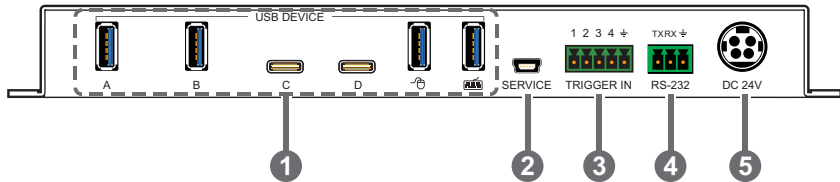


- 1 **POWER LED:** This LED will illuminate to indicate the unit is on and receiving power.
- 2 **MODE Button & LEDs:** Press this button to sequentially switch through the available hosts for the associated USB host port in ALL mode. Press and hold the button for 3 seconds will activate AUTO mode. The LED will illuminate green when the unit is in ALL mode and amber when in AUTO mode. When the unit is in matrix mode the LED will be off.
- 3 **K/M A~D Buttons & 1~4 LEDs:** Press any of these buttons to sequentially switch through the available hosts for the associated USB host port in matrix mode. The illuminated LED indicates which host is currently selected for each device.

Note: All and Auto mode will be disabled when USB matrix mode is activated.

- 4 **USB 3.2 Gen2 HOST 1~4 Ports (Type-C):** Connect to USB Type-C host such as PCs or laptops to extend their USB functionality.

6.2 Rear Panel



- 1 **USB 3.2 Gen2 Device A~B Ports (Type-A):** Connect directly to standard USB devices such as a mouse, keyboard or flash drive to extend their USB functionality.

USB 3.2 Gen2 Device C~D Ports (Type-C): Connect directly to standard USB devices such as a mouse, keyboard or flash drive to extend their USB functionality.

USB 2.0 Device K/M Ports (Type-A): Connect directly to standard USB devices such as a mouse, keyboard to extend their USB functionality.

- 2 **SERVICE Port:** This port is reserved for firmware update use only.
- 3 **TRIGGER IN 5-pin Terminal Block:** This terminal block is used for direct host selection. Short the ground pin (marked as "⏏") with any one of the following 4 pins to make individual host selections.

Note: The pins are assigned as follows:

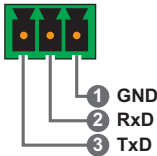
Trigger Assignment	
Pin 1	USB HOST 1
Pin 2	USB HOST 2
Pin 3	USB HOST 3
Pin 4	USB HOST 4

- 4 **RS-232 3-pin Terminal Block:** Connect directly to a PC, laptop, or other serial control device with a 3-pin adapter cable to send RS-232 commands to control the unit.
- 5 **DC 24V Port:** Plug the 24V DC power adapter into this port and connect it to an AC wall outlet for power.

6.3 Serial Pinout and Defaults

Serial Port Default Settings	
Baud Rate	19200
Data Bits	8
Parity Bits	None
Stop Bits	1
Flow Control	None

3-pin Terminal Block



6.4 Serial Commands

COMMAND
Description and Parameters
help ↵ Show the full command list.
help N1 ↵ Show details about the specified command. N1 = {command}
? ↵ Show the full command list.
? N1 ↵ Show details about the specified command. N1 = {command}
get fw ver ↵ Show the unit's current firmware version.
get command ver ↵ Show the unit's current command version
get model name ↵ Show the unit's model name.
get model type ↵ Show the unit's product type.
set factory default ↵ Reset the unit to the factory defaults.

COMMAND
Description and Parameters
set device N1 route N2 ↵ Route the specified USB device to the specified USB host. N1 = A~D [USB device port] N2 = 1~4 [USB host port]
get device N1 route ↵ Show which USB device is currently routed to the specified USB host. N1 = A~D [USB device port]
set all device route N1 ↵ Route all USB device to the specified USB host. N1 = 1~4 [USB host port]
set current route to preset N1 ↵ Save all current routing assignments to the specified preset. N1 = 1~4 [Preset number]
set route preset N1 ↵ Activate the routing assignments saved in the specified preset. N1 = 1~4 [Preset number]
get preset N1 list ↵ List the currently assigned routing for the specified preset. N1 = 1~4 [Preset number]

COMMAND**Description and Parameters****set usbc matrix mode N1↵**

Set the USB switching behavior of the unit.

Available values for **N1**:

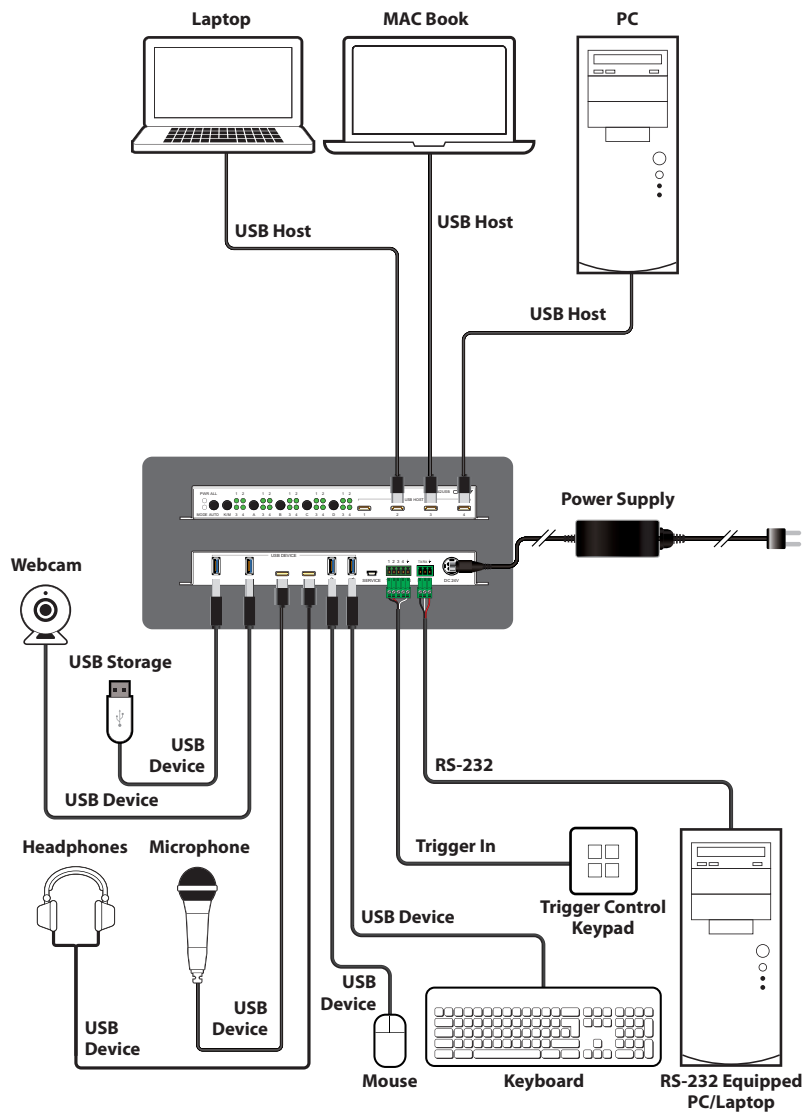
0	[Matrix mode]
1	[All mode]
2	[Auto mode]

get usbc matrix mode↵

Show the current USB switching mode of the unit.

*Note: Commands will not be executed unless followed by a carriage return.
Commands are not case-sensitive.*

7. CONNECTION DIAGRAM



8. SPECIFICATIONS

8.1 Technical Specifications

USB-C Bandwidth	10Gbps
USB Host Ports	4×USB 3.2 Gen2 (Type-C)
USB Device Ports	2×USB 3.2 Gen2 (Type-A) 2×USB 3.2 Gen2 (Type-C) 2×USB 2.0 (Type-A)
Control Ports	1×RS-232 (3-pin Terminal Block) 1×Trigger (5-pin Terminal Block)
Service Port	1×USB 2.0 (Mini-B)
Baud Rate	19200
Power Supply	24V/2.7A DC (US/EU standards, CE/FCC/UL certified)
ESD Protection (HBM)	±8kV (Air Discharge) ±4kV (Contact Discharge)
Dimensions (W×H×D)	231.5mm×25mm×108mm [Case Only] 231.5mm×25mm×112.7mm [All Inclusive]
Weight	625g
Chassis Material	Metal (Steel)
Chassis Color	Black
Operating Temperature	0°C – 40°C/32°F – 104°F
Storage Temperature	-20°C – 60°C/-4°F – 140°F
Relative Humidity	20 – 90% RH (Non-condensing)
Power Consumption	5.7W

9. ACRONYMS

ACRONYM	COMPLETE TERM
Gbps	Gigabits per second
K/M	Keyboard/Mouse
LED	Light-Emitting Diode
USB	Universal Serial Bus



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