Industrial USB 2.0 Extender Hub

(Part Number: USB-RPT-2H)

CE FC

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■ **INTRODUCTION**

The USB-RPT-2H is a rugged, industrial-grade USB 2.0 extender hub that can be used to extend USB 2.0/1.1's distance to up to 250ft (76m) for low-speed USB devices such as mouse and keyboards, and 165ft (50m) for high-speed USB devices such as USB cameras, microphones, and printers. The USB-RPT-2H works in pair (one transmitter and one 4-port receiver hub) to extend the USB 2.0/1.1's distance over single CAT 5e/6/7 cable and it supports data rates up to 480Mbps (USB 2.0 specifications); the unit supports plug-and-play (hot-pluggable) and it requires no software drivers; thus making it an ideal solution for connecting USB devices that exceed the distance limitation of 16ft (5m). The USB-RPT-2H is ideal for a wide range of USB devices, such as USB mouse, USB keyboards, USB game controllers, USB monitors, USB printers, USB scanners, USB hard drives, USB audio devices, and USB cameras.

■ **FEATURES**

- Industrial grade with aluminum casing
- Extends USB distance to up to 250ft (76m) over single CAT 5e/6/7 cable
- Supports 4 USB 2.0 ports at the receiver end
- USB 2.0 compatible (backward compatible with USB 1.1)
- Supports a wide range of USB devices, such as USB mouse, USB keyboards, USB cameras and microphones, USB printers, USB scanners, and USB hard drivers, etc.
- Provides 16kV (air) and 8kV (contact) ESD protection
- Plug and play (hot-pluggable), no software drivers required
- Low, full and high speed data rates: 1.5Mbps, 12Mbps, and 480Mbps
- Supports all USB device types: Control, Interrupt, Bulk and Isochronous
- Operating temperature: -4ºF to 122ºF (-20ºC to 50ºC)
- Surface Mount Technology manufactured to RoHS and ISO-9001 standards
- Compliance: CE, FCC
- 5-year manufacturer's warranty

■ **SPECIFICATIONS**

Compatibility:	USB 2.0 (backward compatible with USB 1.1)
Devices:	1x Transmitter (1x USB2.0 port); 1x Receiver (4x USB2.0 ports)
Power Source:	Transmitter: USB bus power; Receiver: 5VDC/1A (input: 100-240 VAC) power adapter (included)
Power Consumption:	Transmitter: <100mA Receiver: <150mA each port
Data Rates:	48/12/1.5Mbps (Auto-Sensing and Self-Adjusting)
Distances:	250ft (76m) for low-speed; 165ft (50m) for high-speed
ESD Protection:	16kV (Air) / 8kV (Contact)
Connectors:	Transmitter: USB Type B Male; RJ-45 Female Receiver: 4x USB Type A Female; RJ-45 Female
LED Indicators:	Transmitter: 1 (Power); Receiver: 1 (Power)
Cable Length (USB type A-B):	6 ft (1.8 m)
Dimensions (H x W x D):	2.1 x 2.8 x 0.9 in (53 x 70 x 22 mm)
Dimensions (DC Barrel Plug):	Ø5.5mm / Ø2.1mm
Weight (1 Pair):	5 oz (141 g)
Operating Temperature:	-4ºF to 122ºF (-20ºC to 50ºC)
Operating Humidity:	0~85% RH (non-condensing)

■ **PACKING CONTENTS**

- Transmitter x1
- Receiver x1
- 5VDC/1A Regulated Power Adapter (for Receiver) x1
- USB type A – B cable x1

■ **CONNECTIONS**
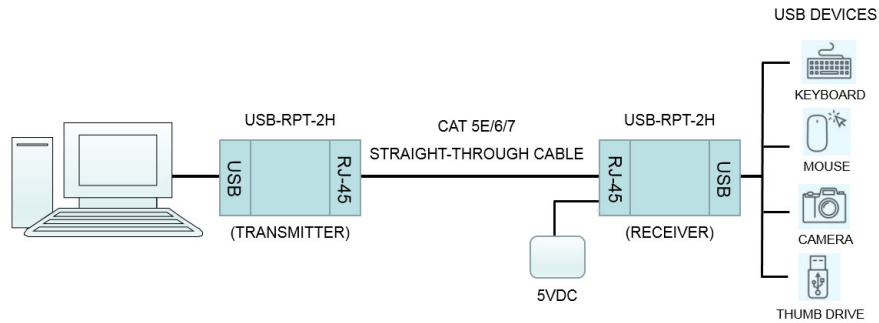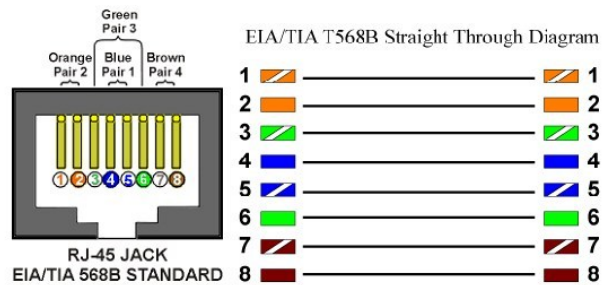
USB DEVICES

USB-RPT-2H

USB-RPT-2H

CAT 5E/6/7
STRAIGHT-THROUGH CABLE

USB

RJ-45

RJ-45

USB

(TRANSMITTER)

(RECEIVER)

5VDC

KEYBOARD

MOUSE

CAMERA

THUMB DRIVE

FIGURE 1: USB-RPT-2H CONNECTION DIAGRAM

■ **RECOMMENDED CAT 5e/6/7 WIRING DIAGRAM (EIA/TIA 568B STANDARD)**

Green
Pair 3

Orange
Pair 2

Blue
Pair 1

Brown
Pair 4

EIA/TIA T568B Straight Through Diagram

1 — 1
2 — 2
3 — 3
4 — 4
5 — 5
6 — 6
7 — 7
8 — 8

RJ-45 JACK
EIA/TIA 568B STANDARD

■ **TROUBLESHOOTING**

- Be sure that the power LED is lit up when the transmitter is connected to the computer.
- Be sure that the power LED is lit up when the 5VDC power adapter is connected to the receiver.
- Be sure that the CAT 5e/6/7 cables used for extension are the straight-through type (EIA/TIA 568B recommended, see above diagram). Incorrect connection could damage the receiver module.
- Be sure that the Transmitter is connected to computer's USB port (upstream) and the Receiver is connected to USB device (downstream), the product will not work if it is reversed.
- Please note that up to 4 USB layers from upstream to downstream (e.g. PC, USB-RPT-2H transmitter & receiver, and the USB device) are allowed for smooth operation.