HALL RESEARCH

USER'S MANUAL

U22-160

USB 2.0 over UTP Extender with 2-port Hub

Supports PoC (Power-over-Cable), Includes Power supply

Extend Up to 165 ft (50 m)

High Speed (480 Mbps)

UMA1254

Order TOLL FREE in the U.S. **800-959-6439**

1163 Warner Ave Tustin, CA 92780, Ph: (714)641-6607, Fax (714)641-6698

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FCC STATEMENT

This equipment generates, uses, and can radiate radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio communication. It has been designed to comply with the limits for a Class A computing device in accordance with the specifications in Subpart B of Part 15 of FCC rules, which are intended to provide reasonable protection against such interference when the equipment is operated in a commercial environment. 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.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

1. Introduction

1.1 General

Thank you for purchasing U22-160 for your application. The U22-160 extends your host PC's USB 2.0 port across a single Cat5e/6 cable to 50 meters (165 ft) with data rates up to 480 Mb/s.

In most instances, no power supply is needed for either side as the local (host) side gets its power from the PC and it sends PoC (Power-over-Cable) to the remote (device) side. However for convenience a power supply is included that can be plugged in to the remote end for power hungry USB devices. The remote end has a two port hub built-in to allow connection of 2 USB Devices. The U22-160 is a perfect solution for industrial and commercial applications.

This product can be used to extend a broad range of USB devices like webcams, printers, keyboards, and disk drives up to 165 ft (50 m) using single Cat 5/6 cable.

1.2 Features

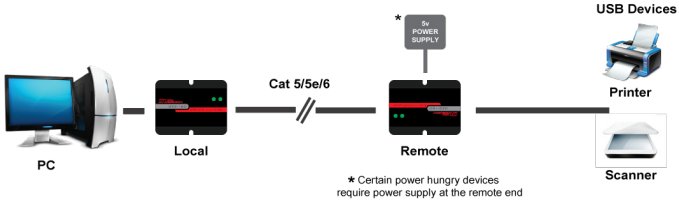
- Extends USB 2.0 devices up to 165 ft (50 m) using Cat5
- Supports high-speed, full-speed, and or low-speed devices
- Status LEDs indicate Power and Data
- Supports Hot Plug/Unplug.
- Can power most USB devices without power supply
- Includes power supply for power hungry USB devices
- Plug and Play installation.
- Surface/Wall mount brackets included.

1.3 Package Contents

U22-160 Local Unit	x1
U22-160 Remote Unit	x1
USB A to B Cable for Local Unit	x1
Universal Power Adapter	x1
User Manual (UMA1254)	

2. Installation

- Place the U22-160 Local and remote units at the desired location and connect their RJ45 connectors using a Cat5/6 cable. (Max distance is 165 ft (50m))
- Connect the Local Unit to the Host System (or PC) via the type B USB Cable.
- Connect any USB peripherals (such as printer, scanner, HDD, etc) to the Remote Unit.
- If required, plug the included 5V/2A power supply to the Remote Unit. See Using External Power for more details.
- Check the LEDs on the unit. Make sure that Power and Data LED illuminates in solid green light, which means the extenders are powered and communicating.



Connection Block Diagram

LED	Description
Power	Solid: Device has power *Note that when external power supply is connected, the Power LED goes solid only at the remote end.*
Data	Blink: Represents handshaking, when USB peripheral is connected at the remote end. Solid: Hand shaking completed and peripheral is ready to use.

2.1 Using External Power

U22-160 draws power from the computer to serve the remote end devices. When devices connected to the remote end require more power the voltage drop in the cable may become an issue. The U22-160 includes an external power supply to serve this additional power requirement, which should be used at the Remote end.

3. Troubleshooting

If PC fails to detect the USB device, check the LED status on the Remote unit. Plug the power supply if needed. Cat6 cable is recommended particularly if the length is longer than 100 ft. Reboot the Host PC. Connect to a different USB port on the PC. Try connecting an external hub to the remote unit and plug the device to the hub.

There are no field serviceable parts or circuits in the device. Opening the device will void the warranty. If you think the device is malfunctioning, please contact Hall Research.

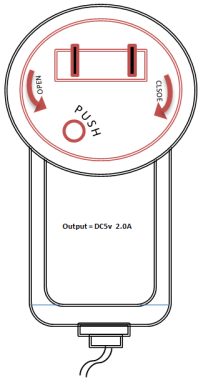
4. Specifications

Bus Interface	USB 2.0
Number of Ports	2 (on the Remote Unit)
Connectors:	
Local Unit	1x USB type B female 1x RJ45 Ethernet female 1x DC Power supply
Remote Unit	2x USB type-A female 1x RJ45 Ethernet female 1x DC Power supply
LEDs	1x Power, 1xData
Max Data Rate	480 Mbps
Max Cable Distance	50m (165 ft) NOTE: *If both devices connected to the remote are low speed (HID class) such as keyboard/ mouse, you can get more distance (up to 70 meters, 220 ft)*
Cable Type	Cat 5e/6/6a
Power Supply	5V DC 2A
Operating Temperature	0°C - 50°C (32°F - 122°F)
Operating Humidity	20% - 80% RH
Dimensions	Ends: 2.5 x 1.3 x 0.9 inch (65 x 35 x 25 mm) Shipping: 9.5 x 8 x 3 inch (24 x 20 x 8 cm)
Weight	Shipping: 1 lbs (450 g)

5. Using Universal Adapter

Identify the plug that you need for your country. Insert the required plug into the adapter. The plugs are keyed to avoid Incorrect Insertion. Push the lock button to turn left to unlock the plug, place the required plug into the adaptor slot and turn right until you here the click sound.

Make sure the plug is locked firmly in place before use!



CAUTION!

Keep out of reach of children

NEVER insert just the plug by itself into AC mains