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User's Manual

Model UU-2X4

**Dual-Channel USB-over-Cat5 Extender
With Two 4-port Remote Hubs for total of 8 Ports**



*Send 2 independent USB ports from a PC on a Single Cat5 Cable
to 350 feet away
Remote unit features Dual 4 port Hubs for total of 8 USB Ports*

April 18, 2006

UMA1094 Rev. n/c

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Product Description

The UU-2X4 uses 1 Category 5/5e/6 UTP cable to extend 2 USB ports up to 350 feet. On the remote side, each extended USB port terminates into a 4-port USB hub. This allows up to 4 USB devices to be connected to each extended USB port for a total of 8 ports.

For applications that may have more than 1 high speed streaming USB peripheral requirements, the “Dual-Port” pipe access to the PC allows the user to connect each of the high speed devices to a dedicated group at the remote location, and still have 3 extra ports open on each group for other USB devices such as keyboards, mice, memory sticks, printers, etc.

The UU-2X4 provides all the flexibility of an extended range USB in a ready-to-use package. The UU-2X4 is fully compliant with the USB 1.1 Specification and supports low-speed (1.5 Mbps) and full-speed (12 Mbps) USB data transfer rates.

It delivers all of the benefits of USB, including remote device powering, plug and play operation, and cross-platform flexibility.

Package Contents

UU-2X4 package is composed of two separate units: the sender and the receiver, 2ea 6 ft AB USB cables for connection to the PC, and two power supplies. Also provided are Rack mount brackets for the sender unit and this user’s manual.

Features

- Extends 2 independent USB ports from one or two PCs up to 350 ft
- Uses a single standard Category 5/5e/6 UTP cable
- Supports isochronous, control, interrupt and bulk data transfers
- Supports low-speed (1.5 Mbps) and full-speed (12 Mbps) USB data transfer rates
- Fully Transparent – no drivers, setup or configuration necessary
- Supports up to 8 USB devices at the remote (two groups of 4)
- Extremely Reliable
- Compatible with virtually all USB peripherals and devices
- Made in USA
- LED status indicators on the Transmitter and Receiver units

Block Diagram

Below is a block diagram of a typical setup

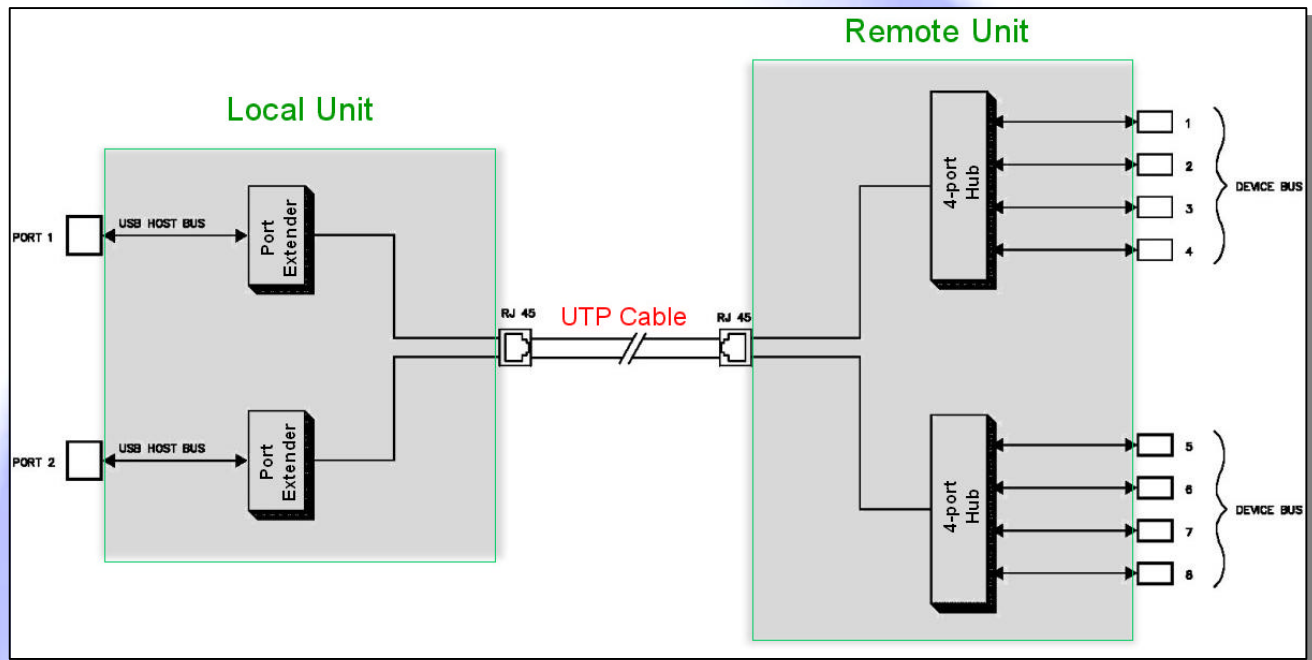


Figure 1. UU-2X4 Block Diagram

USB Cables

USB cables can have two different connectors. Type A connector is used to connect from a USB device to the Type A port on a computer or hub. Type B connector is used to attach the USB cable to a USB device. The Model UU-2X4 Sender has 2 Type B connectors on it for connection to the PC(s).

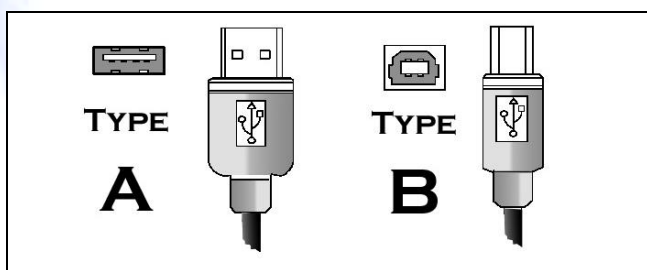


Figure 2 USB port and connector types

Setup

1. Power down the PC
2. Place the Sender (also referred to as Local or Transmitter) unit near the host computer.
3. Plug the supplied power adapter into an AC outlet and connect it to the Sender.
4. Plug one or both Type B connectors on the extender using the included cable into the to the PC

5. At the remote location plug the supplied the power adapter into the Receiver
6. Using Cat5 or higher cable, connect the Sender to the Receiver
7. Power up the PC
8. The PC will recognize the extender as Hubs and automatically installs them
9. Plug the USB devices to the receiver unit. As you do this, the PC will recognize each device and if it has default drivers for them they will automatically get installed, or if you have a custom driver supplied with the device, you may have to install that driver just as you would if you had plugged the device directly to the PC

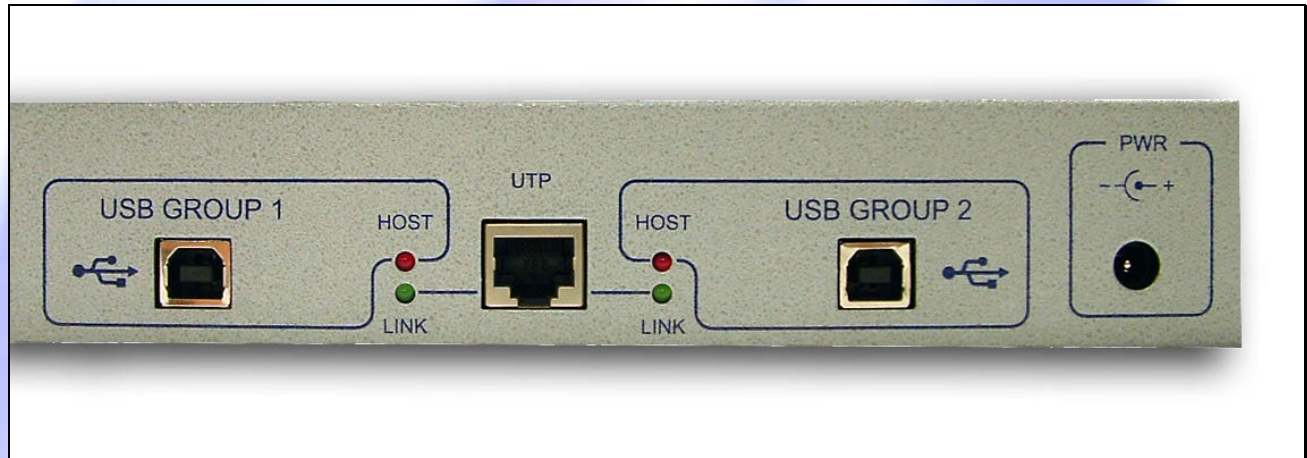


Figure 3. Sender (Local Transmitter) unit's connectors and indicators

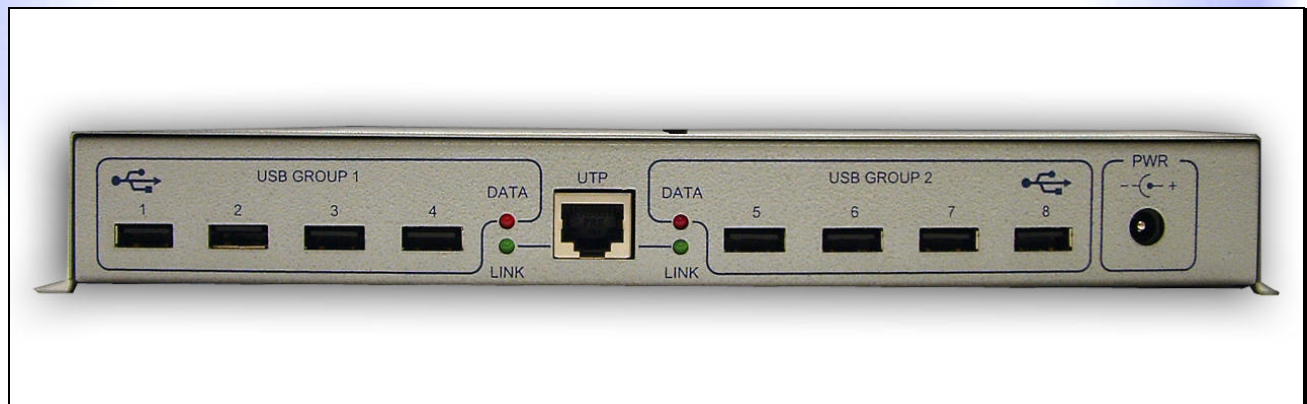


Figure 4. Receiver (Remote) unit's connectors and indicators

Operation

The UU-2X4 is a plug and play device and there are no special operational instructions.

Power Considerations

As shipped the Remote unit is set to supply 100ma max at each of its 8 outputs. This is enough power for a majority of bus powered USB devices, however if you have a USB device that requires

more power through the Bus, the USB specification has a provision for providing upto 500 ma to the device via the USB port.

In this case, you need to open the receiver unit and install a jumper. But Hall Research requires that you call tech support at (714)641-6607 first (or email) and get a formal response from us. This is to ensure that you are not exceeding the unit's power specifications and to make sure that by opening the box your warranty is not voided.

Basically each 4-port hub that is built into the receiver can be set to make available 500ma of current for the USB devices that are plugged in it. JP5 controls ports 1-4 and JP6 controls ports 5-8.

Default mode is no-jumper which means that you are limited to 100 ma at each output. When you install the jumper, the corresponding group will support upto 500 ma output.

IMPORTANT NOTE

As shipped in the default mode the unit can handle 8 USB devices simultaneously. This means that upto 800 ma can be drawn by all the USB devices maximum. The Receiver will not honor devices that require more power. But if you install the Jumpers that up the current limit to 500 ma at each port, you must ensure that the total current drawn by all the devices plugged into the Receiver does not exceed 800 ma.

Example

Let's assume that you have a USB device that requires more than 100 ma bus power for operation. First of all, there are not many devices with this requirement, and the ones that do, usually have a separate power supply that attached to them. But assuming that this is not the case, you would call HRT first, and based on our approval, you set one of the two jumpers mentioned above for outputs 1-4. Then you plug the special device in to one of those ports leaving the other ports open on that side. You can still plug 3 or 4 additional USB devices to the other side (ports 5 -8).

Specifications

Dimensions

Sender Unit

Width X Height X Depth 14 X 1-3/4 X 4-1/8 Single Rack Unit (1RU) construction with included rack mounting brackets

Receiver Unit

Width X Height X Depth 10 X 1-3/8 X 3-9/16 (not including 2 mounting flanges 3/8 each added to the 10)

UTP Cable

Max Distance 350 feet using Cat6, or 330 feet using Cat5/5e

Recommended Cable Unshielded Cat6

USB Support

Speed: Full speed devices (12 Mb/s)
 Low speed devices (1.5 Mb/s)

Max # of Hubs On any single chain you can have four USB hubs and one Extender in any order

Default Power Available The Remote unit makes available +5v for bus powered USB devices with a maximum of 100 ma at each port

Federal Communications Commission (FCC) Statement _____

This equipment generates, uses and radiates radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. This equipment has been designed to comply with the limits for a Class A computing device, pursuant to Part 15 of the FCC rules. Harmful interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user, at his own expense, will be required to take whatever measures are necessary to correct the interference.

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