USB 2.0 Extender

User's Manual

1. Introduction

This Extender is a low cost high performance that provides signal length extension over Cat. 5 / 5e / 6 cable, compliant with USB 2.0 specification (up to 480Mbps) and is designed for extending USB device up to 70 meters from the location of USB hub/host over Cat.5 cable. Eliminates the 5 meters distance limitation of USB. Supporting all USB devices over a variety of media without the need of additional software driver and it is also a true plug-and-play solution, compatible with all leading operating systems that support USB device types from web cams, hard drives, printers, scanners, audio devices, touch screens, digital cameras and game controllers

2. Package Content

1. Transmitter Unit
2. Receiver Unit
3. 5VDC 1A Switching Power Adapter for Receiver
4. User Manual

3. Features

- True plug and play, no driver installation required.
- Extends USB 2.0 / 1.1 devices up to 70m (230ft) over Cat. 5 / 5e / 6 cable
- Supports all USB device types: Control, Interrupt, Bulk and Isochronous at up to 480Mbps
- Ideal for a wide variety of USB devices, from printers, scanners, hard drives, and audio devices, touch screens, web cams, and game controllers.
- Complies with Windows OS : 98SE / Me / 2000 / XP / Vista / 7 / 8 / 8.1 / 10 / 11; Mac OSX , Linux or higher

4. Specifications

Connector	Transmitter	Upstream	15cm USB cable with USB Type A Male
		Output	RJ-45 Female
	Receiver	Input	RJ-45 Female
		Downstream	USB Type A Female
Interconnection Cable			Standard Cat. 5 / 5e / 6
Max. Cable Length			70m (230ft)
Operating Temperature			0°C to 50°C
LED			Transmitter & Receiver each one
Power Supply			5VDC 1A
Housing			Plastic
Dimension (L x W x H)			66 x 39 x 20mm

5. Connecting

Typical Application

Fig 1. The USB 2.0 Extender is installed over Cat.5 cable between the PC and a connected USB device.

6. Installation

6.2.1 Installing the Transmitter (Local Unit)

1. Plug the unit's molded USB A male cable into an available USB port of host computer.
2. Plug one end of the Cat. 5 cable into the Link port (RJ-45) on the transmitter. (Please see **Category cable wiring**)
3. Power LED indicator lights on.

6.2.2 Installing the Receiver (Remote Unit)

1. Plug the other end of the Cat. 5 cable into the Link port (RJ-45) on the receiver.
2. Plug the 5VDC power adapter into the receiver, and AC plug into the power receptacle.
3. Connect the USB device through USB cable into the USB port of receiver.
4. Power LED indicator lights on

6.2.3 Checking the Installation

1. For Windows users (2000, XP, Vista, 7, 8, 8.1, 10, 11), open Device Manager to confirm the extender has been installed correctly. Expand the Entry and check the USB controllers. If the extender is installed correctly, it should be listed as a "Generic USB Hub."

2. For Mac OS X users, open the System Profiler to confirm that the extender has been

installed correctly. In the left column under Hardware, select "USB" and check the right panel. If the extender has been installed correctly, you should find it listed as a "Hub" under the USB High-Speed Bus/USB Bus.

3. If the extender is not detected correctly or fails to detect, go to the page of Troubleshooting.

Additional info:

The extender complies with USB 1.1 and USB 2.0 specifications governing the design of USB devices. However, we do not guarantee that all USB devices are compatible with the extender, as there are a number of different factors that may impact the operation of USB devices over extended distances.

7. Category cable wiring

Take precaution selecting the Cat.5 wire before connection; use a cable tester to check the wires are correctly terminated. (Incorrect Termination may cause damage to the receiver module).Recommend to use T568B wiring as shown below
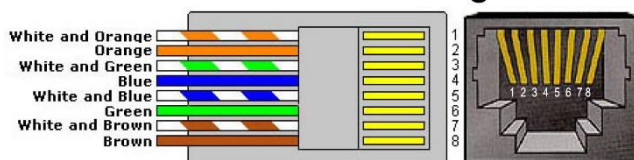
8. Troubleshooting

Table -1 provides troubleshooting tips. The solutions are arranged in the order in which they should be executed in most situations. If you are unable to resolve the problem after following these instructions, contact your distributor for further support.

Table -1 Troubleshooting tips

Problem	Cause	Solution
The USB device is attached but not functioning.	• The USB device requires drivers that were not installed. • The USB device does not support USB hubs. • The USB device might be failed.	1. Install the required USB device driver on the computer operating system before plug in the USB device to the receiver. Access your USB device's manufacturer's Web site for detail info. 2. In the Universal Serial Bus (USB) controllers section of Device Manager, check if the USB device is listed.
The USB device is attached but not functioning.	• An over current condition has occurred because the USB device is drew more current than it can be supplied per USB specification (500mA). Operating systems may pop up to indicate an issue.	1. Unplug the power adapter from the receiver, wait approximately 30 seconds; plug the power adapter into receiver again. 2. If over current keeps occurring, either the USB device may use more power than the USB specification, or the USB device may be damaged. 3. Consult your USB device documentation and plug into your USB device with the required power adapter.

Regulatory Compliance

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CE Certification

This equipment complies with the requirements relating to electromagnetic compatibility.
It has been manufactured under the scope of RoHS compliance.

FCC Compliance Statement

This equipment generates and uses radio frequency and may cause interference to radio and television reception if not installed and used properly. This equipment has been tested and found to comply with the limits of 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 residential installation.

You are cautioned that changes or modification not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and

(2) This device must accept any interference received, including interference that may cause undesired operation

WEEE (Waste of Electrical and Electronic Equipment), Recycling of Electronic Products

In 2006 the European Union introduced regulations (WEEE) for the collection and recycling of all waste electrical and electronic equipment. It is no longer allowable to simply throw away electrical and electronic equipment. Instead, these products must enter the recycling process.

Each individual EU member state has implemented the WEEE regulations into national law in slightly different ways. Please follow your national law when you want to dispose or any electrical or electronic products. More details can be obtained from your national WEEE recycling agency.