

DisplayPort Extender over Cat.6 40m

User's Manual

DP-CAT2E



1. Introduction

The DisplayPort Extender over CAT.6 allows the installation of a Hi-Def display up to 40 meters away from a DisplayPort source using two CAT.6 cables. Resolutions can be up to 3840 x 2160 @30Hz over two CAT. 6 24AWG cabling. HDCP is also supported. The Receiver is powered by the 2nd CAT.6 cable that extends the DisplayPort signal from the Transmitter, eliminating the need for an external power supply on the Receiver.

2. Features

- Extends DisplayPort audio and video up to 40 meters over 2 CAT.6 24AWG cabling
- Supports 8-Bit Deep Color; supports DisplayPort 1.1a
- Supports resolutions up to 3840 x 2160 @30Hz; 2560 x 1600 @60Hz; 2560 x 1440 @60Hz; 1920 x 1200 @60Hz; 1920 x 1080 @60Hz over two CAT.6 24AWG cabling.
- HDCP compliant; supports the Active DisplayPort adapters
- 16-position EQ rotary switch to compensate for cable skew, enables HPD auto calibration
- Power On LED indicator; no external power supply requirement on the receiver
- Supports 2.1 stereo audio out; Enables the DisplayPort signal transmitting to HD audio out.
- Rugged & cambered shape's Aluminum enclosures are perfect for professional and industrial applications; surface-mountable

3. Specifications

Model No.		DP-CAT2E	
		Transmitter	Receiver
Connector	Upstream / Input	DisplayPort 20 Pin female	RJ-45 female x 2
	Output / Downstream	RJ-45 female x 2	DisplayPort 20 Pin female
	Audio	3.5mm Jack	3.5mm Jack
Interconnection Cable		CAT.6 24AWG Cabling	
DisplatPort Cable ext. length based on 4k @30Hz	Input	1m	
	Output	2m	
Operating Distance		Up to 40m	
Video Data Rate		Up to 2.7Gb/s	
Resolution Range		Up to 3840 x 2160 @30Hz	
LED		1	
Operating Temperature		0°C to 40°C	
Power Supply		5V1A	*optional
Housing		Aluminum	
Dimension (L x W x H)		90 x 73 x 31mm	

Note: the receiver may have power provided from the transmitter upon CAT.6 cabling connection. When the receiver is connected to an Active DisplayPort adapter, it requires an external power supply of 5V1A.

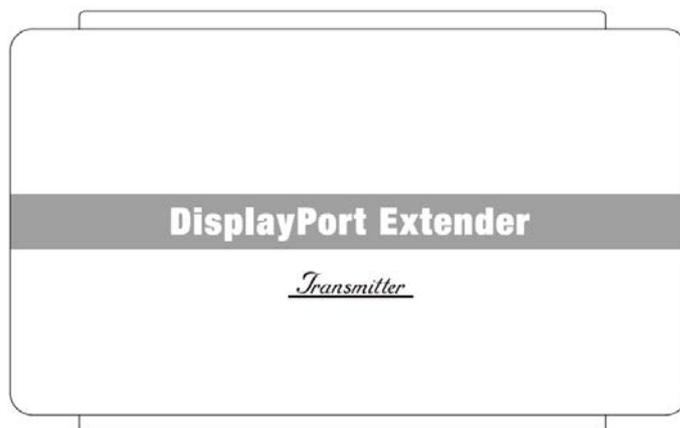
4. Package Contents

- Transmitter
- Receiver
- 5VDC Power adapter x 1
- Rack mountable screws

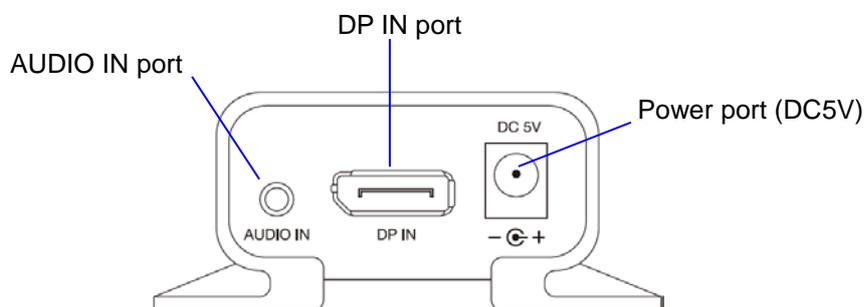
5. Physical Diagram

5.1 Transmitter (Local Unit)

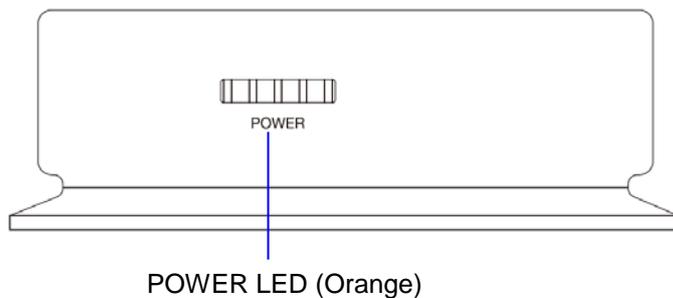
Top view



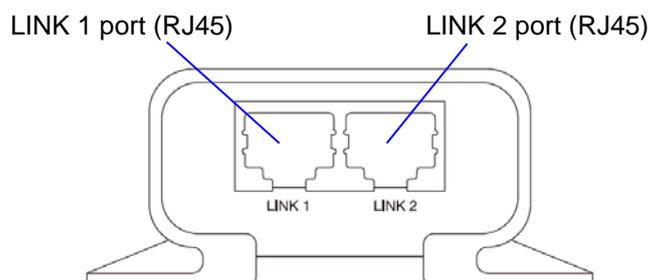
Front view



Side view



Rear view

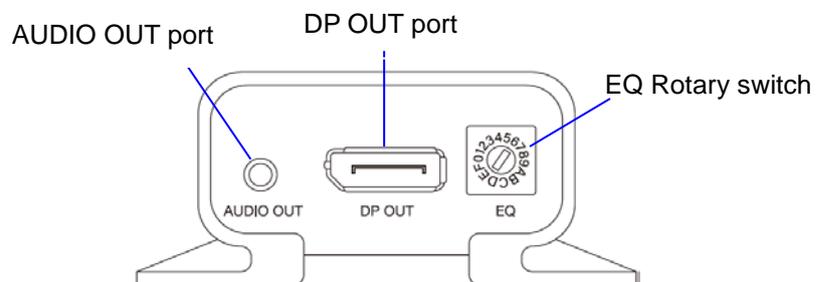


5.2 Receiver (Remote Unit)

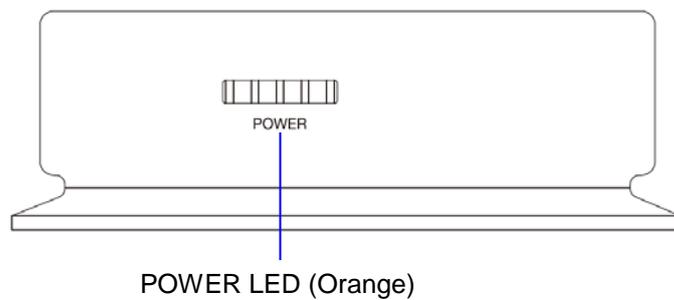
Top view



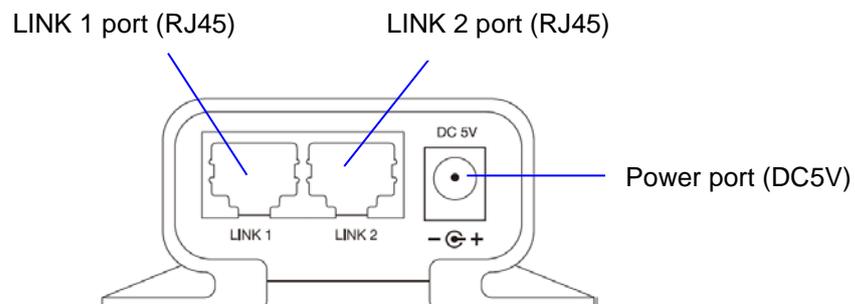
Front view



Side view

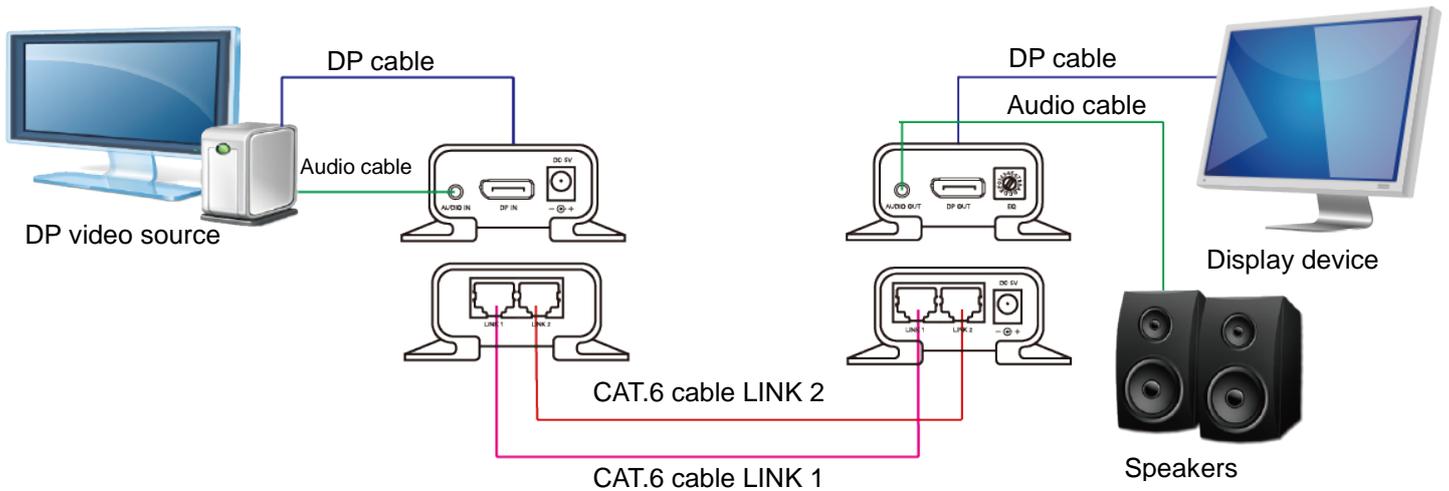


Rear view



6. Connecting

6.1 Typical Application



The DisplayPort Extender is installed between the DisplayPort source and a connected Display device with speakers.

6.2 Installation

Installing the Transmitter (Local Unit)

1. Connect the video source to the DP IN on the DisplayPort Transmitter by using a DisplayPort cable.
2. Connect 2 Cat.6 cables to LINK 1/LINK 2 of DisplayPort Transmitter.
3. Connect the provided external power supply to the DisplayPort Transmitter.

Installing the Receiver (Remote Unit)

1. Connect the DP OUT of DisplayPort Receiver to the Display device by using a DisplayPort cable.
2. Connect the other ends of 2 CAT.6 cables to LINK 1/LINK 2 of DisplayPort Receiver.
*When connecting the CAT.6 cables, make sure that each CAT.6 cable is connected to the Transmitter and is connected to the corresponding jack on Receiver (e.g. **LINK 1** --> **LINK 1**, **LINK 2** --> **LINK 2**).
3. It is a must to connect an external power supply (DC5V 1A) to the DisplayPort Receiver once if the receiver is connected to an Active DisplayPort adapter.
4. Turn on the power to the video source and connected monitor.

LED		Status
Definition	Color	
Power	Orange	The 5VDC power adapter is plugged in. And the Receiver's Power LED lights firmly while the 2 CAT.6 cablings are connected properly.

Note: The DisplayPort Extender supports resolutions up to 3840 x 2160 @30Hz upon using two CAT.6 cablings. In order to avoid bad signal transmitting, strongly recommends using the CAT.6 24AWG cable or higher grade; and the cabling work should not be twisted (winded).

If there is no signal displayed, disable DisplayPort 1.2 mode from the OSD of display device and then check again.

6.3 Adjusting the Signal Quality

The DisplayPort Extender has an equalization (EQ) rotary switch on the front of the Receiver unit. This 16-position rotary switch is used to adjust the boost level depending on the length of the CAT.6 cable.

Insert a small flat-headed tool into the notch on the rotary switch. The table below provides examples of various cable types and lengths for CAT.6 cabling.

Cable type	Length	Rotary switch position	Remark
AMP CAT.6, UTP, 24AWG	66 feet (20 meters)	5 through 7	Based on 3840 x 2160 @30Hz
AMP CAT.6, UTP, 24AWG	130 feet (40 meters)	D through F	Based on 3840 x 2160 @30Hz

Note: Waits 5~7 seconds after adjusting the EQ rotary switch and check on the display. If the screen doesn't satisfy you, then backward/forward the EQ position again.

7. Category cable wiring

Take precaution selecting the CAT.6 wires before connecting; use a cable tester to check the wires are correctly terminated. (Incorrect Termination may cause damage to the receiver unit). Recommend to use T568B wiring as shown below



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 of any electrical or electronic products. More details can be obtained from your national WEEE recycling agency.