



DisplayPort Extender Series

# User Manual

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Model : DP02U

4K DisplayPort KVM with USB CAT5e Extender 150M



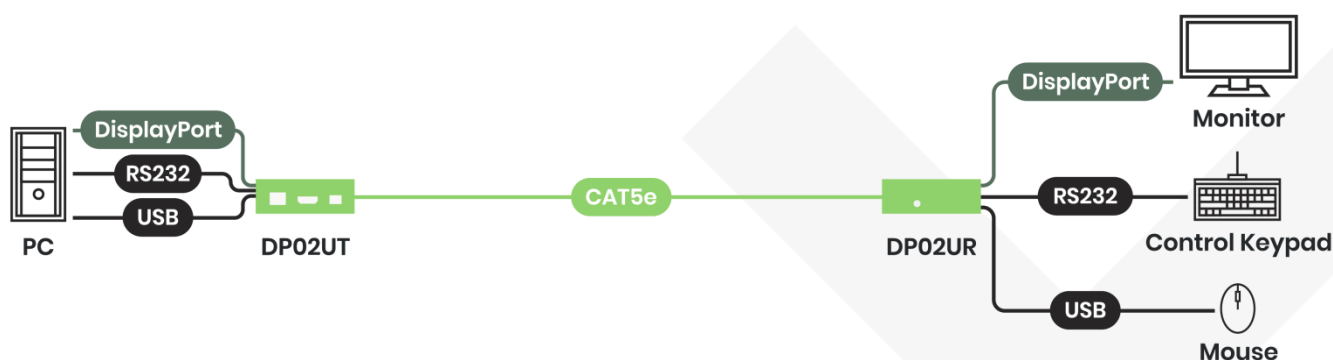
## Introduction

DP02U is a DisplayPort over HDBaseT™ Extender that uses cost-effective Ethernet cable to send uncompressed video & audio, USB, bi-directional RS232 signals, with the resolution up to 4K@30Hz 4:4:4 and the transmission distance up to 150M. The 4 built-in USB ports at RX unit can connect multiple USB devices, such as keyboards, mouse, and flash drives. It is an ideal solution to show video from a PC/laptop on a projector/monitor.

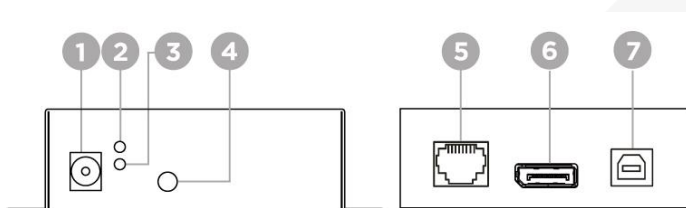
## Features

- Resolution up to 4K@30Hz 4:4:4.
- Signal extension up to 150M over CAT5e or greater.
- Built-in 4 ports USB at RX unit.
- Supports bi-directional RS232 transmission.

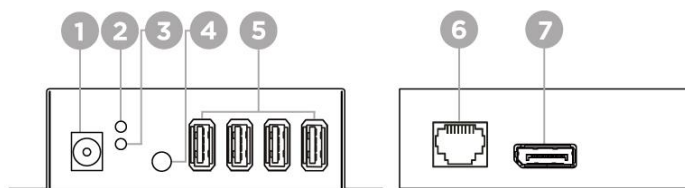
## Installation View



## Panel View



No.	Interface	Functionality
1	Power Jack	To connect with 5V 2A power adapter
2	Power Indication	To indicate power status (Refer to Description 1)
3	Link Indication	To indicate link status (Refer to Description 1)
4	3.5 mm Phone Jack	To connect with RS232 cable (Refer to Description 2)
5	RJ45 Connector	To connect with Ethernet cable (Refer to Description 3)
6	DisplayPort Connector	To connect with DisplayPort cable
7	USB-Type A Connector	To connect with USB cable

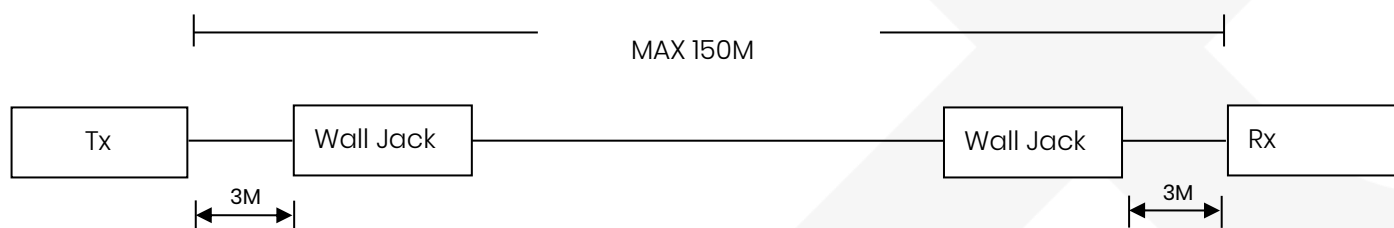


No.	Interface	Functionality
1	Power Jack	To connect with 5V 2A power adapter
2	Power Indication	To indicate power status (Refer to Description 1)
3	Link Indication	To indicate link status (Refer to Description 1)
4	3.5 mm Phone Jack	To connect with RS232 cable (Refer to Description 2)
5	USB-Type B Connector	To connect with USB cables
6	RJ45 Connector	To connect with Ethernet cable (Refer to Description 3)
7	DisplayPort Connector	To connect with DisplayPort cable

### Transmission Distance Chart

Cable	Distance	Resolution
CAT5e / CAT6	150M	1080p 60Hz 8bit
CAT6a / CAT7		
CAT5e / CAT6	100M	1080p 60Hz 12bit
CAT5e	90M	1080p 60Hz 16bit
CAT6 / CAT6a / CAT7	100M	4096x2160@30Hz 4:4:4

If the Ethernet cable passes through the wall socket, the length of the cable between DP02U and Wall Jack must be fewer than 3 meters as connection diagram shown below:



### Cable

We recommend using high-quality CAT5e, CAT6, CAT6a, CAT7 UTP/STP, or FTP cables to connect DP02UT and DP02UR. Poor quality cables and any improper connection will cause video or audio disruptions and picture noise.

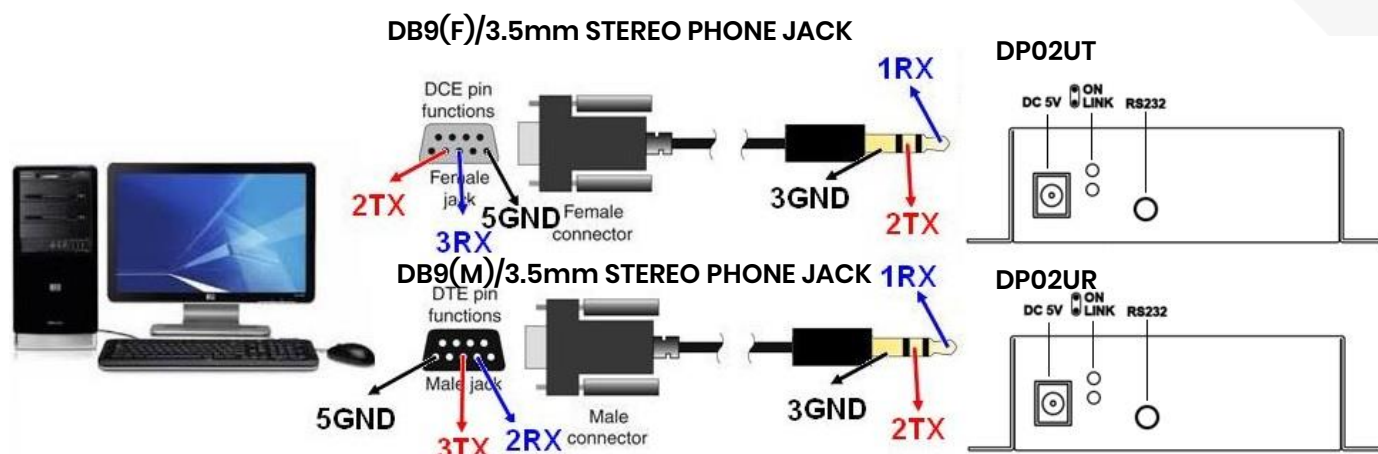
## LED Indication

LED Indication	LED Color	Status
Power	Green ON/OFF	Power ON/OFF
LINK	Blue ON/OFF	Linked/ Unlinked
	Flash	Power Saving Mode ON

### Power Saving Mode

When no video displaying or no connecting with any device, DP02U will automatically activate Power Saving Mode to disable RS232 and USB transmission function.

## RS232 Define



**DB9(F)/3.5mm STEREO PHONE JACK**

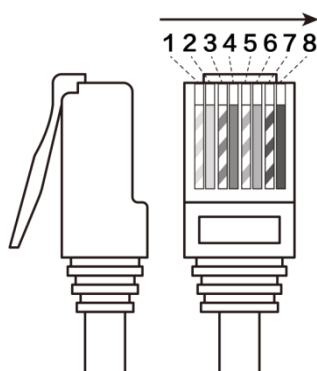
RS232		3.5 mm Phone Jack	
Footprint	Define	Footprint	Define
Pin 2	TX	Pin 1	RX
Pin 3	RX	Pin 2	TX
Pin 5	GND	Pin 3	GND

**DB9(M)/3.5mm STEREO PHONE JACK**

RS232		3.5 mm Phone Jack	
Footprint	Define	Footprint	Define
Pin 2	RX	Pin 1	RX
Pin 3	TX	Pin 2	TX
Pin 5	GND	Pin 3	GND

## RJ45 Define

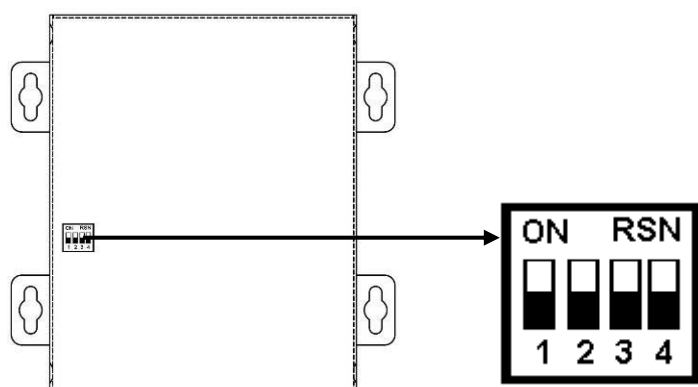
Pin	Color	Data
1	Orange-white	DATA0 +
2	Orange	DATA0 -
3	Green-white	DATA1 +
4	Blue	DATA2 +
5	Blue-white	DATA2 -
6	Green	DATA1 -
7	Brown-white	DATA3 +
8	Brown	DATA3 -



## Switch Function

Switch	Position/Function			
	Position	Function	Position	Function
1	Off	4K Resolution	On	Long Reach Mode 1080p
2	Off	RS232	Off	Firmware update
3	Off		On	
4	Off	Reserved	On	Reserved

Switch combinations not listed in this table have no function



## Trouble Shooting

- The connection cables must keep a distance from any equipment with an electromagnetic wave, i.e., mobile phone, microwave, radio equipment, fluorescent lamp, high voltage power lines.
- The cable must remain straight to avoid any crosstalk interference and to maintain good stability of the transmission.
- The HDBaseT technology does not communicate through the general Ethernet signal. Therefore, using the HDBaseT port to connect with network devices may cause damage to the extender.
- If there is interference or multiple DP02U used in the environment, using STP or FTP cable is highly recommended.
- This device does not support MST (Multi Stream Transport) hub function based on DP1.2

## Trouble Shooting

- The wiring must away from any equipment with electromagnetic wave, i.e.: mobile phone, microwave, radio equipment, fluorescent lamp, high voltage power lines.
- The cable must pull in straight to avoid any crosstalk interference and the transmission stability.
- This device HDBaseT port is not general Ethernet signal; do not connect with Network devices to avoid damage.
- The receiver unit working temperature is higher which is in normal condition.
- The bottom dip switch was no function which is reserve.
- This device not support MST (Multi Stream Transport) hub function based on DP1.2

## Package Includes

Item	Amount
DP02UT (Transmitter Unit)	1 pc
DP02UR (Receiver Unit)	1 pc
DC5V2A Power Adapter	2 pcs
USB A/B Cable	1 pc
DB9 (Male) 3.5mm Stereo Phone Jack	1 pc
DB9 (Female) 3.5mm Stereo Phone Jack	1 pc
Mounting Screw pack	1 bag

## Specification

ITEM NO.	DP02UT	DP02UR
Support		
Compliance	DP 1.2a, HDCP, USB 2.0, 1.1, 1.0	
Max. DisplayPort Resolution	4K@30Hz 4:4:4	
Max. Transmission Distance	150M at 1080p@60Hz, 100M at 4K@30Hz 4:4:4	
Audio Format	LPCM 7.1 @ 192KHz, Dolby TrueHD, DTS-HD MA	
RS232 Baud Rate	115200 bps/ Full Duplex	
Ports & Interfaces		
Video Input	1 x DisplayPort	1 x HDBaseT
Video Output	1 x HDBaseT	1 x DisplayPort
USB Interface	1 x USB-Type B	4 x USB-Type A
RS232 Interface	1 x DB9(F)/3.5mm Stereo Phone Jack	1 x DB9(M)/3.5mm Stereo Phone Jack
Power		
Power Supply	DC 5V 2A Regulated	DC 5V 2A Regulated
Power Consumption	5W (Max), 1W (Power Saving)	6W (Max), 1W (Power Saving)
Ambient Temperature		
Operation	-10 to 45°C	
Storage	-30 to 70°C	
Humidity	up to 90%	
Physical Characteristics		
Dimensions	109.6 x 108 x 30mm	109.6 x 108 x 30mm
Weight	265	265