UHD2-140 Owner's Manual

1 x 4 HDMI 2.0 Distribution Amplifier

PureLink^{TM}
535 East Crescent Avenue
Ramsey, NJ 07446, USA
Tel: 201.488.3232
Fax: 201.621.6118

E-mail: info@purelinkav.com
www.purelinkav.com

For technical support, contact:
support@purelinkav.com

Table of Contents

Manual version	Release date
1.0	1/16/2017
1.1	3/07/2017

1-1 Package Contents

Please make sure all of the following items are included in the package:

1) UHD2-140 Unit
2) DC 5V 2A Power supply adapter
3) Owner's Manual

1-2 General Specification

PureLink UHD2-140 1x4 HDMI 2.0 distribution amplifier is designed to distribute a single HDMI/DVI digital signal into multiple monitor without any degradation of original signal quality or distortion of the image. In addition, a dedicated IC chipset makes UHD2-140 capable of amplifying and distributing highest quality of video signal and UHD digital contents.

UHD2-140 is compact, durable and low power consumption design makes it ideal solution for connection for high definition video and audio signal of digital display device, such as LCD, Plasma, LED, Projector, and etc.

In addition, UHD2-140 offers quick and easy plug and play, installation for commercial or residential system.

Item	Description
Model	UHD2-140
Input type	HDMI Single Link , 1port
Output type	HDMI Single Link , 4port
Graphic Resolution	VGA / SVGA / XGA / UXGA / WUXGA 480i/p , 720i/p , 1080i/p@60hz, 4096 x 2160 @50/60Hz (RGB 4:4:4 YCbCr 4:4:4, 4:2:2, 4:2:0)
Connector type	DC Power Jack HDMI 19 Pin Female Serial Female
Supported format	DDWG DVI 1.0 HDMI 2.0
HDCP Compliant	HDCP 2.2
Power Consumption	DC +5V 2A, 1,00mA (max)
Dimension (WxDxH)	6.6" x 3.96" x 1.58" (167 x 100.5 x 40 mm)
Weight	1 lb (0.46 kg)

1-3 Operation and Reliability Specification

1. Operating Environment
   Temperature : 32F ~ 140F (0℃~ 60℃)
   Humidity   : 10% ~ 80%
   Altitude   : 3,000m Max.

2. Transit Environment
   Temperature : -13F ~ 140F (-25℃~ 60℃)
   Humidity   : 5% ~ 95%
   Altitude   : 15,000m Max.

3. Storage Environment
   Temperature : -4F ~ -185F (-20℃~ 85℃)
   Humidity   : 5% ~ 95%
   Altitude   : 3,000m Max.

4. Reliability
   MTBF: 90% at over 50,000 hours aging test
   - In compliance with LCD Monitor reliability test standard

1-4 Main Features

1. High Quality Picture - No Signal Loss and Digital Noise Free
Our Distribution Amplifiers are built to deliver the highest quality picture preserving the native resolutions of the video sources without any signal loss. At the same time, the digital noises that may affect the picture quality will be eliminated. Due to the nature of the digital signals and passing through multiple stages of connection when using distribution amplifiers, it is important to eliminate the digital noises and boost the signal strength to preserve/enhance the video signal quality.

2. Signal Amplification for signal reliability and long length signal transmission
Our 5V power adapter supplies adequate power to amplify the video signals from the video source. This is necessary as the overall length from the video source to the displays is longer when using the distribution amplifiers (distance from the video source to the distribution amplifier + distance from the distribution amplifier to the display). In most cases, the overall distance that the HDMI signal will need to travel is over 10ft. Due to the nature of HDMI signals, amplification is necessary to warrant the video quality and reliability. (Without amplification, there may be occasional blackouts or blinking effects) With this amplification feature, your video display can be extended up to 2,300 ft using our fiber optical HDMI cables.

3. HDMI (High Definition Multimedia Interface) v 2.0
UHD2-140 is consisting of HDMI input and output ports, and it is conforms to HDMI 2.0 standard.

4. HDCP 2.2 (High-bandwidth Digital Content Protection) Compliant
Our HDMI distribution amplifiers are fully HDCP compliant. Many video sources such as Blu-ray players and Satellite/Cable Receivers are HDCP encrypted. For these video sources to be displayed correctly, HDCP compliant devices (e.g., TV, HDMI Switch, distribution amplifier) are required.

5. 4 HDMI outputs from a single HDMI source
6. Supports resolutions up to 4K@60Hz 4:4:4
7. Supports HDR (High Dynamic Range) formats
8. High bandwidth support – up to 18 Gbps
9. Supports BT.2020 color representation
10. Auto-EDID management – factory default settings and EDID emulation
11. CEC pass-through (output #1)
12. Active input & output LED indicators

1-5 Video Connection

Video Connection

1. Turn off the whole system before connecting.
2. Connect your video source's HDMI output port to the UHD2-140's HDMI input port using standard HDMI cables (not included).
3. Connect your HDMI display's HDMI input port to UHD2-140's HDMI output port.
4. Plug the 5V power supply to UHD2-140
5. Plug the 5V wall mount power supply into the wall outlet.
6. Turn on UHD2-140
7. Turn on your monitor
8. Turn on your video source.

EDID Management

PureLink UHD2-140 provides Auto EDID management system; easy and fail safe way to handle EDID, via pre-loaded factory default 1080p 2ch and EDID emulation.
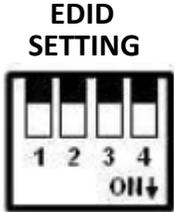
What's EDID?
Extended **D**isplay **I**dentification **D**ata (**EDID**) is an information set that digital display provides to describe its capabilities to a Video source. Video source will know what kinds of displays are connected and it will determine which resolution to Output according to the EDID information received from the display.

The EDID normally includes manufacturer name and serial number, sets of capable resolution including native resolution, supported timing, pixel mapping data (for digital displays only) and etc.

In a digital connectivity environment; in order to support the maximum resolution of connected monitor, EDID handshake is a critical because improper EDID handshake between sources to the display will result in no image on the display.

EDID handshake may sound simple; however, with multiple peripheral devices within the chain, display's EDID information easily get lost or blocked while it is traveling to the source device.

UHD2-140 provides Auto EDID management system to meet today's sophisticated digital connectivity integration environment. There is an EDID setting DIP switch on the front of the unit;
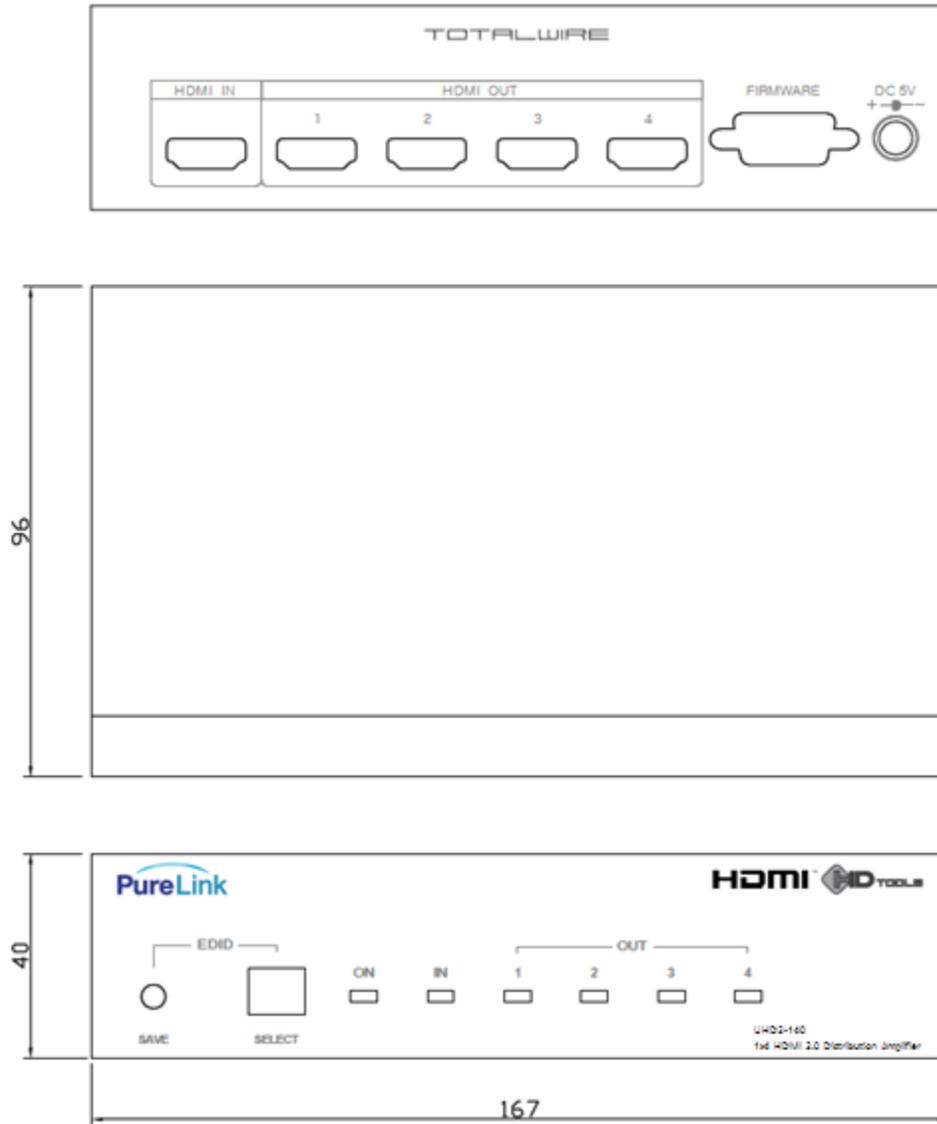
**EDID
SETTING**

DIP Switch Position	EDID function
Dip switch 1,2,3,4 "up" position	Communicate EDID with factory default at 1080p 2ch
Dip switch 1 "down" position & 2,3,4"up" position and then SAVE button	Communicate EDID with output #1 connected display
Dip switch 2 "down" position & 1,3,4 "up" position and then SAVE button	Communicate EDID with output #2 connected display
Dip switch 3 "down" position & 1,2,4"up" position and then SAVE button	Communicate EDID with output #3 connected display
Dip switch 4 "down" position & 1,2,3 "up" position and then SAVE button	Communicate EDID with output #4 connected display
Dip switch "down" position combination and then SAVE button	Analyze EDID of "down" position outputs connected displays and create an unified EDID for the displays

* Example of "down" position combination
If DIP switch 1,2,3 are down position, and then press "SAVE" button, the unit will analyze EDID of output 1,2,3's connected displays and create a new unified EDID to support all three monitors screen resolution.

1-6 UHD2-140 Mechanical Specification

UHD2-140 Dimension: 6.6" x 3.96" x 1.58" (167 x 100.5 x 40 mm)

*RS-232 Port is used to connect to PC for firmware upload

1-7 Technical Specification

Frequency bandwidth: 18 Gbps
Supporting Graphic Resolution: Supports all standard display resolutions up to
UltraHD/4K 4096x2160@50/60Hz (RGB 4:4:4 YCbCr 4:4:4, 4:2:2, 4:2:0) , 480i, 576i,
720p, 1080i, 1080p@60Hz
Inputs: Single HDMI Input
Output: Dual HDMI Output
Power supply: DC 5V, 2A Adapter included

Connector Pin Assignment

Part No.	Pin No.	Description	Remarks
	1	TMDS DATA 2P	
	2	TMDS DATA 2 Shield	
	3	TMDS DATA 2M	
	4	TMDS DATA 1P	
	5	TMDS DATA 1 Shield	
	6	TMDS DATA 1M	
	7	TMDS DATA 0P	
	8	TMDS DATA 0 Shield	
	9	TMDS DATA 0M	
HDMI 19pin	10	TMDS Clock P	
	11	TMDS Clock Shield	
	12	TMDS Clock M	
	13	CEC	
	14	RESERVED	
	15	DDC Clock	
	16	DDC DATA	
	17	GND	
	18	+5v	
	19	Hot Plug Detect	

1-8 Warranty

Manufacturer's Warranty (3-Year)

PureLink warrants UHD2-140 to be free from defects in workmanship and materials, under normal use and service, for a period of three (3) years from the date of purchase from PureLink or its authorized resellers.

If the product does not operate as warranted during the applicable warranty period, PureLink shall, at its option and expense, execute one of the following as necessary:

1. Repair the defective product or part
2. Deliver to customer and equivalent product or part to replace the defective item
3. Refund to customer the purchase price paid for the defective product

All products that are replaced become the property of PureLink. Replacement products may be new or reconditioned, Repaired or replacement products or parts come with a 90-day warranty or the remainder of the warranty period. PureLink shall not be responsible for any software, firmware, information, or memory data loss of contained in, stored on, or integrated with any products returned to PureLink for repair under warranty.

Customer Service
Any customer service inquiries can be submitted electronically through the Q&A form on our website (www.purelinkav.com).
For immediate assistance please contact us at (201) 488-3232 to reach our customer care or tech support team.