

Product Specifications

Video Wall Ultra 4K HDMI/USB Extender over IP with PoE

IHD-410PT

IHD-410PR

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Change History:

Revision	Date	Author	Change List
Version 1.0	01/23/2017	Keithy Lin	Initial release

Author	Keithy Lin	Editor:	Keithy Lin
Reviewed by:	Jonas Yang	Approved by:	Kent Kang

1. PRODUCT DESCRIPTIONS



Ultra High-quality 4K HDMI Video Wall

PLANET IHD-410 HDMI/Video Wall over IP with PoE delivers a great 4K video distribution solution such as bringing an efficient and effective advertising deployment. The IHD-410 series is the combination of the transmitter, IHD-410PT, and the receiver, IHD-410PR. They can be used as an audio, video and IR extender over IP and applied to point to point, point to multi-point, multi-point to multi-point and eye-catching video walls of up to 16 by 8 displays.

The IHD-410 series also features bi-directional IR extension and RS232 pass-through allows the user to cascade the system enabling them to extend the transmission distance without signal loss or delay. Its USB interface enables users to achieve KVM PC control easily. It also supports VGA Local Output function for checking video source conveniently. Besides, with PoE function, there is no additional power supply needed, and the IHD-410 series thus reduces the complexity of cable installation.

IR Extension for Controlling Video Source

The IHD-410 series is a perfect solution for audio and video signal extension via the Gigabit LAN. Designed with IR transmitter and receiver interface, it allows users to control the video source at the terminal destination. The IHD-410 series features bi-directional IR extension and RS232 pass-through which allows the user to cascade the system enabling them to extend the transmission distance without signal loss or delay. It also supports VGA Local Output function for checking video source conveniently.

They come with USB interfaces, which support basic KVM applications, such as touch screens, keyboards and mice, enabling users to achieve KVM PC control easily. Besides, with PoE function, there is no additional power supply needed, and the IHD-410 series thus reduces the complexity of cable installation.

Exclusive Video Transmission by IGMP Snooping Technology

One IHD-410PT in local site can drive multiple IHD-410PRs in remote sites without consuming extra network loading. Integrated with Gigabit PoE switch built-in with IGMP snooping functions, there are 16 channels selectable via the IHD-410 series, so video and audio can be transmitted simultaneously. IGMP snooping is an integral part of IP multicast and a communications protocol used by hosts and adjacent routers on IP networks to establish multicast group memberships. IGMP snooping can be used for one-to-many/many-to-many networking applications such as online streaming video and gaming, and allows exclusive transmission and more efficient use of resources.

Extended Display Identification Data (EDID) Support

The IHD-410 series adopts Automatic EDID (Extended Display Identification Data) Copy function to make smooth video distribution over different types of display units. EDID is greatly important as it contains information about resources' manufacturer names, serial numbers, product types, maximum image sizes, color characteristics, factory pre-set timings, frequency range limits, etc. In some cases, display problems may occur due to incorrect EDID communication between the display monitor and the transmitting unit or inappropriate EDID data programmed by display manufacturers. Therefore, with Automatic EDID Copy function, the IHD-410 series allows the system to copy EDID information from EDID compliant displays and assures accurate display performance.

Video Channel Setting Matches Well through Network Configuration

The IHD-410 series network can be configured by a central computer over the same LAN within a certain distance. Fully leveraging the Gigabit Ethernet switches with 802.1Q VLAN function, multi-casting can be performed to allow more video sources/senders in the network and be remotely managed. Just adjust and match video channel setting with the simple DIP switch in both the IHD-410PT and IHD-410PR. The video distribution is easily deployed through Plug and Play.

Efficient Control via Selectable 16-Channel DIP Switch

Where there is more than one transmitter in the video extend system, the DIP switch in the IHD-410PT and IHD-410PR facilitates distinguishing the pair of the transmitter and receiver units in the same channel. It further enables the broadcasting system to perform multiple video extend systems simultaneously through matching of the IHD-410PT and IHD-410PR.

2. PRODUCT FEATURES

➤ **HDMI Network**

- 4K ultra high-quality video transmitter
- Supports IR extension for controlling video source
- Supports RS232 bi-directional remote extension
- Assigns video sources to any monitor of the video wall system
- The selectable 16-channel DIP switch is easily applied for multi-casting group matching
- 1-to-1, 1-to-many and multi-casting broadcasting architectures allow to add more displays without increasing LAN bandwidth loading

➤ **Video Output Characteristics**

- Supports 1080p or 4K (3840 x 2160) HDMI resolution
- HDCP compliant and blu-ray ready
- Supports VGA local output
- Compatible with common screen resolutions from XGA, SXGA, UXGA, WSXGA and Full HD to the latest 4K system
- Output video rotation
- Supports HDMI with 2-ch. uncompressed audio or external audio in and out

➤ **Easy Installation & Management**

- Supports USB for KVM PC control
- IEEE 802.3af/at PoE+ function supported; no additional power supply needed
- Automatic EDID (Extended Display Identification Data) configuration
- Friendly Web UI for ease of use
- Supports multi-casting group with Gigabit Ethernet Managed Switch (IGMP snooping and Jumbo Frame functions required)

3. PRODUCT SPECIFICATIONS

3.1 Main Components

Chipset :	Aspeed
RAM :	256MB
Flash :	128MB

3.2 Function Specifications

Model	IHD-410PT	IHD-410PR
Hardware Specifications		
Network Interface	RJ45 port (10/100/1000BASE-T Ethernet) x 1	
Serial Interface	DB-9 female connector for RS232 x 1	
LED	ACT LED x 1 Link LED x 1	
Buttons	Reset button x 1 G/V mode button x 1	
Video In Interface	HDMI A Type female connector x 1	N/A
Video Out Interface	VGA DB-15 female connector x 1	HDMI A Type female connector x 1
External Audio In Interface	3.5mm jack x 1	
External Audio Out Interface	3.5mm jack x 1	
IR	3.5mm jack for IR emitter cable	3.5mm jack for IR receiver cable
Channel Switching	DIP (16 channels)	
USB	USB 2.0 type B x 1 (For PC/server)	USB 2.0 type A x 4 (For mouse/keyboard)
Power Supply	IEEE 802.3af/at PoE+ 12V DC, 2A	
Power Consumption	3W (Min.) 14W (Max.)	
Dimensions (W x D x H)	194 x 114 x 28 mm	
Weight	620 g	
Video and Audio		
Maximum Video Wall	8 x 16 (row x column)	
HDMI Video In Resolution	4K (3840 x 2160) @30/24 Hz 1080p @ 60/50 Hz 1080p @30/25 Hz 1080i @ 60/50 Hz 720p @ 60/50 Hz 480p @ 60/50 Hz 480i @ 60/50 Hz	N/A
HDMI Video Out Resolution	N/A	4K (3840 x 2160) @30/24 Hz 1080p @30/25 Hz 1080i @ 60/50 Hz 720p @ 60/50 Hz 480p @ 60/50 Hz 480i @ 60/50 Hz

Model	IHD-410PT	IHD-410PR
VGA Video Out Resolution	1080p @ 30/25 Hz 1080i @ 60/50 Hz 720p @ 60/50 Hz 480p @ 60/50 Hz 480i @ 60/50 Hz	N/A
HDMI Video Out Rotation	0 degrees/180 degrees/270 degrees	
Compression	Visual lossless compression	
Audio	HDMI: 2-ch uncompressed audio	
General		
Management Interfaces	Web management	
System Expandability (max.)	16 groups	
Resolution Identification	EDID (Extended Display Identification Data)	
Security	HDCP compliant	
Media Stream Bandwidth	Approximately 275Mbps @ 4K 30Hz	
Maximum Distance (between unit and PoE switch)	100 meters (330 feet) over CAT5e/6 cable	
Standards Conformance		
Standards Compliance	IEEE 802.3 10BASE-T IEEE 802.3u 100BASE-TX IEEE 802.3ab 1000BASE-T IEEE 802.3af/at PoE+	
HDMI Interface Compliance	HDMI 1.4a	
Protocol	TCP, UDP, RTSP, RTP, DHCP, IGMP Snooping, Multicast, IPv4	
Cabling	Cat5e/6 UTP cable	
Environment Specifications		
Operating	Temperature: 0~55 degrees C Relative Humidity: 5~90% (non-condensing)	
Storage	Temperature: -10~60 degrees C Relative Humidity: 5~90% (non-condensing)	
Emission	FCC, CE	
Standard Accessories		
Packet Contents	Media Extender x 1 Quick Installation Guide x 1 Mounting Bracket x 2 Screws x 4 IR Emitter Cable x 1	Media Extender x 1 Quick Installation Guide x 1 Mounting Bracket x 2 Screws x 4 IR Receiver Cable x 1

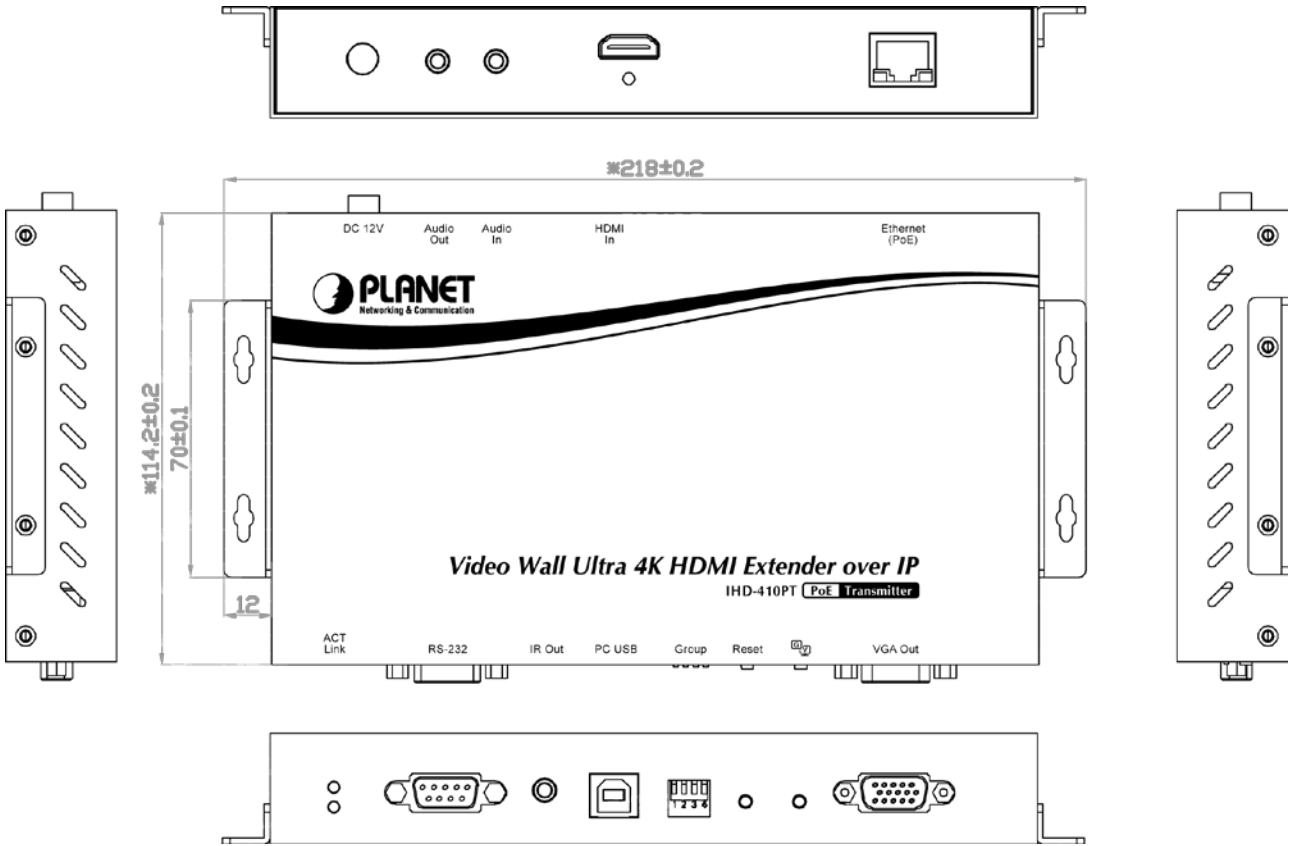
** Product specifications are subject to change without notice.

3.3 Physical Specifications

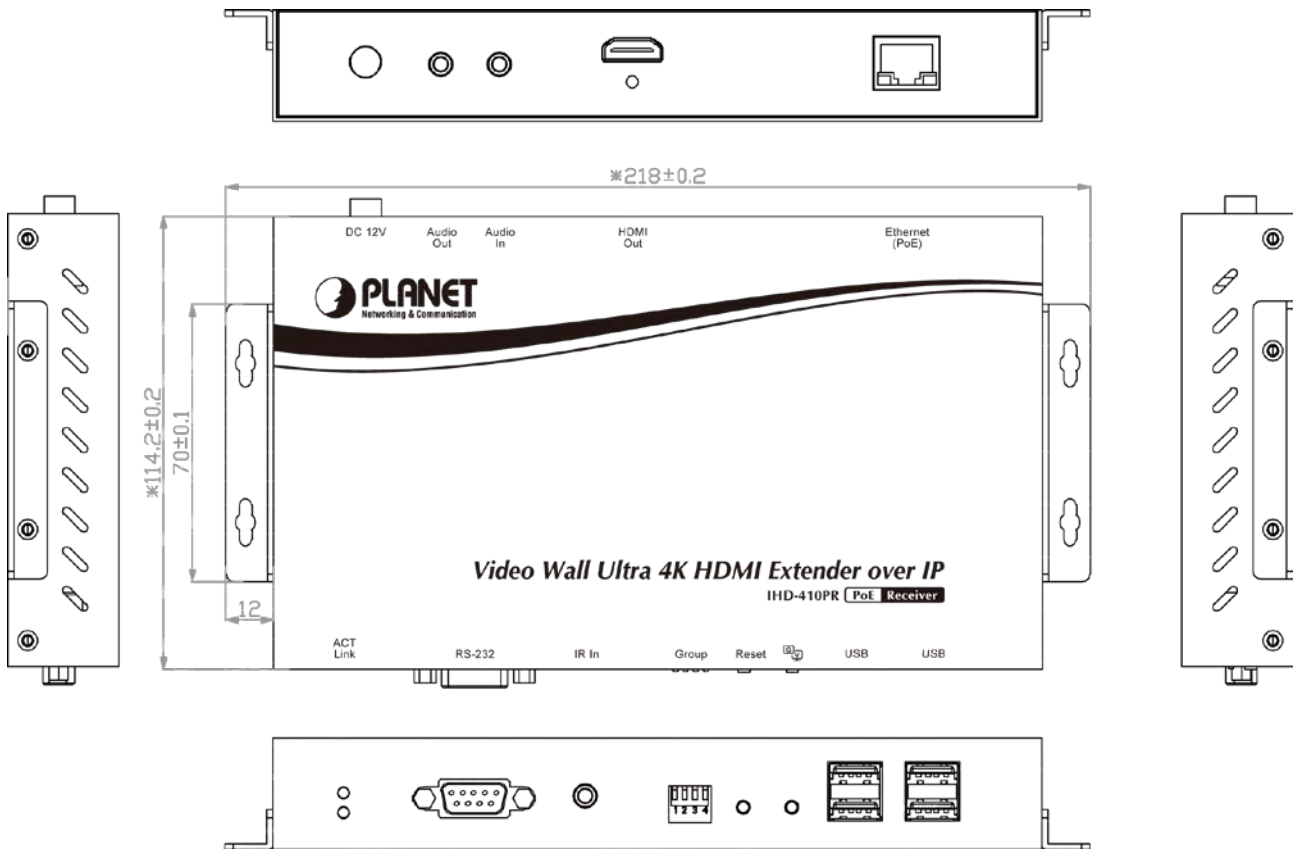
Dimensions	194 x 114 x 28 mm (W x D x H)
Weight	620 (g)

● **Diagrams:**

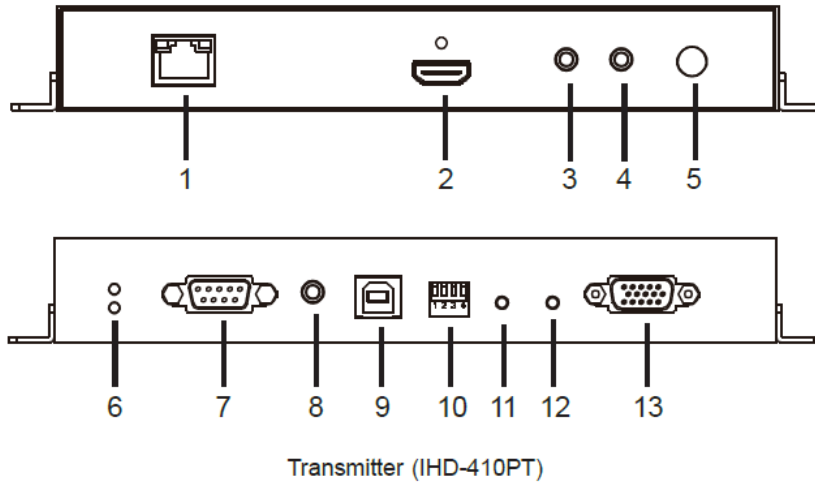
Transmitter:

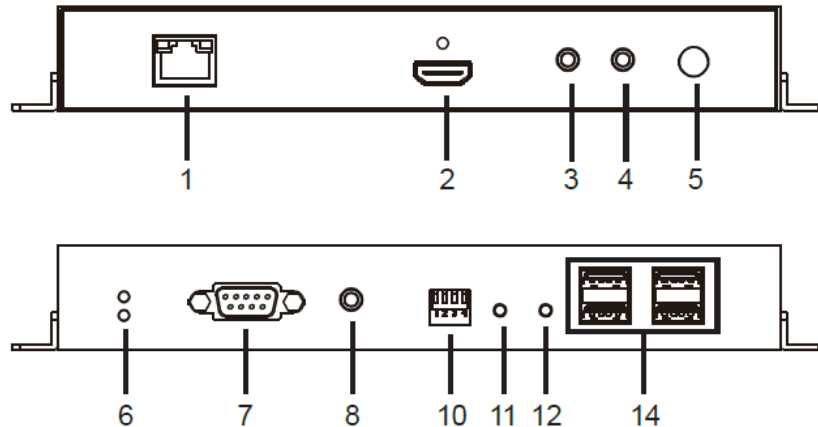


Receiver:



● **Interfaces:**





Receiver (IHD-410PR)

● **Interfaces Definition:**

Position	Description	Function
1	Ethernet (PoE)	<ul style="list-style-type: none"> Connect to a LAN Switch. IGMP snooping and Jumbo Frame supported Gigabit IEEE 802.3af/at PoE+ Ethernet switch is recommended. LED: <ol style="list-style-type: none"> LAN LED (green color): This LED will be flashing while network is accessing via Ethernet. Power LED (orange color): When the device is powered on, and the device is connected to Ethernet switch, the LED will be always on.
2	HDMI	Transmitter: HDMI Type-A female connector for connecting to the HDMI source. Receiver: HDMI Type-A female connector for video output.
3	Audio In	3.5mm jack for connecting an external active microphone.
4	Audio Out	3.5mm jack for connecting an active loud speaker.
5	DC 12V	12V/2A DC power input. Only use one power source, either from DC or from 802.3af/at PoE+ Ethernet switch.
6	ACT/Link	<ul style="list-style-type: none"> ACT: ACT LED indicator turns blue when the device is powered up. Link: Link LED indicator flickers green when network connection is waiting for video source, turns green when network connection and video source is functioning properly.
7	RS232	DB-9 female connector for RS232 bi-directional remote extension.
8	IR	Transmitter: 3.5mm jack for IR emitter cable to control video source device. Receiver: 3.5mm jack for IR receiver cable to receive signal from remote controller.
9	PC USB	USB Host input Port.
10	Group	Group configuration, 4-bit switch for 16 stream channel selection.
11	Reset	This button supports two functions: "Restore to factory default setting" and "Stop connecting to video source". <ul style="list-style-type: none"> Restore to factory default setting:

Position	Description	Function
		<ol style="list-style-type: none"> 1. Turn on the device first. 2. Press and hold the button for over 15 seconds. Once the device is operational again, it has restored to default settings. <ul style="list-style-type: none"> ● Stop connecting to video source: <ol style="list-style-type: none"> 1. Turn on the device first. 2. Press and hold the button for 1 second, the link LED will turn off, the device does not connect to video source. 3. Press and hold the button for 1 second again, the link LED will turn on, the device will connect to video source again.
12	G/V Mode	Press the button for 1 second to select Graphic Mode or Video Mode (also deploy to all the IHD-200PT and IHD-200PR of the same channel)
13	VGA Out	DB9 connector for VGA local display
14	USB	USB ports for additional USB devices such as USB mouse, USB keyboard and USB pen drive.

3.4 Environmental Specifications

Operating

Temperature:	0~55 degrees C
Relative Humidity:	5~90% (non-condensing)

Storage

Temperature:	-10~60 degrees C
Relative Humidity:	5~90% (non-condensing)

3.5 Electrical Specifications

Input Voltage:	12V DC, 2A, 2.0 mm
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3.6 Regulatory Compliance

CE, FCC, RoHS, WEEE

3.7 Reliability

MTBF >50,000Hrs @ 25 degrees C

3.8 Basic Packaging

- Media Extender x 1
- Quick Installation Guide x 1
- IR Emitter Cable (Comes with Transmitter) x 1
- IR Receiver Cable (Comes with Receiver) x 1

- Mounting Bracket x 2
- Screws x 4

3.9 Packaging Information

Dimensions (W x D x H)	280 x 170 x 55 mm
Weight	900g (gross weight)
Carton Dimensions (W x D x H)	575 x 355 x 245 mm
Carton Weight	15.1kg (gross weight)
Carton Unit	16pcs in one carton

APPENDIX A: Default Setting

Default Setting	Auto IP address
Default IP Address	169.254.xxx.xxx (user is able to find it by connecting the Receiver to HDMI monitor)
Default Port	80