

HDMI® Over IP Extender Kit

ST12MHDLAN



*actual product may vary from photos

DE: Bedienungsanleitung - de.startech.com

FR: Guide de l'utilisateur - fr.startech.com

ES: Guía del usuario - es.startech.com

IT: Guida per l'uso - it.startech.com

NL: Gebruiksaanwijzing - nl.startech.com

PT: Guia do usuário - pt.startech.com

For the latest information, technical specifications, and support for this product, please visit www.startech.com/ST12MHDLAN.

FCC Compliance Statement

This equipment has been tested and found to comply with the limits for 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. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help

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.

Changes or modifications not expressly approved by StarTech.com could void the user's authority to operate the equipment.

Industry Canada Statement

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe [B] est conforme à la norme NMB-003 du Canada.

CAN ICES-3 (B)/NMB-3(B)

Use of Trademarks, Registered Trademarks, and other Protected Names and Symbols

This manual may make reference to trademarks, registered trademarks, and other protected names and/or symbols of third-party companies not related in any way to StarTech.com. Where they occur these references are for illustrative purposes only and do not represent an endorsement of a product or service by StarTech.com, or an endorsement of the product(s) to which this manual applies by the third-party company in question. Regardless of any direct acknowledgement elsewhere in the body of this document, StarTech.com hereby acknowledges that all trademarks, registered trademarks, service marks, and other protected names and/or symbols contained in this manual and related documents are the property of their respective holders.

Table of Contents

Introduction	1
Packaging contents	1
System requirements	1
Product diagram	1
Transmitter unit	1
Receiver unit	2
Preparing your site	2
Hardware installation	3
(Optional) Point to Point installation without Gigabit LAN network	5
Hardware Reset Procedure	6
Software Installation	7
Software operation	7
Connecting your transmitters and receivers to the software	7
Switching your remote displays between video sources	11
Configuring your remote displays for a video wall application	13
Advanced operation and help	17
Specifications	19
Technical support	20
Warranty information	20

Introduction

Packaging contents

- 1 x HDMI over IP transmitter
- 1 x HDMI over IP receiver
- 2 x mounting brackets
- 2 x universal power adapter (NA/EU/UK/AU)
- 2 x foot pad set
- 1 x instruction manual

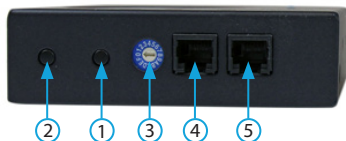
System requirements

- HDMI enabled video source (i.e. computer, Blu-ray Player)
- HDMI enabled display device(s) One for each Receiver (i.e. television, projector)
- Available AC electrical outlet for the Transmitter and each Receiver
- HDMI cable for each display
- Gigabit Networking devices and cabling

Product diagram

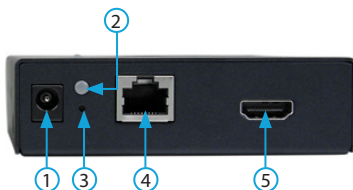
Transmitter unit

Front view of transmitter



1. F1
2. F2
3. Dip rotary switch
4. Serial control (not active)
5. Serial extension (for extending RS232 signal)

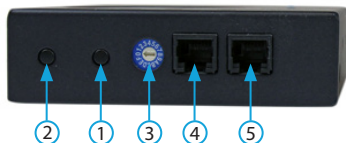
Back view of transmitter



1. Power jack
2. Reset LED
3. Reset button
4. LAN port (RJ-45 connector)
5. Video in

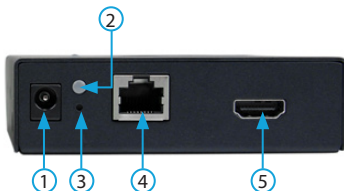
Receiver unit

Front view of receiver



1. F1
2. F2
3. Dip rotary switch
4. Serial control (not active)
5. Serial extension (for extending RS232 signal)

Back view of receiver



1. Power jack
2. Reset LED
3. Reset button
4. LAN port (RJ-45 connector)
5. Video out

Note: Serial 1 (Control) Ports are not active. To control the ST12MHDLAN, download the free StarTech.com mobile application. For more information, see page 7 of this manual.

Preparing your site

Note: The ST12MHDLAN HDMI extender kit can use a Gigabit LAN Network to extend the signal. Most Gigabit Network portals have a cable length restriction of 330 ft. (100m). Refer to the manufacturer of the equipment to determine the length restriction and ensure the Transmitter Unit and Receiver Unit(s) are all within the restricted range of the nearest network portal.

Ensure the Transmitter Unit and Receiver Unit(s) are all situated near an available AC electrical outlet.

1. Determine where the local video source (i.e. computer, Blu-ray Player) will be located and set up the device.
2. Determine where the remote display will be located and place/mount the display appropriately.
3. **(Optional)** If using additional receiver units (ST12MHDLANRX sold separately), determine where the remote displays will be located in and place/mount the displays appropriately

Hardware installation

Video wall or point to multi-point installation with a Gigabit LAN network

1. Install transmitter unit

- a) Position the Transmitter Unit near the video source (i.e. Computer, Blu-ray Player).
- b) Connect an HDMI cable from the video source device (i.e. computer, Blu-ray Player) to the "Video In" port on the Transmitter Unit.
- c) Connect the provided Transmitter Unit power supply.

2. Install receiver unit(s)

- a) Position the Receiver Unit(s) near the video display (i.e. television, projector).
- b) Connect an HDMI cable from the display Input to the "Video Out" port on the Receiver Unit.
- c) Connect the provided Receiver Unit power supply.
- d) **(Optional)** If using additional ST12MHDLANRX Receivers (sold separately), repeat steps for each additional Receiver.

Note: The "Dip Rotary Switch" on the transmitter and each receiver connected to the network must be set in the same position for the devices to communicate.

3. Connect the devices to a Gigabit LAN network

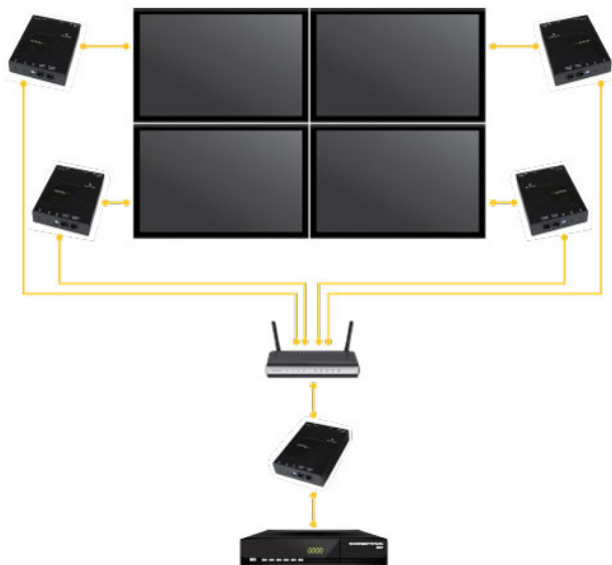
Connect an RJ-45 terminated Cat5e/6 Ethernet cable to the "LAN Port" (RJ-45 Connector) on the Transmitter unit, and all receiver units.

Note: If you are using surface cabling, ensure you have enough Category 5e/6 unshielded twisted pair (UTP) network cabling to connect the Transmitter Unit to the Gigabit LAN hub, router, or switch.

OR

If you are using premises cabling, ensure that the Category 5e/6 unshielded twisted pair (UTP) network cabling between the Transmitter and Gigabit LAN hub, router, or switch has been properly terminated in a wall outlet in each location and there is a patch cable long enough to connect the Network portal and Transmitter Unit to their respective outlets.

2. Connect the other end of the Cat5e/6 cable run to a Gigabit LAN hub, router or switch.
Note: Your router must support IGMP snooping. Refer to your network switch or router documentation to ensure IGMP snooping is supported and enabled.
3. **(Optional)** When adding additional Receiver Units (ST12MHDLANRX – Sold separately), a run of Cat 5e/6 cable will be required from each device to the Gigabit LAN hub, router or switch.
4. Your source video image will now appear on the Receiver unit(s) attached video display(s).



(Optional) Point to Point installation without Gigabit LAN network

Note: While range is reduced to a maximum of 330 feet (100 meters) the ST12MHDLAN HDMI extender kit also allows for extending the signal without a Gigabit LAN Network by connecting the Transmitter directly to the Receiver using CAT5e/6 cabling. This also eliminates the ability to add additional Receivers.

1. Install Transmitter Unit

- a) Position the Transmitter Unit near the video source (i.e. Computer, Blu-ray Player).
- b) Connect an HDMI cable from the video source device (i.e. computer, Blu-ray Player) to the "HDMI IN" on the Transmitter Unit.
- c) Connect the provided Transmitter Unit power supply.

2. Install Receiver Unit(s)

- a) Position the Receiver Unit(s) near the video display (i.e. television, projector).
- b) Connect an HDMI cable from the display Input to the "Video Out" port on the Receiver Unit.
- c) Connect the provided Receiver Unit power supply.

Note: The "Dip Rotary Switch" on the transmitter and Receiver connected must be set in the same position for the devices to communicate.

3. Install RJ-45 terminated Cat5e/6 Ethernet Cable

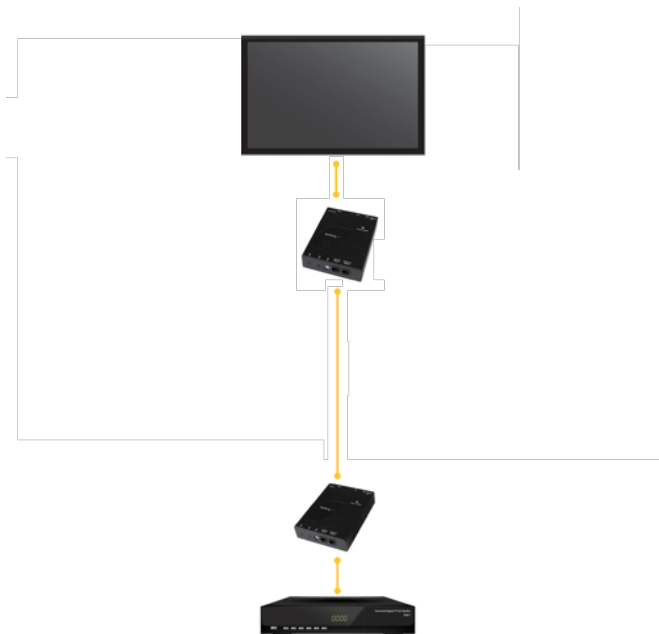
- a) Connect an RJ-45 terminated Cat5e/6 Ethernet cable to the HDMI Out Link (RJ-45 Connector) on the Transmitter unit.

Note: If you are using surface cabling, ensure you have enough Category 5e/6 unshielded twisted pair (UTP) network cabling to connect the Transmitter Unit to the Receiver Unit's location, and that each end is terminated with a RJ45 connector.

OR

- a) If you are using premises cabling, ensure that the Category 5e/6 unshielded twisted pair (UTP) network cabling between the Transmitter and Receiver Units have been properly terminated in a wall outlet in each location and there is a patch cable long enough to connect the Remote Unit and the Host Unit to their respective outlets.
- b) Connect the other end of the Cat5/6 cable run to the RJ45 connector on the remote Unit Receiver Unit.

4. Your source video image will now appear on the remote unit(s) attached video display.



Hardware Reset Procedure

Note: If a video signal does not appear on the display, a hardware reset can be performed on the Transmitter Unit or individual Receiver Units.

1. Press the reset button for more than 3 seconds on the device using a pin point tool, such as a ballpoint pen or a bent paper clip.
2. After 3 seconds, disconnect the power adapter while holding the reset button.
3. Release the reset button, and reconnect the power adapter.

Software Installation

The HDMI distribution kit features easy-to-use software for video control that helps you manage your IP video distribution and video wall configuration. The software is available on iOS for your iPhone or iPad, Android for your smartphone or tablet.

Follow the steps to install our software for your specific device.

1. Using the device you intend to install software on, navigate to <http://www.StarTech.com/ST12MHDLAN>.
2. Under the overview tab, select the link for the store that corresponds with your device.



3. Select the download or install option.

Your software is now installed.

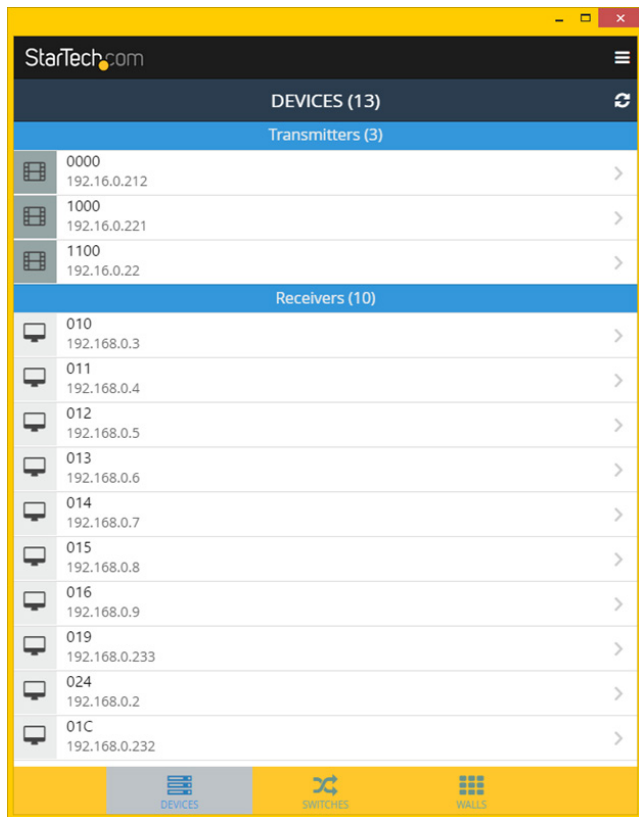
Software operation

Connecting your transmitters and receivers to the software

Note: To ensure the application functions properly, your router must support IGMP snooping. Please refer to your network switch or router documentation to ensure IGMP snooping is supported and enabled.

1. Ensure your computer, smartphone or tablet that the software has been installed on is connected to the same network as your transmitter(s) and receiver(s), and launch the application.

2. Once launched, the application will open on the Devices tab, and will automatically search for transmitters and receivers on your network and list them within the Devices tab.



Note: you can re-initiate the device search, by selecting the refresh button in the top right-hand corner of the Devices tab.

3. By default, each video device will have an IP address in the range of 169.254.x.x with a subnet mask of 255.255.0.0.

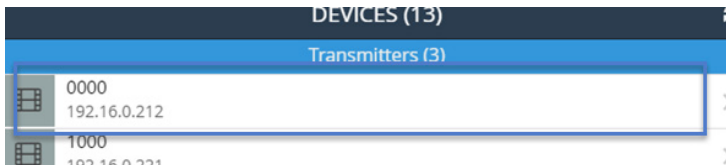
Each transmitter and receiver must have an IP address in the same range, and have an identical subnet mask as each other, and the tablet, smartphone or computer you have the software installed on.

For example: If your transmitter has an IP address of **169.254.10.10** with a subnet mask of 255.255.0.0.

You must ensure the tablet, smartphone or computer you have the software installed on and each receiver has an IP address that starts with **169.254.x.x** (with a varying last two digits represented here by xx) and a subnet mask of **255.255.0.0**.

To adjust the IP address and subnet mask of your transmitter(s) and receiver(s):

- a. Select the transmitter or receiver you'd like to adjust from the Devices tab.



- b. Click the edit icon listed in the IP address section.



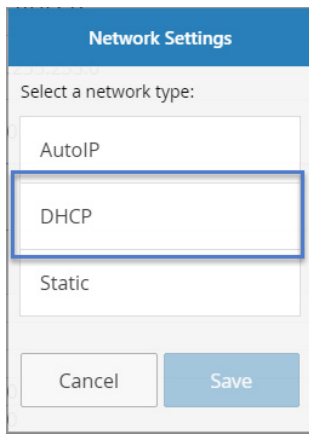
- c. Select **Static IP** and type an IP address and mask for the device.

The image shows a 'Network Settings' dialog box. At the top, it says 'Select a network type:'. There are three options: 'AutoIP', 'DHCP', and 'Static'. The 'Static' option is selected, indicated by a checkmark and a blue border around its section. Below 'Static', there are two input fields: 'IP Address' with the value '192.16.0.212' and 'Subnet Mask' with the value '255.255.255.0'. At the bottom, there are two buttons: 'Cancel' and 'Save'.

Network Settings	
Select a network type:	
AutoIP	
DHCP	
Static	✓
IP Address	
192.16.0.212	
Subnet Mask	
255.255.255.0	
Cancel	Save

Or

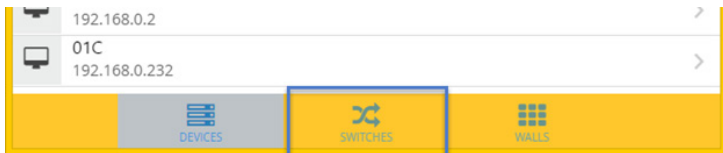
Select DHCP and your network automatically assign an IP address and mask to for the device in the range of the rest of your network devices.



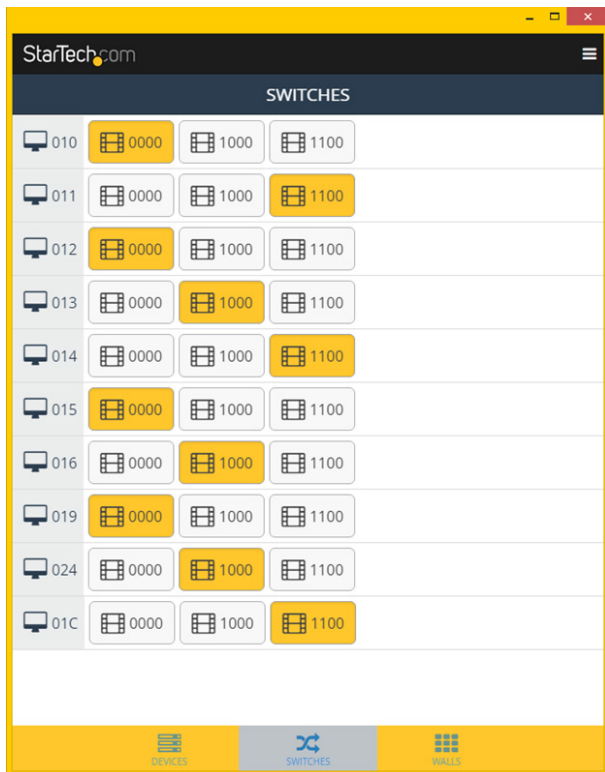
Note: DHCP must be enabled on your network to automatically assign an IP address and mask in that range.

Switching your remote displays between video sources

1. Once the application is launched, select the Switches tab.

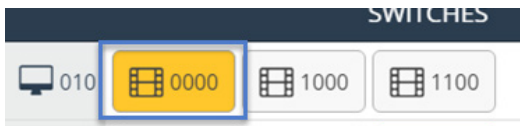


2. A list of each connected receiver will be displayed with all available transmitters displayed beside them. The transmitter that is currently selected for each receiver will be highlighted in yellow.



Note: if the receiver is part of a video wall it will be indicated with a button that lists the wall configuration and the location of the receiver.

3. To assign a video source, or change your video source, select the transmitter listed next to your receiver that you'd like to display.



4. The transmitter will turn yellow and your video source will switch on the remote display.

Note: If a receiver that was part of a video wall configuration is altered, that display will no longer be part of the video wall configuration.

Configuring your remote displays for a video wall application

1. Once the application is launched, select the Walls tab.



2. Select the + icon to launch a wizard that will walk you through your video wall creation.



No walls have been created on this device.
To create a wall, press the + icon above.

3. The first page in the wizard enables you to specify the walls name as well as the number of rows and columns you would like to use in your video wall. Each row and column will represent a display in your video wall. Type your preferred name and specify the number of rows and columns, then click next.

StarTech.com

< WALLS

Video Wall

Create a new wall
Name the video wall, select the number of rows and columns, and then tap next.

Wall Name:

Wall0

2 rows

x

2 columns

X Cancel

→ NEXT

Note: a Wall Name will be listed by default, once you type a new name the default name will be overwritten.

4. The next page in the wizard will create an example of the video wall with the number of rows and columns you specified.

StarTech.com

< Video Wall

Wall0

Tap each monitor below to attach a receiver:

R0C0

R0C1

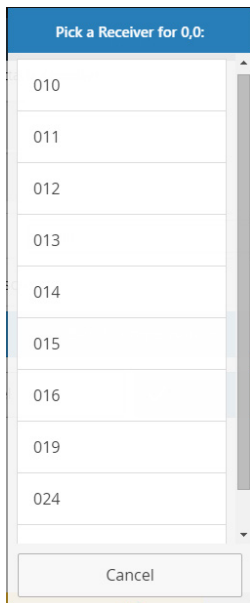
R1C0

R1C1

Name:

Wall0

You will need to use this example to specify which receivers are represented within your video wall configuration. Select the receiver from the video wall example to display a list of all connected receivers, then choose the receiver that corresponds with the proper location within your video wall configuration.

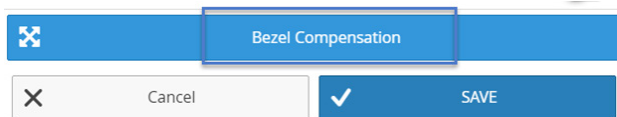


Note: If you would like to see the receiver device name on each screen, so you can easily identify which display is connected to each receiver, please select the show device names on screen switch. This can be deactivated once you have identified your displays.

Show device names on screen



5. (Optional) If the displays in your video wall configuration have large bezels or empty space between them, you can scale the image on the displays to create a more natural, seamless look by specifying the bezel compensation. Click the Bezel Compensation button to open the window.



On the bezel compensation window, enter the following measurements in millimeters (mm): screen width of each display (ScreenX), screen height of each display (ScreenY), total width of each display (DisplayX) and total height of each display (DisplayY). Then click the Save button.

This image shows the full 'Bezel Compensation' window. At the top is a blue title bar. Below it, there are four input fields arranged in a 2x2 grid: 'ScreenX (mm)', 'ScreenY (mm)', 'DisplayX (mm)', and 'DisplayY (mm)'. Each field currently contains the number '0'. Below the input fields is a diagram of a monitor. The diagram shows the monitor's bezel and screen. Green double-headed arrows indicate the dimensions: 'Screen X' for the screen width, 'Screen Y' for the screen height, 'Display X' for the total width including the bezel, and 'Display Y' for the total height including the bezel. At the bottom of the window are 'Cancel' and 'Save' buttons.

- The wizard is now complete and your created video wall configuration will appear on the Walls tab.

You can select or switch your video source for each created video wall configuration clicking transmitters listed below each created video wall configuration.



Help



Device Search Mode:

Multicast DNS



Clear All Settings



Demo Mode

**Help:**

Lists information and walk-throughs regarding operation of the application.

Device Search Mode:

Enables you to define your preferred method of transmitter and receiver identification over your network that the software uses. You can choose between two methods of identification: Multicast DNS or Target IP for your transmitters and receivers.

Multicast DNS: is the default setting and will search automatically for devices over the network.

Target IP: is an advanced setting that enables you to specify an IP address that the remote devices are set to in order for the software to identify them. This is a good option if you'd like multiple set ups with different displays and transmitters on different subnets and IP address ranges.

Clear All Settings:

Restores your software to default settings.

Demo Mode:

Creates a virtual environment with multiple transmitters and receivers that enables you to configure a virtual setup without connected transmitters and receivers to test the functionality of the software.

Specifications

Maximum Digital Resolutions	1920x1200 @60Hz
Supported Resolutions	1920 x 1200 (1080p)
Wide Screen Supported	Yes
Audio Specifications	Stereo Sound
Interface	HDMI
Cabling	Cat 5e UTP or better
Audio	Yes
Rack-Mountable	Yes
Industry Standards	HDMI / HDCP
Daisy-Chain	Yes
Transmitter Connectors	1x HDMI (19 pin) / 1x RJ-45
Receiver Connectors	1x HDMI (19 pin) / 1x RJ-45
Power Adapter Input Voltage	100~240V
Power Adapter Input Current	0.4 A
Power Adapter Output Voltage	5 DC V
Power Adapter Output Current	2 A
Center Tip Polarity	Positive
Plug Type	M

Hard-to-find made easy. At StarTech.com, that isn't a slogan. It's a promise.

StarTech.com is your one-stop source for every connectivity part you need. From the latest technology to legacy products — and all the parts that bridge the old and new — we can help you find the parts that connect your solutions.

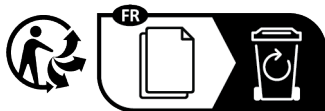
We make it easy to locate the parts, and we quickly deliver them wherever they need to go. Just talk to one of our tech advisors or visit our website. You'll be connected to the products you need in no time.

Visit www.StarTech.com for complete information on all StarTech.com products and to access exclusive resources and time-saving tools.

StarTech.com is an ISO 9001 Registered manufacturer of connectivity and technology parts. StarTech.com was founded in 1985 and has operations in the United States, Canada, the United Kingdom and Taiwan servicing a worldwide market.

Reviews

Share your experiences using StarTech.com products, including product applications and setup, what you love about the products, and areas for improvement.



StarTech.com Ltd.

45 Artisans
Crescent
London, Ontario
N5V 5E9
Canada

StarTech.com LLP

4490 South
Hamilton Road
Groveport, Ohio
43125
U.S.A.

StarTech.com Ltd.

Unit B, Pinnacle 15
Gowerton Road
Brackmills,
Northampton
NN4 7BW
United Kingdom

StarTech.com Ltd.

Siriusdreef 17-27
2132 WT
Hoofddorp
The Netherlands

FR: fr.startech.com

DE: de.startech.com

ES: es.startech.com

NL: nl.startech.com

IT: it.startech.com

JP: jp.startech.com