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Introduction

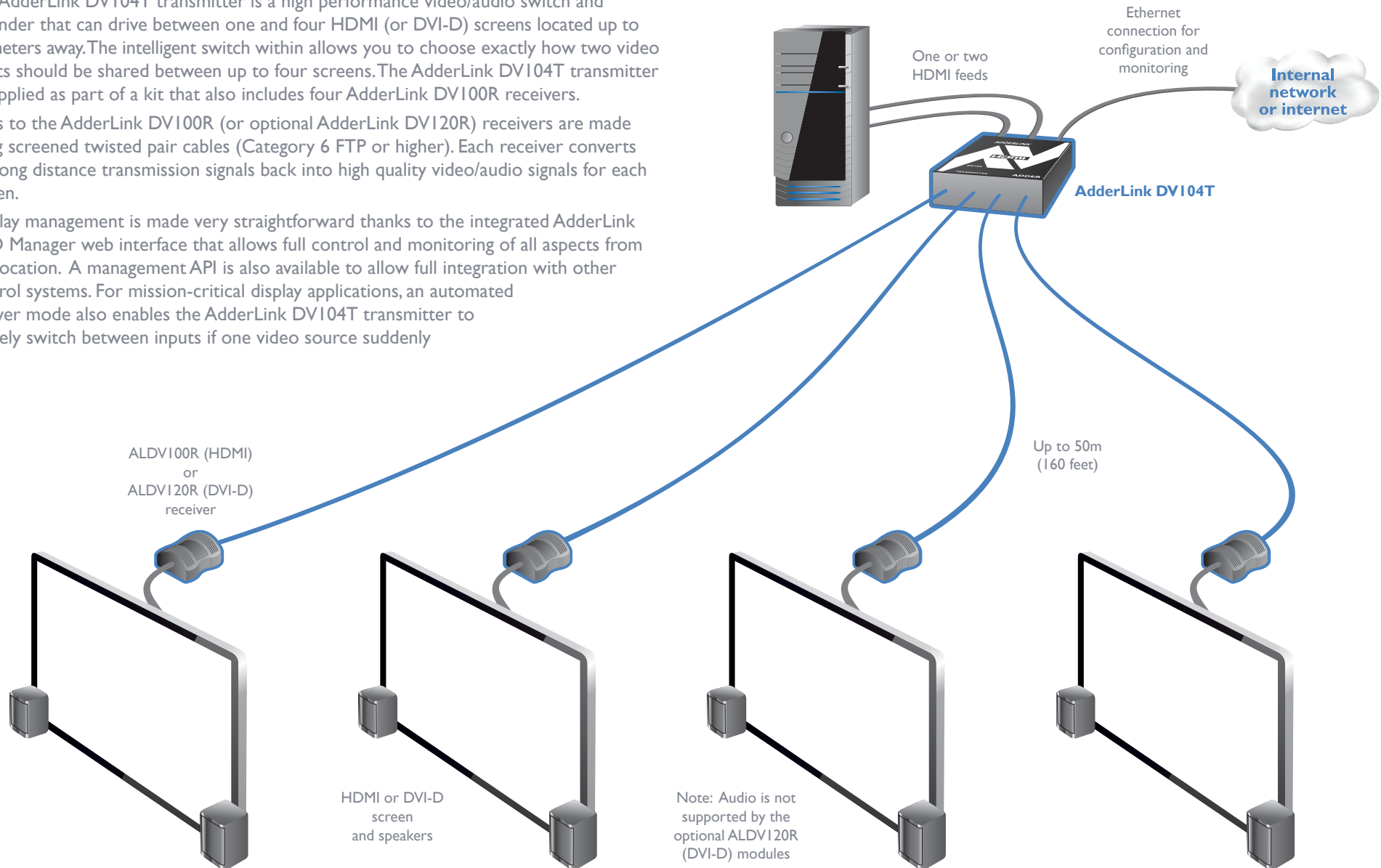


WELCOME

The AdderLink DVI04T transmitter is a high performance video/audio switch and extender that can drive between one and four HDMI (or DVI-D) screens located up to 50 meters away. The intelligent switch within allows you to choose exactly how two video inputs should be shared between up to four screens. The AdderLink DVI04T transmitter is supplied as part of a kit that also includes four AdderLink DVI00R receivers.

Links to the AdderLink DVI00R (or optional AdderLink DVI20R) receivers are made using screened twisted pair cables (Category 6 FTP or higher). Each receiver converts the long distance transmission signals back into high quality video/audio signals for each screen.

Display management is made very straightforward thanks to the integrated AdderLink POD Manager web interface that allows full control and monitoring of all aspects from any location. A management API is also available to allow full integration with other control systems. For mission-critical display applications, an automated failover mode also enables the AdderLink DVI04T transmitter to actively switch between inputs if one video source suddenly fails.



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OPERATING MODES

The AdderLink DVI04T offers several ways of working in order to suit a range of applications. Firstly there are two main operating modes: *Single source* and *Dual source*.

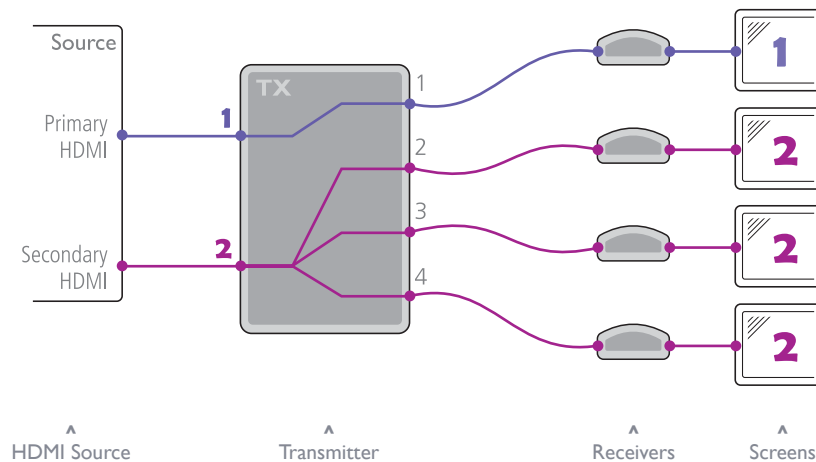
- **Single source mode** - In this mode, only one of the HDMI inputs is used at any time and it is routed to all receivers using a choice of two switching options.
- **Dual source mode** - In this mode, both HDMI inputs are used concurrently and you can determine exactly how they are shared between the four receivers.

The mode and the manner in which inputs are distributed are controlled from the [Transmitter configuration page](#) of the AdderLink POD Manager.

Dual source mode

Dual source mode > Individual

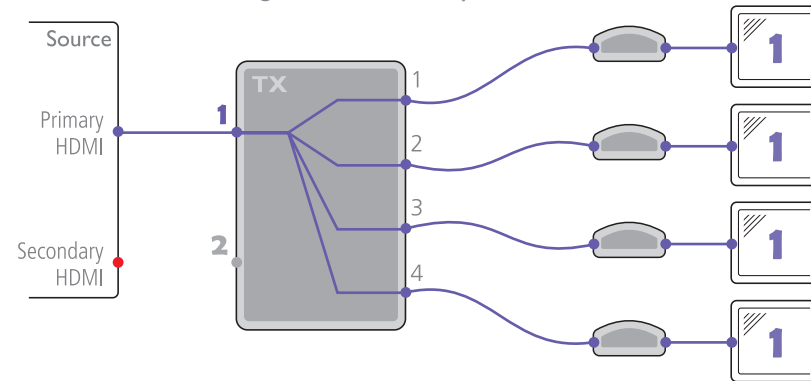
In this configuration, the two HDMI inputs are shared between the four receivers in whichever combination best suits the installation. The configuration remains static regardless of the status of the source inputs.



Single source mode

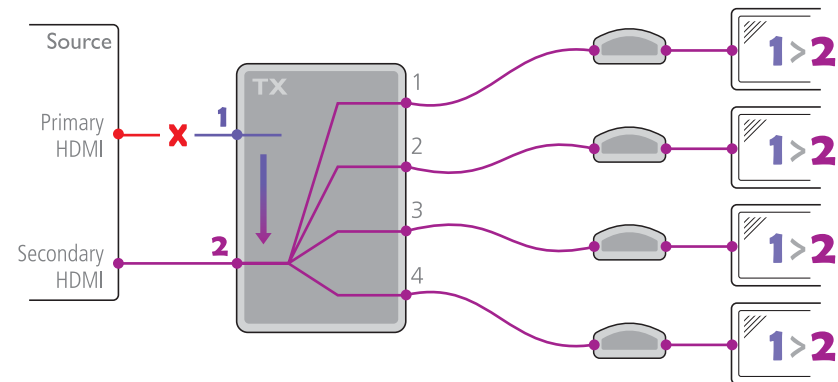
Single source mode > Fixed

In this configuration, either of the HDMI inputs are routed to all receivers and remain so until such time that the configuration is manually altered.

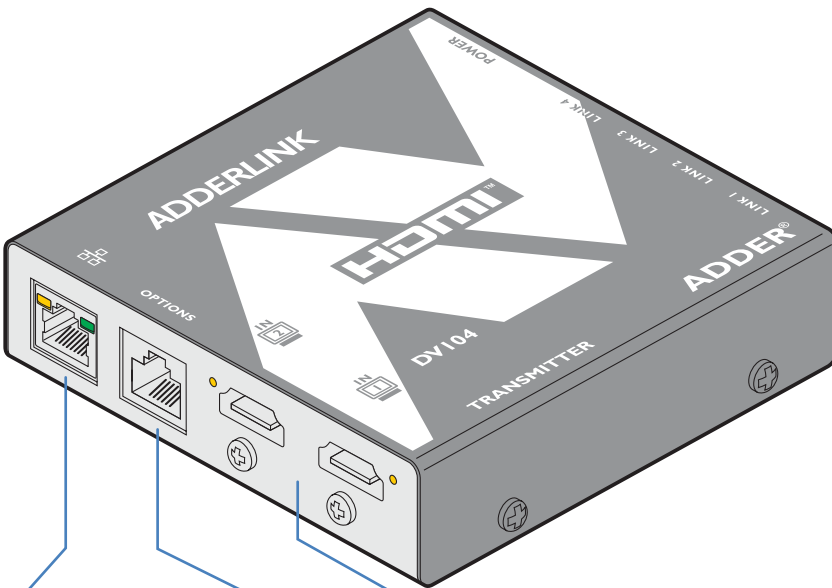


Single source mode > Auto

Auto is designed to provide redundancy to cover the possibility of input failure. The two HDMI inputs can be derived from two ports of the same source or from two totally independent sources. In this configuration, one HDMI input is designated as the primary which will be fed to all receivers until such time that the transmitter detects a signal failure. When that happens, all receivers will be automatically switched to the secondary source until such time that the primary source becomes active again, whereupon, the receivers will be re-joined to the recovered primary source.



In addition to providing input redundancy, *Auto* mode is useful for situations where you wish to automatically switch to a new source whenever it is plugged in or becomes active. This aspect of operation would be particularly useful in situations where sources are often being changed, e.g. temporary laptop connections to screens or projectors, without the need to access AdderLink POD Manager.



Network port

A standard Ethernet port to link the transmitter with a network to allow remote monitoring and configuration.

Orange indicator - Flashes when data is being transferred.

Green indicator - On when the network port is enabled.

Options port

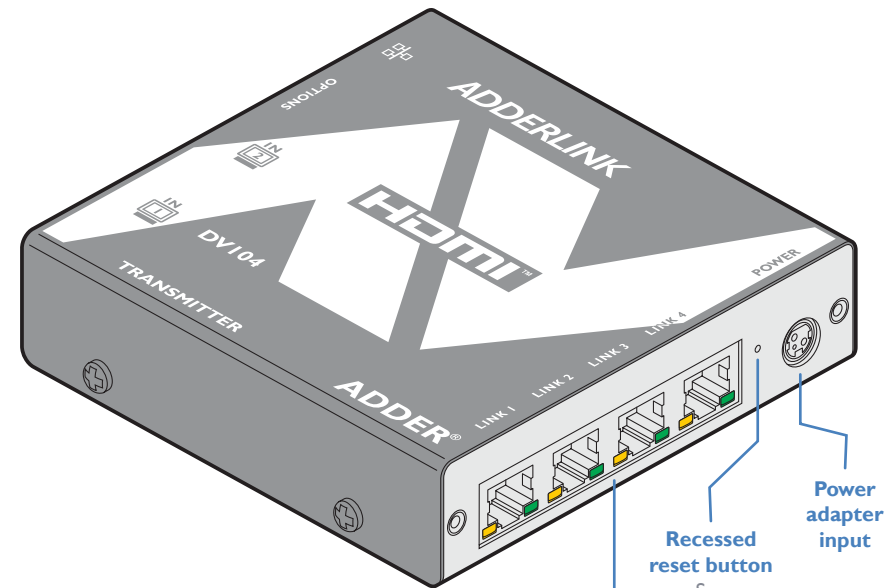
Reserved for future use.

Primary and secondary HDMI inputs

For each port:

Orange indicator

- **On** when the port is active and routed (using the AdderLink POD Manager) to a receiver.
- **Flashes** to show the port is active but is not currently routed to a receiver. For instance, if it is yet to be configured or is set up as a backup/standby input.



Recessed reset button

See [Troubleshooting](#) for details

Power adapter input

Link output ports

These are the individual CATx outputs to each of the four receivers.

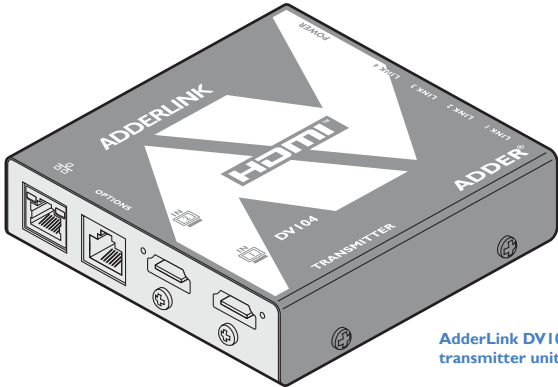
IMPORTANT: These are **NOT** Ethernet ports and must not be connected to network switches or any devices other than the ALDV100R or ALDV120R receivers.

For each port:

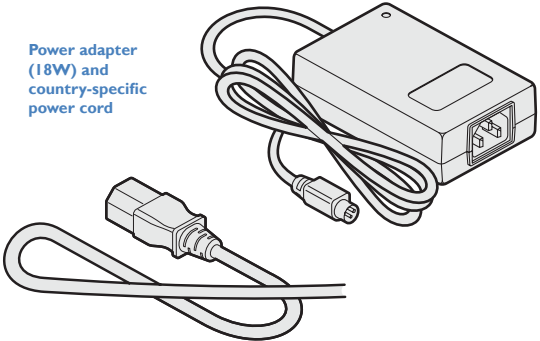
Orange indicator - Flashes when the transmitter is searching for the presence of a receiver.

Green indicator - On when a receiver is located and line power is being provided to it via the link cable.

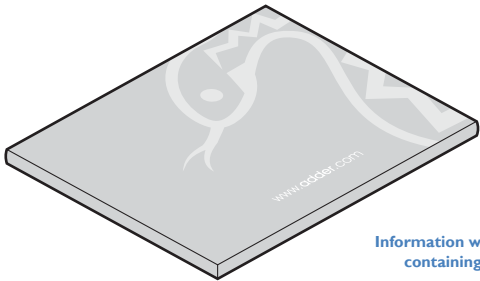
SUPPLIED ITEMS (ALDVI04K KIT)



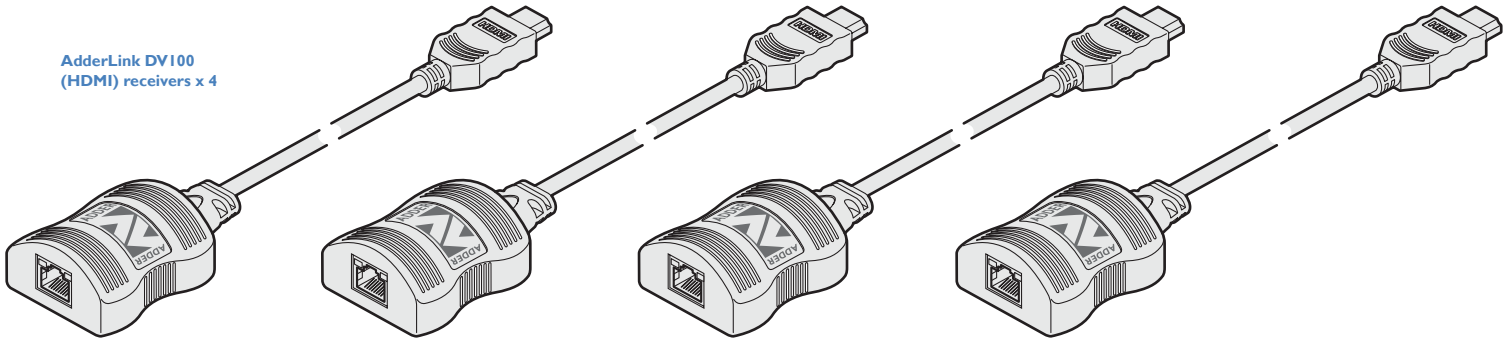
AdderLink DV104T transmitter unit



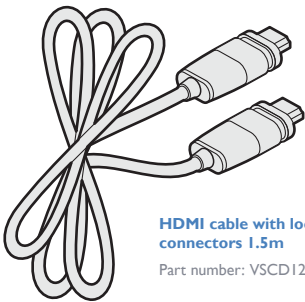
Power adapter (18W) and country-specific power cord



Information wallet containing:
Four self-adhesive rubber feet
Quick start guide
Safety document



AdderLink DV100 (HDMI) receivers x 4



HDMI cable with locking connectors 1.5m
Part number: VSCD12

INSTALLATION

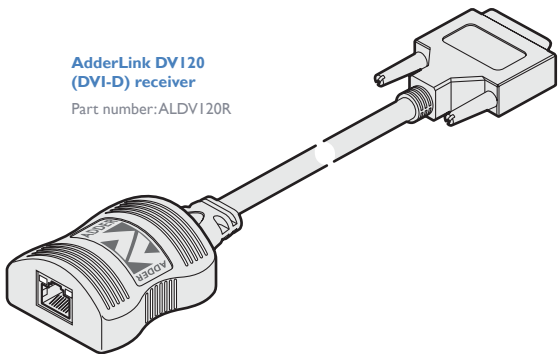
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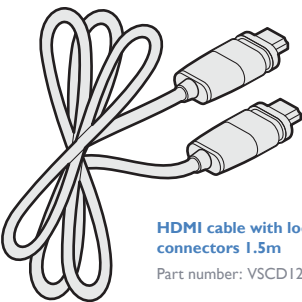
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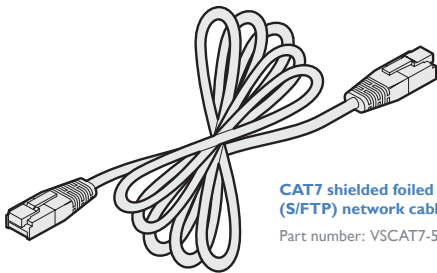
OPTIONAL EXTRAS



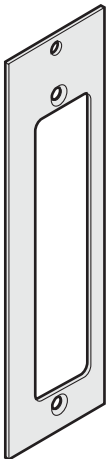
AdderLink DV120 (DVI-D) receiver
Part number: ALDV120R



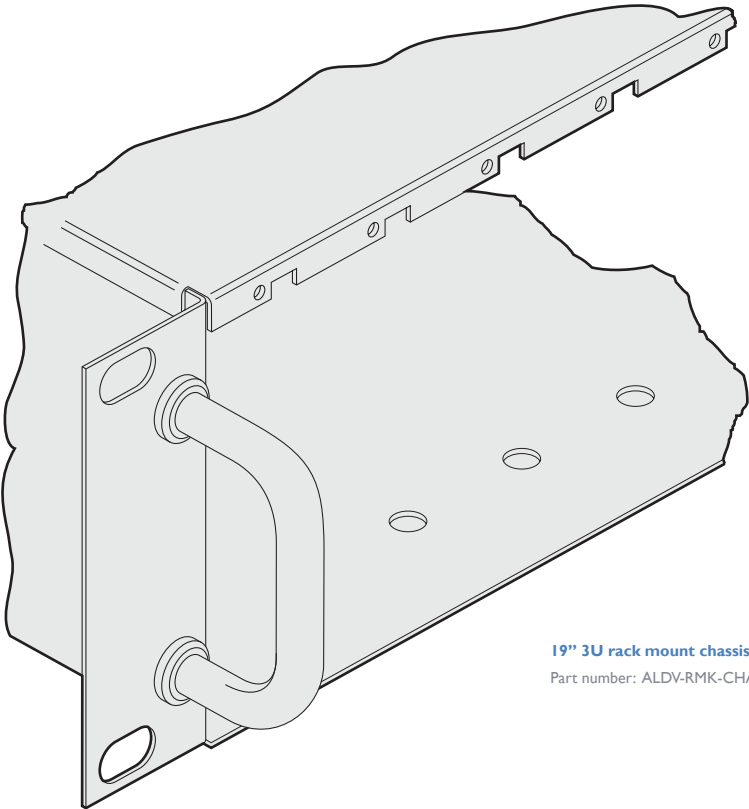
HDMI cable with locking connectors 1.5m
Part number: VSCD12



CAT7 shielded foiled twisted pair (S/FTP) network cable 50m
Part number: VSCAT7-50



Rack fascia plate
Part number: ALDV-RMK-FASCIA



19" 3U rack mount chassis kit
Part number: ALDV-RMK-CHASSIS

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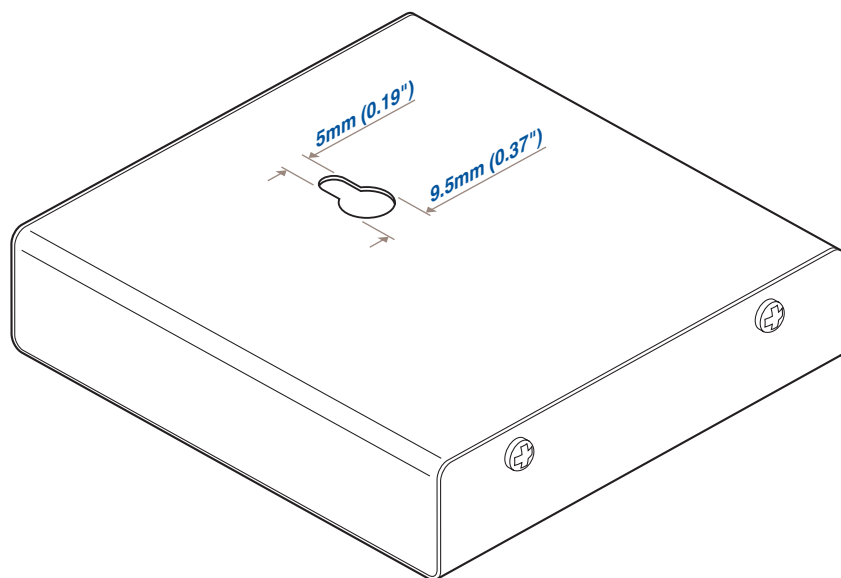
MOUNTING

There are three main mounting methods for the transmitter unit:

- The supplied four self-adhesive rubber feet,
- The rear mounting slot,
- Optional rack fascia plate (and rack mount chassis).

Using the rear mounting slot

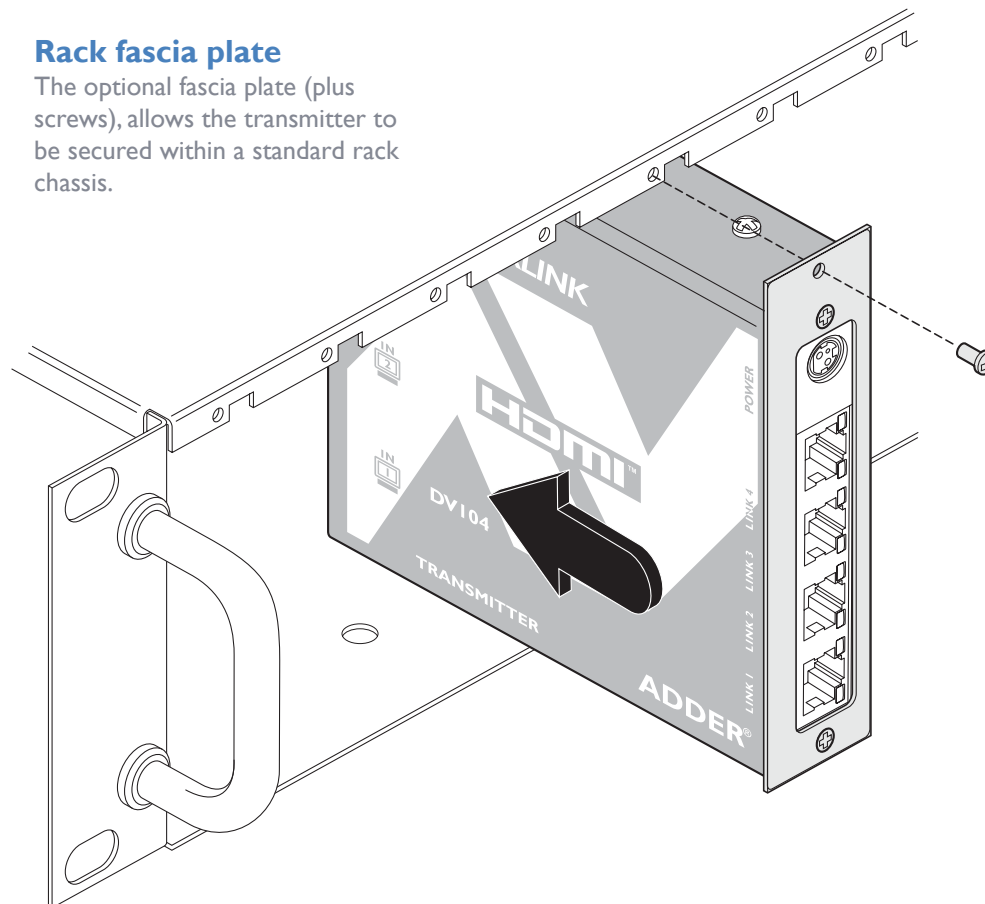
The slot at the rear of AdderLink DV104T unit allows it to be hung upon a fixed screw that protrudes from the mounting surface.



IMPORTANT: The internal circuit board is accessible through the mounting slot. Ensure that any mounting screws protrudes no further than ½" (12.5mm) into the module casing - serious electrical damage will be caused if the screw makes contact with the internal circuitry.

Rack fascia plate

The optional fascia plate (plus screws), allows the transmitter to be secured within a standard rack chassis.



CONNECTIONS

Installation involves linking the ALDV104T transmitter to the host computer; the (up to) four receivers; a network port and the supplied power adapter.

- [HDMI connections](#)
- [Network connection](#)
- [Receiver connections](#)
- [Power adapter connection](#)

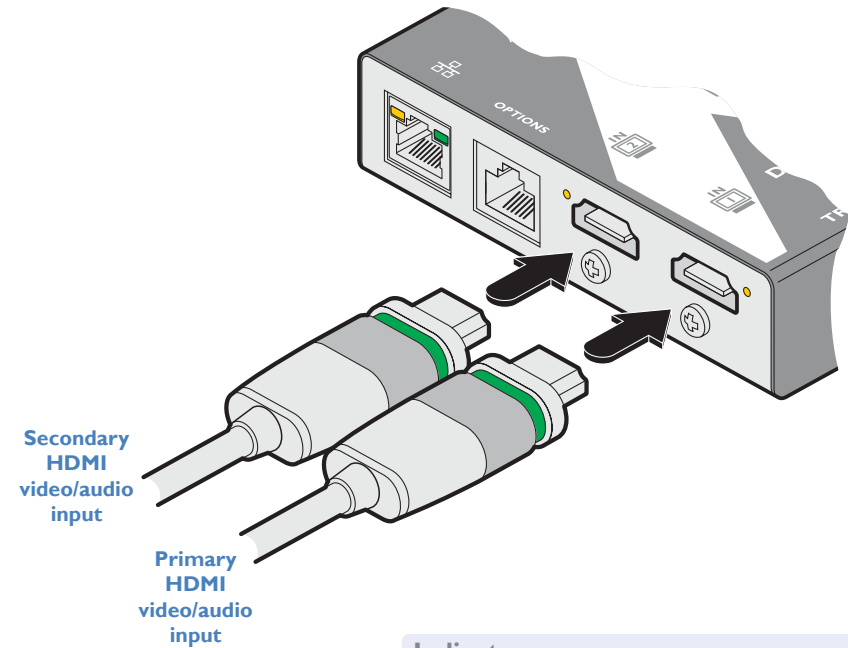
Connections may be made in any order however, where possible, connect the transmitter to the mains supply as a final step.

HDMI connections

The AdderLink DVI04T transmitter has two input sockets that can be connected to HDMI ports located on the same or different host computers, as required. A single HDMI 1.5 meter connection lead is supplied with the transmitter unit.

To connect the HDMI input port(s)

- 1 Use the supplied HDMI cable to link the output port of the host computer to the primary HDMI input port () of the transmitter unit. See the section below for details about the locking connectors used on Adder HDMI leads.
- 2 If a second link is required, use a high quality HDMI cable (of no more than 2 meters in length - Adder part number: VSCD12) to join another port on the same (or different) computer to the secondary HDMI input port () of the transmitter unit.

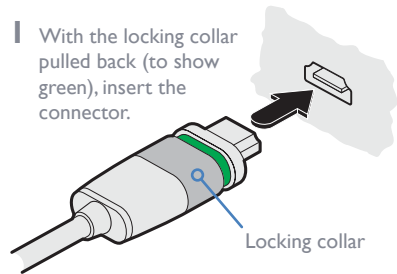


Using Adder locking HDMI connectors

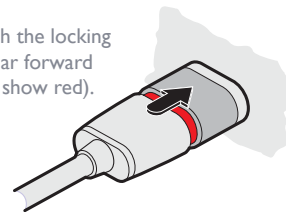
The HDMI cables supplied by Adder feature a locking mechanism to prevent accidental disconnections. Please follow the procedures below when inserting and removing them:

Insertion

- 1 With the locking collar pulled back (to show green), insert the connector.



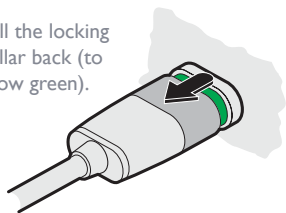
- 2 Push the locking collar forward (to show red).



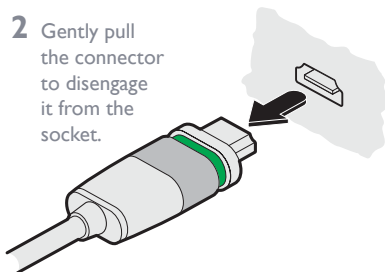
IMPORTANT: Do not attempt to insert or remove the connector while the red band is shown.

Removal

- 1 Pull the locking collar back (to show green).



- 2 Gently pull the connector to disengage it from the socket.



Indicators

The HDMI input ports each have an adjacent recessed **orange indicator** to provide useful configuration feedback, as follows:

- **On** - The port is active and routed (using the AdderLink POD Manager) to a receiver.
- **Flashing** - The port is active but is not currently routed to a receiver. For instance, if it is yet to be configured or is set up as a backup/standby input.

Network connection

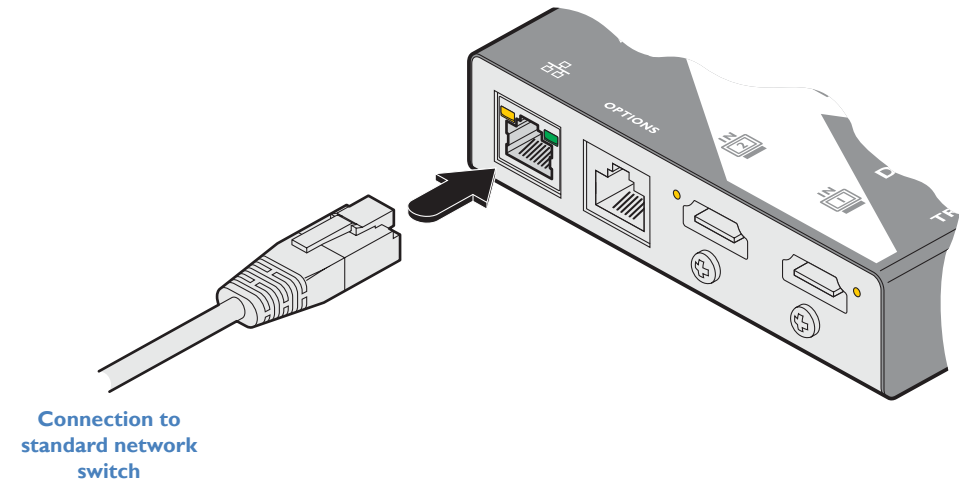
The AdderLink DVI04T transmitter contains a sophisticated browser-based configuration, monitoring and management system. This system is made available through a standard Ethernet connection to allow remote access and control of the transmitter unit and its linked receivers.

To connect the network port

- I Use a standard patch cable to link the Ethernet 10/100 network port () of the transmitter unit to a nearby network switch.

For details about using the browser-based AdderLink POD Manager, please see the section [Accessing the AdderLink POD Manager](#).

For details about the management API, please see [Appendix B](#).



Receiver connections

Connections to the receivers are made using standard shielded twisted pair network cables of Category 6 (S/STP or S/FTP) or better. The use of shielded cables is important to maintain compliance with radio frequency energy emission regulations and ensure a suitably high level of immunity to electromagnetic disturbances. For best results, Adder recommends S/FTP CAT7 cable such as Adder part number VSCAT7-50.

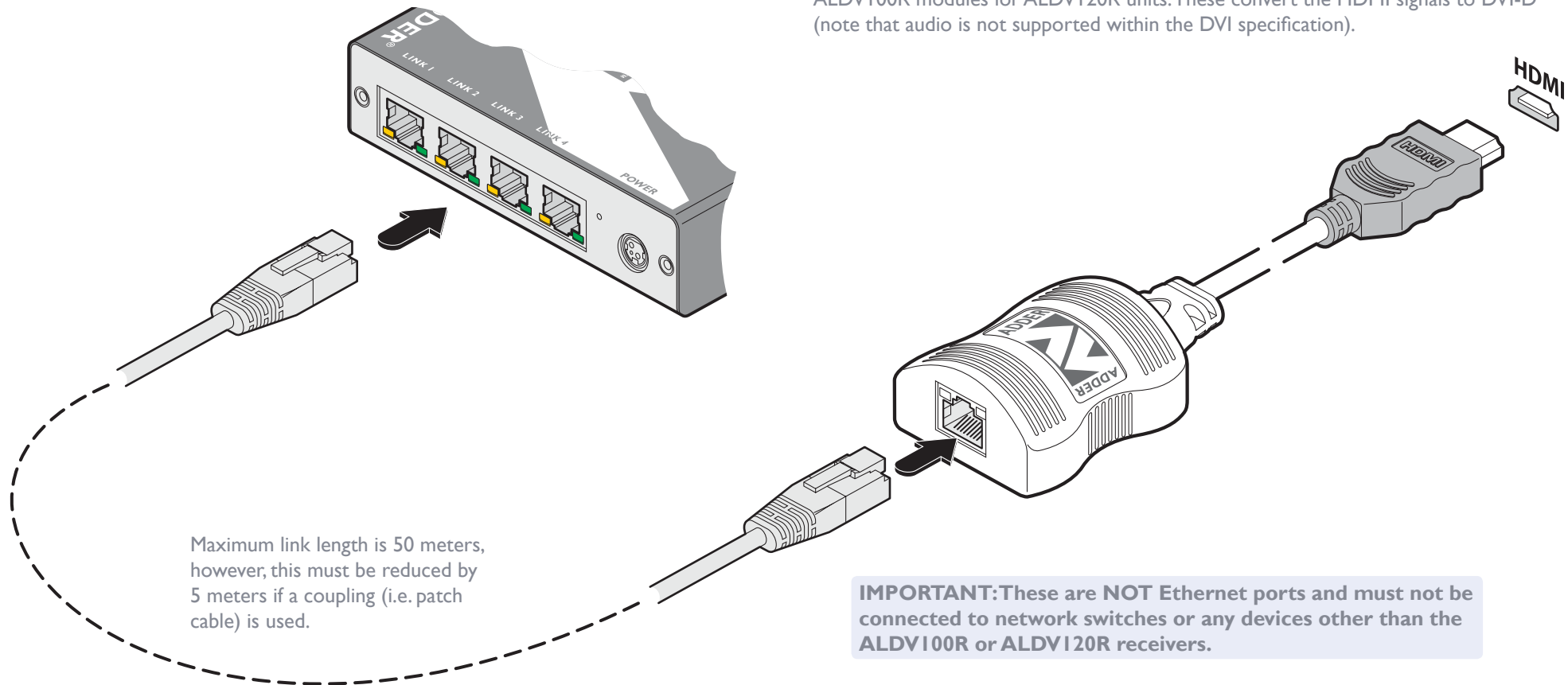
The total link length to any receiver should not exceed 50 meters (160 feet). Patch panels or cable couplers should only be used close to the transmitter unit, connected by CAT7 patch cables of no more than 2m in length. The overall cable run must be reduced by 5m if a coupling is used. Please see [Appendix A](#) for further details about extender cables.

To connect a link cable

- 1 For each of the four links, use shielded network cable of Category 6 or better to join the receiver to one of the four LINK ports. Any of the LINK ports can be used in any order or can be left vacant if not required.

- 2 At the remote end, connect the link cable to the module and then connect the module to the HDMI socket of the screen.

If DVI-D connections are required at the remote end, substitute the supplied ALDVI00R modules for ALDVI20R units. These convert the HDMI signals to DVI-D (note that audio is not supported within the DVI specification).

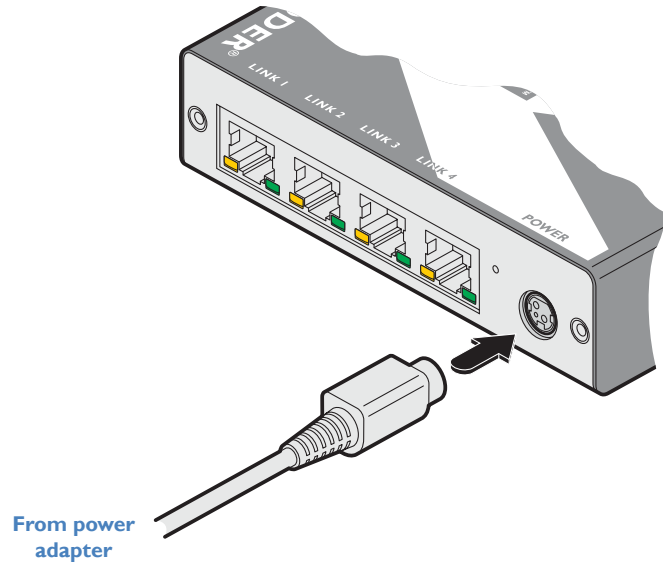


Power adapter connection

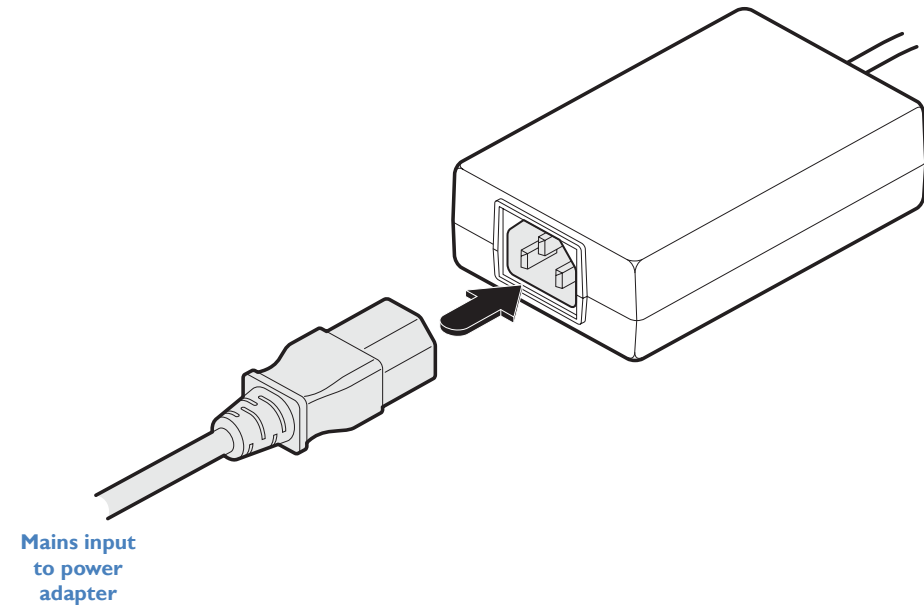
IMPORTANT: Please read and adhere to the electrical safety information given within the [Safety information](#) section of this guide. In particular, do not use an unearthed power socket or extension cable.

To connect the power adapter

- 1 Attach the output connector of the power adapter (country specific power supplies are available) to the power input socket on the left side of the rear panel.



- 2 Connect the main body of the power adapter to a nearby earthed mains outlet. The transmitter has no power switch so it will begin operation as soon as power is applied.



To disconnect the power adapter

- 1 Isolate the power adapter from the mains supply.
- 2 Grasp the outer body of the power adapter plug where it connects with the transmitter.
- 3 Gently pull the body of the outer plug away from the transmitter. As the body of the plug slides back, it will release from the socket and you can fully withdraw the whole plug.

Configuration



INITIAL CONFIGURATION

The configuration, monitoring and management of the ALDVI04T transmitter and its receivers is performed using the in-built AdderLink POD Manager (POD = Proof Of Display) which is accessible via the network connection using a standard web browser.

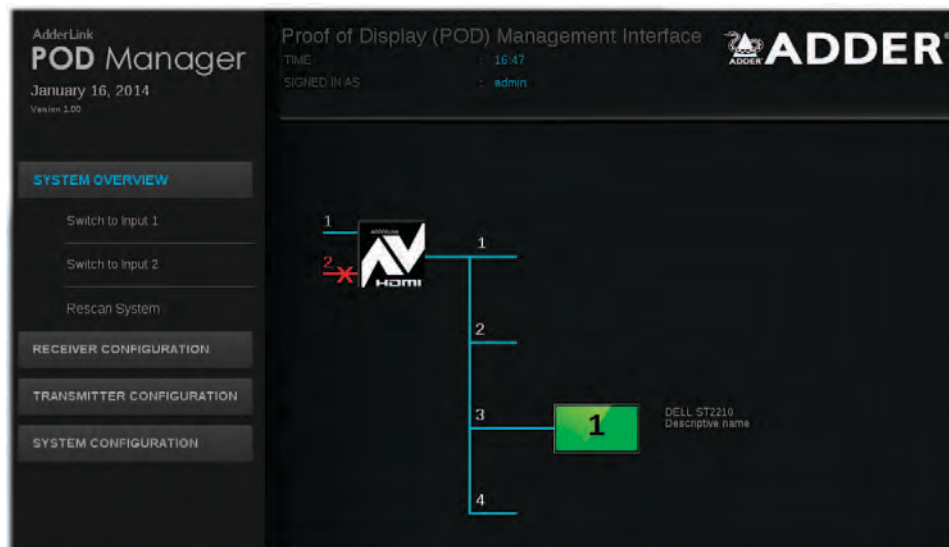
Accessing the AdderLink POD Manager

To access the AdderLink POD Manager

- 1 Use a computer that is directly or indirectly (i.e. via a network switch) connected to the ALDVI04T transmitter. If you need to make a temporary connection, see right ➡
- 2 Run a web browser on your computer and enter the IP address of the ALDVI04T transmitter. The default setting is: **192.168.1.22**
- 3 If requested, enter your username and password to log on.

Note: The default username and password are 'admin' and 'password' respectively.

The opening page of the AdderLink POD Manager should be displayed:



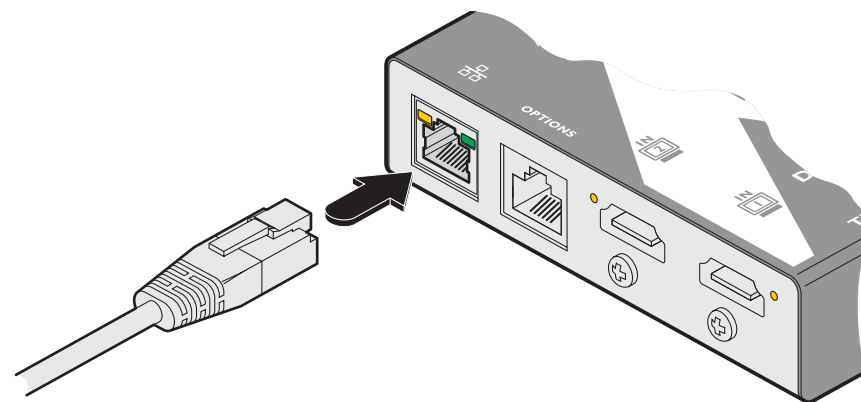
Note: If the transmitter has been previously configured and those settings are unknown, see the [Troubleshooting](#) section for details about reverting to the default settings.

Logging out

There is no log out option. You merely need to close the browser that you are using to access the POD Manager.

To temporarily connect a computer to the network port

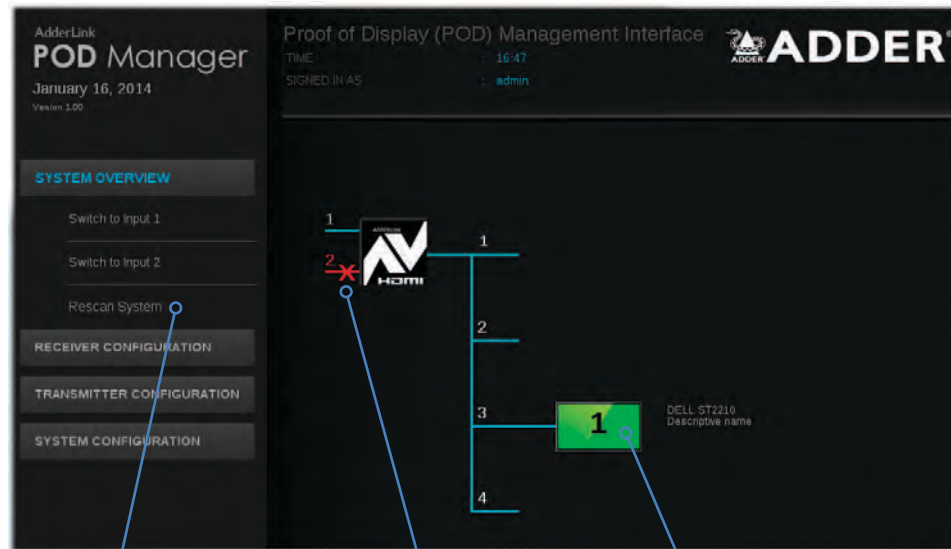
- 1 If you need to make a temporary connection for configuration purposes, use a standard patch cable (cross-over or straight connections are both supported) to link the Ethernet 10/100 network port (🔌) of the transmitter unit to your computer's network port.



Temporary link from your computer

Using the AdderLink POD Manager

The browser-based AdderLink POD Manager allows you to configure, monitor and manage all aspects of the installation. The System Overview is the first page to be displayed and provides a graphical overview of the installation as sensed by the transmitter:



Use the Rescan System option to ensure the displayed details are fully up to date.

The input lines shown here indicate that HDMI input 1 is active while input 2 is inactive.

The green screen and the blue line leading to it indicate that remote link 3 is operating and the screen is correctly registered with the transmitter.

Note: Status information about the inputs and outputs is also provided by the LED indicators located next to each connector on the transmitter unit. See [AdderLink DVI04T features](#) for details.

System Overview elements

HDMI Inputs

The line appearance and number colors indicate the status of the two HDMI inputs:



Both HDMI inputs active.



One HDMI input active, the other inactive.



Both HDMI inputs inactive.

Remote outputs

The screen and line colors indicate the current status for each remote output. The number within each screen shows which of the two HDMI inputs is being routed to that screen:



No receiver is attached. (signified by short line and no screen).



The screen is registered, active and displaying an output.



The screen has been administratively disabled, i.e. placed into standby mode for power saving purposes.



Transmitter has lost contact with the registered receiver (and its screen) - the output status is unknown, e.g. link cable disconnected.



There is an issue with the screen and its registration with the transmitter. The conditions detected are:

- Monitor is not connected
- Monitor is not powered
- Incorrect i/p selected on monitor*
- No active video on i/p to transmitter

* This feature is display screen dependent. It works by detecting the loading on the HDMI outputs from the receiver modules. However, some screens load their HDMI lines even when they are not displaying the video feed.

Receiver configuration

Within the AdderLink POD Manager you can access the configuration page for any receiver in either of two ways:

- Click the **Receiver Configuration** button and then click the required **Port** number entry, or
- In the System Overview, click the appropriate screen image.

The configuration page will be displayed:



The page includes the following:

- An Identify button that will cause the connected receiver to identify itself,
- The name of the attached screen (if present) as derived from the screen's EDID,
- An Enable / Disable Screen option that allows you to administratively blank out (i.e. send into standby mode) the attached screen,
- A Screen description field so that you may add suitably descriptive text, such as the screen location - particularly useful in large distributed installations.

When you make any change, click the **Save** button.

If there are any detected issues with the receiver or the screen, information will be displayed within this page as well as the System Overview page ➡



To identify receivers

When multiple receivers are located next to each other it can be difficult to single out a particular unit. The Identify option within the configuration page for each receiver is useful for this purpose.

1 [Access the AdderLink POD Manager.](#)

2 On the left side, click the **Receiver Configuration** button.

3 On the left side, click the required port number.

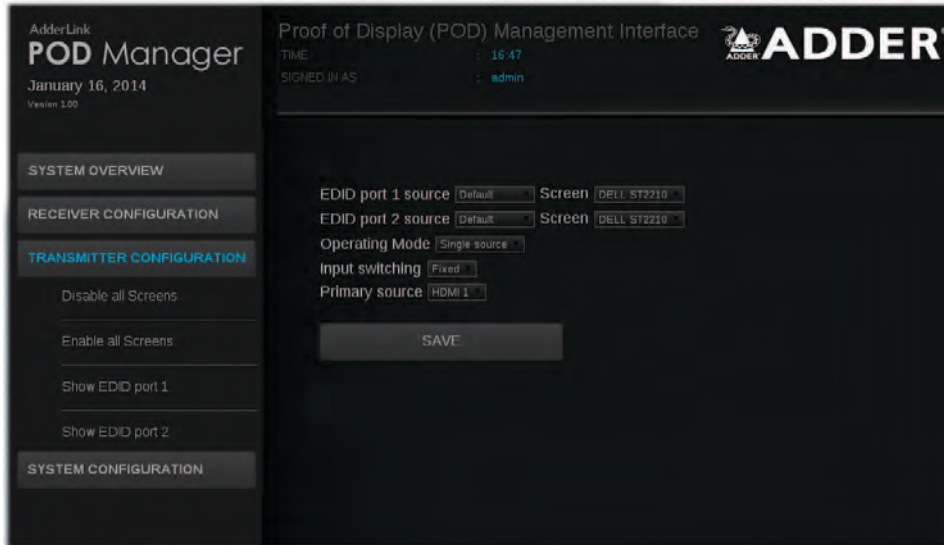
4 Click the **Identify** button. The orange and green indicators on the chosen receiver will alternate for six seconds to provide visual identification.

Transmitter configuration

Within the AdderLink POD Manager you can access the Transmitter configuration page in either of two ways:

- Click the **Transmitter Configuration** button, or
- In the System Overview, click the transmitter image.

The configuration page will be displayed:



In this page you can:

- Determine the operation mode and how the various receivers and their screens are allied with the HDMI input(s),
- Choose which screen configurations (EDID) are used to inform the HDMI source(s),
- Enable and disable all screens (such that they are sent into standby mode when disabled).

To determine the operating mode

The operating mode, and the related input switching mode, are fundamental to determining how the AdderLink DVI04T links the HDMI inputs through to the remote screens. For explanations of each mode, please see the section [Operating modes](#).

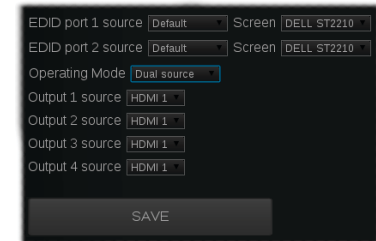
1 [Access the AdderLink POD Manager](#).

2 On the left side, click the **Transmitter Configuration** button (or click the transmitter image within the System Overview).

3 Within the main section of the page, choose the required *Operating Mode*:

- **Single source** - to use a single HDMI input at a time, or
- **Dual source** - to use both HDMI inputs simultaneously. When you change to the *Dual source* setting, the other options will change accordingly ➡

If you chose *Dual source*, jump to step 5. However, if you chose *Single source*, you now need to determine the *Input switching* scheme.



4 For Single source mode, now choose the required *Input switching* scheme:

- **Fixed** - to use one HDMI input to feed all four receivers regardless of the status of that source.
- **Auto** - to use one HDMI input as an initial source and also provide automatic switchover from that HDMI input to the other when either the initial source is lost or the second source becomes active. The transmitter will switch back to the initial source when either its status changes or the second source is removed.

5 Choose the required *Source* option(s). The remaining setting(s) on this page will depend upon the choice you made in step 3 above.

- For **Single source** - choose the primary source: HDMI 1 or HDMI 2.
- For **Dual source** - choose the appropriate source for each output: HDMI 1 or HDMI 2.

6 Click the **Save** button to apply your changes.

continued

To choose the screen configurations used to inform the HDMI sources

Before an HDMI source can provide video output it needs to be informed about the capabilities and requirements of the attached screens. The AdderLink POD Manager lets you choose from three different EDID (Extended Display Identification Data) sources:

- **Default** - A standard EDID retained by the transmitter will be used.
- **Cloned** and **Transparent** - Both of these options will copy and use the EDID information from the display screen that is selected in the adjacent *Screen* field, once you click the **Save** button. The entries available within the *Screen* field will depend upon which screens are attached to the receivers at the time. The difference between the *Cloned* and *Transparent* modes is that a *Cloned* EDID will continue to be used, even if the screen from which it was copied is replaced with a different type. Whereas in *Transparent* mode, the EDID of the replacement screen will automatically be taken and used in place of the original.

1 Access the AdderLink POD Manager.

- 2 On the left side, click the **Transmitter Configuration** button (or click the transmitter image within the System Overview).
- 3 Within the main section of the page, choose the most appropriate EDID mode for the required HDMI input entry: *EDID Port 1 source* or *EDID Port 2 source*:
 - **Default** - to use an internally-held general purpose EDID.
 - **Cloned** - to copy and use the EDID of the current *Screen* entry, such that it will persist even if that screen is replaced.
 - **Transparent** - to copy and use the EDID of the current *Screen* entry, such that it will automatically change if that screen is replaced.
- 4 Adjacent to the HDMI Input entry (*EDID Port 1 source* or *EDID Port 2 source*), select the *Screen* name if required.
- 5 Click the **Save** button to copy and apply the chosen EDID to the HDMI input port.

To enable and disable all screens

This option allows you to easily send all connected screens into standby mode and similarly bring them all back to full operation at the click of a button. When the *Disable all Screens* command is sent, each receiver removes its video signal which causes the connected screen to enter power saving standby mode.

When you disable any screens, their corresponding graphical representation within the System Overview page will be shown in black until they are re-enabled ➡



1 Access the AdderLink POD Manager.

- 2 On the left side, click the **Transmitter Configuration** button (or click the transmitter image within the System Overview).
- 3 Click the **Disable all Screens** button or the **Enable all Screens** button, as appropriate.

To view EDID source port details

Useful for troubleshooting purposes, you can view various details related to the EDID information that is being presented to the video source(s) linked to the transmitter's HDMI input(s). This includes the source mode being used (*Default*, *Cloned* or *Transparent*), the preferred resolution and pixel clock values as well as the whole raw hex data that is being presented.

1 Access the AdderLink POD Manager.

- 2 On the left side, click the **Transmitter Configuration** button (or click the transmitter image within the System Overview).
- 3 Click the **Show EDID port 1** or **Show EDID port 2** option. The EDID information for the chosen port will be shown ➡



System configuration

Within the AdderLink POD Manager click the **System Configuration** button to display the System configuration page:



In this page you can:

- Configure access details for the network port,
- Manage authorized users and their access passwords,
- Check and upgrade the firmware contained within the transmitter and/or any receiver units connected to it.

To configure access details for the network port

- 1 [Access the AdderLink POD Manager.](#)
- 2 On the left side, click the **System Configuration** button.
- 3 Click the **Network Settings** button. The following page will be displayed:



- 4 If required, change the setting of the *Use DHCP* option. When set to *Enabled*, the transmitter unit will attempt to contact a local DHCP (Dynamic Host Configuration Protocol) server in order to automatically gain all of the necessary network settings. When enabled, no other network settings are required and the other network options will all become non-editable and you can skip to step 6.

Note: When you use the DHCP option, the IP address for the transmitter will be set by the DHCP server and the transmitter will move to that address. To discover the IP address it will be necessary to view DHCP server logs or interrogate the DHCP server. It may be possible to configure the DHCP server to use a particular address for the transmitter. If you cannot connect to the transmitter after switching to DHCP mode, see the [Troubleshooting](#) section for recovery details.

- 5 If the *Use DHCP* option is set to *Disabled*, you need ensure that the remaining network options are appropriate for your installation. Change the *System IP Address* and *System Netmask* options if required. If access from beyond the local network is required, ensure that the *System IP Gateway* entry matches that of your local network gateway.

Note: When you change the *System IP Address* and click *Save*, the transmitter will move to that new address and you will need to access it again at the new address. If Logon security is enabled, you will be prompted afresh for your username and password.

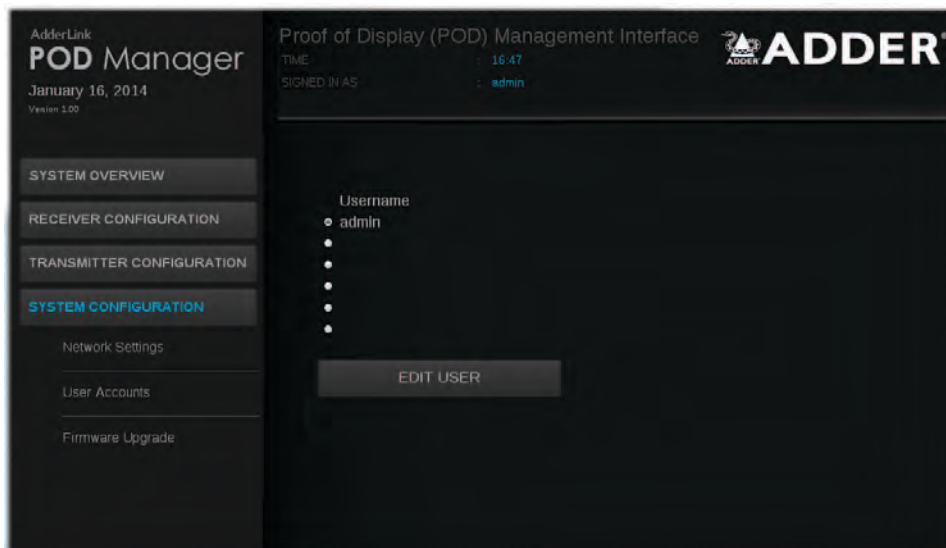
- 6 When all settings are complete, click the **Save** button to apply your changes.

To manage authorized users and their passwords

1 [Access the AdderLink POD Manager.](#)

2 On the left side, click the **System Configuration** button.

3 Click the **User Accounts** option. The following page will be displayed:



4 To add or edit a user, select one of the six user locations and then click the **Edit User** button to display the following options ➡

The screenshot shows a small form with two input fields: 'Username' (containing 'admin') and 'Password'. Below the fields is a 'SAVE' button.

5 Enter/edit the required *Username* and *Password*.

- Usernames and passwords can consist of up to sixteen alphanumeric characters.
- Passwords can also include keyboard symbols.
- Usernames and passwords are case sensitive.

6 Click the **Save** button to apply your changes and return to the previous page.

Note: If you edit the username and/or password of the account with which you are currently logged on, when you next attempt to change pages you will be logged off and prompted for your username and password.

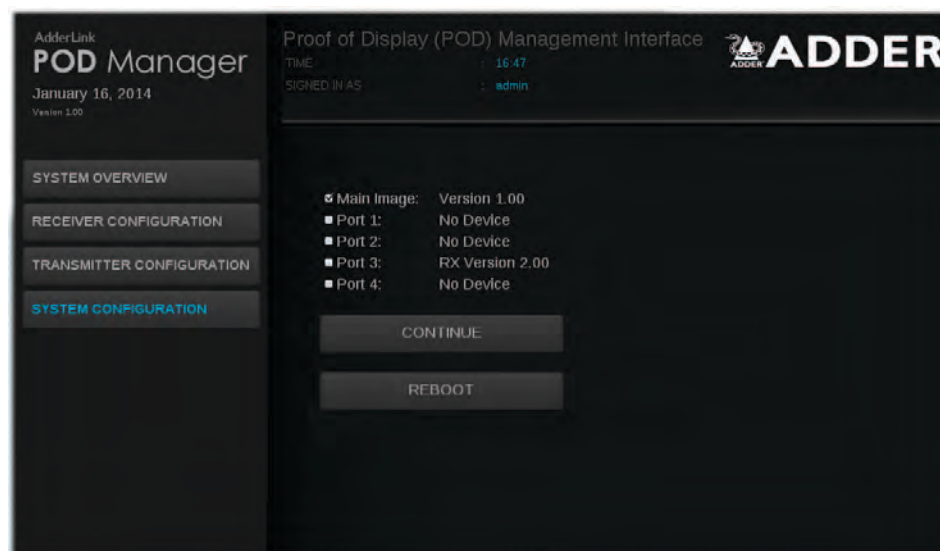
To check and upgrade firmware

1 Download the latest upgrade file from the Adder Technology website (www.adder.com): View the *Technical Support > Updates* section.

2 [Access the AdderLink POD Manager.](#)

3 On the left side, click the **System Configuration** button.

4 Click the **Firmware Upgrade** option. The transmitter will scan all ports to determine the firmware versions of all connected receivers. The results are then shown within the Upgrade page together with the firmware version of the transmitter:



By default, only the transmitter option will be ticked. If necessary, change this to determine which devices should be included within the upgrade process.

5 Click the **Continue** button. However, if you wish to abort the upgrade process at this point, click the **Reboot** button.

6 Click the **Upload** button to display a file dialog.

7 Use the file dialog to locate the upgrade file that you downloaded earlier and click **OK**.

*Note: If you select a file which is not an upgrade file, an upgrade failure message will be displayed. Click the **Reboot** button before attempting another upgrade.*

If the file is correct, the upgrade process will commence to all devices that are ticked within the list. The POD Manager page will indicate that uploading is in progress; also the orange indicators on the transmitter's output ports will cease flashing for the duration.

8 When the upgrade process is complete, click the **Reboot** button to take the transmitter and the receivers through a cold restart cycle.

In operation, most AdderLink DV installations require no intervention once configured. The transmitter unit takes care of all connection control behind the scenes and AdderLink POD Manager provides suitable management tools for remote monitoring.

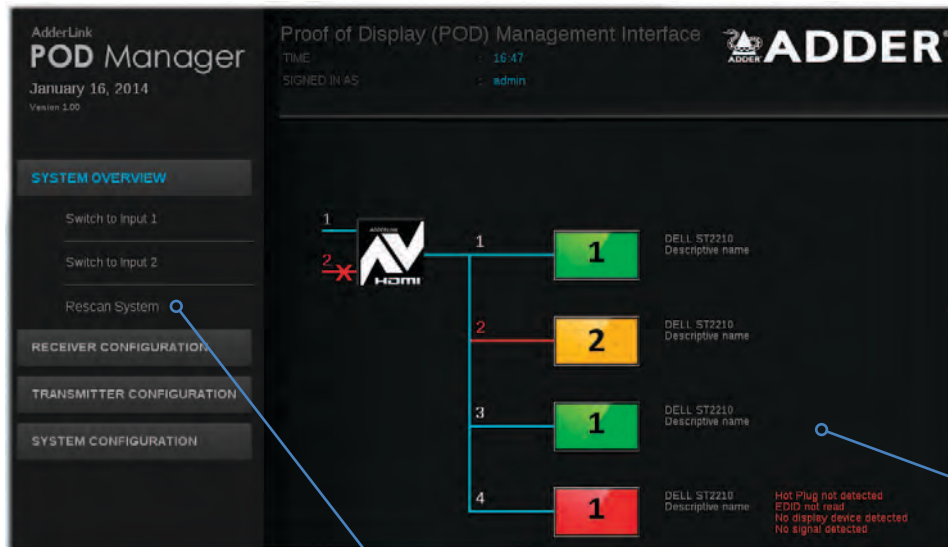
MANAGING THE INSTALLATION

The AdderLink POD Manager provides a clear and intuitive overview of the installation that allows you to take swift action if necessary.

To display the System Overview page within AdderLink POD Manager

- 1 Use a computer that is directly or indirectly (i.e. via a network switch) connected to the ALDVI04T transmitter. If you need to make a temporary connection, see the section [Accessing the AdderLink POD Manager](#).
- 2 Run a web browser on your computer and enter the IP address of the ALDVI04T transmitter. The default setting is: **192.168.1.22**

The System Overview page of the AdderLink POD Manager should be shown:



Use the Rescan System option to ensure the displayed details are fully up to date.

Within the AdderLink POD Manager you can:

- View the real-time overview of the installation. See the section [System overview elements](#) for explanations of the various line and screen colors.
- Ensure that the graphical view of installation is fully updated. See [Rescanning the System Overview](#).
- React to an input source failure and switch to the alternative input if available. See the section [Changing to an alternative input source](#).
- Enable and disable all screens (such that they are sent into standby mode when disabled). See the section [Enabling and disabling all screens](#).
- Make alterations to key [transmitter](#) or [receiver](#) settings.
- Administer [network settings](#), [user accounts](#) and [firmware upgrades](#).

For explanations of the various line and screen colors, please see the section [System overview elements](#).

Rescanning the System Overview

During power up, the transmitter will scan the network of connected receivers to determine their layout and harvest their EDID information. The details gleaned are also used to populate the System Overview shown left.

All AdderLink DV receivers have unique IDs that are registered with the transmitter. If a receiver is subsequently removed and replaced, the replacement receiver will begin working immediately with the transmitter. However, the new receiver will remain represented within the System Overview page as an orange screen with red line as shown left. This is because the new receiver is not fully registered with the transmitter. Additionally, receivers that have been permanently removed will remain shown as orange screen entries as they are still registered. Use the *Rescan System* option to refresh the transmitter's register of devices and the subsequent System Overview.

To rescan the network

- 1 [Access the AdderLink POD Manager.](#)
- 2 If the System Overview is not already showing (see left), click the **System Overview** button.
- 3 Click the **Rescan System** option to ensure that the register of devices and the displayed System Overview are fully up to date.

Changing to an alternative input source

Should circumstances dictate, within the AdderLink POD Manager you can take immediate control and switch all receivers from one source to the other. This might be necessary if the primary source becomes unavailable and the transmitter is connected to a viable secondary source. It is also possible to make this occur automatically using the *Single source > Auto* setup. See [Transmitter configuration](#) for details.

To change to an alternative input source

- 1 [Access the AdderLink POD Manager.](#)
- 2 If the System Overview is not already showing (see left), click the **System Overview** button.
- 3 Click the **Switch to input x** option, where **x** is the alternative input source to the one currently being used. The transmitter will immediately switch to the requested input source.

*Note: When you use the **Switch to port x** option, the transmitter will change to Single source mode and will switch all outputs to the chosen source port. The transmitter will not check whether a valid video feed is available on the intended HDMI input. Within the System Overview, if the intended input source is shown in red, then no valid signal is currently available.*

Enabling and disabling all screens

This option allows you to easily send all connected screens into standby mode and similarly bring them all back to full operation at the click of a button. When the *Disable all Screens* command is sent, each receiver removes its video signal which causes the connected screen to enter power saving standby mode.

When you disable any screens, their corresponding graphical representation within the System Overview page will be shown in black until they are re-enabled ➡



To enable and disable all screens

- 1 [Access the AdderLink POD Manager.](#)
- 2 On the left side, click the **Transmitter Configuration** button (or click the transmitter image within the System Overview).
- 3 Click the **Disable all Screens** button or the **Enable all Screens** button, as appropriate.

Further information



This chapter contains a variety of information, including the following:

- Getting assistance - see right
- [Troubleshooting](#)
- [Appendix A](#) - Network cables for use with digital extenders
- [Appendix B](#) - Management API specification
- [Safety information](#)
- [Warranty](#)
- [Radio frequency energy statements](#)

GETTING ASSISTANCE

If you are still experiencing problems after checking the information contained within this guide, then we provide a number of other solutions:

- **Online solutions and updates** – www.adder.com/support
Check the Support section of the adder.com website for the latest solutions and firmware updates.
- **Adder Forum** – forum.adder.com
Use our forum to access FAQs and discussions.
- **Technical support** – www.adder.com/contact-support-form
For technical support, use the contact form in the Support section of the adder.com website - your regional office will then get in contact with you.

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TROUBLESHOOTING

Problem: While attempting a firmware upgrade, the web browser reports that there is 'no data' or a similar message.

This error is caused by cached data error as a result of a previously failed upgrade attempt. It is necessary to clear the browser's cache.

Remedy:

Using the browser settings, clear its internal cache - or alternatively restart the browser.

Problem: A receiver has been replaced, however, its orange screen representation within the System Overview page remains shown.

Each receiver has a unique identity code. Even though the replacement receiver is working correctly, it is not the one that is registered with the transmitter. For further details, please see the section [Rescanning the System Overview](#).

Remedy:

Within the System Overview page, click the *Rescan System* option.

Problem: A screen has been replaced with a different model, however, the replacement is not showing the video output correctly.

It is possible that the EDID (Extended Display Identification Data) information being used by the source device is incompatible with the replacement screen. The transmitter has several methods for dealing with EDID information. For further details, please see the section [To choose the screen configurations used to inform the HDMI sources](#).

Remedy:

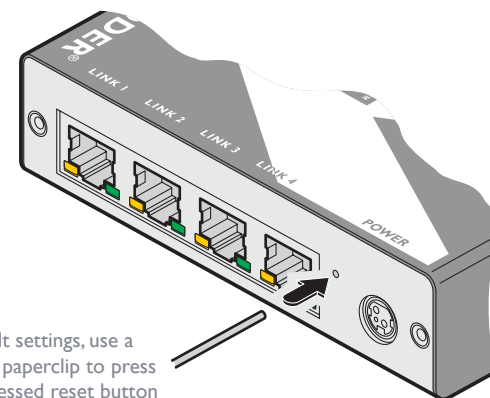
Try changing the *EDID port x* option to *Transparent* in order to force the transmitter to read the EDID information from the new screen.

Problem: The transmitter is inaccessible because the username and/or password have been forgotten or the IP address is unknown.

Remedy:

You need to reset the transmitter back to its default settings.

- 1 Remove power from the transmitter.
- 2 Use a narrow implement, such as a straightened out paperclip, to push and hold the recessed reset button, located near to the power connector,
- 3 Re-apply power to the transmitter and then release the reset button.



To restore default settings, use a straightened out paperclip to press and hold the recessed reset button while power is applied.

After reset, the following default settings will be restored:

- Username: *admin*
- Password: *password*
- IP address: *192.168.1.22*
- Netmask: *255.255.255.0*
- Gateway: *192.168.1.0*

IMPORTANT: You are strongly recommended to set a new username and password as soon as possible. See the section [To manage authorized users and their passwords](#) for details.

APPENDIX A - Cables for use with digital extenders

Introduction

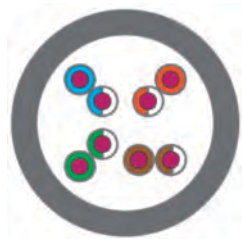
The demands of extending high resolution DVI and HDMI digital video signals are considerable and mean that it is not possible to use Cat5e cabling to achieve the maximum extension distance of 50 meters. The large video bandwidth involved means that to achieve the best possible performance from digital extenders, it is vital that the correct cabling is chosen.

There are three important factors to consider when choosing a cable for use with digital extenders.

IMPORTANT: Please remember that even though they use network-style cables, the link ports of the modules are **NOT** Ethernet ports and must not be connected to network switches or any other devices.

Types of cable

Twisted pair cables can have either solid or stranded conductors. Solid cables come in bulk spools and are often referred to as infrastructure or bulk cabling. They are less flexible than stranded cables but have less attenuation. These cables are typically run throughout a building and terminate at the rear of a wall plate.



Solid



Stranded

Stranded cabling is found in patch cables and is intended to connect the front of the wall plate to the extender or computer using RJ45 connectors. They need to be more flexible because the cabling gets disconnected and connected constantly.

For a digital extender application, solid conductor cables give a better performance as these allow for a higher bandwidth and have less attenuation. Ideally a thickness of 22 AWG should be used.

Types of RJ45 connector

For each type of cable there is also an associated RJ45 connector. It is important that the correct type of connector is used for the type of cabling.

Insulation displacement RJ45 connectors are designed to work with solid conductor cables while *insulation piercing* RJ45 connectors are designed to work with stranded conductor cables.



Insulation displacement



Insulation piercing

The teeth of the insulation displacement connectors are designed to straddle and hug the sides of the solid center conductor of the cable.

The teeth of the insulation piercing connectors penetrate the middle of the cable and nest in between the stranded wires. If insulation piercing connectors are used on solid core cable then the connection will not be stable as the teeth will try to but are unable to penetrate the solid center conductor. The teeth will then slide off the solid core and not make a stable contact.

Types of shielding

The third and final factor in determining the cable to be used in digital extension is shielding. The shielding protects the cable from two types of interference, internal crosstalk and external interference. *Internal crosstalk* is the interference between the different pairs inside the cable. *External interference* is any interference that comes from outside the cable. This is caused by many things; proximity to mobile phones, bundling cables together or running them over lighting fixtures.

Internal crosstalk is most detrimental to digital extension as the signals cannot be recovered after experiencing crosstalk. You are left with a black screen.

The most common type of shielding is *Screened/Unshielded Twisted Pair (S/UTP)*. This has an overall shield and will protect the signal from external interference. However it does not provide any protection from crosstalk.

The next type of shielding is *Shielded Twisted Pair (STP)*. This has four individual shields, one for each data pair. This is good for protecting the signal from internal crosstalk but does not provide an overall shield to protect against external interference.

If you combine the two types of shielding together you have *Screened/Shielded Twisted Pair (S/STP)*. This is also sometimes referred to as *Shielded/Foil Twisted Pair (S/FTP)*. This has four individual shields, one for each pair and an overall shield. S/STP is the best cable to protect against any interference and is the cable choice to be used for digital KVM extension.

Adder recommends

We recommend the following two types of cable:

Patch Cables

Daetwyler 7702P flex

This is stocked by Adder with the following part number VSCAT7-50. This is a 50m length of Daetwyler 7702P terminated with HRST M31P RJ45 connectors.

CU 7702 4P flex

Flexible data cable S/FTP Cat.7 AWG26



- 1 Inner conductor:
AWG26 bare copper wire, stranded
- 2 Wire: 0.99 mm Ø
- 3 Screen pair: Alu PETP foil
- 4 Screen: Tinned braided copper
- 5 Sheath: FR/PVC grey RAL 7035

Bulk Cables

Daetwyler 7120 with Harting RJ Industrial 10G RJ45 connectors.

CU 7120

Data cable S/FTP Cat.7A AWG 23



- 1 Inner Conductor:
AWG23 bare copper wire
- 2 Wire: 1.5 mm Ø
- 3 Screen Pair: Alu PETP foil
- 4 Screen: Tinned braided copper
- 5 Outer Sheath:
FRNC/LSOH orange RAL 2003

APPENDIX B - Management API specification

Introduction

The AdderLink DVI04T is monitored and managed by a web interface. This provides topology and status information and allows configuration of the transmitter unit plus the receiver units connected to it.

The unit also has a management API via the same HTTP interface. This allows the status, topology and configuration to be managed from another application, via HTTP commands. Only the first line of the HTTP method is required as the URI contains all the required information to perform the requested operation.

API Overview

The API allows monitoring of the following:

- Status of the ALDVI04T unit,
- Status of the two HDMI inputs to the ALDVI04T,
- Topology of the connections to ALDVI00R units,
- Status of up to four ALDVI00R units connected to the ALDVI04T,
- Status of the screens connected to the ALDVI00R units,
- Status of the connections between the ALDVI04T and the ALDVI00s.

The following aspects of the ALDVI04T and the connected ALDVI00s can be controlled:

- HDMI input routed to all ALDVI00s,
- Automatic input switching mode,
- Enable/disable of all connected screens,
- Enable/disable of individual screens,
- Source of the EDID presented at each HDMI input.

API Operation

Message Structure

All operations of the API are performed using a URI contained in an HTTP request. The control and configuration operations are performed by the following request:

```
GET /cgi-bin/api?<params> HTTP/1.1
```

Where <params> is one or more URI parameters to describe the operation to be performed.

The response is an HTTP response. The first line contains the status code indicating the success or failure of the operation.

The response is either:

```
HTTP/1.1 200 OK
```

or an HTTP error response:

```
HTTP/1.1 400 Bad Request
```

Command and Control Operations

The following command and control operations are available:

Switch to input

Select Input 1

Switch all outputs to the signal on HDMI input 1

```
GET /cgi-bin/api?opmode=0&insrc=1 HTTP/1.1
```

Select input 2

Switch all outputs to the signal on HDMI input 2

```
GET /cgi-bin/api?opmode=0&insrc=2 HTTP/1.1
```

Set input switching mode

Set fixed mode

Set the input switching mode to *fixed*. The selected input signal will be routed to the outputs regardless of the status on the input signals on inputs 1 and 2. The opmode is set to 0 to switch to single source mode at the same time.

```
GET /cgi-bin/api?opmode=0&swmode=0 HTTP/1.1
```

Set auto mode

Set the input switching mode to *auto*. In this mode the selected input source will automatically switch when an input source becomes active, either by it being plugged in or by the source becoming active (e.g. the player being powered on). If the active source becomes inactive then it switches to the other input as long as it is active. This provides a fallback to a backup source if the primary input fails. The opmode is set to 0 to switch to single source mode at the same time.

```
GET /cgi-bin/api?opmode=0&swmode=1 HTTP/1.1
```

Screen Enable/Disable

Disable all screens

Disables all screens so they do not display a picture (most screens will go into standby mode). This is intended to blank all screens when not in use, overnight etc.

```
GET /cgi-bin/api?screen1=0 HTTP/1.1
```

Enable all screens

Enables all screens so they display a picture. This is the opposite of disable all screens and is used to restore the display which was previously disabled. This command will enable all screens, regardless of whether they were disabled by the disable all screens command or disable individual screen command.

```
GET /cgi-bin/api?screen1=1 HTTP/1.1
```

Disable individual screen

Disable an individual screen so it does not display a picture (most screens will go into standby mode). The screen is identified by the port number (1..4) of the ALDVI04T to which it is attached. This is intended to blank all screens when not in use, overnight etc.

```
GET /cgi-bin/api?port=1?screen1=0 HTTP/1.1
```

```
GET /cgi-bin/api?port=2?screen1=0 HTTP/1.1
```

```
GET /cgi-bin/api?port=3?screen1=0 HTTP/1.1
```

```
GET /cgi-bin/api?port=4?screen1=0 HTTP/1.1
```

Enable screen

Enables an individual screen so it displays a picture. This is the opposite of disable screen command and is used to restore the display which was previously disabled. This command will enable a screen, regardless of whether it was disabled by the disable all screens command or disable individual screen command.

```
GET /cgi-bin/api?port=1?screen1=1 HTTP/1.1
```

```
GET /cgi-bin/api?port=2?screen1=1 HTTP/1.1
```

```
GET /cgi-bin/api?port=3?screen1=1 HTTP/1.1
```

```
GET /cgi-bin/api?port=4?screen1=1 HTTP/1.1
```

Set source for EDID for input

The EDID presented on each input is either the default one built in to the ALDVI04T or is obtained from one of the screens connected to a connected ALDVI00R. The source of the EDID for each of inputs 1 and 2 is controlled individually. There are three options

- *Default* – built in EDID,
- *Clone from display* – copy EDID from selected display and always use this EDID,
- *Transparent from display* – copy EDID from selected display and re-read from display every time the display is re-connected. This allows the EDID to change dynamically if a different display is connected.

Set to Default EDID

Use the built in default EDID for the input. The *emod1* parameter controls input 1, *emod2* controls input 2.

To select this mode *emod1/emod2* = 0.

```
GET /cgi-bin/api?emod1=0 HTTP/1.1
```

```
GET /cgi-bin/api?emod2=0 HTTP/1.1
```

Clone from display

Copy the EDID from the selected display and always use it for this input. The *esrc1* parameter is used when controlling the EDID for input 1, *esrc2* controls input 2. The value of the *esrc* parameter is the port number (1..4) on the ALDVI04T through which the selected display is connected. To select this mode *emod1/emod2* = 1.

```
GET /cgi-bin/api?emod1=1&esrc1=1 HTTP/1.1
```

```
GET /cgi-bin/api?emod2=1&esrc2=1 HTTP/1.1
```

This example shows the EDID obtained from the display on port 1. Similarly *esrc1/2* = 2, 3 or 4 to select the screen connected to ports 2, 3 or 4

Transparent from display

Copy the EDID from the selected display and re read it whenever the display becomes active. This allows the EDID to change dynamically if a different display is connected to the selected port. The *esrc1* parameter is used when controlling the EDID for input 1, *esrc2* controls input 2. The value of the *esrc1/esrc2* parameter is the port number (1..4) on the ALDVI04T through which the selected display is connected. To select this mode *emod1/emod2* = 2.

```
GET /cgi-bin/api?emod1=2&esrc1=1 HTTP/1.1
```

```
GET /cgi-bin/api?emod2=2&esrc2=1 HTTP/1.1
```

This example shows the EDID obtained from the display on port 1. Similarly *esrc1/2* = 2, 3 or 4 to select the screen connected to ports 2, 3 or 4

Status Operation

Get status

The operation to get the status fetches all the information about the topology and status of the ALDVI04T, its inputs, connections to ALV100R units, their status and that of the attached screens.

The request to get the status is:

```
GET /status/tree HTTP/1.1
```

The response is an HTTP response containing a status code followed by headers and a body containing a JSON encoded array of object.

A typical example of a response is:

```
[
  {"ad":"a","ln":"ir"},
  {"ad":"b","ln":"ir"},
  {"ad":"1","ln":"hl","rx":"nr","sw":"1","flt":""},
  {"ad":"2","ln":"hl","rx":"nr","sw":"1","flt":"HEDS","nd":
  "DELL<br>Descriptive text"},
  {"ad":"3","ln":"hr","rx":"nr","sw":"1","flt":""},
  {"ad":"4","ln":"hs"}
]
```

There are 6 objects of 2 types, and object is identified by the value of its "ad" attribute.

Input type

The first two objects represent the 2 HDMI inputs. Each object has two attributes "ad" and "ln":

```
"ad" : "a|b"    identifies the port a = input 1 b = input 2
"ln" : "ir"     input is red (disconnected / bad)
"ln" : "ig"     input is good (connected / good)
```

Output type

The remaining 4 objects represent the 4 output ports and the ALDVI00Rs and displays connected to them. Each object has 2 attributes "ad" and "ln", plus four optional attributes "rx", "sw", "flt" and "nd".

```
"ad" : "1|2|3|4"  identifies the port 1 = output 1 .. 4 = output 4
"ln" : "hs"       output is not in use
"ln" : "hl"       output is connected
"ln" : "hr"       output is not connected
"rx" : "nr"       screen is not displaying signal
"rx" : "ng"       screen is displaying signal
"rx" : "na"       screen is in unknown state cannot be contacted (orange on display)
"rx" : "nb"       screen is in disabled state (black on display)
"sw" : "1"        screen is switched to input 1 (may or may not be displaying image, see "rx")
"sw" : "2"        screen is switched to input 2 (may or may not be displaying image, see "rx")
"flt" : "H"       Hot Plug not detected from display
"flt" : "E"       EDID not successfully read from display
"flt" : "D"       Display not selected this input source
"flt" : "S"       Signal not detected at output to display
"nd" : "Name<br>Description"  Name of screen and descriptive text stored
                               in receiver.
```

continued

Output type (continued)

Typical outputs are:

```
{"ad": "1", "ln": "hs"}, - not in use
```

```
{"ad": "1", "ln": "hl", "rx": "ng", "sw": "1", "flt": ""},
```

- connected to input I - all good.

```
{"ad": "1", "ln": "hl", "rx": "nr", "sw": "1", "flt": "HEDS"},
```

- connected to input I not displaying signal. No Hotplug, EDID, signal or display detected. Cable unplugged.

```
{"ad": "1", "ln": "hl", "rx": "nr", "sw": "1", "flt": "S"},
```

- connected to input I not displaying signal. No signal detected. Input on ALDVI04T not connected.

```
{"ad": "1", "ln": "hl", "rx": "nr", "sw": "1", "flt": "D"},
```

- connected to input I not displaying signal. Display not detected. Input source on display not selected.

```
{"ad": "1", "ln": "hl", "rx": "nr", "sw": "1", "flt": "HEDS", "nd": "Dell  
Description of screen"},
```

- connected to input I not displaying signal. No Hotplug, EDID, signal or display detected. Cable unplugged. Screen name is "Dell" and the descriptive text is "Description of screen".

```
{"ad": "1", "ln": "hl", "rx": "nb", "sw": "1"},
```

- connected to input I not displaying signal as disabled

```
{"ad": "1", "ln": "hr", "rx": "na", "sw": "1"},
```

- not connected to input I not displaying signal

Similarly for outputs 2,3,4.

Security

The ALDVI04T implementation has security on its web interface, using HTTP Digest Authentication (RFC 2617). This is enabled by default and can be disabled via the web interface.

If security is enabled, the API needs to provide an Authorization header in requests, otherwise the operations will fail and return a *401 Unauthorized error*.

Digest authentication uses a challenge response model. A request sent without an Authorization header will receive a 401 response with a WWW-Authenticate header. The parameters are extracted from this and used along with the username, password and request URI to generate the response placed in the Authorization header of the API requests.

The status operation can be performed without the need for authentication, only the commands sent to /cgi-bin/api need authentication.

SAFETY INFORMATION

- For use in dry, oil free indoor environments only.
- Warning - live parts contained within power adapter.
- No user serviceable parts within power adapter - do not dismantle.
- Plug the power adapter into a socket outlet close to the module that it is powering.
- Do not use an unearthed power socket or extension cable.
- Replace the power adapter with a manufacturer approved type only.
- Do not use the power adapter if the power adapter case becomes damaged, cracked or broken or if you suspect that it is not operating properly.
- If you use a power extension cord with the units, make sure the total ampere rating of the devices plugged into the extension cord does not exceed the cord's ampere rating. Also, make sure that the total ampere rating of all the devices plugged into the wall outlet does not exceed the wall outlet's ampere rating.
- Do not attempt to service the units yourself.
- Do not use to link between buildings.
- The four CATx 'LINK' interfaces (RJ45 style connectors) of the transmitter must only be connected to AdderLink DV receivers. Do not connect these interfaces to any other devices, particularly network or telecommunications equipment.

WARRANTY

Adder Technology Ltd warrants that this product shall be free from defects in workmanship and materials for a period of two years from the date of original purchase. If the product should fail to operate correctly in normal use during the warranty period, Adder will replace or repair it free of charge. No liability can be accepted for damage due to misuse or circumstances outside Adder's control. Also Adder will not be responsible for any loss, damage or injury arising directly or indirectly from the use of this product. Adder's total liability under the terms of this warranty shall in all circumstances be limited to the replacement value of this product.

If any difficulty is experienced in the installation or use of this product that you are unable to resolve, please contact your supplier.



RADIO FREQUENCY ENERGY

A Category 5 (or better) twisted pair cable must be used to connect the units in order to maintain compliance with radio frequency energy emission regulations and ensure a suitably high level of immunity to electromagnetic disturbances.

All other interface cables used with this equipment must be shielded in order to maintain compliance with radio frequency energy emission regulations and ensure a suitably high level of immunity to electromagnetic disturbances.

European EMC directive 2004/108/EC

This equipment has been tested and found to comply with the limits for a class A computing device in accordance with the specifications in the European standard EN55022. These limits are designed to provide reasonable protection against harmful interference. 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 or television reception. However, there is no guarantee that harmful interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment on and off, the user is encouraged to correct the interference with one or more of the following measures: (a) Reorient or relocate the receiving antenna. (b) Increase the separation between the equipment and the receiver. (c) Connect the equipment to an outlet on a circuit different from that to which the receiver is connected. (d) Consult the supplier or an experienced radio/TV technician for help.

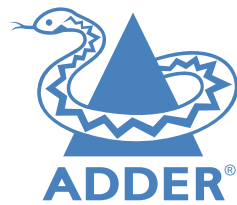
FCC Compliance Statement (United States)

This equipment generates, uses and can radiate radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio communication. It has been tested and found to comply with the limits for a class A computing device in accordance with the specifications in Subpart J of part 15 of FCC rules, which are designed to provide reasonable protection against such interference when the equipment is operated in a commercial environment. Operation of this equipment in a residential area may cause interference, in which case the user at his own expense will be required to take whatever measures may be necessary to correct the interference. Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

Canadian Department of Communications RFI statement

This equipment does not exceed the class A limits for radio noise emissions from digital apparatus set out in the radio interference regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe A prescrites dans le règlement sur le brouillage radioélectriques publié par le ministère des Communications du Canada.



Web: www.adder.com

Contact: www.adder.com/contact-details

Support: forum.adder.com

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