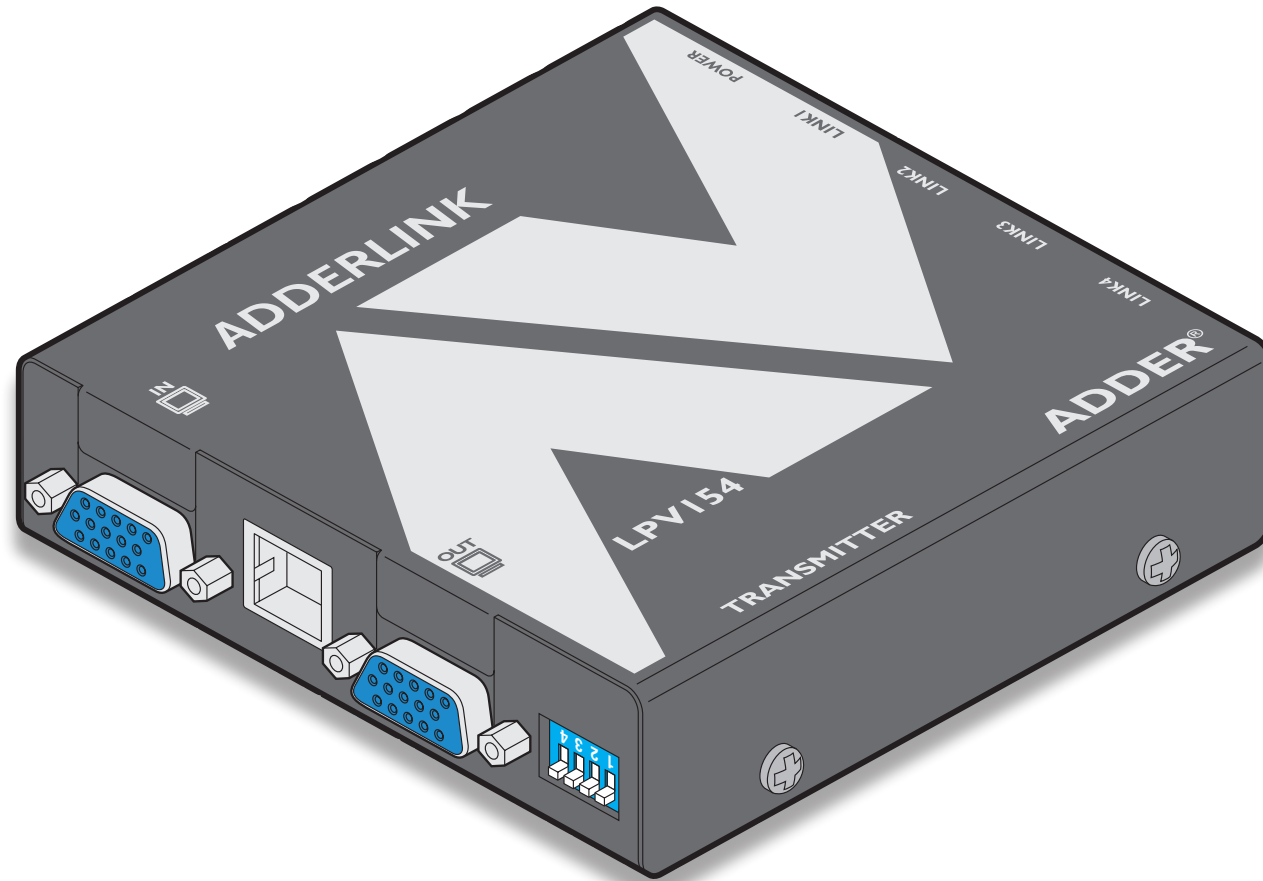




AdderLink LPV154T

Signage Video Extender



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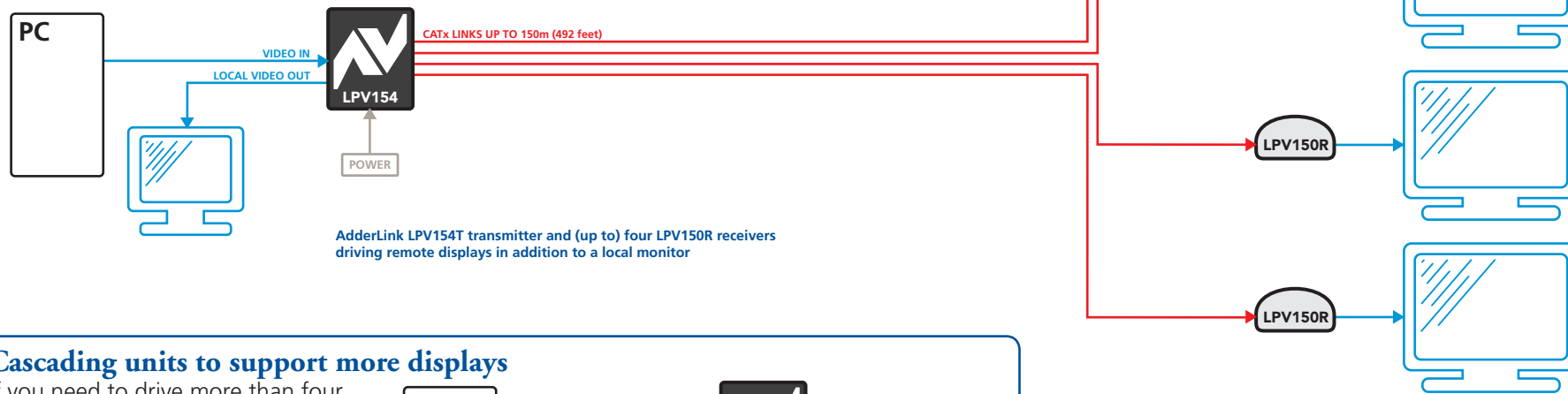
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Welcome



Introduction

The AdderLink LPV154T allows you to distribute high quality analogue video to four video displays, each of which can be up to 150 metres (492 feet) away. All links are made using simple twisted pair cables (Category 5 or higher) with a compact LPV150R module at each remote end. Each remote module converts the long distance transmission signals back into high quality analogue video signals for each display. LPV stands for Line Powered Video, which means that all power for the remote modules is fed along the CATx cabling. What this means for you is quick and straightforward installation using compact modules at each remote location.

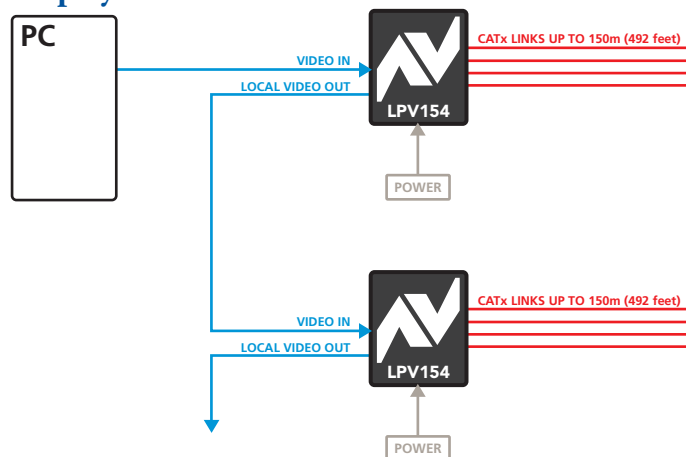


AdderLink LPV154T transmitter and (up to) four LPV150R receivers driving remote displays in addition to a local monitor

Cascading units to support more displays

If you need to drive more than four video displays you can connect up to three AdderLink LPV154T units in cascade.

To do this, the local video out port of the first AdderLink LPV154T unit is fed to the video in port of the next one.



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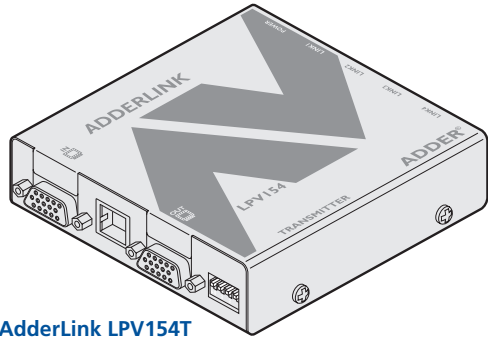
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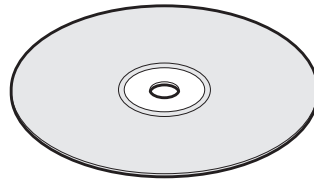
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What's in the box

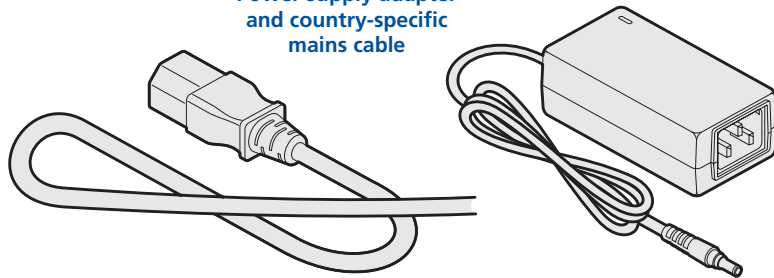


AdderLink LPV154T transmitter

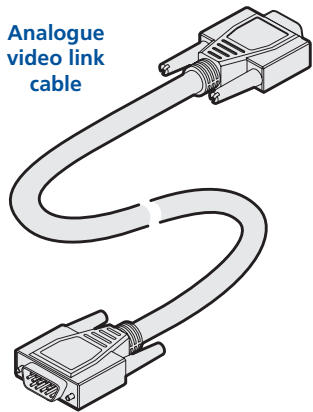
CD-ROM containing documentation



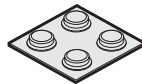
Power supply adapter and country-specific mains cable



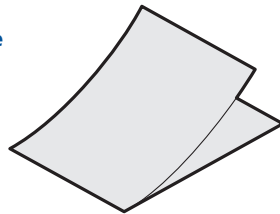
Analogue video link cable



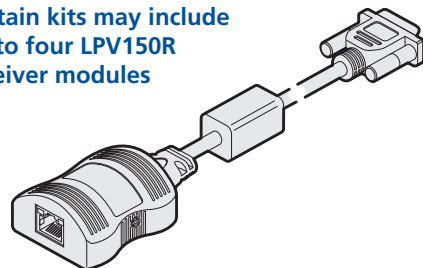
Self adhesive rubber feet



Safety leaflet

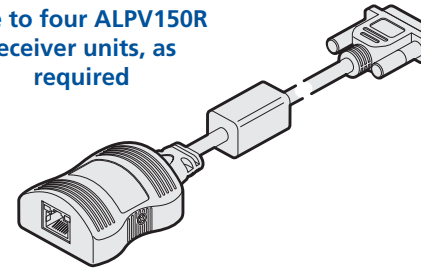


Certain kits may include up to four LPV150R receiver modules



What you may additionally need

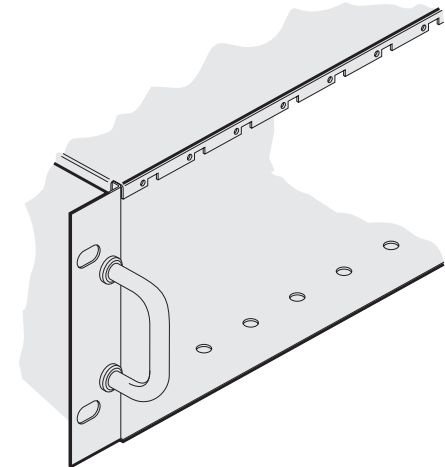
One to four ALPV150R receiver units, as required



< Rack mount fascia plate for modules.
Adder P/N: ALAV-RMK-FASCIA



19" rack mount chassis >
Adder P/N: ALAV-RMK-CHASSIS



Installation



Locations

Please consider the following important points when planning the positions of your AdderLink AV modules:

- Take care not to exceed the maximum link cable lengths (please refer to the section [Cascade connections](#)).
- Ensure that the transmitter(s) is/are as close as possible to the source PC system and the receiver modules are similarly close to the video displays. Each receiver module can be connected directly to the video display and no power is required.
- Wherever possible, choose routes for the CATx twisted pair link cables that avoid mains power cables.
- Remember a mains power socket is required for each transmitter. The receivers do not require external power.
- Consult the precautions listed within the [Safety information](#) section.

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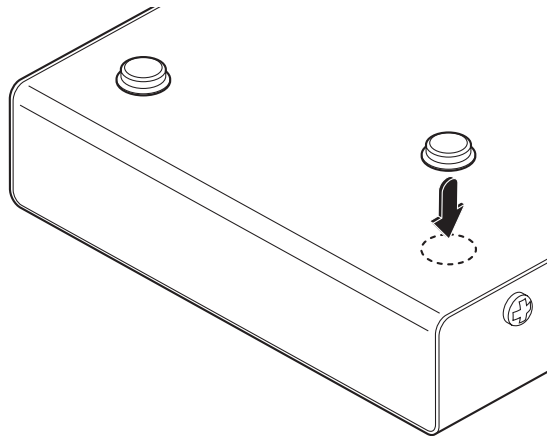
Mounting

Before you begin connecting to the source PC system and display devices, it is advisable to mount the AdderLink LPV154T module in place. There are a number of mounting possibilities for the transmitter module:

- On a horizontal surface using the supplied self adhesive feet,
- Mounted on a screw using the rear slot,
- Within the [optional rack mount chassis](#),
- On inclined surfaces using self adhesive Velcro® strips (not supplied).

Using the self adhesive feet

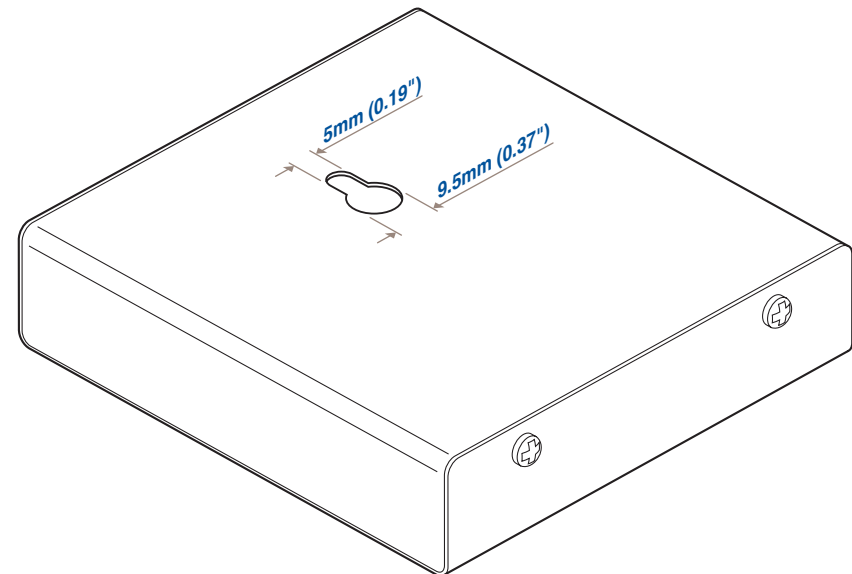
Apply the supplied self-adhesive rubber feet to the underside corners of the AdderLink LPV154T module.



Using the rear mounting slot

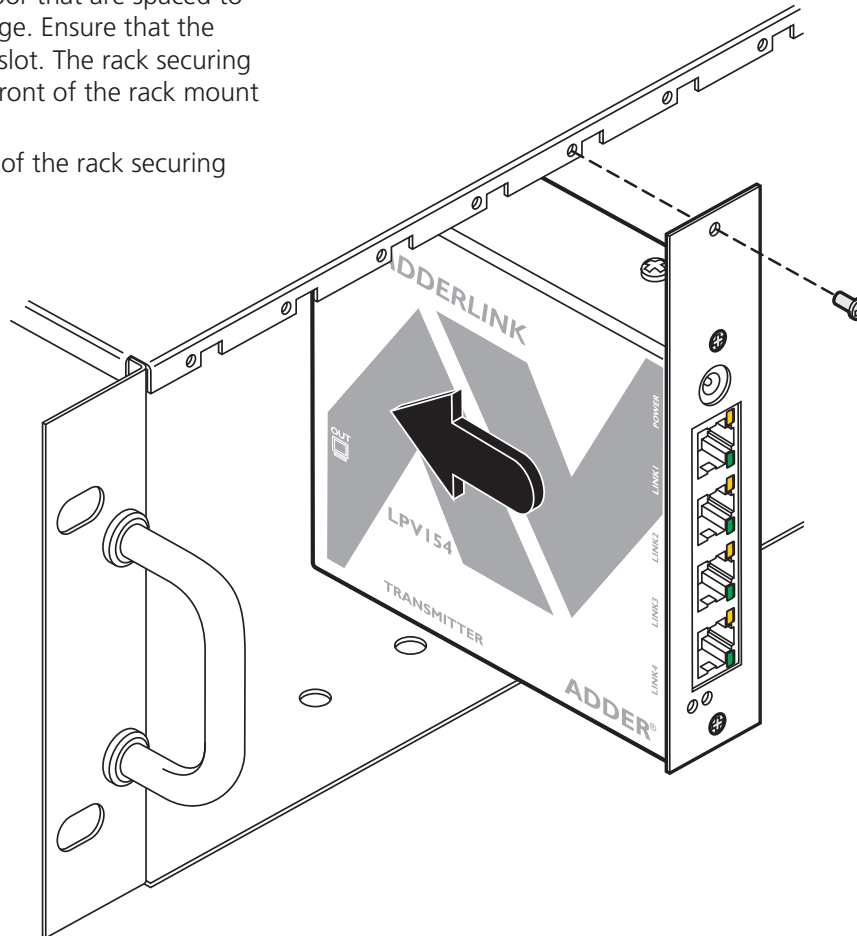
The slot at the rear of each module allows it to be hung upon a fixed screw that protrudes from the mounting surface.

IMPORTANT: The internal circuit board is accessible through the mounting slot. Ensure that any mounting screws protrudes no further than 1/2" (12.5mm) into the module casing - serious electrical damage will be caused if the screw makes contact with the internal circuitry.



Using the optional rack mount chassis

- 1 Place the optional rack plate onto the front of the transmitter module and secure it with the countersunk screws.
- 2 Orient the module on its side so that its labelled face is the correct way up and the securing plate is facing away from the rack.
- 3 Slide the module into the required rack position.
- 4 The rack mount chassis has a series of holes in its floor that are spaced to accommodate the screws on the module's lower edge. Ensure that the screws correctly locate into the holes of the chosen slot. The rack securing plate on the module should now be flush with the front of the rack mount chassis.
- 5 Use the supplied (pan-head) screws, in the top hole of the rack securing plate to fasten the module to the rack.



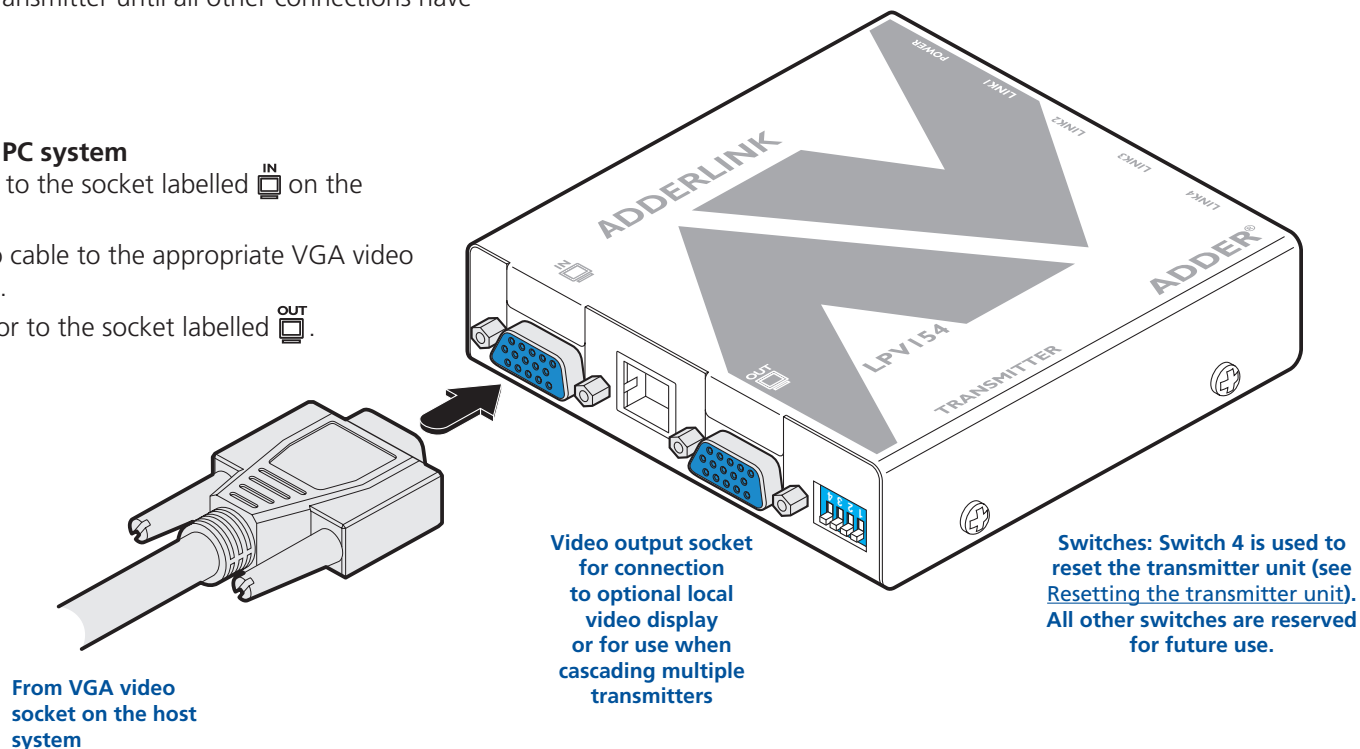
Connections

Connections to the AdderLink LPV154T and 150R modules do not need to follow the precise order given in this user guide although it is recommended that you do not apply power to the transmitter until all other connections have been made.

Connections at the transmitter

To connect video from the source PC system

- 1 Connect the supplied video cable to the socket labelled **IN** on the transmitter.
- 2 Attach the other end of the video cable to the appropriate VGA video output socket on the host system.
- 3 Optionally, connect a local monitor to the socket labelled **OUT**.



From VGA video socket on the host system

Video output socket for connection to optional local video display or for use when cascading multiple transmitters

Switches: Switch 4 is used to reset the transmitter unit (see [Resetting the transmitter unit](#)). All other switches are reserved for future use.

DDC information

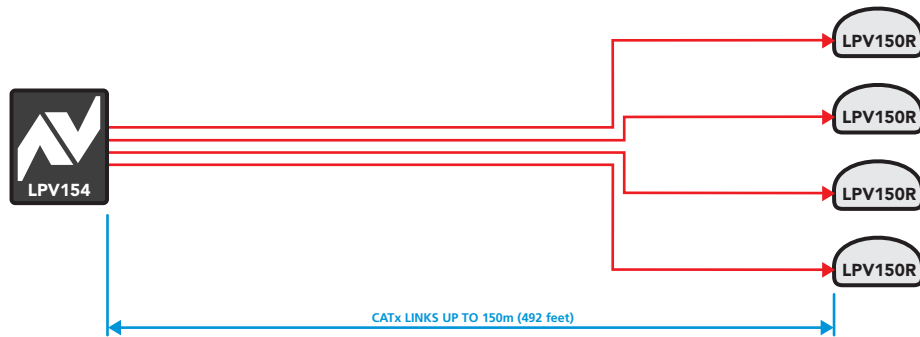
DDC information about the video displays is not sent from the receiver modules. Instead, the transmitter holds a standard set of DDC details which are suitable for most video displays. If the standard details are not suitable, temporarily connect the transmitter (using the **IN** port) directly to the video display that is to be emulated and power on the screen and the transmitter. In cascaded installations, only the initial transmitter needs to be taken through this procedure.

If the DDC information is different to that already held, the red indicator (adjacent to the **LINK4** socket) will flicker rapidly for 2 to 3 seconds while the new information is stored.

If a problem occurs while attempting to harvest DDC information, the red indicator on the transmitter will show a number of distinct flashes. Note the number of flashes in case you need to contact technical support, but otherwise retry the procedure.

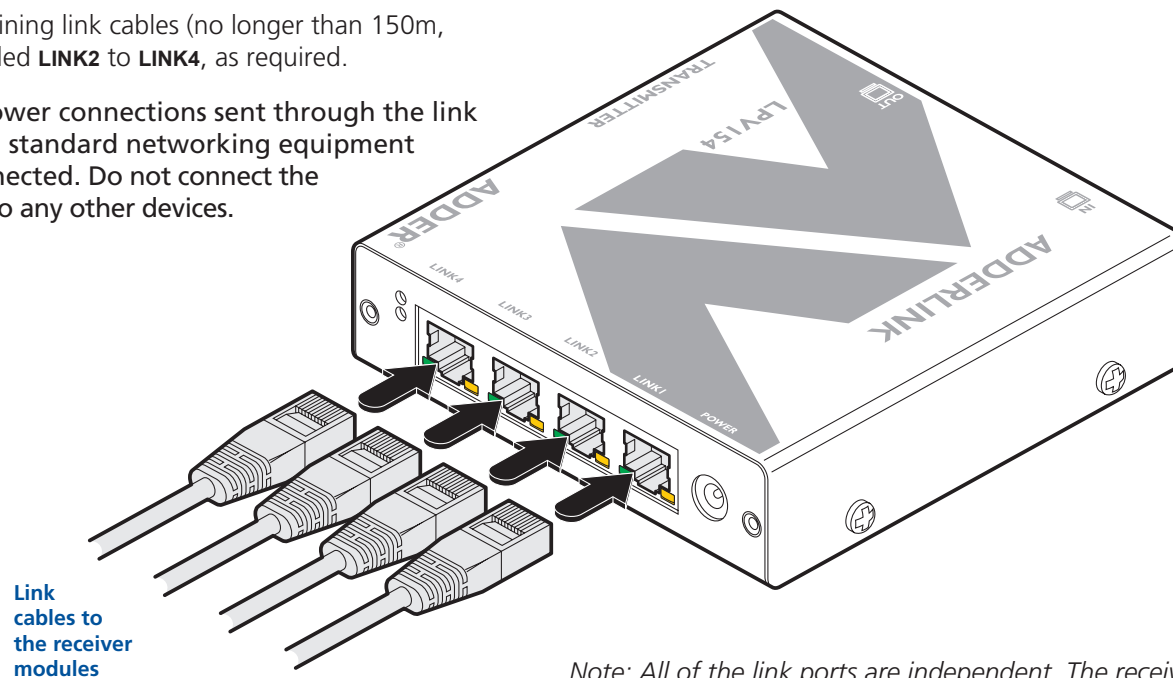
To connect the link cables

The links between the transmitter and receiver modules are made using between one and four twisted pair cables, specified to Category 5 or higher. Each cable carries video signals and power to each receiver module.



- 1 Attach the connector of the first link cable (no longer than 150m, 492 feet) to the socket labelled **LINK1** on the transmitter. There should be a click when the cable is fully inserted and locked in place.
- 2 Attach the connectors of the remaining link cables (no longer than 150m, 492 feet each) to the sockets labelled **LINK2** to **LINK4**, as required.

IMPORTANT: The signals and power connections sent through the link cables are **NOT** compatible with standard networking equipment and could cause damage if connected. Do not connect the transmitter or receiver modules to any other devices.

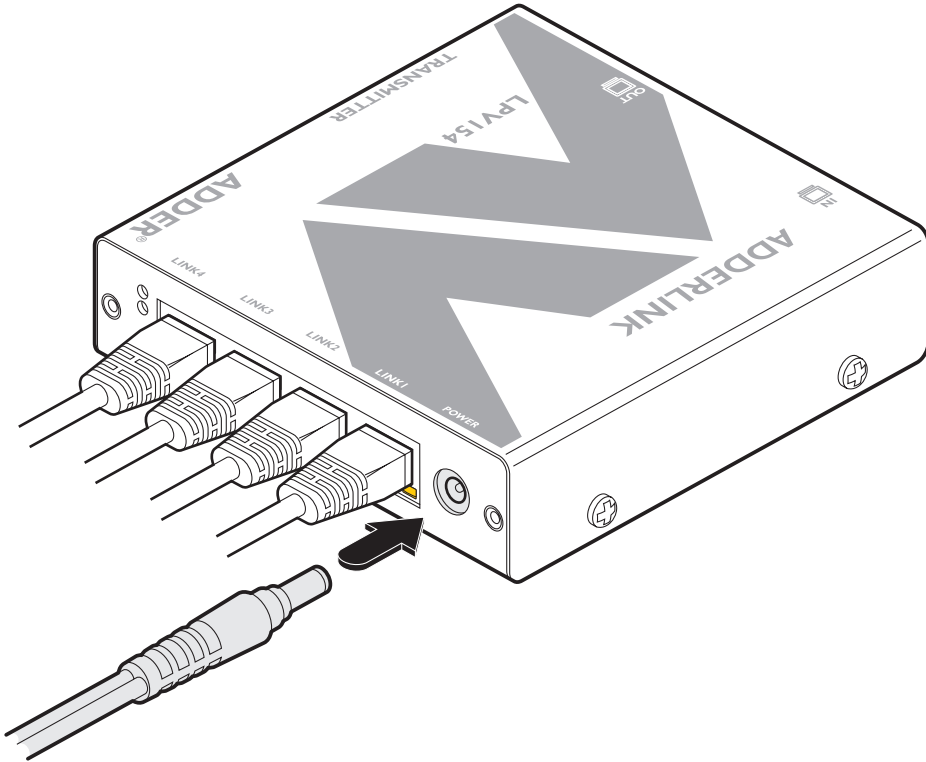


Note: All of the link ports are independent. The receiver modules may be connected, disconnected or swapped around in any order without affecting the operation of other modules.

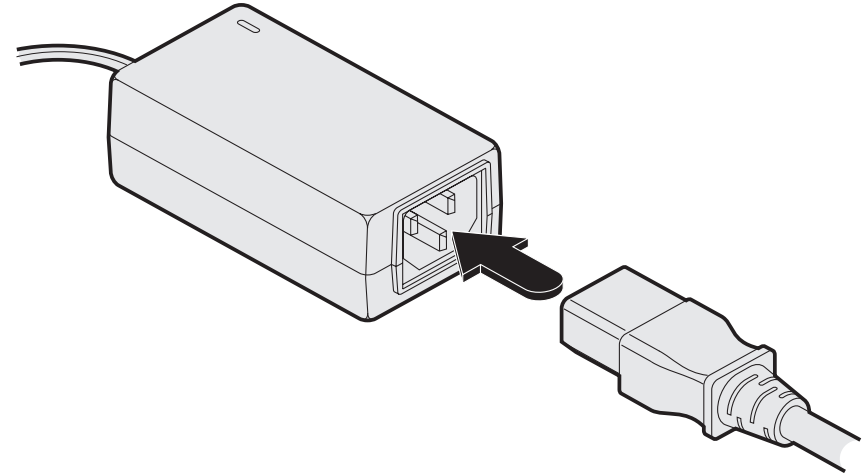
To connect the power supply

NOTE: 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.

- 1 Attach the output connector of the power supply to the socket labelled **POWER** on the transmitter.



- 2 Insert the IEC connector of the power cable into the corresponding socket of the power supply.



- 3 When all other connections have been made at the transmitter and receiver modules, connect the other end of the power cable to a nearby earthed mains socket.

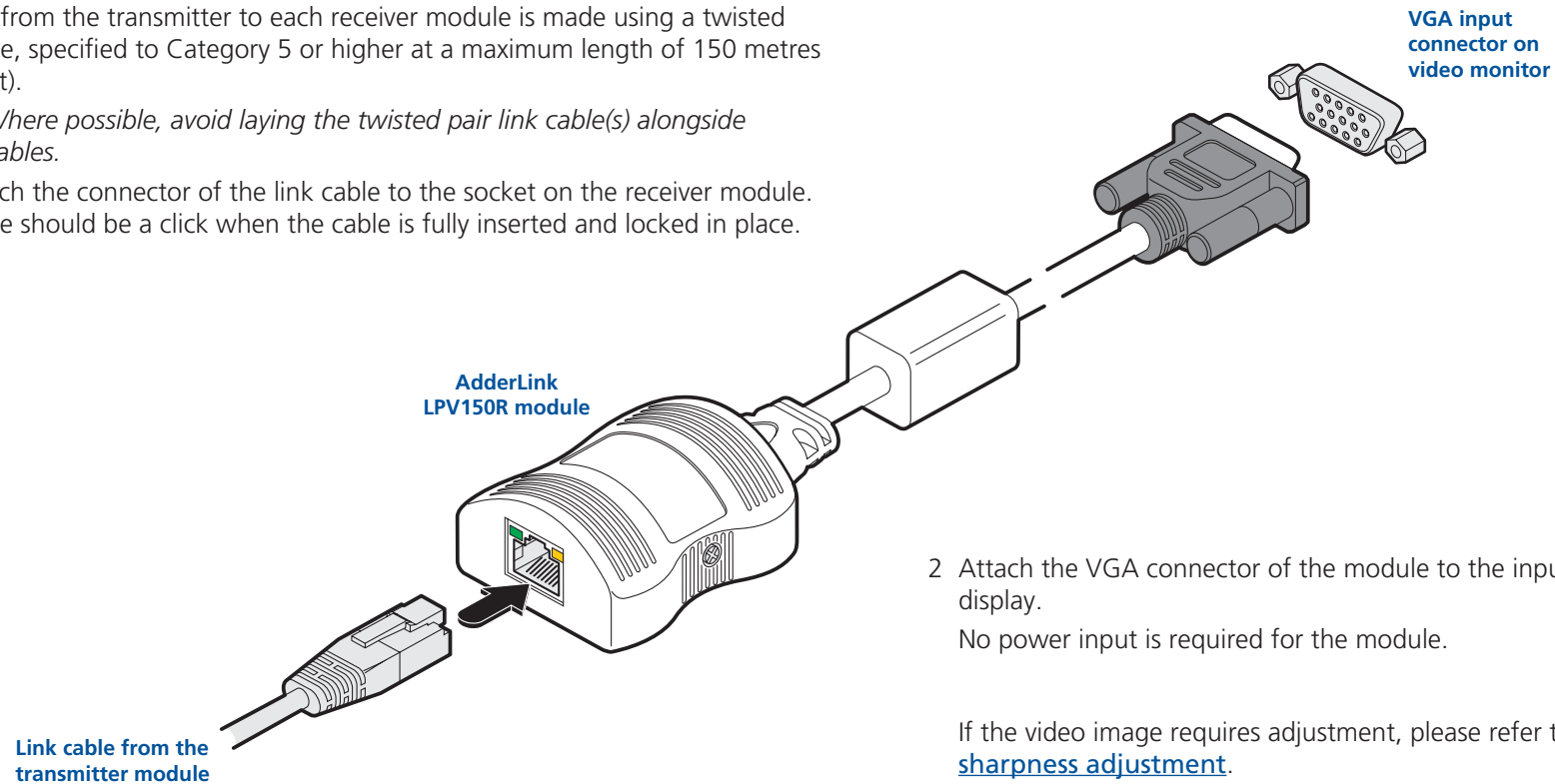
Connections at each receiver module

To connect the link cable and video display

The link from the transmitter to each receiver module is made using a twisted pair cable, specified to Category 5 or higher at a maximum length of 150 metres (492 feet).

NOTE: Where possible, avoid laying the twisted pair link cable(s) alongside power cables.

- 1 Attach the connector of the link cable to the socket on the receiver module.
There should be a click when the cable is fully inserted and locked in place.



- 2 Attach the VGA connector of the module to the input socket of the video display.

No power input is required for the module.

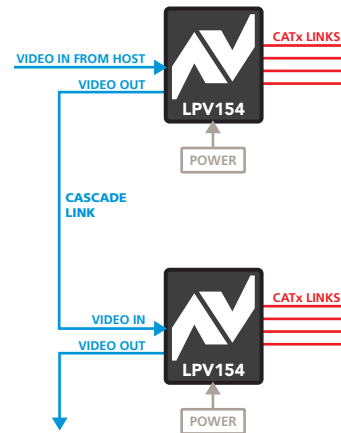
If the video image requires adjustment, please refer to the section [Video sharpness adjustment](#).

IMPORTANT: The signals and power connections sent through the link cables are NOT compatible with standard networking equipment and could cause damage if connected. Do not connect the transmitter or receiver modules to any other devices.



Cascade connections

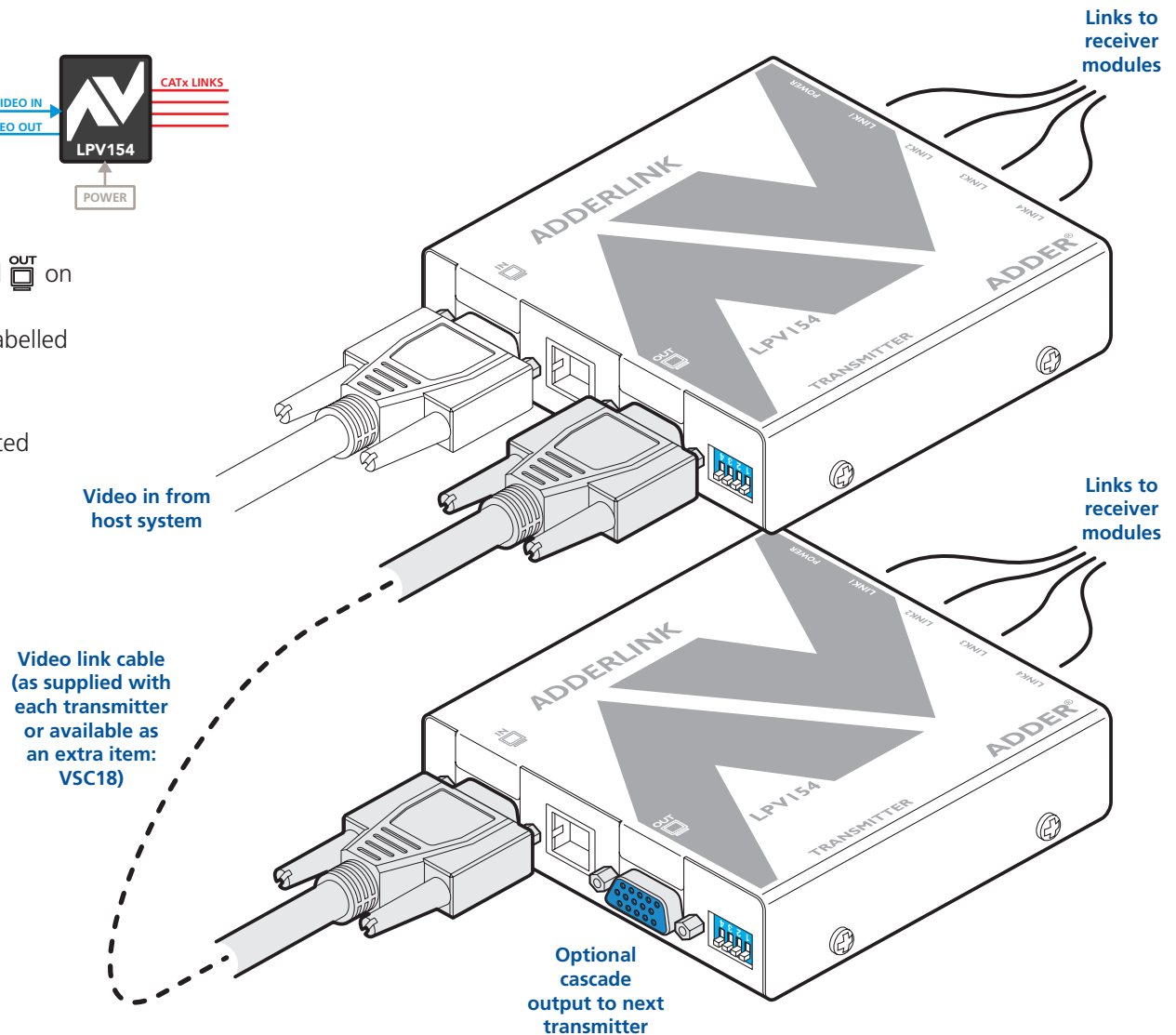
Where more remote video displays need to show the same output from the host system, it is possible to cascade up to three transmitter units to provide control for a total of up to twelve screens.

Cascading these units is a simple case of connecting the video output of the first transmitter to the video input of the next one; with each transmitter able to drive up to four video displays. It is recommended that you cascade no more than three transmitter units as there will be a slight degradation in signal quality with each cascade link.



To connect multiple transmitters in cascade

- 1 Connect the supplied video cable to the socket labelled  on the first transmitter (the one linked to the host system).
- 2 Attach the other end of the video cable to the socket labelled  on the next transmitter.
- 3 Optionally, repeat steps 1 and 2 for a third transmitter.
- 4 Make CATx links between each transmitter and its related receiver modules as usual.

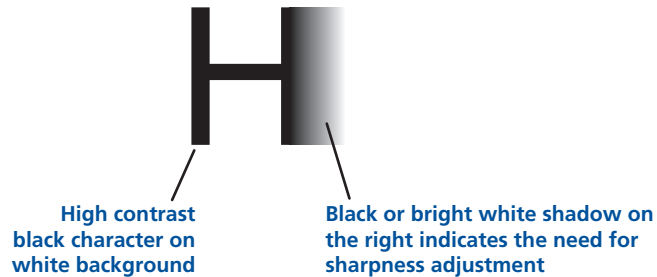


Video sharpness adjustment

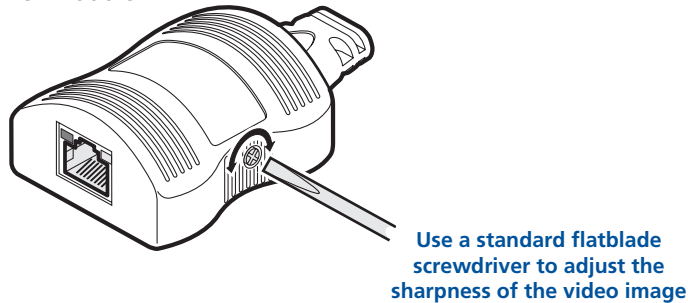
Each receiver module has a video adjustment to control picture sharpness on the connected video display screen.

To adjust video sharpness

- 1 On the host system, display a suitable high contrast image (ideally with one or more black vertical lines on a white background (e.g. a capital 'H' at 72 points in a word processor).



- 2 Insert a small screwdriver into the adjustment screw on the side of the receiver module.

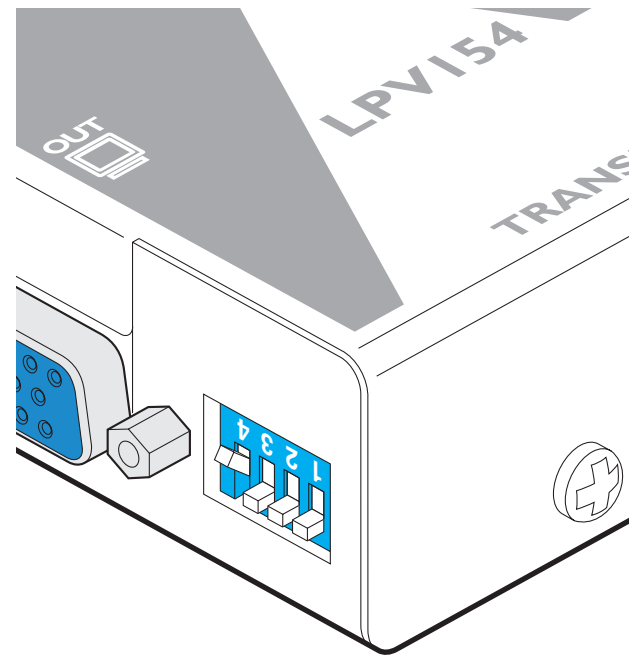


- 3 Turn the screw fully clockwise - you should see a bright white shadow to the right of your high contrast image
- 4 Turn the screw anti-clockwise until the white shadow disappears and the edges of your image become sharp.

Note: As link cable lengths increase and more receivers are cascaded, colour separation effects may become noticeable within displayed video images, particularly at higher resolutions. These effects are called 'skew' and result from differing delays on the red, green and blue colour signals as they travel to the receivers. If such results occur, ensure that link cables are no longer than they need to be or try using 'low-skew' cables.

Resetting the transmitter unit

It is possible to reset the transmitter unit either by disconnecting and reconnecting the power input or by using switch 4 of the miniature switch block:



Momentarily click switch 4 to the ON position and then return it to its OFF position. The transmitter will reset itself.

Note: All other switches are reserved for future use and should remain OFF.

Operation

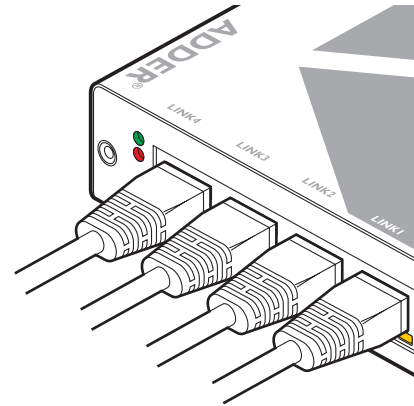
In operation, the AdderLink LPV modules are designed to be completely transparent - high quality video from the source PC system is played as normal, the only difference is that the video displays are up to 150 metres (492 feet) away.

Indicators

Status indicators

The AdderLink LPV154T transmitter unit is equipped with two main status indicators adjacent to the **LINK4** socket.

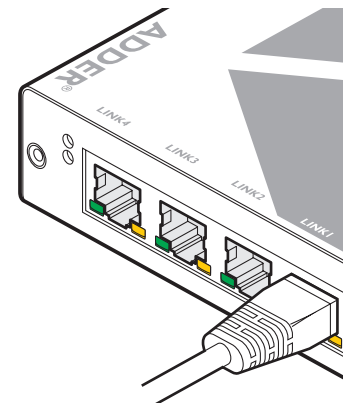
- **GREEN:** When lit, indicates the presence of power and a video input into the module. If the input video is removed, power to the receiver modules will be cut and this indicator will flash to indicate standby mode. Operation will automatically resume once video is reinstated.
- **RED:** Flashes while DDC programming is taking place (see [DDC information](#) for details). If a problem occurs while attempting to harvest DDC information, this indicator will show a number of distinct flashes. Note the number of flashes in case you need to contact technical support, but otherwise retry the procedure.



Link indicators

Additionally, the AdderLink LPV154T transmitter unit features two indicators per link socket.

- **GREEN:** When lit, indicates that power and video are being supplied to the receiver module.
- **YELLOW:** Flashes if the link cable is disconnected or if line power is overloaded.



Further information



Troubleshooting


If you experience problems when installing or using the AdderLink LPV modules, please check through this section for a possible solution. If your problem is not listed here and you cannot resolve the issue, then please refer to the 'Getting assistance' section.

No video image is received at the receiver module.

- Check that the green status indicator (adjacent to the **LINK 4** socket) is lit on the transmitter unit. If it is not then there is a power or video input problem. If the green status indicator is flashing then there is no input video, possibly because the host system has gone into standby; or simply that the input cable is not correctly connected. The transmitter unit requires power from its supplied power adapter.
- Check the link cable(s) that connect the transmitter and receiver module(s) for soundness. If possible, try using an alternative twisted pair link connection between the modules.
- Check the yellow indicator on the associated link socket. If the yellow indicator is flashing continuously, check that the corresponding receiver is properly connected.

Alternatively, this output may have been overloaded. Disconnect the cable and reconnect it to check.

Note: The yellow indicators for all unused link ports will flash.

- If the sharpness control is set too high, the monitor may not be able to display a picture. Try reducing the sharpness setting. Please refer to the [Video sharpness adjustment](#) section.
- If not already fitted, connect a monitor to the  **OUT** port of the transmitter module and check for a correct video image output.
- Check that all of the miniature configuration switches are in the OFF position during normal operation.

Power is applied via the power supply but the transmitter module operation has stopped.

- The transmitter unit has an internal automatic cut-out fuse to protect against power surges. To reset, remove power from the transmitter for one second and then reconnect.

Getting assistance

If you are still experiencing problems after checking the list of solutions in the Troubleshooting section then we provide a number of other solutions:

- Adder Technology website – www.adder.com
Check the Support section of our website for the latest solutions.
- Email support@adder.com
- Fax in the UK: **01954 780081**
in the US: **+1 888 275 1117**
- Phone in the UK: **01954 780044**
in the US: **+1 888 275 3337**

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Safety information

- For use in dry, oil free indoor environments only.
- Do not use to link between buildings.
- Not suitable for use in hazardous or explosive environments or next to highly flammable materials.
- Ensure that all twisted pair interconnect cables are installed in compliance with all applicable wiring regulations.
- Do not connect the CATx link interface (RJ45 style connector) to any other equipment, particularly network or telecommunications equipment.
- Where possible, avoid laying the twisted pair link cable(s) alongside power cables.
- Warning – the power adapter contains live parts.
- No user serviceable parts are contained within the power adapter - do not dismantle.
- The primary means to cease operation of the modules is to remove the power adapter lead. Ensure that the power adapter is positioned near to the equipment and is easily accessible.
- 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.
- Replace the power adapter with a manufacturer approved type only.
- If you use a power extension cable with the modules, make sure the total ampere rating of the devices plugged into the extension cable do not exceed the cable'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 modules yourself.
- The modules and power supplies can get warm in operation – do not situate them in an enclosed space without any ventilation.
- The modules do not provide ground isolation and should not be used for any applications that require ground isolation or galvanic isolation.
- Use only with grounded outlets at both the computer and monitor. When using a backup power supply (UPS), power the computer, the monitor and the transmitter module from the same supply.

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.



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Emissions and Immunity

A Category 5 (or better) twisted pair cable must be used to connect the modules 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 89/336/EEC

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.



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