ADDER®

AdderLink XDIP

User Guide

Experts in Connectivity Solutions | ADDER® | Extender Solutions

Contents

Introduction

Welcome 2
AdderLink XDIP features 3
Supplied items (per node) 4
Optional extras 5

Installation

Locations 6
Mounting 6
Connections 6
- Computer connections 7
- Video format conversion 8
- Console connections 10
- Audio connections 11
- Link connection 11
- Power connection 12

Configuration

Initial configuration 13
- Navigating the configuration wizard, OSD and Admin menu 13
- To use the configuration wizard 13
- To add a new transmitter 17

Restoring a node 19
Admin menus 20
- Receiver node settings 20
  - General Settings page 20
  - OSD Settings page 21
  - Manage Ports page 22
  - Advanced page 23
  - Software Upgrade page 25
  - Setup Channels page 26
- Transmitter node settings 26
  - General Settings page 26
  - Manage Ports pages 27
  - Advanced pages 28
  - Software Upgrade page 29

Operation

Switching channels 30
Indicators 32

Further information

Getting assistance 33
Appendix 1 - IGMP 34
Appendix 2 - Layers 35
Appendix 3 - Link cable interference protection 36
Appendix 4 - Open source licenses 37
Waste Electrical and Electronic Equipment (WEEE) 59
Warranty 59
Safety information 59
Radio frequency energy 60

Index

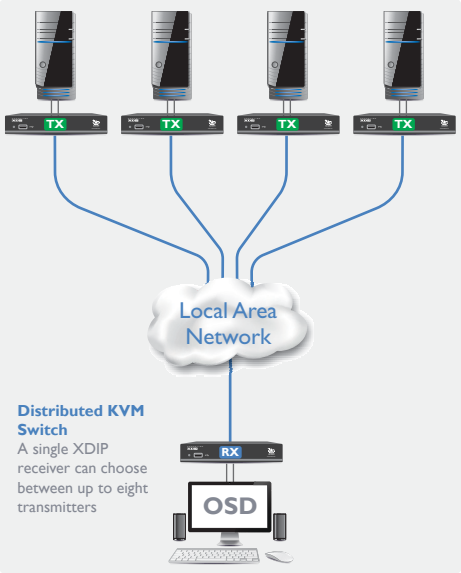
Introduction

WELCOME

Thank you for choosing the AdderLink XDIP extender nodes. At their simplest, AdderLink XDIPs are high resolution, low latency digital KVM extenders which will operate just as easily across a direct 100 meter CATx connection as they will across your standard 1GbE local network. However, there's much more to them than that.

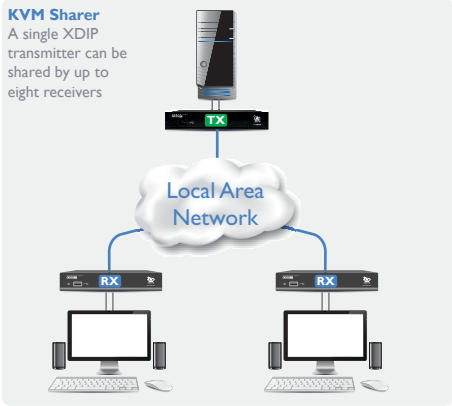
Many hosts, one console

XDIPs can form what might be termed a *Distributed KVM switch*, where you authorize a single XDIP receiver to access up to eight separate XDIP transmitters and their connected PC host systems:



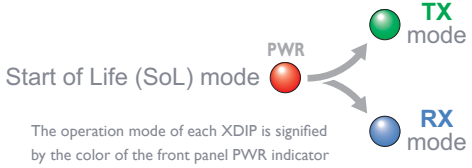
Multiple consoles, one host

Alternatively, a different grouping of XDIPs can form a '*KVM Sharer*' to allow up to eight receivers to access and control the resources of a single PC host system:



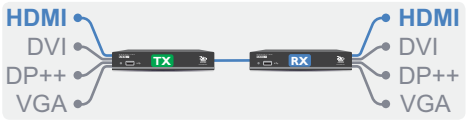
Transmitter or receiver? Your call

Every XDIP node arrives in *Start of Life* (SoL) mode: it's up to you to choose whether it becomes a transmitter or a receiver. This ensures that your small stock of nodes can efficiently meet your current requirements - and then be easily redistributed, in any order, to satisfy future issues too.



All HD video welcome

HDMI is the native video port on each node, however, using suitable third party converters you can connect DVI, dual-mode DisplayPort (DP++) or VGA signals at either end of the links:

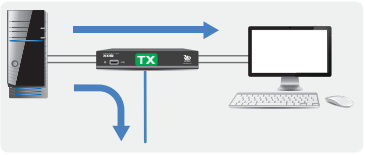


Power to perform: POE or adapter

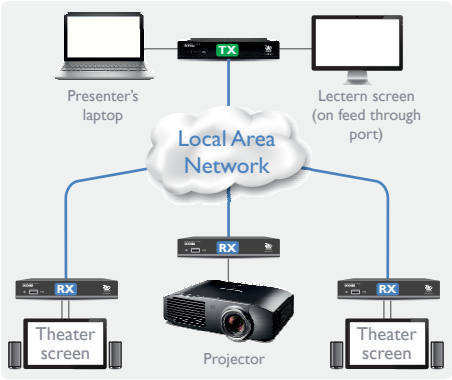
Efficiency is key to XDIP operation, sufficiently so that each node can comfortably function using only the Power over Ethernet (PoE) capabilities of your network. Where that's not an option, we also supply optional power adapters for local mains operation.

Feed through for flexibility

Every XDIP node features a *Feed through* port. This allows you to add a local console that can access both nearby and distant resources. When the local console is placed on an XDIP receiver, it will operate as its own KVM switch. Alternatively, when the local console is attached to an XDIP transmitter, it will also act as a video splitter:

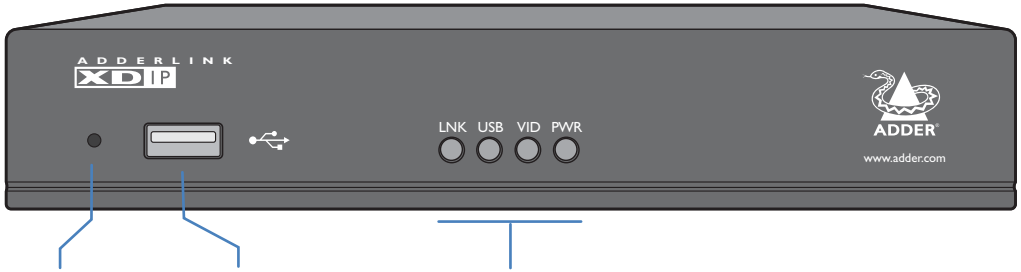


A combined application of the *Feed through* and *KVM sharer* features could be used, for instance, to serve a lecture theater:



ADDERLINK XDIP FEATURES

AdderLink XDIP nodes are contained within slimline metal casings measuring just 169 x 112 x 31mm.

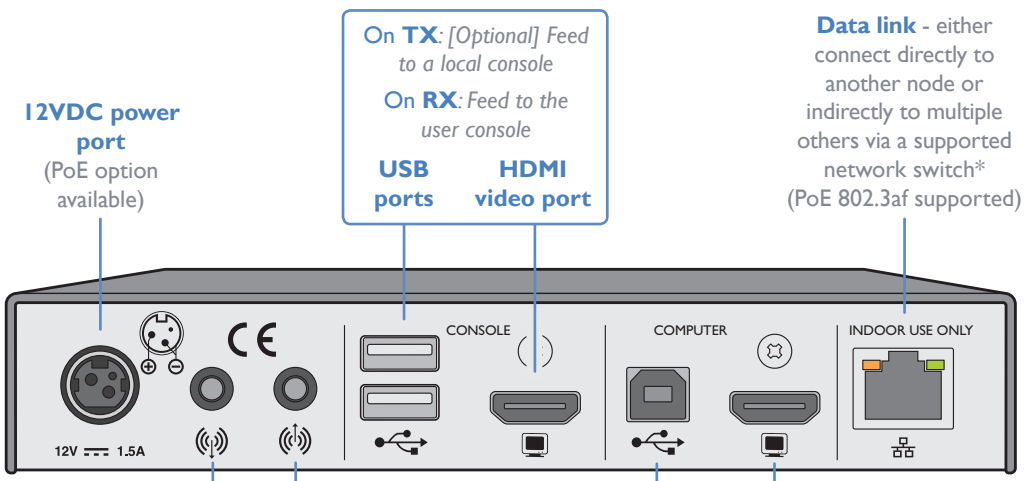


Recessed reset button See "Restoring a node" on page 19.

USB port Available for console use on receiver and transmitter nodes.

Status indicators
These provide visual confirmation of various system functions. See Indicators for further details.

LNK - indicates the presence of a valid data link.
USB and **VID** - indicate active USB and video connections.
PWR - indicates the presence of input power *(the color also indicates overall mode: **TX**: Green, **RX**: Blue, **Start of Life**: Red, **Recovery mode**:Yellow).*



12VDC power port (PoE option available)

On **TX**: *[Optional] Feed to a local console*
On **RX**: *Feed to the user console*
USB ports **HDMI video port**

Data link - either connect directly to another node or indirectly to multiple others via a supported network switch* (PoE 802.3af supported)

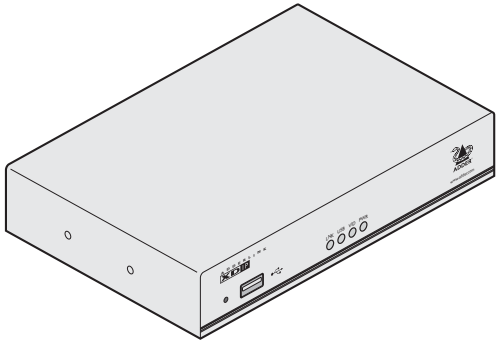
Audio line out jack **Audio line in jack**

USB port **HDMI video port**
On **TX**: *Link to the main computer*
On **RX**: *[Optional] Link to a local computer*

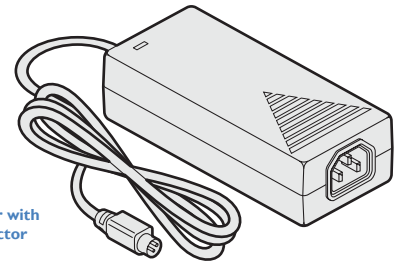
* The network switch used must:

- Support 1Gb transfer rates.
- Support IGMP (Internet Group Management Protocol) to at least level 2 (preferably level 3).
- Have *IGMP Fast Leave* and *IGMP Snooping* enabled.

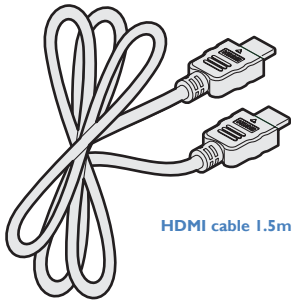
SUPPLIED ITEMS (per node)



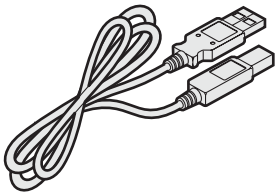
AdderLink XDIP node



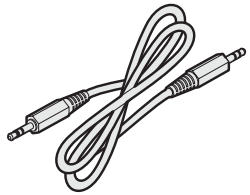
Power adapter with locking connector



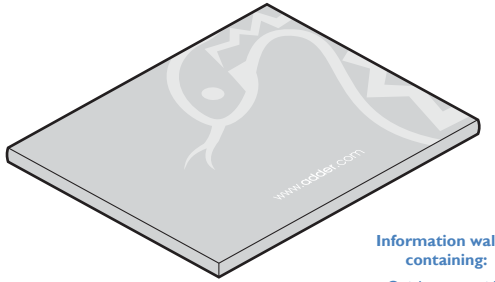
HDMI cable 1.5m



USB cable 2m (type A to B)



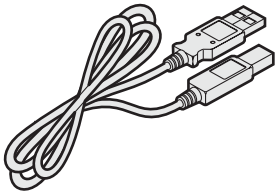
Audio cable 3m (3.5mm stereo jacks)



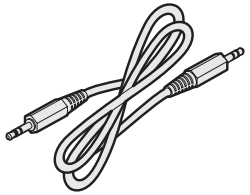
Information wallet containing:

Quick setup guide
Eight self-adhesive rubber feet
Safety document

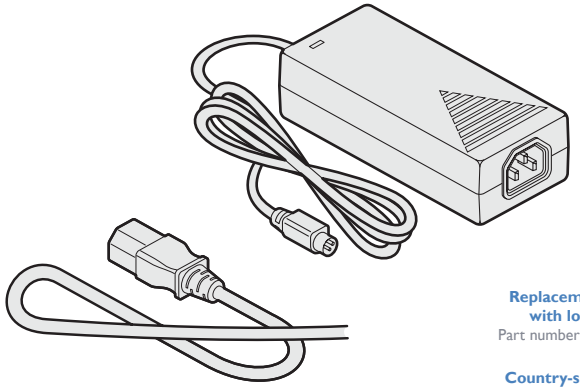
OPTIONAL EXTRAS



USB cable 2m (type A to B)
Part number:VSC24



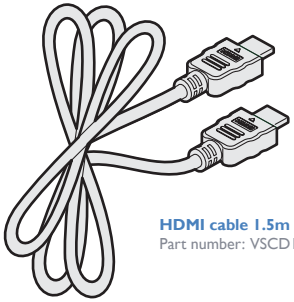
Audio cable 2m (3.5mm stereo jacks)
Part number:VSC22



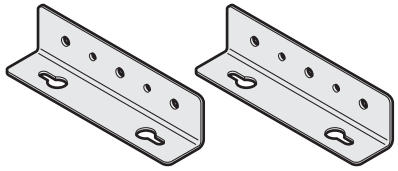
Replacement power adapter with locking connector
Part number: PSU-IEC-12VDC-1.5A

Country-specific power cords

CAB-IEC-AUS	*(Australia)*
CAB-IEC-EURO	*(Central Europe)*
CAB-IEC-UK	*(United Kingdom)*
CAB-IEC-USA	*(United States)*
CAB-IEC-JAPAN	*(Japan)*

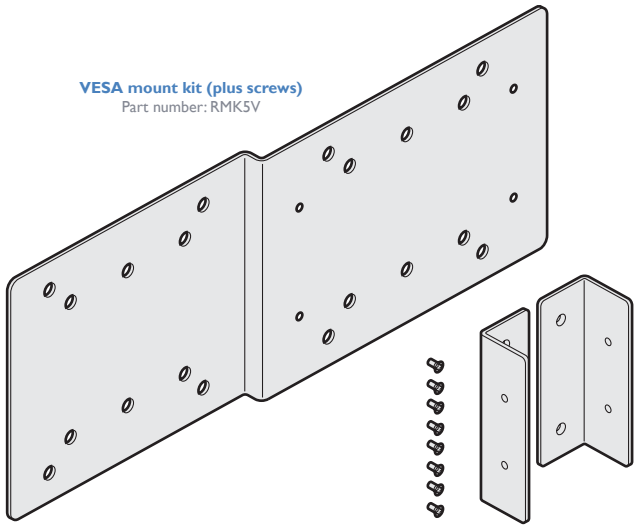


HDMI cable 1.5m
Part number: VSCD15



Wall/desk mounting kit (plus screws)
Part number: RMK10

VESA mount kit (plus screws)
Part number: RMK5V



Installation

LOCATIONS

Please consider the following important points when planning the position of the AdderLink XDIP nodes:

- Situate the transmitter node close to the system to which it will be connected and near to a source of mains power (if powering will not take place via PoE through the network cable). Place the receiver node in similar close proximity to the peripherals that it will connect with, plus a source of mains power.
- Consult the precautions listed within the Safety information section.
- Connections do not need to be carried out in the order given within this guide, however, where possible connect the *power in* as a final step.

MOUNTING

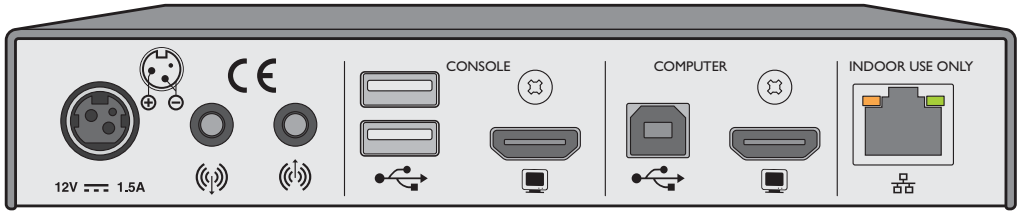
Before you begin making connections to the AdderLink XDIP nodes, it is advisable to first mount the nodes in place, either:

- On a horizontal surface using the supplied self adhesive feet, or
- On a vertical surface using the optional wall/desk mounting kit, or
- Within an optional rack mount bracket.

CONNECTIONS

Connections to each node will be determined by the nature of your installation as well as their intended transmitter or receiver designations.

All connections are grouped into five main areas:



Power connection

Audio connections

Console connections
(USB port also available on the front panel)

Computer connections

Link connection

The pages that follow discuss the various connections.

Computer connections

Computer connections are always made at the transmitter node, but can also optionally be made at the receiver node, where channel switching between local and remote computer sources is required.

Notes:

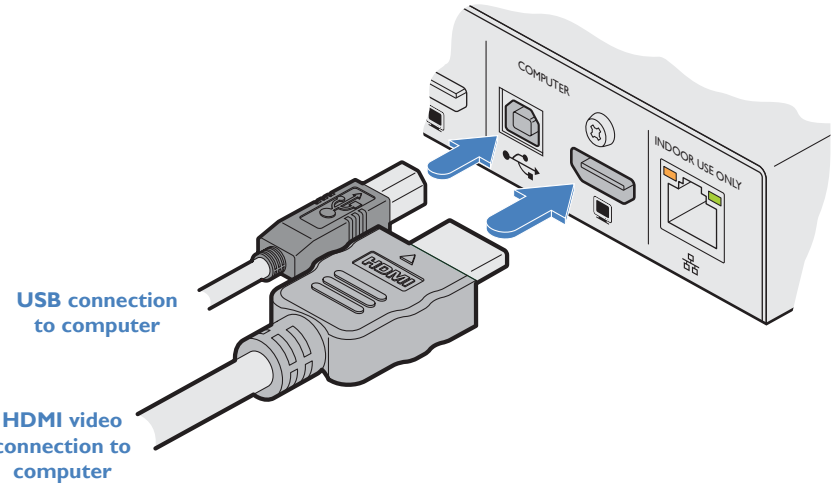
- *When a local computer is connected to a receiver node, it can only be accessed from that receiver, no other receivers can gain access to it.*
- *Video resolutions up to 1920 x 1200 @ 60Hz are supported.*
- *HDMI audio is not supported; please use the audio in/out ports to transfer audio signals.*

To make computer connections

1 Insert the supplied HDMI cable between the HDMI video socket (in the **COMPUTER** section) and the video output port on the computer.

HDMI offers the great advantage that it is a straightforward task to convert its signals to and from other common video formats (DisplayPort, DVI and VGA) - See page 8.

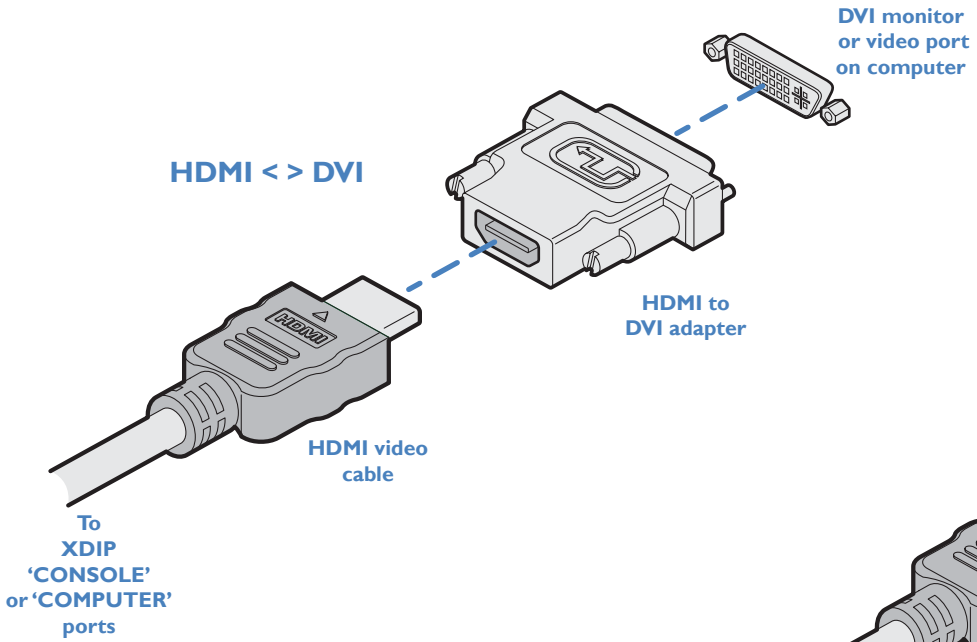
2 Insert the supplied USB type A to type B cable between the USB socket (in the **COMPUTER** section) and a vacant USB port on the computer.

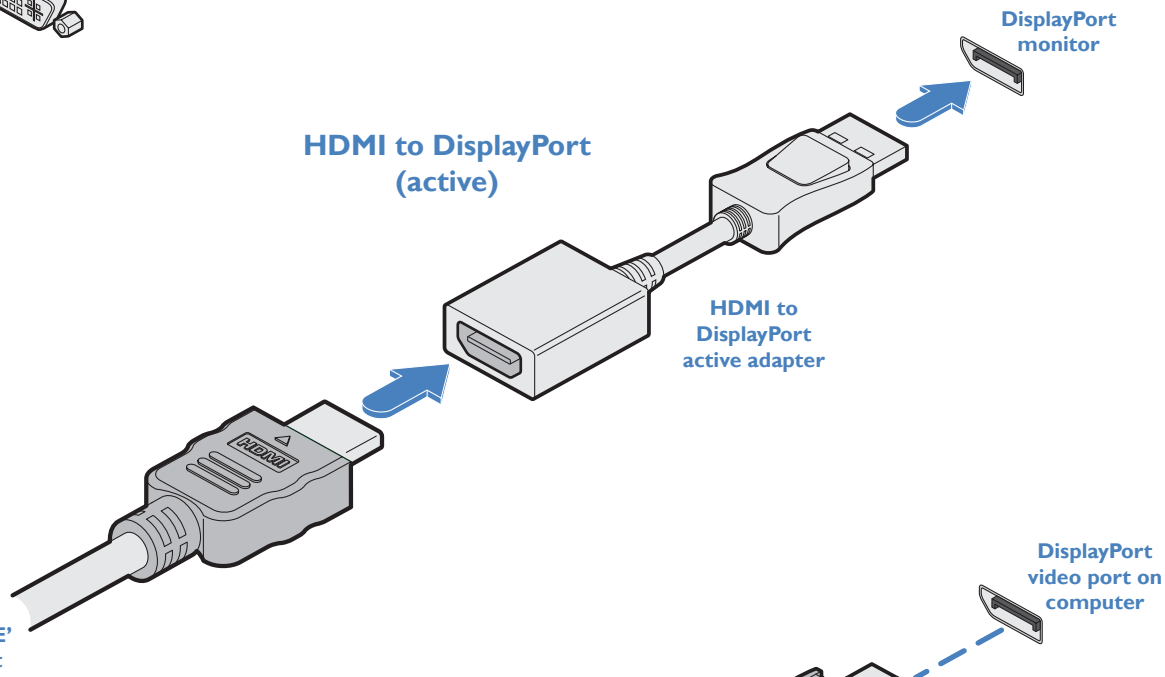


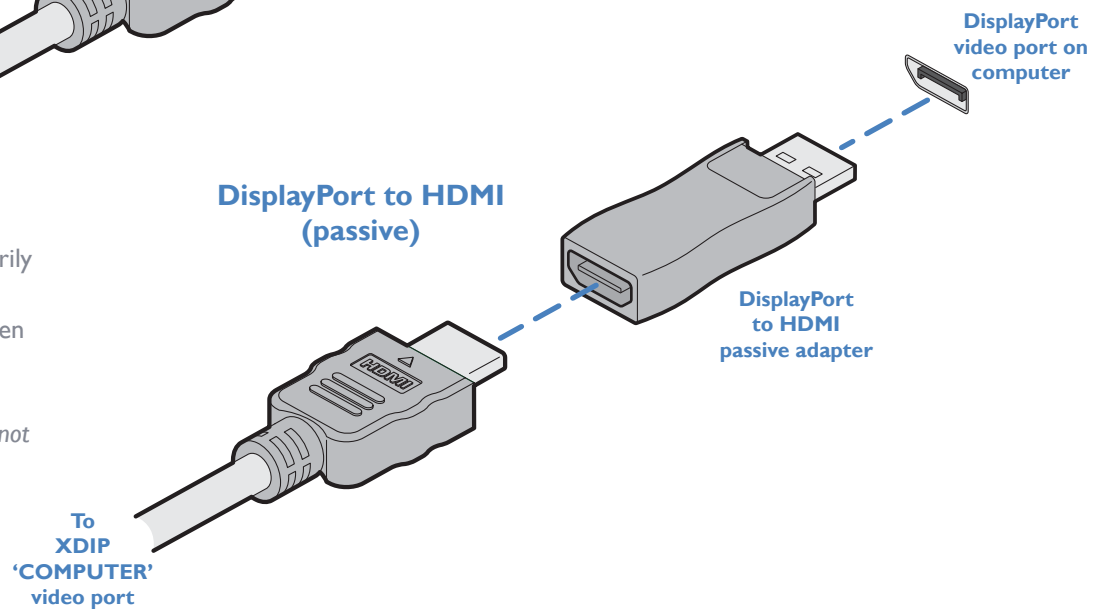
Video format conversion

One of the many advantages offered by the HDMI (High Definition Multimedia Interface) standard is the ease with which it can be converted into- and out of- numerous other video formats, including single link DVI-D, DisplayPort and VGA (see next page).

Note: HDMI conversion cables and adapters (apart from the Adder DVA) are not available from Adder, but are widely sold elsewhere.





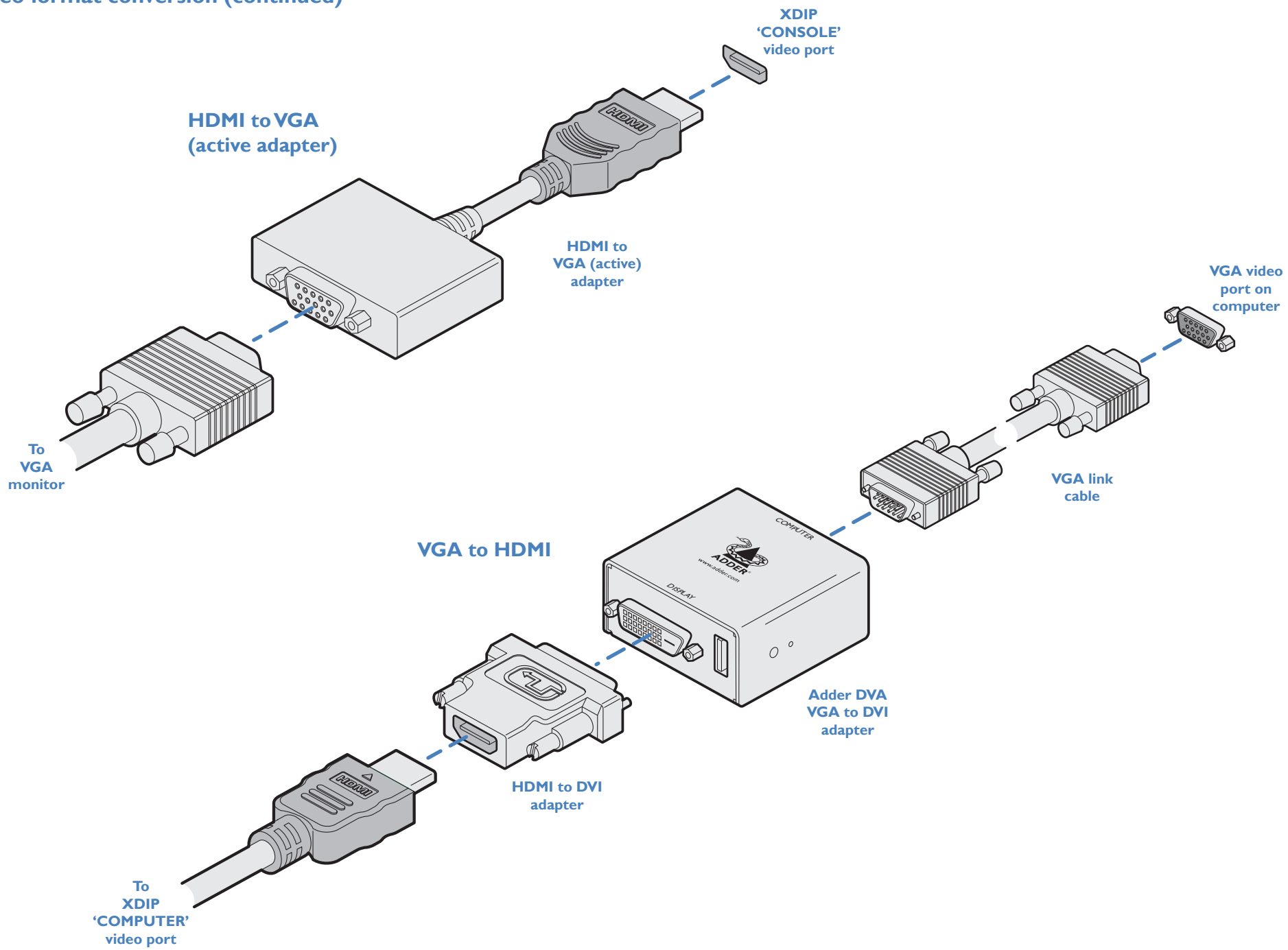


DisplayPort/HDMI adapters - active or passive?

The choice of whether to use an active or passive adapter depends primarily upon the signal source.

If your computer outputs *Dual-mode DisplayPort* (also known as DP++), then you can use a (cheaper) passive adapter to derive a *Single-link HDMI* feed.

Conversely, when converting from HDMI to DisplayPort (to use with a DisplayPort monitor), the adapter will always be active. *Note: Adapters are not bi-directional, specific models are required to go from DisplayPort to HDMI and vice versa.*


XDIP
'CONSOLE'
video port
HDMI to VGA
(active adapter)
HDMI to
VGA (active)
adapter
VGA video
port on
computer
To
VGA
monitor
VGA link
cable
VGA to HDMI
COMPUTER
DISPLAY
Adder DVA
VGA to DVI
adapter
HDMI to DVI
adapter
To
XDIP
'COMPUTER'
video port

Console connections

Console connections (video monitor and/or USB peripherals) are always made at the receiver node, but can also optionally be made at the transmitter node, if local control (or monitoring) of the computer is required in addition to remote control.

Notes:

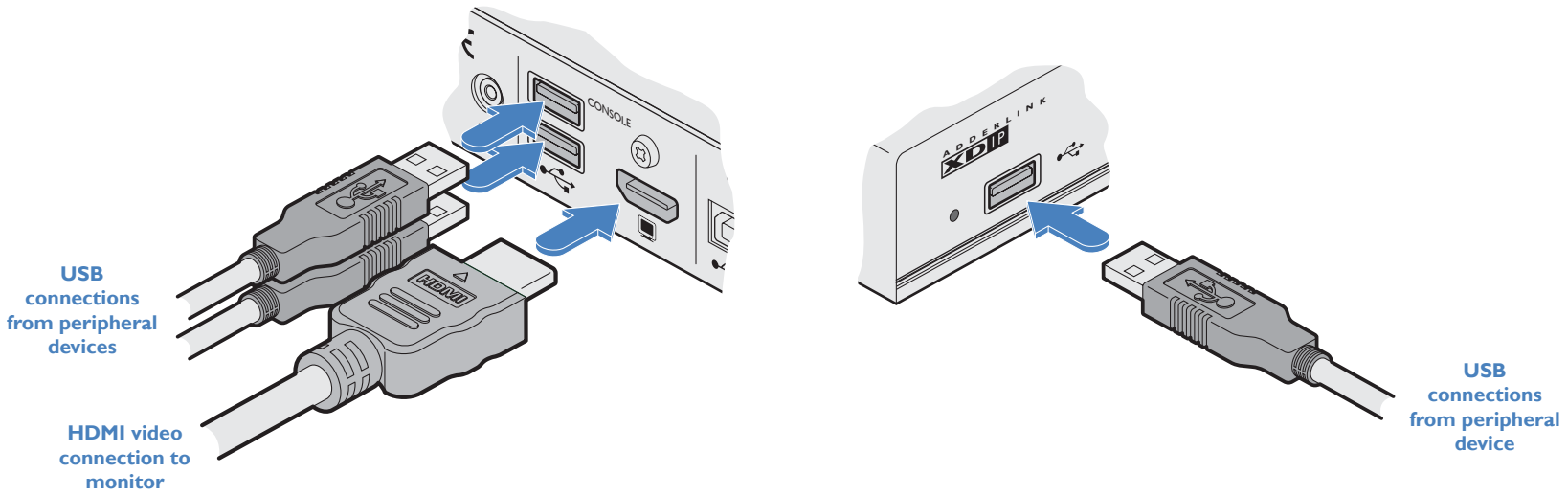
- *Video resolutions up to 1920 x 1200 @ 60Hz are supported.*
- *HDMI audio is not supported; please use the audio in/out ports to transfer audio signals.*

To make console connections

1 Insert the supplied HDMI cable between the HDMI video socket (in the **CONSOLE** section) and the video port on your monitor.

HDMI offers the great advantage that it is a straightforward task to convert its signals to and from other common video formats (DisplayPort, DVI and VGA) - See page 8.

2 Connect the USB leads from your mouse and keyboard to the two sockets on the rear panel. The single socket on the front panel is also available (all three USB ports operate in the same manner).



Audio connections

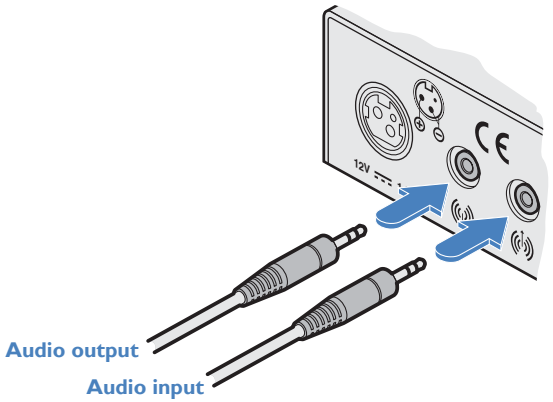
The transmitter and receiver nodes can transfer CD-quality stereo audio (16-bit sampling at 48kHz) in both directions. Headphones are supported up to 32 Ohms impedance.

Note: HDMI audio is not supported. Audio transfer is handled exclusively by the audio in/out ports.

To make audio connections

1 Connect your audio input (e.g. line out from the local computer, etc.) to the audio input (right hand) 3.5mm socket labeled on the rear panel.

2 Connect your audio output (e.g. speakers or headphones, etc.) to the audio output (left hand) 3.5mm socket labeled on the rear panel.



Link connection

As required, links between nodes can be made in two main ways, either:

- Directly between two nodes, using a single cable up to 100 meters in length, Minimum cable specification: CAT5e, S/FTP preferred,

  or

- Via a network switch to allow interaction between receiver/transmitter combinations.

  Minimum network switch specifications:

  - 1Gb transfer rates.
  - IGMP (Internet Group Management Protocol) to at least level 2 (preferably level 3) in order to allow efficient multicasting while keeping network bandwidth low.
  - IGMP Fast Leave and IGMP Snooping must be enabled.

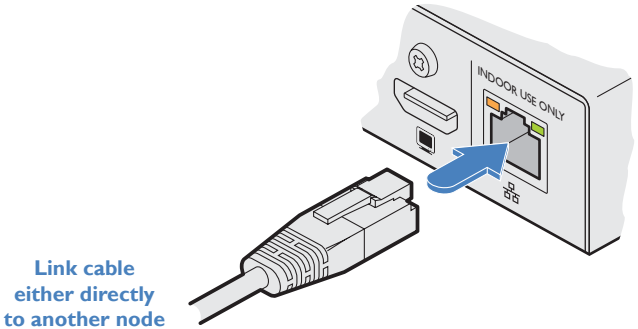
  Optional network switch specification:

  - PoE 802.3af - The nodes also support the Power over Ethernet standard to allow operation without separate power adapters when used with a supporting network switch.

To make a link connection

1 Insert a standard network cable into the socket on the far right of the rear panel.

2 Connect the other end of the cable either directly to another node, or to a suitable network switch.

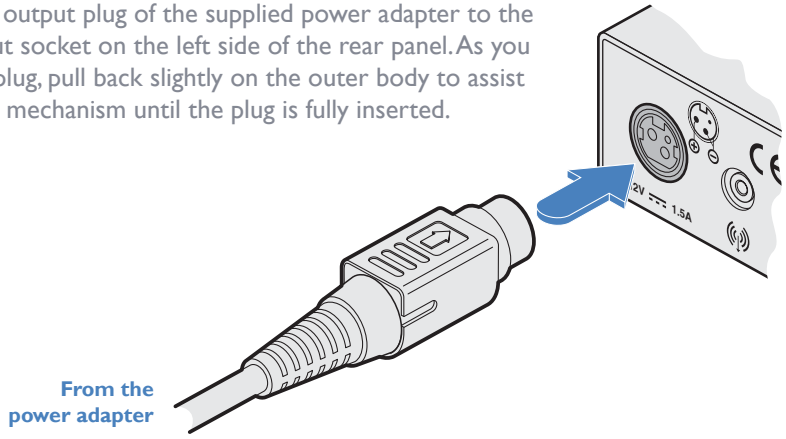


Power connection

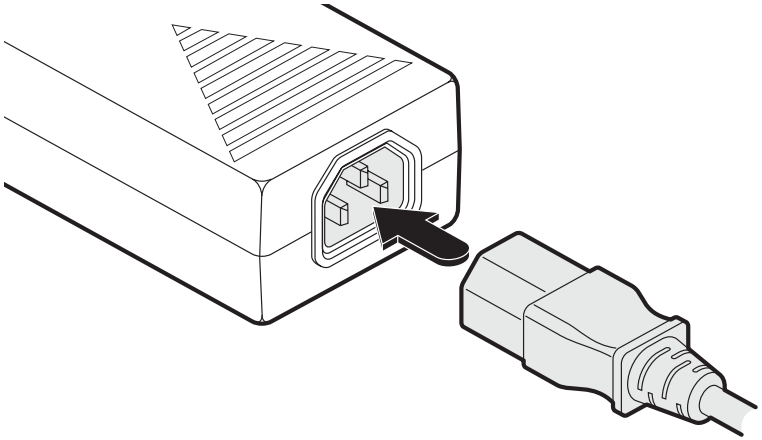
Each node can be powered using its supplied power adapter or alternatively via the Ethernet link connection, when used with network switches which support the PoE 802.3af standard. The power adapters supplied with the nodes use locking-type plugs to help prevent accidental disconnections; please follow the instructions shown on the right when disconnecting a power adapter.

To connect the power adapter

1 Attach the output plug of the supplied power adapter to the power input socket on the left side of the rear panel. As you insert the plug, pull back slightly on the outer body to assist the locking mechanism until the plug is fully inserted.



2 Insert the IEC connector of the supplied country-specific power cord to the socket of the power adapter.



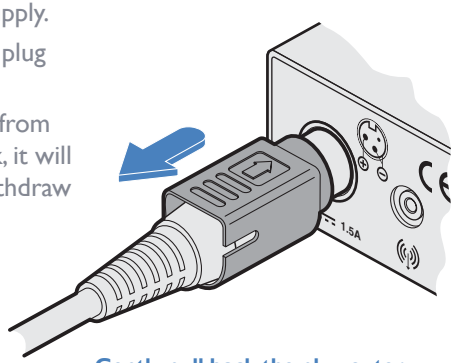
3 Connect the power cord to a nearby mains supply socket.

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 node.

3 Gently pull the body of the outer plug away from the node. As the body of the plug slides back, it will release from the socket and you can fully withdraw the whole plug.



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.

Note: Both the nodes and the power supplies generate heat when in operation and will become warm to the touch. Do not enclose them or place them in locations where air cannot circulate to cool the equipment. Do not operate the equipment in ambient temperatures exceeding 40 degrees Centigrade. Do not place the products in contact with equipment whose surface temperature exceeds 40 degrees Centigrade.

Configuration

INITIAL CONFIGURATION

To streamline the initial installation procedure, AdderLink XDIP nodes use a configuration wizard to guide you through the necessary stages. For the simplest installations, this may be all that is necessary to completely tailor the nodes to your requirements. However, for more complicated installations you may also need to access the main Admin menu (see page 20) once the initial configuration is complete.

AdderLink XDIP configuration is primarily driven via the receiver(s). During the initial configuration and subsequent post-installation alterations, a transmitter can be configured via a receiver, but not vice versa. Also, one receiver cannot configure another receiver. Where two or more receiver nodes will be required, run the wizard from the first receiver node and, once complete (including all transmitter nodes), move to the console of the next required receiver node and run the configuration wizard again from there. Transmitters configured in the first run can be associated with multiple receivers, as required.

Navigating the configuration wizard, OSD and Admin menu

The AdderLink XDIP user interface has been carefully designed to be easily navigated by either mouse, keyboard or a combination of both.

When using the mouse, you merely need to point and click on screen items. As the mouse hovers over a screen item, if it is clickable it will become highlighted.

When using the keyboard to navigate, use the following keys:

- ***Tab key*** - To move forward between sections.
- ***Shift + Tab keys*** - To move backward between sections.
- ***Arrow keys*** - To change between the options within a section.
- ***Enter key*** - To select the highlighted option.
- ***Esc key*** - To exit the current page.

On a receiver node, to display the OSD:

- Press CTRL + ALT + C *

Once the OSD is displayed, to enter the Admin menu:

- Select the ⚙ icon in the top right corner of the page.

See page 30 for more details about keyboard navigation during operation.

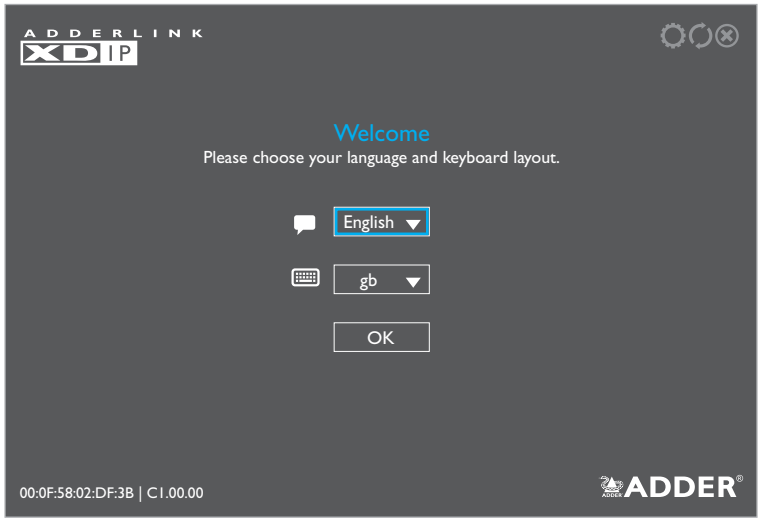
To use the configuration wizard

Note: If you are creating a transmitter to add into an existing installation, skip to page 17.

1 Connect your various AdderLink XDIP nodes as discussed in the Installation section.

2 Power on all nodes. Nodes that are currently in their *Start of Life* state will show their front panel PWR indicators in red (configured transmitters show green while receivers show blue). To return a node to its Start of Life state, you need to *Restore* it, see page 19.

3 Using a monitor, keyboard and mouse connected to the *Console* ports of an intended receiver node, you should see the following opening page:



Note: The node's PWR indicator should be red at this stage. If not, restore the node to its default settings (see page 19).

4 If necessary, change the language and keyboard layout.

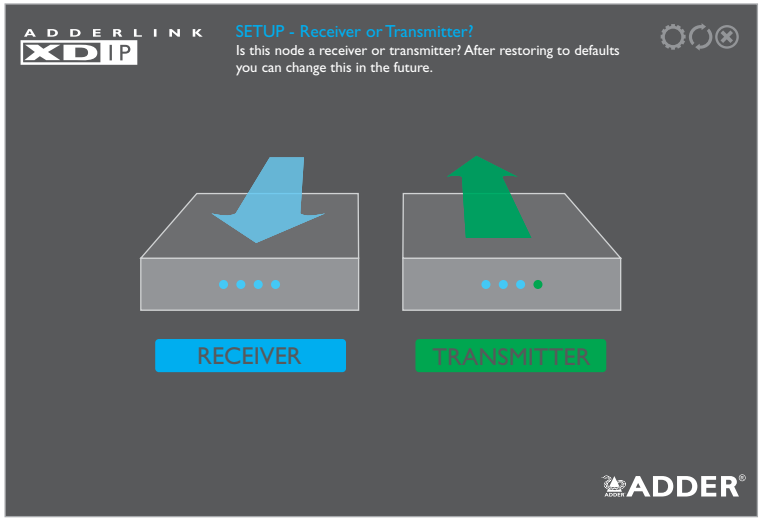
5 Click OK to continue.

continued

* *Note: The standard hotkey combinations can be changed. See page 21.*

INITIAL CONFIGURATION (continued)

You will now be given a choice of turning this *Start of Life* node into either a receiver or a transmitter:

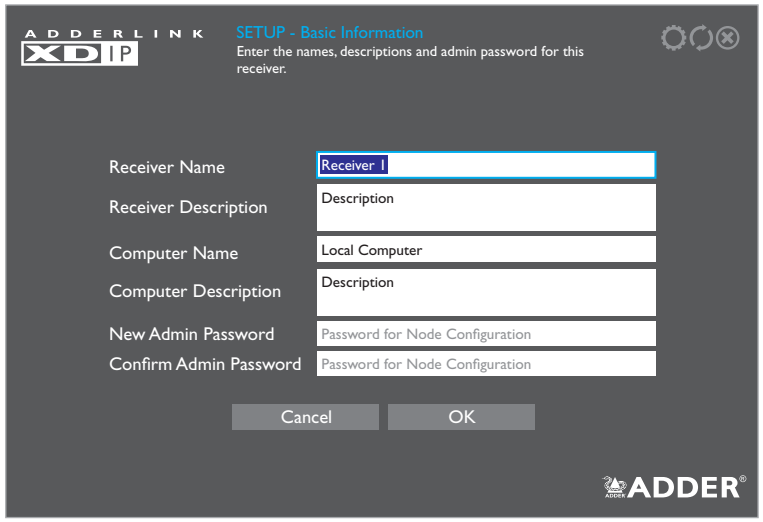


Note: When using the configuration wizard to create a full installation, it is quicker and more efficient to configure all transmitters via a node that will become a receiver, rather than configuring each of the intended transmitters separately.

6 Choose the required setting:

- If you are setting up a mixture of receiver(s) and transmitter(s), click the RECEIVER option.
- If you are creating a transmitter to add into an existing installation, click the TRANSMITTER option. See page 17.

If you chose the RECEIVER option, you will now be given the opportunity to enter details for the node to which your console peripherals are currently connected:



7 Enter the details for this receiver, including the password (required to administer the configuration details). The *Computer Name/Description* fields refer to a local computer connected directly to this receiver, if present.

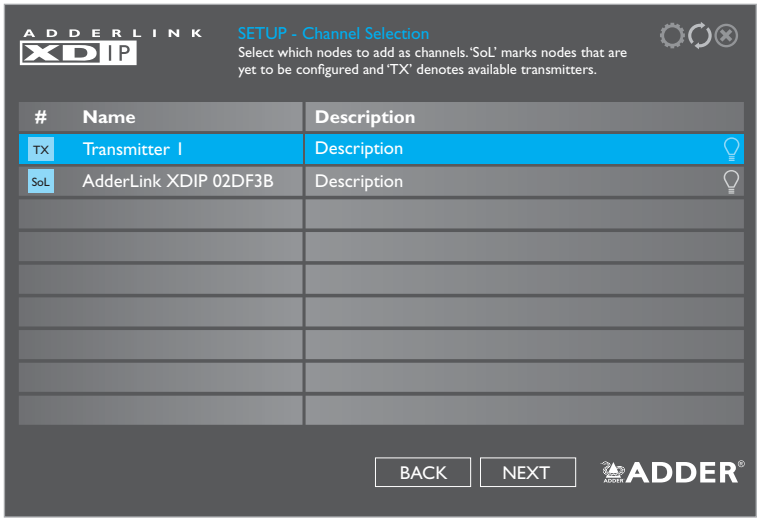
Note: Passwords can be left blank, but this is not recommended.

8 Click OK.

continued

INITIAL CONFIGURATION (continued)

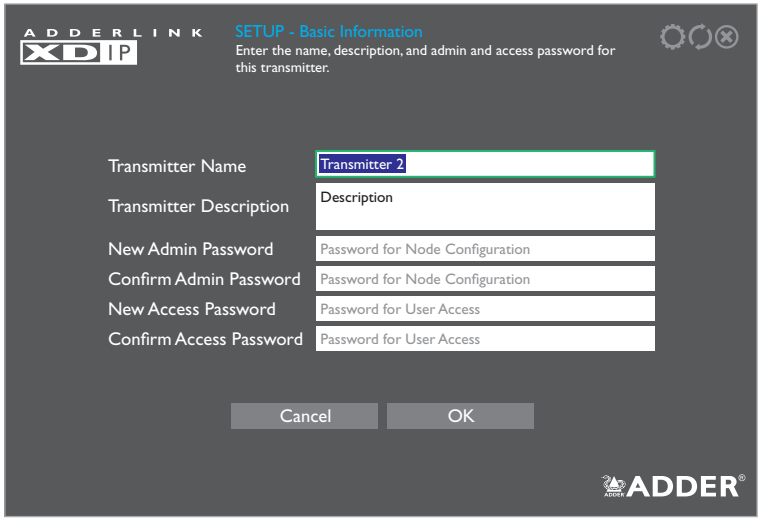
You will now see a list of all discovered nodes. If an entry shows ***SoL*** *(Start of Life)* then it is unconfigured (that node's PWR indicator will also show red). Otherwise, any discovered transmitter node, that is already configured, will show ***TX***:



Notes

- *If you are adding several nodes at once and need to identify a particular node, click the icon to flash the front panel indicators of the chosen node in the list.*
- *If nodes have been added since displaying the list, click the icon to refresh the list.*

9 Click an entry marked ***SoL*** to configure it as a transmitter:

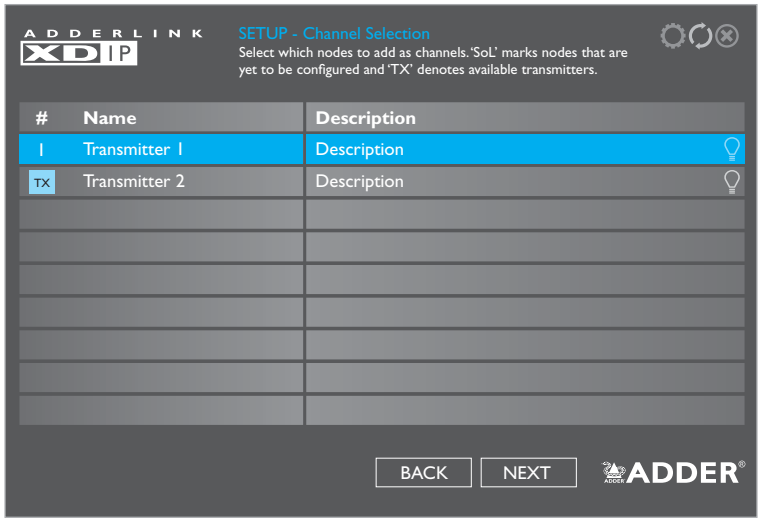


10 Enter the details for this transmitter, including two separate passwords:

- The *Admin Password* is required to administer the configuration details only,
- The *Access Password* allows you to restrict who is allowed to connect to this transmitter. When the Access Password is set, a user will be prompted to enter it when first attempting to add this transmitter node to their receiver node's channels list; if the Access Password is left blank, there will be no access restrictions.

Note: The Name and Description fields for each entry cannot be left blank.

11 Click OK. The discovered nodes will be again listed, showing any changes you have made to the name(s) and description(s):



12 Repeat steps 9 to 11 for each listed ***SoL*** node.

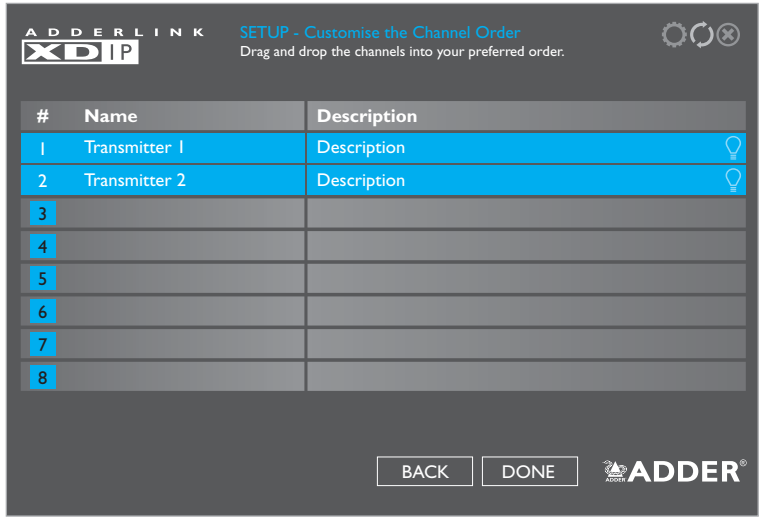
13 Ensure that all the transmitters (8 maximum), to which you wish to connect from this receiver, show a number in the left hand column. If an entry shows ***TX***, it is yet to be connected. Click on the entry to connect it with this receiver; if an access password is set on the transmitter, you will be asked to enter it. Once successfully connected, the ***TX*** for the entry will change to a number.

14 When all transmitters have been connected, click NEXT.

continued

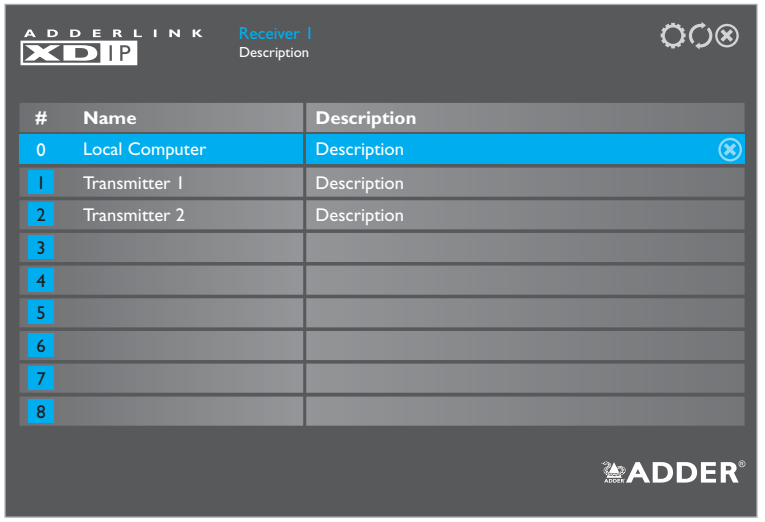
INITIAL CONFIGURATION (continued)

15 You can now optionally change the order of transmitters in the channel list. Click, hold and drag an entry to the required slot:



16 When all transmitters are in the required order, click DONE.

17 The receiver will now show the Channel List:



From here you can choose between a local computer (if connected to your receiver) or any of the associated transmitters. See page 30 for details about operation.

INITIAL CONFIGURATION (continued)

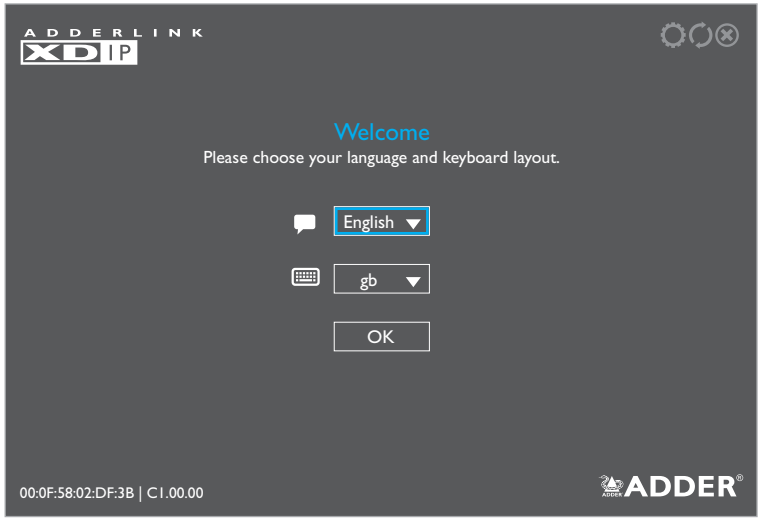
To add a new transmitter

Use this procedure to configure a new *Start of Life* node into a transmitter for inclusion within an existing installation:

1 Connect your console devices (video monitor, USB keyboard and/or mouse) plus power input to the new Start of Life node (as discussed in the Installation section).

For this procedure the new node can be configured either in isolation or fully linked into your XDIP installation, as required.

2 You should see the following opening page:

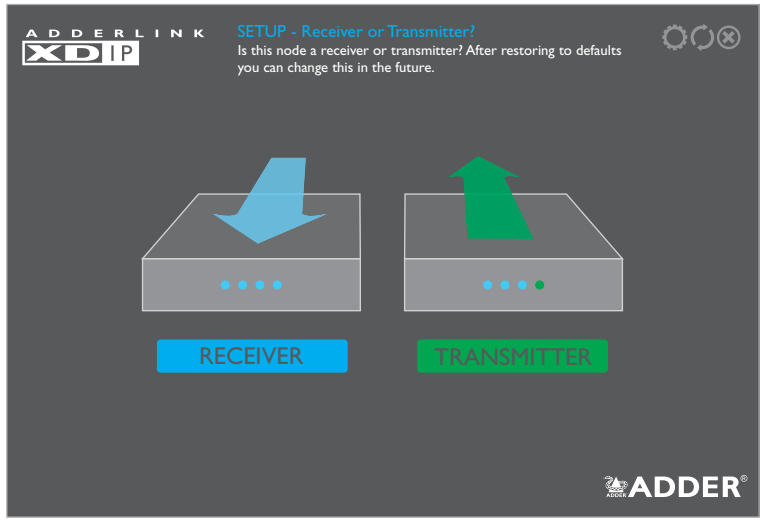


3 If necessary, change the language and keyboard layout.

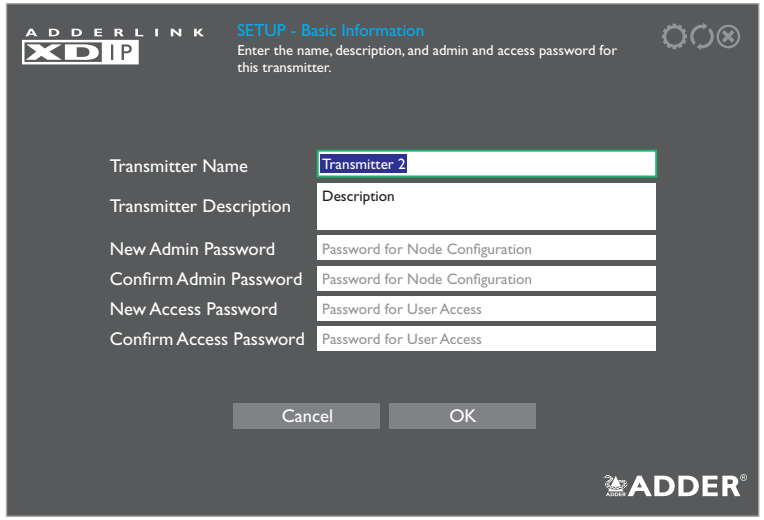
Note: The node's PWR indicator should be red at this stage. If not, restore the node to its default settings (see page 19).

4 Click OK to continue.

You will now be given a choice of turning this *Start of Life* node into either a receiver or a transmitter:



5 Click the TRANSMITTER option. You can now enter the details for the node to which your console peripherals are currently connected:



Alternative shortcut for adding a new transmitter

1 Connect your new node fully into the XDIP installation.

2 From a receiver, enter the OSD and then enter the Admin menu.

3 Choose the *Setup Channels* page and click the ⊕ icon in the lower right corner.

4 Click the new *SoL* entry in the list.

5 Configure the necessary transmitter details and click OK.

6 Click the *Back* button to return to the Channels List and, if necessary, adjust the position of the new transmitter within the list.

7 Click the ⊗ icon to exit to the OSD channel list.

continued

INITIAL CONFIGURATION (continued)

6 Enter the details for this transmitter, including two separate passwords:

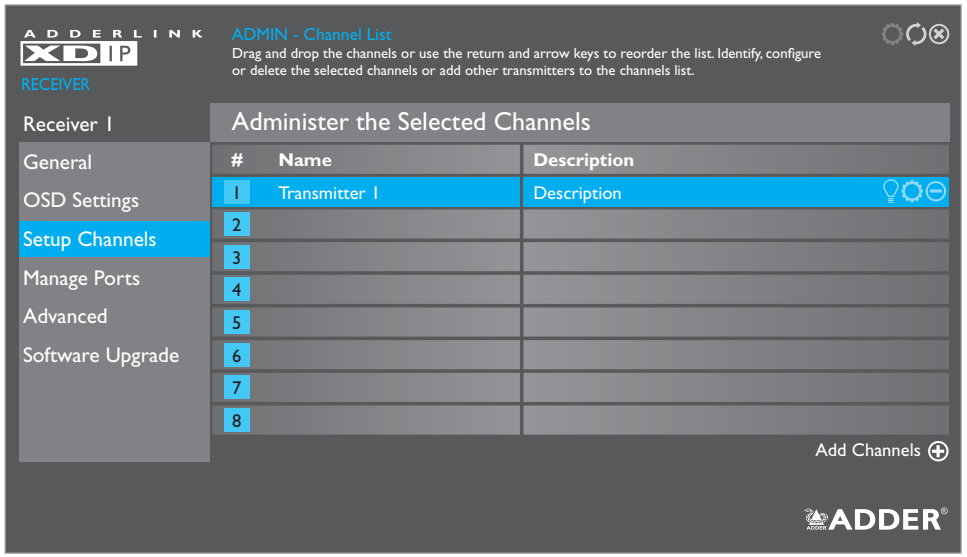
- The *Admin Password* is required to administer the configuration details only,
- The *Access Password* allows you to restrict who is allowed to connect to this transmitter. When the Access Password is set, a user will be prompted to enter it when first attempting to add this transmitter node to their receiver node's channels list; if the Access Password is left blank, there will be no access restrictions.

Note: The Name and Description fields for each entry cannot be left blank.

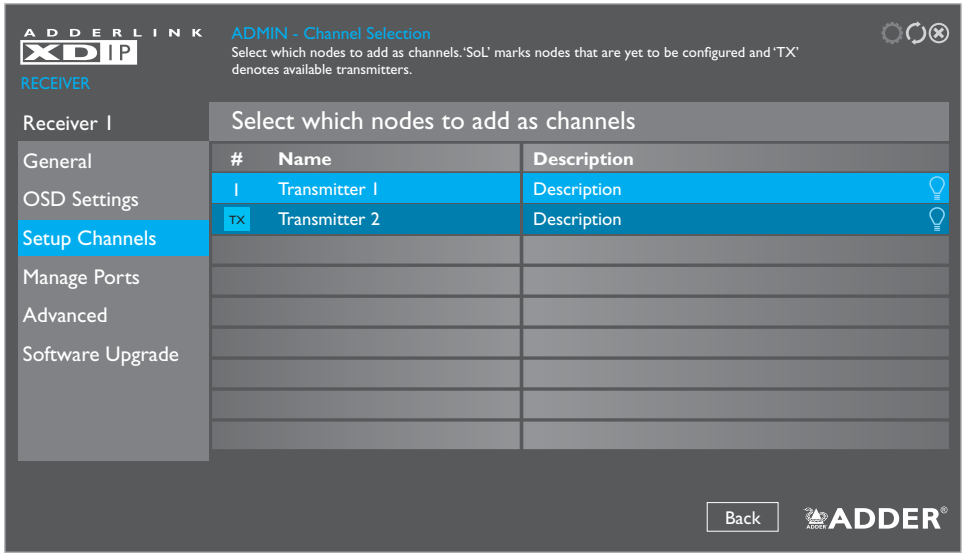
7 The basic configuration for this node is now complete but it still needs to be registered within the XDIP network. If the new node is not already physically linked into your XDIP installation, connect it now (see page 11).

8 Using the console peripherals connected to a receiver node within the installation, enter the receiver's OSD: Press CTRL + ALT + C *

9 Click the ⚙ icon in the top right corner and then choose the *Setup Channels* page:

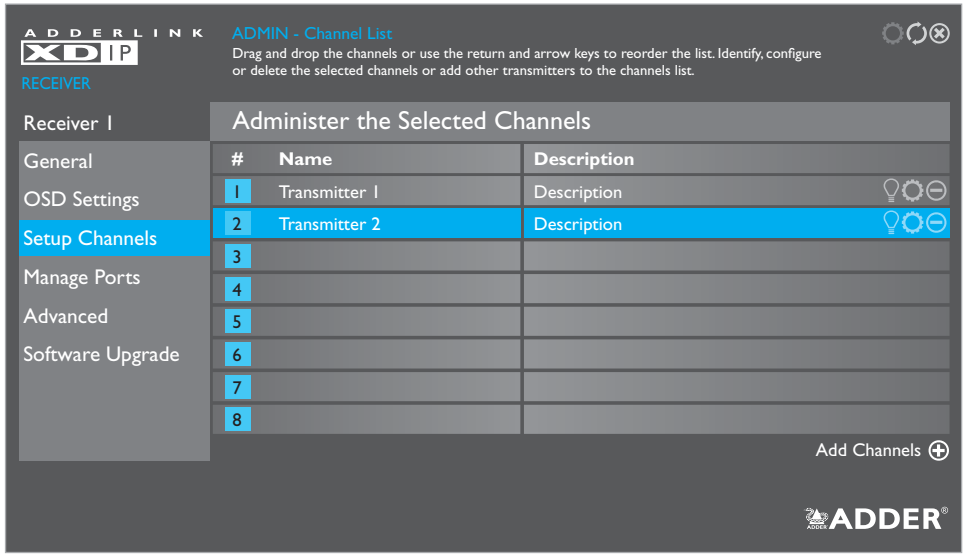


10 Click the ⊕ icon in the lower right corner to list all available transmitter (and *SoL*) nodes:



11 Move the highlight to your new node and select it so that the TX prefix becomes a channel number (the shade of the highlight will also change). Repeat this step for any other new nodes that need to be included.

12 Click the Back button to return to the Channel List:



Your new node is now integrated and ready to be selected. Click the ⊗ icon in the top right corner to exit from the Admin menu. See page 30 for details about Operation.

** Note: The standard hotkey combinations can be changed. See page 21.*

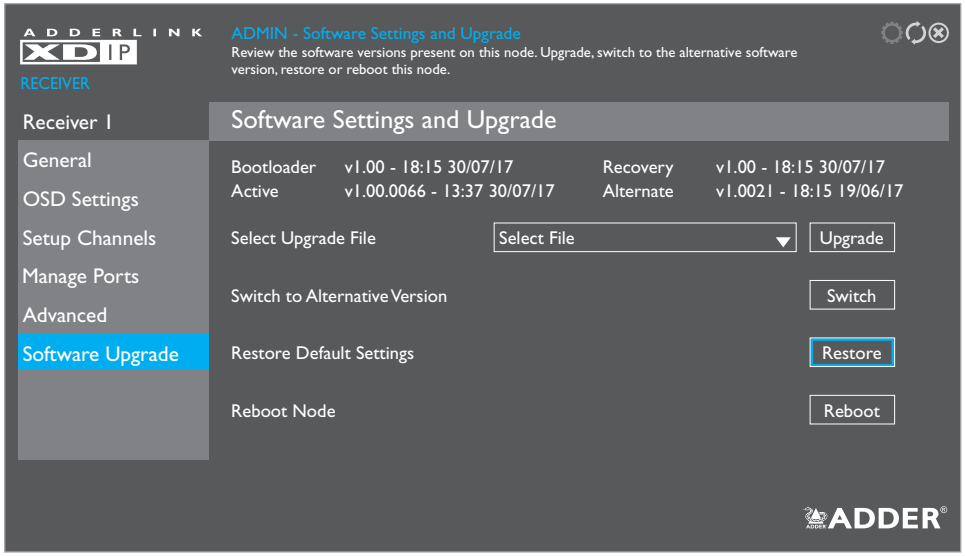
RESTORING A NODE

In order to obtain the full benefit of the configuration wizard when creating a new installation, it may be necessary to restore the default settings to your XDIP nodes.

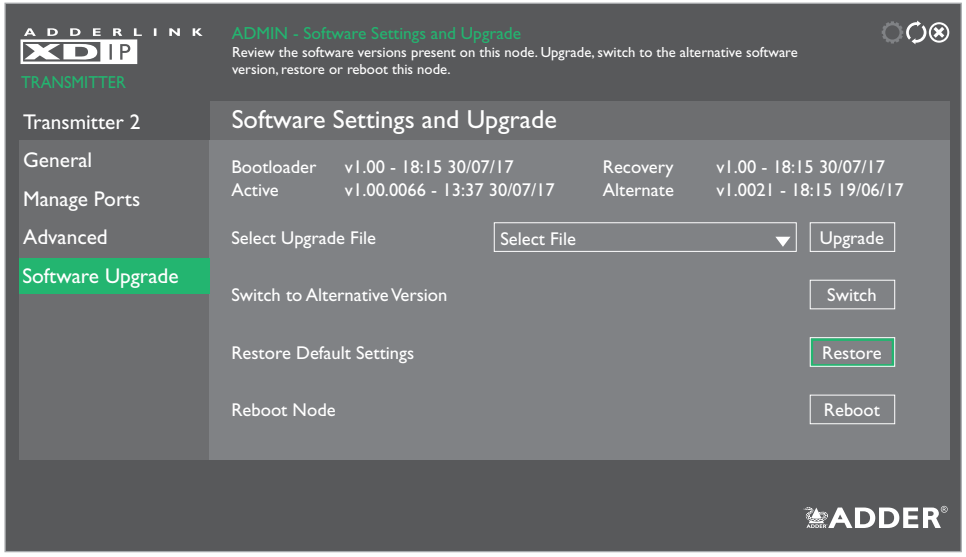
Note: A restore operation will reset all configuration settings and cannot be undone.

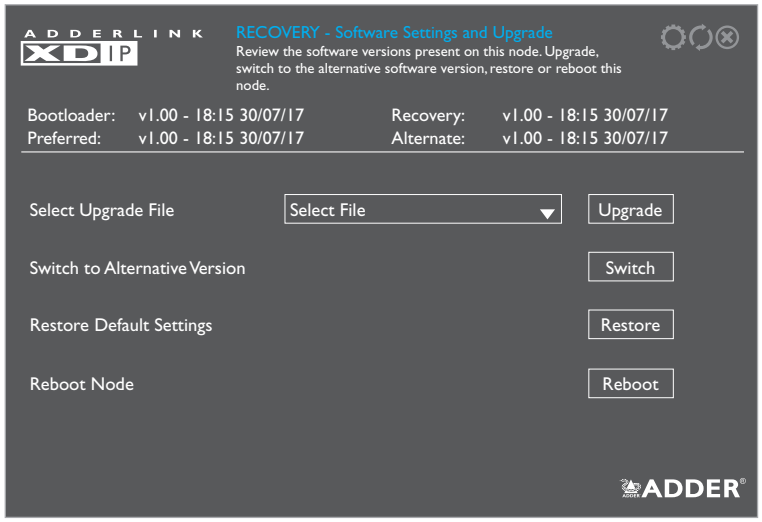
A restore operation can be invoked in various ways:

- *[Receivers]* Display the channel list and then click the ⚙ icon in the top right corner. If requested, enter the admin password and then choose the ***Software Upgrade*** page. Click the ***Restore*** button:



- *[Transmitters]* From any connected receiver node, display the channel list and then click the ⚙ icon in the top right corner. If requested, enter the admin password and then choose the Setup Channels page.
- Click the ⚙ icon shown next to the name of the transmitter that you wish to restore, then choose the ***Software Upgrade*** page and click the ***Restore*** button:





- *[Receivers or transmitters]* Use a narrow implement (such as a straightened out paper clip) to press and hold the recessed reset button on the front panel (while power is applied) for just over ten seconds until the front panel PWR indicator flashes; then release the button and wait for the node to reboot and display the Recovery page. Click the ***Restore*** button.

Notes:

- *The reset button is within the hole to the left of the USB socket.*
- *You will need a minimum of a monitor and either keyboard/mouse connected to the node being restored.*

ADMIN MENUS

Once an AdderLink XDIP installation has undergone its initial configuration, if necessary you can make further alterations using the Admin menu. An Admin menu is accessible via each receiver, wherein changes can be made to that receiver and/or any of the linked transmitters.

To enter the Admin menu

1 From any connected receiver node, enter the receiver's OSD: Press CTRL + ALT + C*

2 Click the ⚙ icon in the top right corner to display the receiver's General Settings page (see below), you will be requested to enter an admin password.

Most pages have an *Apply* button which must be clicked after making changes in order to save them. Alternatively, you can select the *Cancel* button to exit a page without retaining your latest changes.

To exit any Admin page, click the ⊗ icon in the top right corner.

To view the configuration details for a transmitter node, see page 26.

** Note: The standard hotkey combinations can be changed, see page 21*

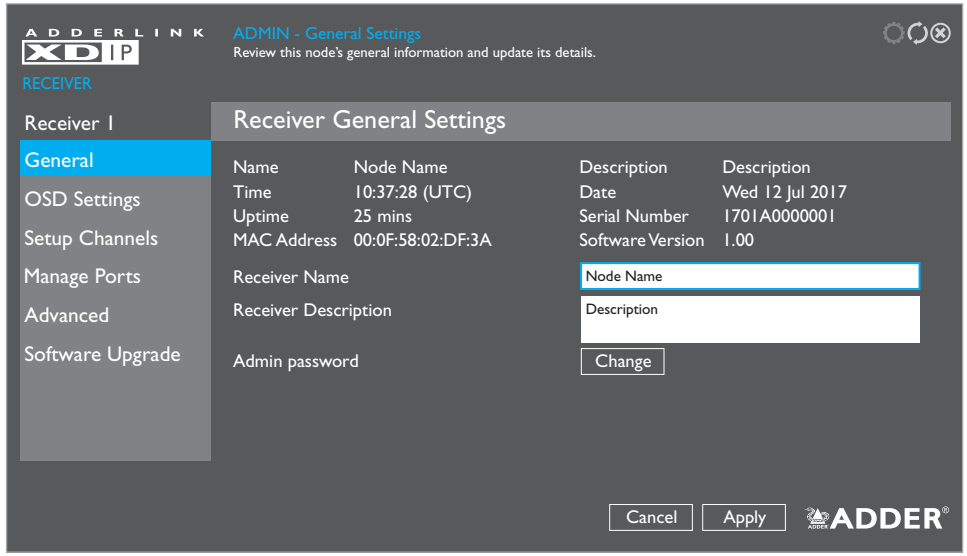
The various parts of the Admin menu are detailed on the following pages:

Receiver node		Transmitter node	
General Settings	*this page*	General Settings	*page 26*
OSD Settings	*page 21*	Manage Ports	*page 27*
Setup Channels	*page 26*	Advanced	*page 28*
Manage Ports	*page 22*	Software Upgrade	*page 29*
Advanced	*page 23*		
Software Upgrade	*page 25*		

Receiver node settings

General Settings page

When you enter the Admin Menu, the first page to be displayed will be the General Settings page for the receiver to which you are directly connected. This page provides basic information for this node:



Name and Description

These tags are useful for differentiation purposes when numerous nodes are being used. Use the *Receiver Name* and *Receiver Description* fields to change them.

Time and Date

These are shown only if access to an NTP server is available. The current time and date are frozen within this page and do not automatically update.

Serial Number

Shows the unique hardware identity applied to this node.

MAC Address

Shows the unique network identity applied to this node.

Software Version

Shows the current main version of internal firmware.

Receiver Name and Receiver Description

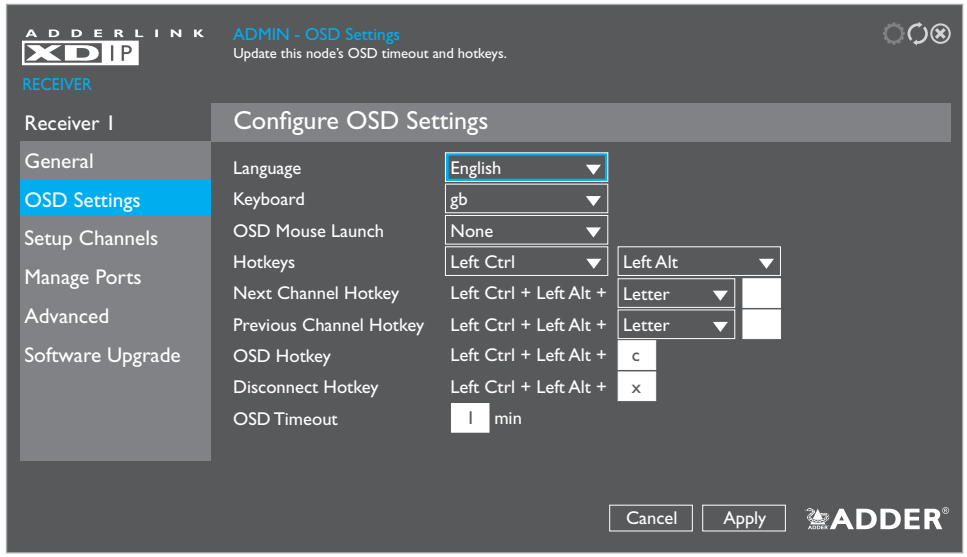
These fields allow you to change the name and description tags for this node.

Admin Password

Allows you to change the administration password (that protects this menu).

OSD Settings page

This page contains all settings related directly to the On Screen Display menu:



Language

Determines the language used for all OSD menu text. Options are: English, Français, Español and Deutsch.

Keyboard

Determines the layout styles used for the keyboard attached to the receiver. Options include: gb, us, fr, de and es.

OSD Mouse Launch

Allows you to optionally choose mouse button combinations that will launch the OSD menu.

Hotkeys

Allows you to change the two main hotkeys which are used to indicate that you wish to communicate with the receiver itself rather than any of the connected computers.

Next and Previous Channel Hotkey

Allows you to define keyboard buttons which, when used together with the chosen main hotkeys, will move to the next or previous channel (based on the receiver node's channel list). Options include Tab, Backspace, Enter, Space, the arrow keys or any keyboard Letter (which needs to be defined in the white box on the right). *Note: If the Letter option is selected, but no letter is defined within the white box, then the functionality is disabled.*

OSD Hotkey

Defines the key which, when used together with the chosen main hotkeys, will display the OSD menu.

Disconnect Hotkey

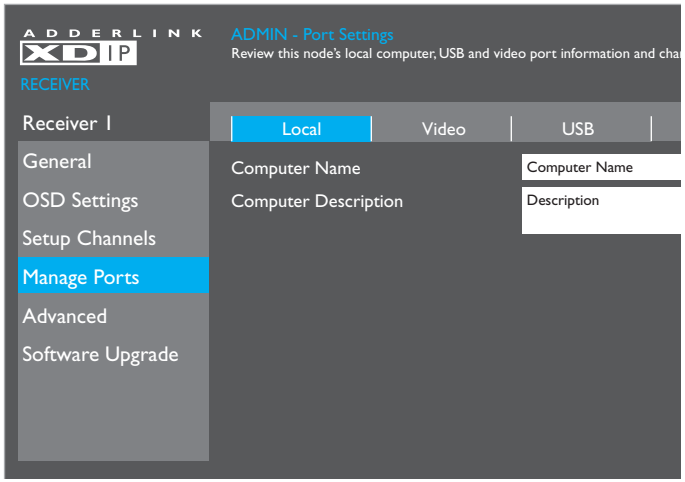
Defines the key which, when used together with the chosen main hotkeys, will disconnect the receiver from the currently chosen channel.

OSD Timeout

Defines the period of inactivity (in whole minutes) that should pass before the OSD menu is automatically exited (0 disables the OSD timeout). *Note:The automatic timeout from the Admin menu is fixed at 15 minutes.*

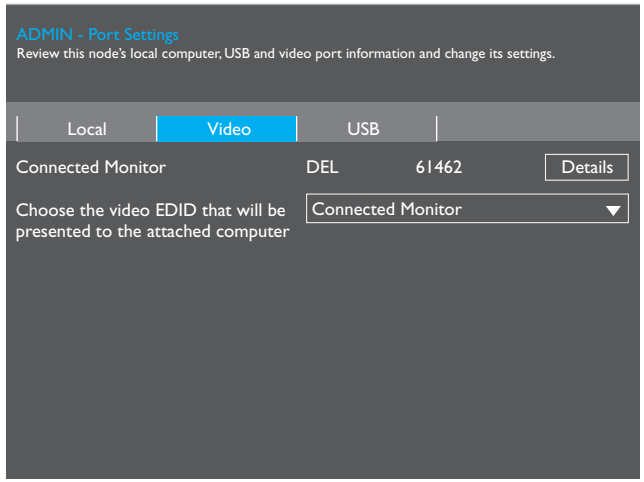
Manage Ports page

All settings within these pages relate to the video monitor, USB devices and/or local computer that are connected to this receiver node.



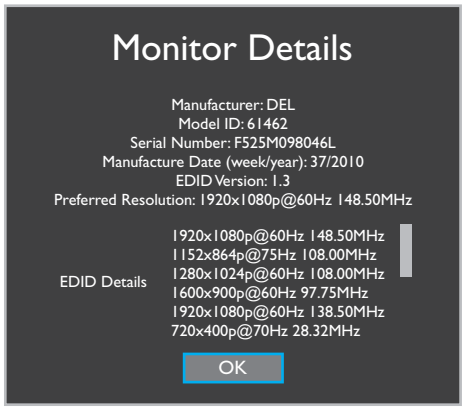
Computer Name and Computer Description

These tags are useful for differentiation purposes when numerous nodes are being used. These fields allow you to change the name and description tags for the computer that is directly attached to this receiver node (shown on the OSD as channel 0).



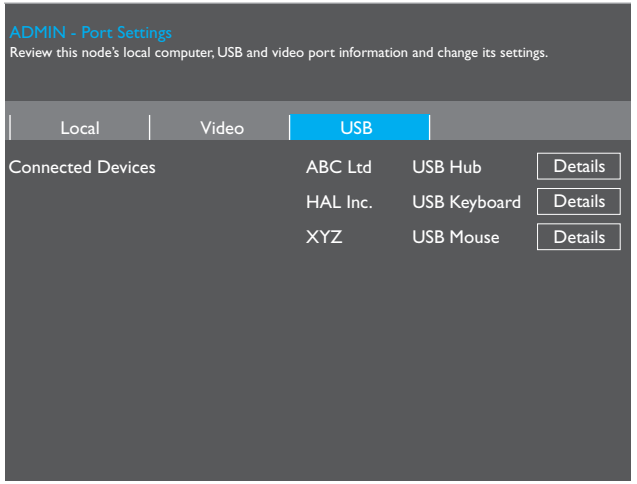
Connected Monitor

Lists the basic details for the monitor connected to the console video output of this receiver node. Click on the *Details* button to view more information about the connected video monitor:



Choose the video EDID....

Allows you to choose to rely upon the *Automatic* EDID configuration for the connected monitor or to manually select one of the listed modes.

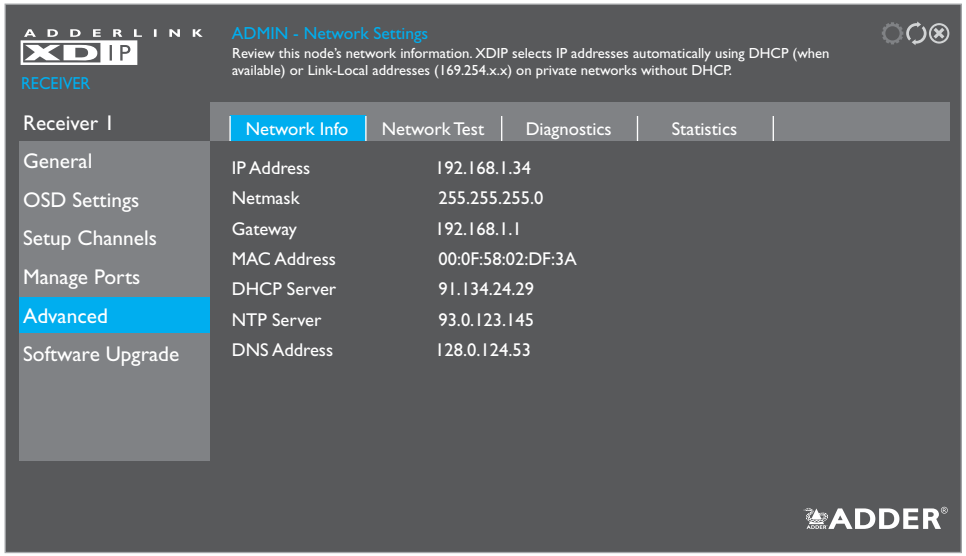


Connected Devices

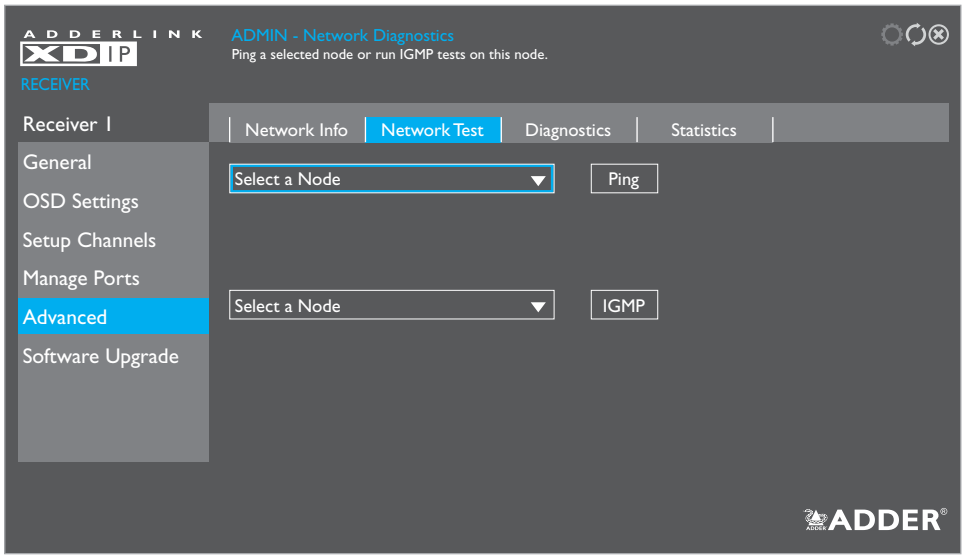
Lists the USB devices which are currently connected to this receiver node. Click the *Details* button to view more information about the device.

Advanced page

The items within these pages relate to the network settings, network test, diagnostic tools and statistics for the chosen receiver node.



Network details are configured automatically in either of two ways: With the use of a DHCP server, if one is available during configuration, or otherwise using Link-Local addresses (169.254.x.x).



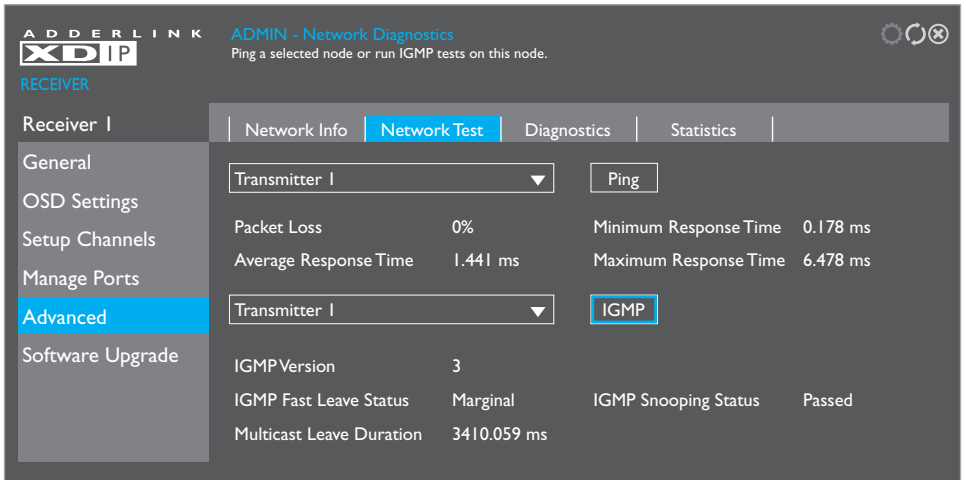
This page provides basic network testing tools to allow you to test and confirm the link between this receiver node and any chosen transmitter node.

Choose a node and click the Ping button to obtain packet loss and speed details.

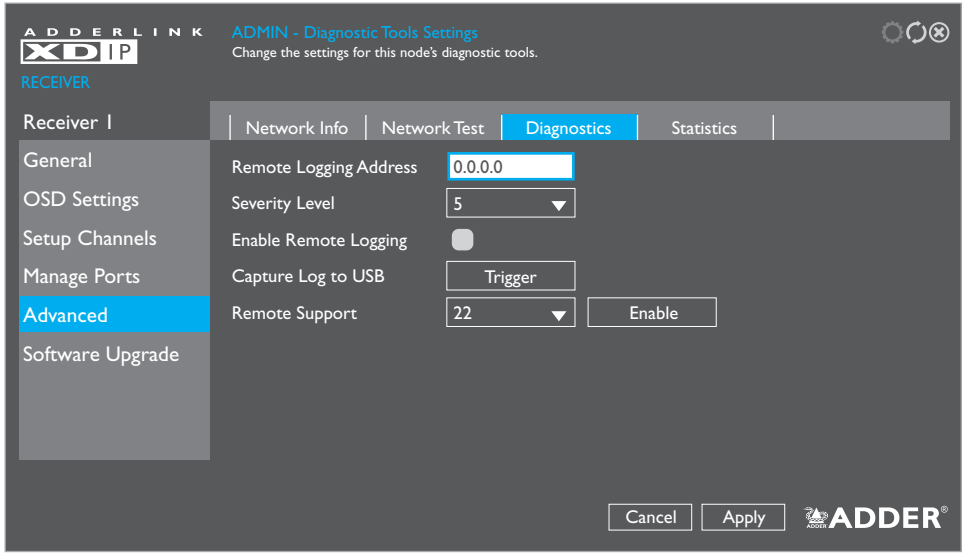
Choose a transmitter node and click the IGMP button to view test results.

Note: IGMP Fast Leave and Snooping must be supported and enabled on your network switch, otherwise these tests will produce a 'Failed' result. A 'Marginal' result indicates that packets are still arriving after an allotted cut off period.

Results are provided in the manner shown below:



Advanced page (continued)



Remote Logging Address

Enter a valid IP address for a syslog server on the local network where status logs can be sent.

Severity Level

Defines the level of messages that will be logged (according to RFC5424). Level 5 *(Notice: normal but significant condition)* is the default setting; XDIP currently supports levels 1 to 7. Choosing levels 6 *(Informational)* or 7 *(Debug)* will cause larger numbers of lesser events to also be logged, with a potential impact to overall performance. These levels should only be used if working with the support team to diagnose a specific issue.

Enable Remote Logging

Tick to send log files to the chosen *Remote Logging Address*.

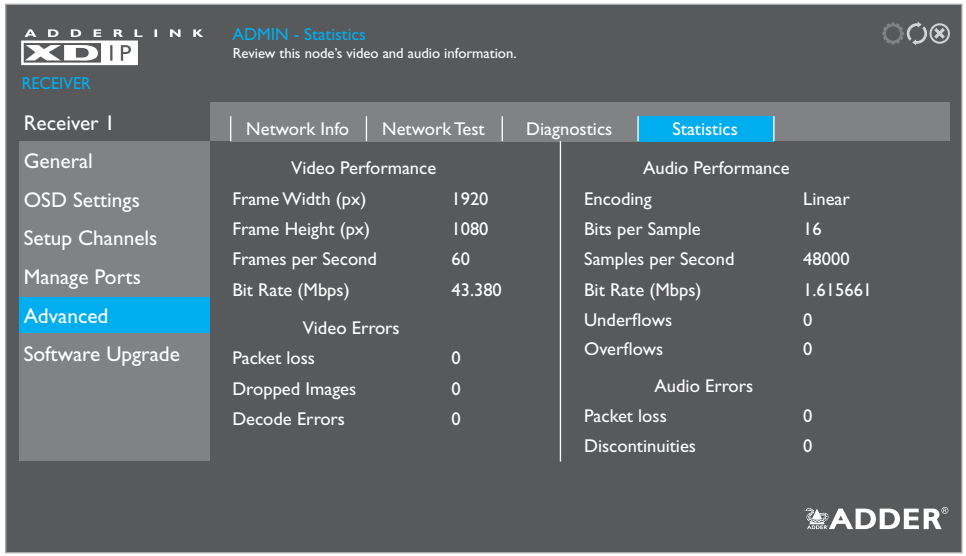
Capture Log to USB

Click the Trigger button to save the activity log to a local USB memory stick. The resulting compressed file can then be sent to Adder support when diagnosing an issue.

Remote Support

When using the Adder remote server, this option determines which port will be used. Multiple options are offered in case one or more ports are blocked by your firewall.

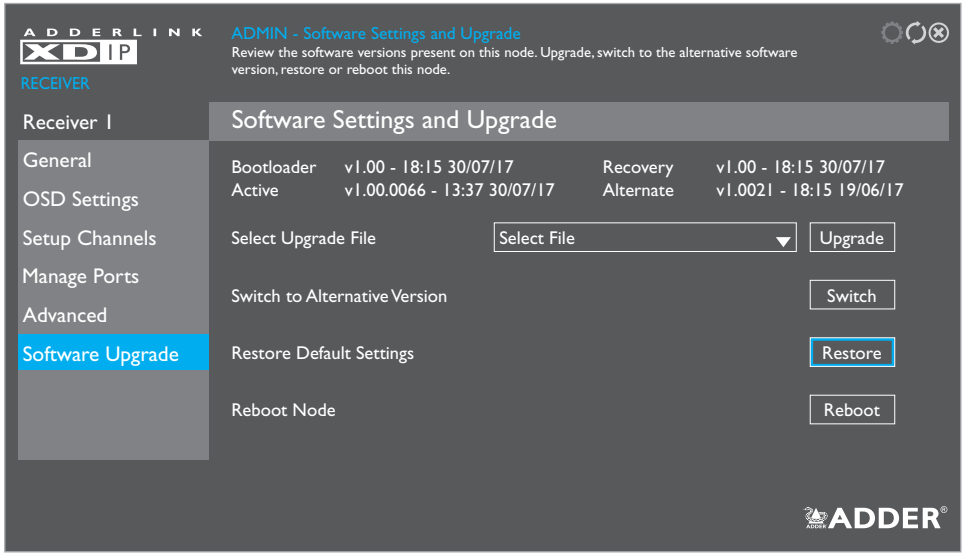
Note: This option should only be enabled when requested by Adder, for support purposes.



This page provides statistical details regarding the video and audio performance.

Software Upgrade page

The items within this page relate to the software settings, restore/reboot and firmware upgrade option for the chosen receiver node.



Supported file systems

When using USB memory sticks, the following file systems are supported:

- FAT
- NTFS
- Non-journaled HFS+

Firmware details

Lists the current and recovery *Bootloader* versions plus the *Active* image that is currently running as well as the *Alternate* (the previously active) image version details.

Select Upgrade File

Any valid firmware upgrade files held (only in the root menu) on a memory stick in one of the USB sockets will be listed here (if necessary click the ↻ icon to update after insertion). Select the required file name and click the *Upgrade* button. The new firmware will be made current and the pre-existing code moved to the recovery/alternate location.

Switch to Alternative Version

Allows you to change back to the previous firmware version that was running before the last upgrade.

Restore Default Settings

Click to restore this receiver to its default *Start of Life (SoL)* condition.

Note: A restore operation will reset all configuration settings and cannot be undone.

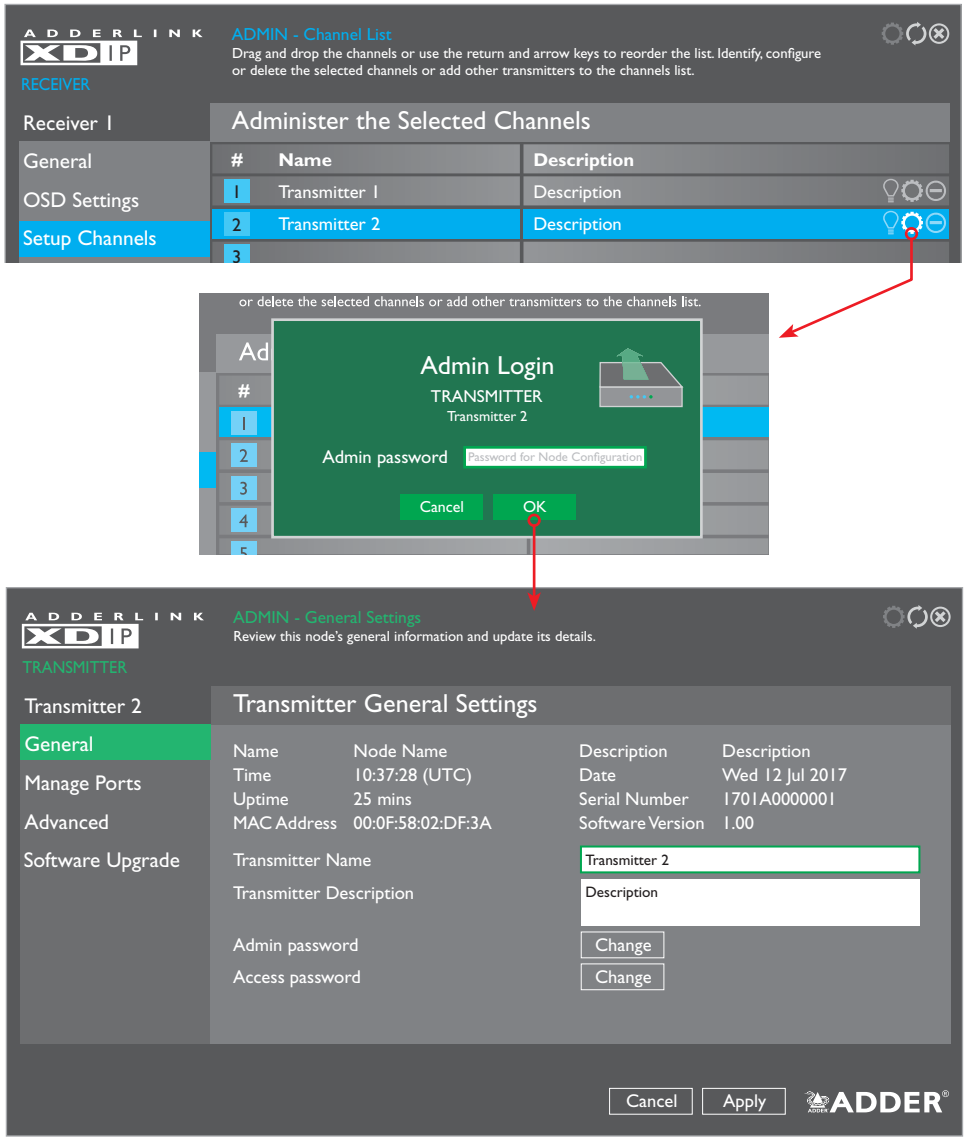
Reboot Node

Click to reboot this receiver.

Setup Channels page

Transmitter nodes can be configured via the Setup Channels page, accessible via any receiver. (Enter the receiver's OSD: Press CTRL + ALT + C*, click the ⚙ icon in the top right corner and then choose the *Setup Channels* page). Here you can:

- Change the channel order - drag and drop a node entry into the required slot (or use the arrow keys).
- Add a transmitter node to the list - click the ⊕ icon in the lower right corner.
- Flash the front panel indicators of any transmitter node - click the node's 💡 icon.
- Remove a transmitter node from the list - click the node's ⊖ icon.
- Configure a transmitter node - click the node's ⚙ icon:



Transmitter node settings

1 From any connected receiver node, enter the receiver's OSD: Press CTRL + ALT + C*, then click the ⚙ icon in the top right corner.

2 Choose the *Setup Channels* page and click the ⚙ icon shown next to the name of the transmitter that you wish to configure.

3 You will be requested to enter the admin password. The transmitter's *General Settings* page will be shown.

Note: All Admin menu pages related directly to transmitter configuration use a green highlight to match the color of the PWR indicator of nodes when they are in transmitter mode.

General Settings page

This page provides basic information for this node:

Name and Description

These tags are useful for differentiation purposes when numerous nodes are being used. Use the *Transmitter Name* and *Transmitter Description* fields to change them.

Time and Date

These are shown only if access to an NTP server is available. The current time and date are frozen within this page and do not automatically update.

Serial Number

Shows the unique hardware identity applied to this node.

MAC Address

Shows the unique network identity applied to this node.

Software Version

Shows the current main version of internal firmware.

Transmitter Name and Transmitter Description

These fields allow you to change the name and description tags for this node.

Admin Password

Allows you to change the administration password (that protects this menu).

Access Password

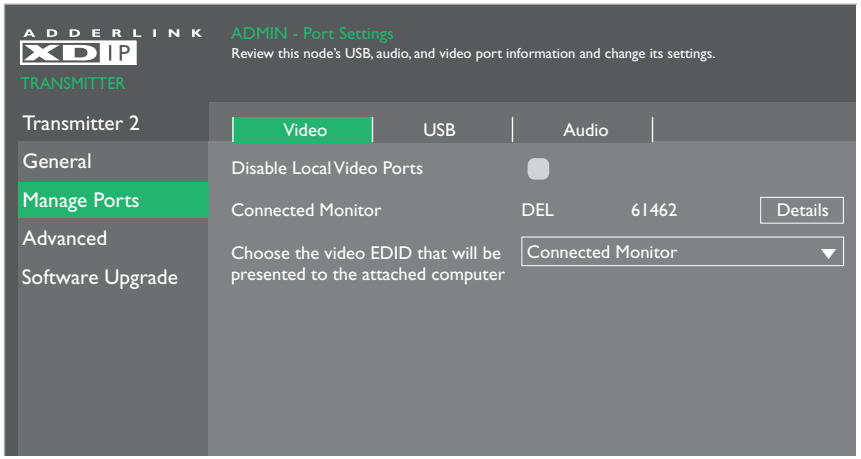
Allows you to change the access password that restricts receiver access to this transmitter node.

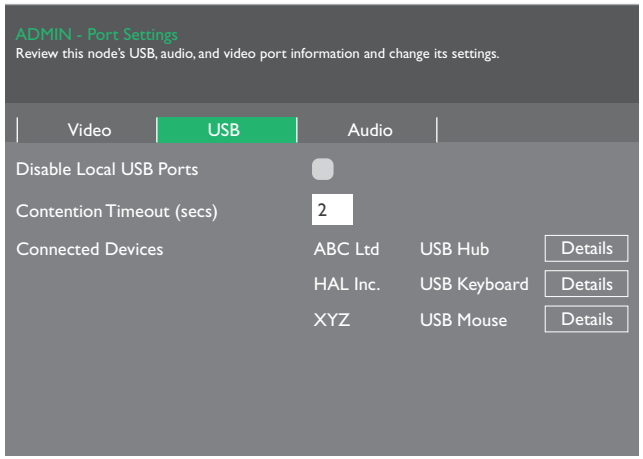
** Note: The standard hotkey combinations can be changed. See page 21.*

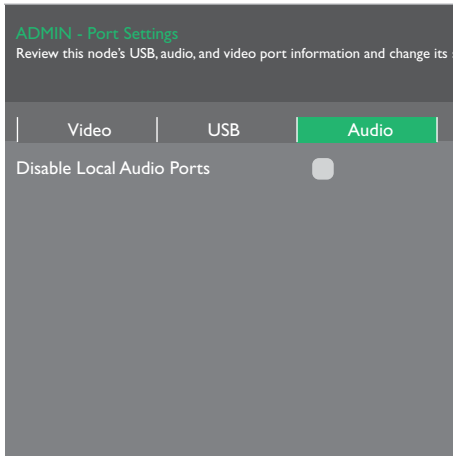
Manage Ports pages

***To access these pages**: From a receiver, enter the OSD menu: Press CTRL + ALT + C hotkeys, then click the ⚙ icon to show the Admin menu. Choose the Setup Channels page, click the ⚙ icon for the required transmitter node and then click the Manage Ports option. See page 26.*

All settings within these pages relate to the optional video monitor, USB devices and/or audio devices that are connected to the chosen transmitter node.





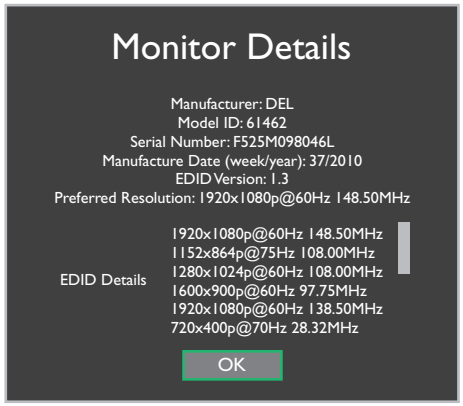


Disable Local Video Ports

Allows you to temporarily disable the video output to the optional console connection on the transmitter node.

Connected Monitor

Lists the basic details for the monitor connected to the console video output of the transmitter node. Click on the Details button to view more information about the connected video monitor:



Choose the video EDID....

Allows you to choose between the *Automatic* EDID configuration for the connected monitor or to choose one of the listed modes.

Disable Local USB Ports

Allows you to temporarily disable the USB signals to any devices optionally connected to the transmitter node.

Contention Timeout (secs)

USB links to the host computer are shared between multiple receivers in a first come first served manner. The first receiver to access a USB peripheral will be given control access, while all others are temporarily prevented, until the first receiver has completed its actions. The contention timeout is the time delay, after the last USB activity of the first receiver, before USB access becomes available again to all.

Connected Devices

Lists the USB devices which are currently connected to the transmitter node. Click the Details button to view more information about the device.

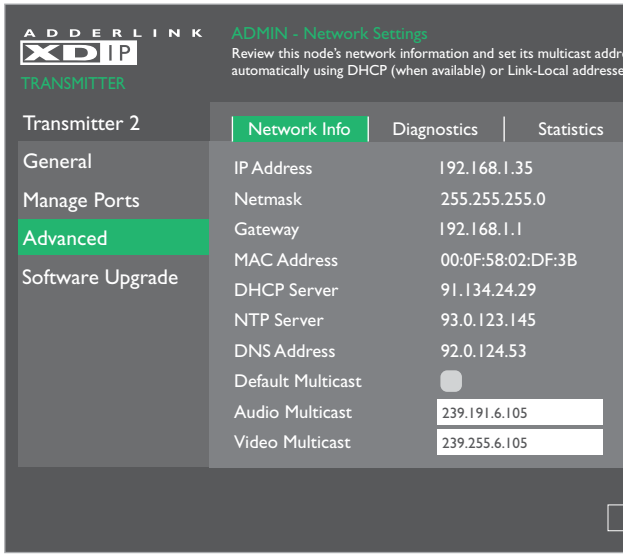
Disable Local Audio Ports

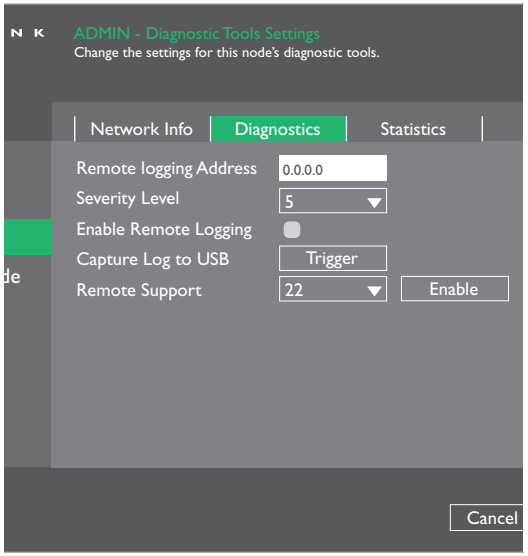
Allows you to disable the audio signals to devices optionally connected to the transmitter node.

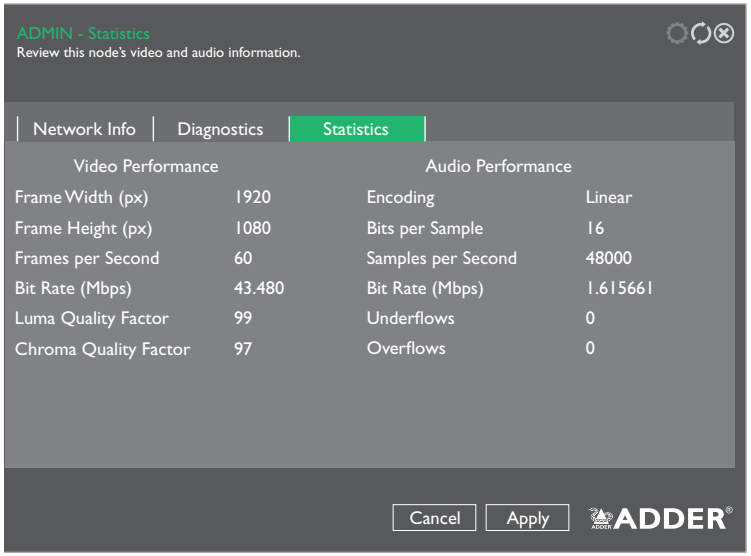
Advanced pages

***To access these pages**: From a receiver, enter the OSD menu: Press CTRL + ALT + C hotkeys, then click the ⚙ icon to show the Admin menu. Choose the Setup Channels page, click the ⚙ icon for the required transmitter node and then click the Advanced option.*
See page 26.

The items within these pages relate to the network settings, diagnostic tools and statistics for the chosen transmitter node.







Network details are configured automatically in either of two ways: With the use of a DHCP server if one is available during configuration or otherwise using Link-Local addresses (169.254.x.x).

Default Multicast

Tick this option and click the Apply button to re-apply the default Audio and Video Multicast addresses (as shown in the two fields below).

Remote Logging Address

Enter a valid IP address for a syslog server on the local network where status logs can be sent.

Severity Level

Defines the level of messages that will be logged (according to RFC5424). Level 5 *(Notice: normal but significant condition)* is the default setting; XDIP currently supports levels 1 to 7. Choosing levels 6 *(Informational)* or 7 *(Debug)* will cause larger numbers of lesser events to also be logged, with a potential impact to overall performance. These levels should only be used if working with the support team to diagnose a specific issue.

Enable Remote Logging

Tick to send log files to the chosen *Remote Logging Address*.

Capture Log to USB

Click the Trigger button to save the activity log to a local USB memory stick (must be plugged directly into a port on the transmitter node in question - not the receiver you are using for access). The resulting compressed file can then be sent to Adder support when diagnosing an issue.

Remote Support

When using the Adder remote server, this option determines which port will be used. Multiple options are offered in case one or more ports are blocked by your firewall.

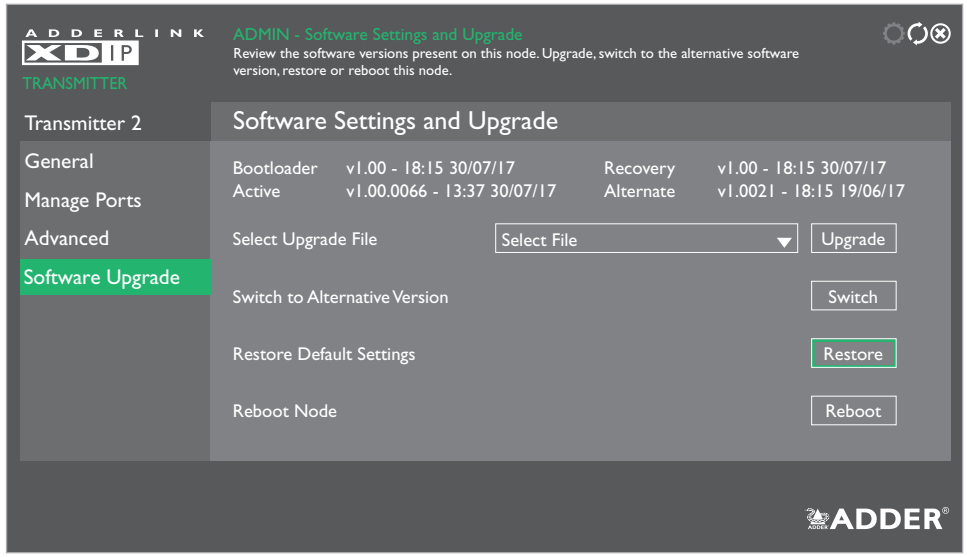
This page provides statistical details regarding the video and audio performance.

Note: Video statistics will only be available if no other receiver node is viewing the same video source.

Software Upgrade page

***To access this page**: From a receiver, enter the OSD menu: Press CTRL + ALT + C hotkeys, then click the ⚙ icon to show the Admin menu. Choose the Setup Channels page, click the ⚙ icon for the required transmitter node and then click the Software Upgrade option. See page 26.*

The items within this page relate to the software settings, restore/reboot and firmware upgrade option for the chosen transmitter node.



Supported file systems

When using USB memory sticks, the following file systems are supported:

- FAT
- NTFS
- Non-journaled HFS+

Firmware details

Lists the current and recovery *Bootloader* versions plus the *Active* image that is currently running as well as the *Alternate* (the previously active) image version details.

Select Upgrade File

Any valid firmware upgrade files held (only in the root menu) on a memory stick in one of the USB sockets, of the receiver node being used for access, will be listed here (if necessary click the ↻ icon to update after insertion). Select the required file name and click the Upgrade button. The new firmware will be made current and the pre-existing code moved to the recovery/alternate location.

Switch to Alternative Version

Allows you to change back to the previous firmware version that was running before the last upgrade.

Restore Default Settings

Click to restore this receiver to its default *Start of Life (SoL)* condition.

Note: A restore operation will reset all configuration settings and cannot be undone.

Reboot Node

Click to reboot this transmitter node.

Operation

AdderLink XDIP nodes provide great flexibility in operation, supporting a variety of connection topologies as discussed in the Introduction chapter (see page 2). Where switching between channels is required, user control is always centered upon the receiver node(s).

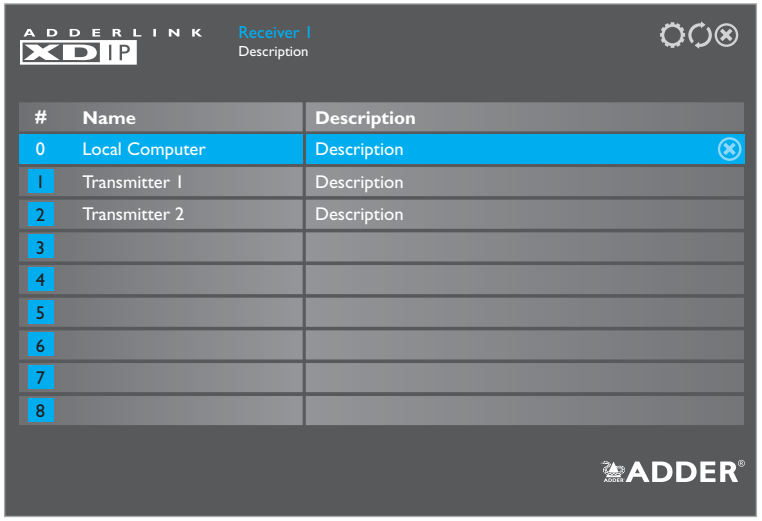
SWITCHING CHANNELS

To select a channel (using the channel list)

1 Using the console keyboard and/or mouse on your receiver node, either:

- Use the OSD hotkey: Press and hold CTRL and ALT, then press C *
- Use the mouse OSD launch (this needs to be pre-configured - see page 21).

The channel list page should be displayed:



2 Using the mouse, click the required entry (or use cursor up/down keys and Enter).

The channel list will disappear and the output of the chosen channel will be shown on your console monitor.

3 To change to another channel, repeat steps 1 and 2.

To disconnect from a channel (using the channel list)

To disconnect your console from the current channel, without switching to another:

1 Display the channel list (as above).

2 Click the ⊗ icon shown next to the currently selected channel.

To select a channel (using hotkeys)

The quickest way to switch between channels is to use hotkeys. This is where the order of transmitter nodes within the channel list really comes into play.

1 Press and hold the CTRL + ALT * keys,

2 Press the number of the required channel (1 to 8 for the transmitters, 0 for the local computer).

The output of the chosen channel will be shown on your console monitor.

To switch between channels (using hotkeys)

Before you can use this method, you will need to define which keys to use, see page 31. For the purposes of this example, we will assume that the letters L and K have been set for next and previous, respectively.

1 Press and hold the CTRL + ALT * keys,

2 Press L to change to the next available channel in the list or K to select the previous one.

To disconnect from a channel (using hotkeys)

To disconnect your console from the current channel, without switching to another:

1 Press and hold the CTRL + ALT, then press X *,

2 Press the number of the required channel (1 to 8 for the transmitters, 0 for the local computer).

** Note: The standard hotkey combinations can be changed, see next page*

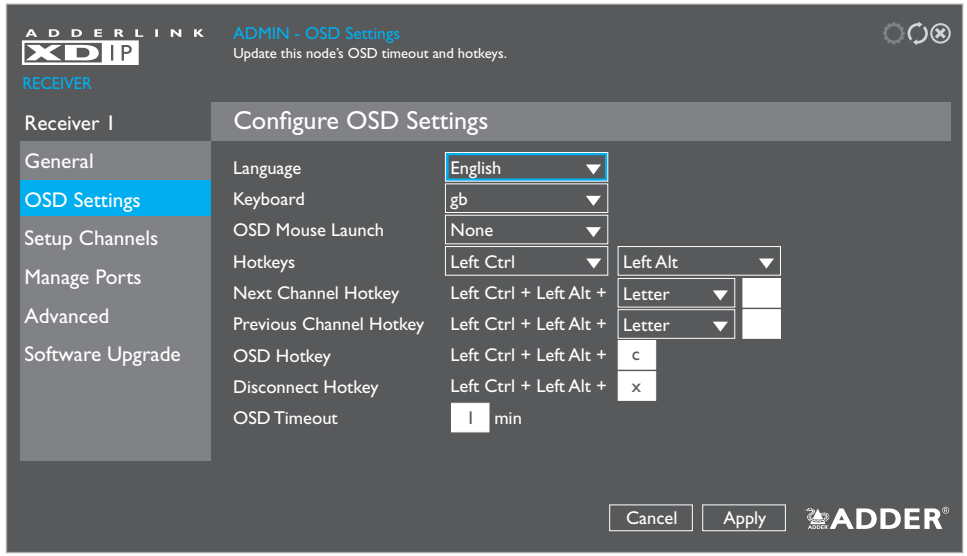
To set channel switching hotkeys

Hotkey combinations are possible that allow you to change channels without invoking the channel list. The necessary hotkey combinations are not set as standard, but can easily be done so from the OSD Settings page of the receiver's Admin menu.

1 Using the console keyboard and/or mouse on your receiver node, press CTRL + ALT + C *

2 Click the ⚙ icon in the top right corner to display the opening page of the receiver's Admin menu, you will be requested to enter a valid admin password.

3 Choose the OSD Settings option:



4 Configure the *Next Channel Hotkey* and *Previous Channel Hotkey* combinations.

Note: When using the Letter option, choose only standard alpha characters and avoid using the characters used for OSD and Disconnect hotkeys. If required, you can change the Letter option to Tab, Backspace, Enter, Space or any of the arrow keys.

Within this page you can also optionally change the main two hotkeys (Ctrl and Alt).

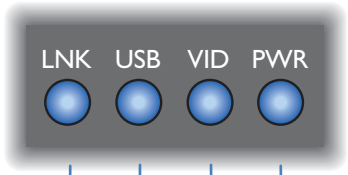
5 Click the *Apply* button and then the ⊗ icon in the top right corner (or press the Esc key on your keyboard) to exit.

INDICATORS

The transmitter and receiver nodes contain various indicators to provide you with status information. Both nodes have four red indicators on their front panels.

Front panel status indicators

The status indicators on the front panel of every node provide important feedback on current operation:



LNK
This indicator will be on for the receiver and transmitter nodes which have established a link.

USB
Indicates an active USB connection.

VID
Indicates an active video connection.

On transmitter nodes:
These indicators will be on when there's a local USB/video connection for the PC, regardless of whether a receiver node is connected.

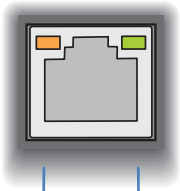
On receiver nodes:
These indicators will be on if there is a USB/video feed from a PC either at the connected transmitter node or at the local feed through port (i.e. channel 0) of the receiver node.

PWR
This indicator will be on when power is supplied to the node. Its color reflects the overall status of the node:

- Start of Life
- Transmitter
- Receiver
- Recovery mode: *the node is temporarily running recovery software with reduced functionality.*

Green and amber status indicators

The indicators on the link port of the node's rear panel provide link status information:



Amber
This indicator will flash when data is being transferred.

Green
This indicator will be on whenever there is a valid link between this node and another, or to a network switch.

Further information

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

- Getting assistance - see right
- Appendix 1 - IGMP
- Appendix 2 - Layers
- Appendix 3 - Link cable interference protection
- Appendix 4 - Open source licenses
- 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.

- **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.

APPENDIX 1 - IGMP

Internet Group Management Protocol

Where an AdderLink XDIP transmitter node is required to stream video to two or more receiver nodes, multicasting is used.

Multicasting involves the delivery of identical data to multiple receivers simultaneously without the need to maintain individual links. When multicast data packets enter a subnet, the natural reaction of the switches that bind all the hosts together within the subnet, is to spread the multicast data to all of their ports. This is referred to as Multicast flooding and means that the hosts (or at least their network interfaces) are required to process plenty of data that they didn't request. IGMP offers a partial solution.

The Internet Group Management Protocol (IGMP) is designed to prevent multicast flooding by allowing Layer 3 switches to check whether host computers within their care are interested in receiving particular multicast transmissions. They can then direct multicast data only to those points that require it and can shut off a multicast stream if the subnet has no recipients.

There are currently three IGMP versions: 1, 2 and 3, with each version building upon the capabilities of the previous one:

- IGMPv1 allows host computers to opt into a multicast transmission using a Join Group message, it is then incumbent on the router to discover when they no longer wish to receive; this is achieved by polling them (see IGMP Querier below) until they no longer respond.
- IGMPv2 includes the means for hosts to opt out as well as in, using a Leave Group message.
- IGMPv3 encompasses the abilities of versions 1 and 2 but also adds the ability for hosts to specify particular sources of multicast data.

AdderLink XDIP nodes make use of IGMP v2 and v3 (v3 is used by default unless the XDIP nodes see v2 used by the network, in which case they will automatically drop down to IGMP v2) when performing multicasts to ensure that no unnecessary congestion is caused.

IGMP Snooping

The IGMP messages are effective but only operate at layer 2 - intended for routers to determine whether multicast data should enter a subnet. A relatively recent development has taken place within the switches that glue together all of the hosts within each subnet: IGMP Snooping. IGMP snooping means these layer 2 devices now have the ability to take a peek at the IGMP messages. As a result, the switches can then determine exactly which of their own hosts have requested to receive a multicast – and only pass on multicast data to those hosts.

IGMP Querier

When IGMP is used, each subnet requires one Layer 3 switch to act as a Querier. In this lead role, the switch periodically sends out IGMP Query messages and in response all hosts report which multicast streams they wish to receive. The Querier device and all snooping Layer 2 switches, then update their lists accordingly (the lists are also updated when Join Group and Leave Group (IGMP v2 or v3) messages are received).

IGMP Fast-Leave (aka Immediate Leave)

When a device/host no longer wishes to receive a multicast transmission, it can issue an IGMP Leave Group message as mentioned above. This causes the switch to issue an IGMP Group-Specific Query message on the port (that the Leave Group was received on) to check no other receivers exist on that connection that wish to remain a part of the multicast. This process has a cost in terms of switch processor activity and time.

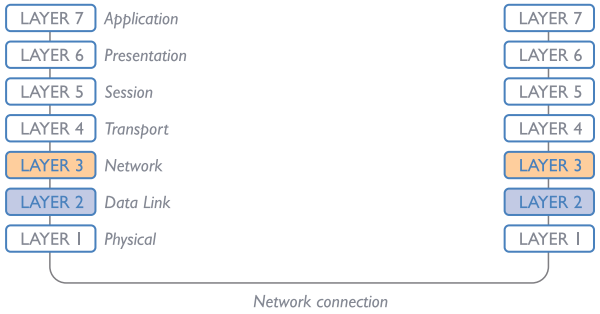
Where AdderLink XDIP nodes are connected directly to the switch (with no other devices on the same port) then enabling IGMP Fast-Leave mode means that switches can immediately remove receivers without going through a full checking procedure. Where multiple nodes are regularly joining and leaving multicasts, this can speed up performance considerably.

APPENDIX 2 - LAYERS

Layer 2 and Layer 3:The OSI model

When discussing network switches, the terms Layer 2 and Layer 3 are very often used. These refer to parts of the Open System Interconnection (OSI) model, a standardised way to categorize the necessary functions of any standard network.

There are seven layers in the OSI model and these define the steps needed to get the data created by you (imagine that you are Layer 8) reliably down onto the transmission medium (the cable, optical fibre, radio wave, etc.) that carries the data to another user; to complete the picture, consider the transmission medium is Layer 0. In general, think of the functions carried out by the layers at the top as being complex, becoming less complex as you go lower down.



As your data travel down from you towards the transmission medium (the cable), they are successively encapsulated at each layer within a new wrapper (along with a few instructions), ready for transport. Once transmission has been made to the intended destination, the reverse occurs: Each wrapper is stripped away and the instructions examined until finally only the original data are left.

So why are Layer 2 and Layer 3 of particular importance when discussing AdderLink XDIP? Because the successful transmission of data relies upon fast and reliable passage through network switches – and most of these operate at either Layer 2 or Layer 3.

The job of any network switch is to receive each incoming network packet, strip away only the first few wrappers to discover the intended destination then rewrap the packet and send it in the correct direction.

In simplified terms, the wrapper that is added at Layer 2 (by the sending system) includes the physical address of the intended recipient system, i.e. the unique MAC address (for example, 09:f8:33:d7:66:12) that is assigned to every networking device at manufacture. Deciphering recipients at this level is more straightforward than at Layer 3, where the address of the recipient is represented by a logical IP address (e.g. 192.168.0.10) and requires greater knowledge of the surrounding network structure. Due to their more complex circuitry, Layer 3 switches are more expensive than Layer 2 switches of a similar build quality and are used more sparingly within installations.

APPENDIX 3 - LINK CABLE INTERFERENCE PROTECTION

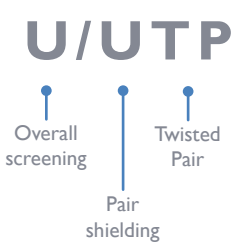
While the Category rating (e.g. CAT 5e, CAT 6a, CAT 7, etc.) determines the electrical performance of a cable, another vital part of the overall cable specification is its protection from interference. As cabling distances and data rates increase, so too does the susceptibility to interference, from both external and internal sources.

Proximity to other electromagnetic sources are the main external threat and these can be subdued using overall screening that surrounds all four of the cable pairs. However, interference is also possible from neighbouring twisted pairs within the same cable and this can be just as hazardous to data integrity. Such *crosstalk* is countered by shielding each cable pair separately.

Within each Category rating, you can specify different combinations of external screening and internal shielding to suit the environment into which the link is being placed.

Interference protection codes

Interference protection is classified in the following manner:



where

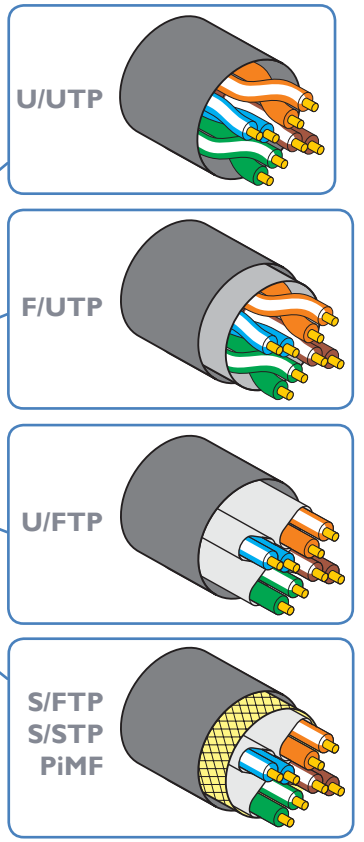
U = unshielded

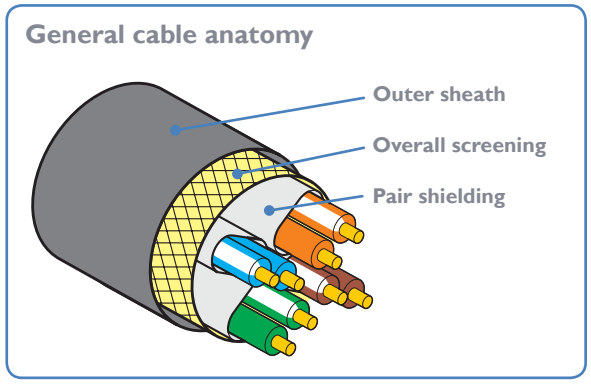
F = foil shielding

S = braided shielding

PiMF = Pairs in Metal Foil

Name	Overall Screening	Pair Shielding
U/UTP	✗	✗
F/UTP	✓	✗
U/FTP	✗	✓
S/FTP or S/STP or PiMF	✓	✓





APPENDIX 4 - OPEN SOURCE LICENSES

This product includes binaries that are derived from the open source community.

The modules listed below are licenced under the GNU General Public License v2 and must be provided, in source form, on request:

u-boot linux-arm-freescale busybox termcap util-linux udev e2fsprogs kobs-ng freetype glib dbus-1 qt5 libfftw

The modules listed below are licenced under the GNU Lesser General Public License v2.1 and must be provided, in source form, on request:

kmod libalsa libgpg-error nettle libgcrypt gnutls libmicrohttpd libjwt libdaemon nss-mdns avahi

In addition to the GPL modules listed, this product also includes binaries derived from 3rd party open sources that have their own license requirements. Each module is listed below with their required Copyright statement and distribution conditions.

Module: libcvt

Copyright (c) 2001, Andy Ritger aritger@nvidia.com All rights reserved.
Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

- Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
- Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
- Neither the name of NVIDIA nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
This program is based on the Generalized Timing Formula (GTF TM)
Standard Version: 1.0, Revision: 1.0

The GTF Document contains the following Copyright information:

Copyright (c) 1994, 1995, 1996 - Video Electronics Standards Association. Duplication of this document within VESA member companies for review purposes is permitted. All other rights reserved.

While every precaution has been taken in the preparation of this standard, the Video Electronics Standards Association and its contributors assume no responsibility for errors or omissions, and make no warranties, expressed or implied, of functionality of suitability for any purpose. The sample code contained within this standard may be used without restriction.

Module: openssl

LICENSE ISSUES
==========

The OpenSSL toolkit stays under a dual license, i.e. both the conditions of the OpenSSL License and the original SSLeay license apply to the toolkit. See below for the actual license texts. Actually both licenses are BSD-style Open Source licenses. In case of any license issues related to OpenSSL please contact openssl-core@openssl.org.

OpenSSL License

```
/* ====================================================================
 * Copyright (c) 1998-2011 The OpenSSL Project.  All rights reserved.
 *
 * Redistribution and use in source and binary forms, with or without
 * modification, are permitted provided that the following conditions
 * are met:
 *
 * 1. Redistributions of source code must retain the above copyright
 *    notice, this list of conditions and the following disclaimer.
 *
 * 2. Redistributions in binary form must reproduce the above copyright
 *    notice, this list of conditions and the following disclaimer in
 *    the documentation and/or other materials provided with the
 *    distribution.
 *
 * 3. All advertising materials mentioning features or use of this
 *    software must display the following acknowledgment:
 *    "This product includes software developed by the OpenSSL Project
 *    for use in the OpenSSL Toolkit. (http://www.openssl.org/)"
 *
 * 4. The names "OpenSSL Toolkit" and "OpenSSL Project" must not be used to
 *    endorse or promote products derived from this software without
 *    prior written permission. For written permission, please contact
 *    openssl-core@openssl.org.
 *
 * 5. Products derived from this software may not be called "OpenSSL"
 *    nor may "OpenSSL" appear in their names without prior written
 *    permission of the OpenSSL Project.
 *
 * 6. Redistributions of any form whatsoever must retain the following
 *    acknowledgment:
 *    "This product includes software developed by the OpenSSL Project
 *    for use in the OpenSSL Toolkit (http://www.openssl.org/)"
```

*
* THIS SOFTWARE IS PROVIDED BY THE OpenSSL PROJECT ``AS IS'' AND ANY
* EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
* PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE OpenSSL PROJECT OR
* ITS CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL,
* SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT
* NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES;
* LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
* HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT,
* STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
* ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED
* OF THE POSSIBILITY OF SUCH DAMAGE.
* ==
*
* This product includes cryptographic software written by Eric Young
* (eay@cryptsoft.com). This product includes software written by Tim
* Hudson (tjh@cryptsoft.com).
*
*/

Original SSLeay License

/* Copyright (C) 1995-1998 Eric Young (eay@cryptsoft.com)
* All rights reserved.
*
* This package is an SSL implementation written
* by Eric Young (eay@cryptsoft.com).
* The implementation was written so as to conform with Netscapes SSL.
*
* This library is free for commercial and non-commercial use as long as
* the following conditions are aheared to. The following conditions
* apply to all code found in this distribution, be it the RC4, RSA,
* lhash, DES, etc., code; not just the SSL code. The SSL documentation
* included with this distribution is covered by the same copyright terms
* except that the holder is Tim Hudson (tjh@cryptsoft.com).
*
* Copyright remains Eric Young's, and as such any Copyright notices in
* the code are not to be removed.
* If this package is used in a product, Eric Young should be given attribution
* as the author of the parts of the library used.
* This can be in the form of a textual message at program startup or
* in documentation (online or textual) provided with the package.
*
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
* 1. Redistributions of source code must retain the copyright
*   notice, this list of conditions and the following disclaimer.
* 2. Redistributions in binary form must reproduce the above copyright
*   notice, this list of conditions and the following disclaimer in the
*   documentation and/or other materials provided with the distribution.
* 3. All advertising materials mentioning features or use of this software
*   must display the following acknowledgement:
*   "This product includes cryptographic software written by
*   Eric Young (eay@cryptsoft.com)"
*   The word 'cryptographic' can be left out if the rouines from the library
*   being used are not cryptographic related :-).
* 4. If you include any Windows specific code (or a derivative thereof) from
*   the apps directory (application code) you must include an acknowledgement:
*   "This product includes software written by Tim Hudson (tjh@cryptsoft.com)"
*
* THIS SOFTWARE IS PROVIDED BY ERIC YOUNG ``AS IS'' AND
* ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
* ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR OR CONTRIBUTORS BE LIABLE
* FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
* DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
* OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
* HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT,
STRICT
* LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY
* OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
* SUCH DAMAGE.
*
* The licence and distribution terms for any publically available version or
* derivative of this code cannot be changed. i.e. this code cannot simply be
* copied and put under another distribution licence
* [including the GNU Public Licence.]
*/

- Module: libev

All files in libev are
Copyright (c)2007,2008,2009,2010,2011,2012,2013 Marc Alexander Lehmann.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions are
met:

* Redistributions of source code must retain the above copyright
  notice, this list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above
  copyright notice, this list of conditions and the following
  disclaimer in the documentation and/or other materials provided
  with the distribution.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

-
- Module: libaes
-

Copyright (c) 1998-2008, Brian Gladman, Worcester, UK. All rights reserved.

LICENSE TERMS

The redistribution and use of this software (with or without changes) is allowed without the payment of fees or royalties provided that:

1. source code distributions include the above copyright notice, this list of conditions and the following disclaimer;

2. binary distributions include the above copyright notice, this list of conditions and the following disclaimer in their documentation;

3. the name of the copyright holder is not used to endorse products built using this software without specific written permission.

DISCLAIMER

This software is provided 'as is' with no explicit or implied warranties in respect of its properties, including, but not limited to, correctness and/or fitness for purpose.

-
- Module: libupnp
-

Copyright (c) 2000-2003 Intel Corporation
All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
* Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
* Neither name of Intel Corporation nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS ``AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL INTEL OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

-
- Module: libjpeg
-

This software is based in part on the work of the Independent JPEG Group.

-
- Module: icu
-

ICU License - ICU 1.8.1 and later

COPYRIGHT AND PERMISSION NOTICE

Copyright (c) 1995-2016 International Business Machines Corporation and others

All rights reserved.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, provided that the above copyright notice(s) and this permission notice appear in all copies of the Software and that both the above copyright notice(s) and this permission notice appear in supporting documentation.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OF THIRD PARTY RIGHTS. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR HOLDERS INCLUDED IN THIS NOTICE BE LIABLE FOR ANY CLAIM, OR ANY SPECIAL INDIRECT OR CONSEQUENTIAL DAMAGES, OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Except as contained in this notice, the name of a copyright holder shall not be used in advertising or otherwise to promote the sale, use or other dealings in this Software without prior written authorization of the copyright holder.

All trademarks and registered trademarks mentioned herein are the property of their respective owners.

Third-Party Software Licenses

This section contains third-party software notices and/or additional terms for licensed third-party software components included within ICU libraries.

1. Unicode Data Files and Software

COPYRIGHT AND PERMISSION NOTICE

Copyright © 1991-2016 Unicode, Inc. All rights reserved.
Distributed under the Terms of Use in
http://www.unicode.org/copyright.html.

Permission is hereby granted, free of charge, to any person obtaining a copy of the Unicode data files and any associated documentation (the "Data Files") or Unicode software and any associated documentation (the "Software") to deal in the Data Files or Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, and/or sell copies of the Data Files or Software, and to permit persons to whom the Data Files or Software are furnished to do so, provided that
(a) this copyright and permission notice appear with all copies
of the Data Files or Software,
(b) this copyright and permission notice appear in associated documentation, and
(c) there is clear notice in each modified Data File or in the Software as well as in the documentation associated with the Data File(s) or Software that the data or software has been modified.

THE DATA FILES AND SOFTWARE ARE PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OF THIRD PARTY RIGHTS. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR HOLDERS INCLUDED IN THIS NOTICE BE LIABLE FOR ANY CLAIM, OR ANY SPECIAL INDIRECT OR CONSEQUENTIAL DAMAGES, OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER
TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THE DATA FILES OR SOFTWARE.

Except as contained in this notice, the name of a copyright holder shall not be used in advertising or otherwise to promote the sale, use or other dealings in these Data Files or Software without prior written authorization of the copyright holder.

2. Chinese/Japanese Word Break Dictionary Data (cjdict.txt)

```
# The Google Chrome software developed by Google is licensed under
# the BSD license. Other software included in this distribution is
# provided under other licenses, as set forth below.
#
#  The BSD License
#  http://opensource.org/licenses/bsd-license.php
#  Copyright (C) 2006-2008, Google Inc.
#
#  All rights reserved.
#
# Redistribution and use in source and binary forms, with or without
# modification, are permitted provided that the following conditions are met:
#
#  Redistributions of source code must retain the above copyright notice,
```

this list of conditions and the following disclaimer.
Redistributions in binary form must reproduce the above
copyright notice, this list of conditions and the following
disclaimer in the documentation and/or other materials provided with
the distribution.
Neither the name of Google Inc. nor the names of its
contributors may be used to endorse or promote products derived from
this software without specific prior written permission.
#
#
THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND
CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES,
INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE
DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE
LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR
BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF
LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING
NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS
SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
#
The word list in cjdict.txt are generated by combining three word lists
listed below with further processing for compound word breaking. The
frequency is generated with an iterative training against Google web
corpora.
#
* Libtabe (Chinese)
- https://sourceforge.net/project/?group_id=1519
- Its license terms and conditions are shown below.
#
* IPADIC (Japanese)
- http://chasen.aist-nara.ac.jp/chasen/distribution.html
- Its license terms and conditions are shown below.
#
---------COPYING.libtabe ---- BEGIN--------------------
#
/*
* Copyrighy (c) 1999 TaBE Project.
* Copyright (c) 1999 Pai-Hsiang Hsiao.
* All rights reserved.
*
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
*
* . Redistributions of source code must retain the above copyright
*   notice, this list of conditions and the following disclaimer.
* . Redistributions in binary form must reproduce the above copyright
*   notice, this list of conditions and the following disclaimer in
*   the documentation and/or other materials provided with the distribution.
* . Neither the name of the TaBE Project nor the names of its
*   contributors may be used to endorse or promote products derived
*   from this software without specific prior written permission.
*
* THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
* "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
* LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS
* FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE
* REGENTS OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT,
* INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES
* (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
* SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
* HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT,
* STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
* ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF
THE POSSIBILITY OF SUCH DAMAGE.
*/
#
/*
* Copyright (c) 1999 Computer Systems and Communication Lab,
*   Institute of Information Science, Academia
*   Sinica. All rights reserved.
*
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
*
* . Redistributions of source code must retain the above copyright
*   notice, this list of conditions and the following disclaimer.
* . Redistributions in binary form must reproduce the above copyright
*   notice, this list of conditions and the following disclaimer in
*   the documentation and/or other materials provided with the
*   distribution.
* . Neither the name of the Computer Systems and Communication Lab
*   nor the names of its contributors may be used to endorse or
*   promote products derived from this software without specific
*   prior written permission.
*
* THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
* "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
* LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS
* FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE
* REGENTS OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT,
* INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES
* (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
* SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
* HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT,

```
#  * STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
#  * ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED
#  * OF THE POSSIBILITY OF SUCH DAMAGE.
#  */
#
# Copyright 1996 Chih-Hao Tsai @ Beckman Institute,
#     University of Illinois
# c-tsai4@uiuc.edu  http://casper.beckman.uiuc.edu/~c-tsai4
#
# Copyright 2000, 2001, 2002, 2003 Nara Institute of Science
# and Technology.  All Rights Reserved.
#
# Use, reproduction, and distribution of this software is permitted.
# Any copy of this software, whether in its original form or modified,
# must include both the above copyright notice and the following
# paragraphs.
#
# Nara Institute of Science and Technology (NAIST),
# the copyright holders, disclaims all warranties with regard to this
# software, including all implied warranties of merchantability and
# fitness, in no event shall NAIST be liable for
# any special, indirect or consequential damages or any damages
# whatsoever resulting from loss of use, data or profits, whether in an
# action of contract, negligence or other tortuous action, arising out
# of or in connection with the use or performance of this software.
#
# A large portion of the dictionary entries
# originate from ICOT Free Software. The following conditions for ICOT
# Free Software applies to the current dictionary as well.
#
# Each User may also freely distribute the Program, whether in its
# original form or modified, to any third party or parties, PROVIDED
# that the provisions of Section 3 ("NO WARRANTY") will ALWAYS appear
# on, or be attached to, the Program, which is distributed substantially
# in the same form as set out herein and that such intended
# distribution, if actually made, will neither violate or otherwise
# contravene any of the laws and regulations of the countries having
# jurisdiction over the User or the intended distribution itself.
#
# NO WARRANTY
#
# The program was produced on an experimental basis in the course of the
# research and development conducted during the project and is provided
# to users as so produced on an experimental basis. Accordingly, the
# program is provided without any warranty whatsoever, whether express,
# implied, statutory or otherwise. The term "warranty" used herein
# includes, but is not limited to, any warranty of the quality,
# performance, merchantability and fitness for a particular purpose of
# the program and the nonexistence of any infringement or violation of
# any right of any third party.
#
# Each user of the program will agree and understand, and be deemed to
# have agreed and understood, that there is no warranty whatsoever for
# the program and, accordingly, the entire risk arising from or
# otherwise connected with the program is assumed by the user.
#
# Therefore, neither ICOT, the copyright holder, or any other
# organization that participated in or was otherwise related to the
# development of the program and their respective officials, directors,
# officers and other employees shall be held liable for any and all
# damages, including, without limitation, general, special, incidental
# and consequential damages, arising out of or otherwise in connection
# with the use or inability to use the program or any product, material
# or result produced or otherwise obtained by using the program,
# regardless of whether they have been advised of, or otherwise had
# knowledge of, the possibility of such damages at any time during the
# project or thereafter.  Each user will be deemed to have agreed to the
# foregoing by his or her commencement of use of the program. The term
# "use" as used herein includes, but is not limited to, the use,
# modification, copying and distribution of the program and the
# production of secondary products from the program.
#
# In the case where the program, whether in its original form or
# modified, was distributed or delivered to or received by a user from
# any person, organization or entity other than ICOT, unless it makes or
# grants independently of ICOT any specific warranty to the user in
# writing, such person, organization or entity, will also be exempted
# from and not be held liable to the user for any such damages as noted
# above as far as the program is concerned.
#
```

3. Lao Word Break Dictionary Data (laodict.txt)

```
# Copyright (c) 2013 International Business Machines Corporation
# and others. All Rights Reserved.
#
# Project: http://code.google.com/p/lao-dictionary/
# Dictionary: http://lao-dictionary.googlecode.com/git/Lao-Dictionary.txt
# License: http://lao-dictionary.googlecode.com/git/Lao-Dictionary-LICENSE.txt
#
# This file is derived from the above dictionary, with slight
# modifications.
# --------------------------------------------------------------------
# Copyright (C) 2013 Brian Eugene Wilson, Robert Martin Campbell.
# All rights reserved.
#
# Redistribution and use in source and binary forms, with or without
# modification,
# are permitted provided that the following conditions are met:
```

#
Redistributions of source code must retain the above copyright notice, this
list of conditions and the following disclaimer. Redistributions in
binary form must reproduce the above copyright notice, this list of
conditions and the following disclaimer in the documentation and/or
other materials provided with the distribution.
#
#THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS
"AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT
LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS
FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE
COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT,
INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES
(INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR
SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT,
STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE)
ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED
OF THE POSSIBILITY OF SUCH DAMAGE.

4. Burmese Word Break Dictionary Data (burmesedict.txt)

```
#  Copyright (c) 2014 International Business Machines Corporation
#  and others. All Rights Reserved.
#
#  This list is part of a project hosted at:
#    github.com/kanyawtech/myanmar-karen-word-lists
#
#  ------------------------------------------------------------------------
#  Copyright (c) 2013, LeRoy Benjamin Sharon
#  All rights reserved.
#
#  Redistribution and use in source and binary forms, with or without
#  modification, are permitted provided that the following conditions
#  are met: Redistributions of source code must retain the above
#  copyright notice, this list of conditions and the following
#  disclaimer.  Redistributions in binary form must reproduce the
#  above copyright notice, this list of conditions and the following
#  disclaimer in the documentation and/or other materials provided
#  with the distribution.
#
#    Neither the name Myanmar Karen Word Lists, nor the names of its
#    contributors may be used to endorse or promote products derived
#    from this software without specific prior written permission.
#
#  THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND
#  CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES,
#  INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF
#  MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE
#  DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR CONTRIBUTORS
#  BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL,
#  EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED
#  TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
#  DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON
#  ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR
#  TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF
#  THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
#  SUCH DAMAGE.
#  ------------------------------------------------------------------------
```

5. Time Zone Database

ICU uses the public domain data and code derived from Time Zone Database for its time zone support. The ownership of the TZ database is explained in BCP 175: Procedure for Maintaining the Time Zone Database section 7.

```
# 7.  Database Ownership
#
#   The TZ database itself is not an IETF Contribution or an IETF
#   document.  Rather it is a pre-existing and regularly updated work
#   that is in the public domain, and is intended to remain in the
#   public domain.  Therefore, BCPs 78 [RFC5378] and 79 [RFC3979] do
#   not apply to the TZ Database or contributions that individuals make
#   to it.  Should any claims be made and substantiated against the TZ
#   Database, the organization that is providing the IANA
#   Considerations defined in this RFC, under the memorandum of
#   understanding with the IETF, currently ICANN, may act in accordance
#   with all competent court orders.  No ownership claims will be made
#   by ICANN or the IETF Trust on the database or the code.  Any person
#   making a contribution to the database or code waives all rights to
#   future claims in that contribution or in the TZ Database.
```

-
- Module: mtdev
-
---

mtdev - Multitouch Protocol Translation Library (MIT license)

Copyright (C) 2010 Henrik Rydberg <rydberg@euromail.se>
Copyright (C) 2010 Canonical Ltd.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice (including the next paragraph) shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

-
- Module: libevdev
-

Copyright © 2013 Red Hat, Inc.
Copyright © 2013 David Herrmann <dh.herrmann@gmail.com>

Permission to use, copy, modify, distribute, and sell this software and its documentation for any purpose is hereby granted without fee, provided that the above copyright notice appear in all copies and that both that copyright notice and this permission notice appear in supporting documentation, and that the name of the copyright holders not be used in advertising or publicity pertaining to distribution of the software without specific, written prior permission. The copyright holders make no representations about the suitability of this software for any purpose. It is provided "as is" without express or implied warranty.

THE COPYRIGHT HOLDERS DISCLAIM ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS, IN NO EVENT SHALL THE COPYRIGHT HOLDERS BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE
OF THIS SOFTWARE.

The following license is from a Linux kernel header file and there is no GPL code this package links to.

Copyright (c) 1999-2002 Vojtech Pavlik

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License version 2 as published by the Free Software Foundation.

-
- Module: libinput
-

Copyright © 2006-2009 Simon Thum
Copyright © 2008-2012 Kristian Høgsberg
Copyright © 2010-2012 Intel Corporation
Copyright © 2010-2011 Benjamin Franzke
Copyright © 2011-2012 Collabora, Ltd.
Copyright © 2013-2014 Jonas Ådahl
Copyright © 2013-2015 Red Hat, Inc.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice (including the next paragraph) shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER
LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

libinput ships a copy of the GPL-licensed Linux kernel's linux/input.h header file. [1] This does not make libinput GPL.
This copy is provided to provide consistent behavior regardless which kernel version libinput is compiled against. The header is used during compilation only, libinput does not link against GPL libraries.

[1] http://cgit.freedesktop.org/wayland/libinput/tree/include/linux/input.h

---
-
- Module: xkeyboard-config
-

Copyright 1996 by Joseph Moss
Copyright (C) 2002-2007 Free Software Foundation, Inc.
Copyright (C) Dmitry Golubev <lastguru@mail.ru>, 2003-2004
Copyright (C) 2004, Gregory Mokhin <mokhin@bog.msu.ru>
Copyright (C) 2006 Erdal Ronahî

Permission to use, copy, modify, distribute, and sell this software and its documentation for any purpose is hereby granted without fee, provided that the above copyright notice appear in all copies and that both that copyright notice and this permission notice appear in supporting documentation, and that the name of the copyright holder(s) not be used in advertising or publicity pertaining to distribution of the software without specific, written prior permission. The copyright holder(s) makes no representations about the suitability of this software for any purpose. It is provided "as is" without express or implied warranty.

THE COPYRIGHT HOLDER(S) DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS, IN NO EVENT SHALL THE COPYRIGHT HOLDER(S) BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Copyright (c) 1996 Digital Equipment Corporation

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL DIGITAL EQUIPMENT CORPORATION BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name of the Digital Equipment Corporation shall not be used in advertising or otherwise to promote the sale, use or other dealings in this Software without prior written authorization from Digital Equipment Corporation.

Copyright 1996, 1998 The Open Group

Permission to use, copy, modify, distribute, and sell this software and its documentation for any purpose is hereby granted without fee, provided that the above copyright notice appear in all copies and that both that copyright notice and this permission notice appear in supporting documentation.

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE OPEN GROUP BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name of The Open Group shall not be used in advertising or otherwise to promote the sale, use or other dealings in this Software without prior written authorization from The Open Group.
Copyright 2004-2005 Sun Microsystems, Inc. All rights reserved.

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice (including the next paragraph) shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.
Copyright (c) 1996 by Silicon Graphics Computer Systems, Inc.

Permission to use, copy, modify, and distribute this software and its documentation for any purpose and without fee is hereby granted, provided that the above copyright notice appear in all copies and that both that copyright notice and this permission notice appear in supporting documentation, and that the name of Silicon Graphics not be used in advertising or publicity pertaining to distribution of the software without specific prior written permission. Silicon Graphics makes no representation about the suitability of this software for any purpose. It is provided "as is" without any express or implied warranty.

SILICON GRAPHICS DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL SILICON GRAPHICS BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.
Copyright (c) 1996 X Consortium

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE X CONSORTIUM BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name of the X Consortium shall not be used in advertising or otherwise to promote the sale, use or other dealings in this Software without prior written authorization from the X Consortium.

Copyright (C) 2004, 2006 Ævar Arnfjörð Bjarmason <avarab@gmail.com>

Permission to use, copy, modify, distribute, and sell this software and its documentation for any purpose is hereby granted without fee, provided that the above copyright notice appear in all copies and that both that copyright notice and this permission notice appear in supporting documentation.

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE OPEN GROUP BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name of a copyright holder shall not be used in advertising or otherwise to promote the sale, use or other dealings in this Software without prior written authorization of the copyright holder.

Copyright (C) 1999, 2000 by Anton Zinoviev <anton@lml.bas.bg>

This software may be used, modified, copied, distributed, and sold, in both source and binary form provided that the above copyright and these terms are retained. Under no circumstances is the author responsible for the proper functioning of this software, nor does the author assume any responsibility for damages incurred with its use.

Permission is granted to anyone to use, distribute and modify this file in any way, provided that the above copyright notice is left intact and the author of the modification summarizes the changes in this header.

This file is distributed without any expressed or implied warranty.

-
- Module: libxkbcommon
-

Copyright © 2009-2012, 2016 Daniel Stone
Copyright © 2012 Ran Benita <ran234@gmail.com>
Copyright © 2010, 2012 Intel Corporation
Copyright © 2008, 2009 Dan Nicholson
Copyright © 2010 Francisco Jerez <currojerez@riseup.net>

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice (including the next paragraph) shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Copyright 1985, 1987, 1988, 1990, 1998 The Open Group

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the names of the authors or their institutions shall not be used in advertising or otherwise to promote the sale, use or other dealings in this Software without prior written authorization from the authors.

Copyright (c) 1993, 1994, 1995, 1996 by Silicon Graphics Computer Systems, Inc.

Permission to use, copy, modify, and distribute this software and its documentation for any purpose and without fee is hereby granted, provided that the above copyright notice appear in all copies and that both that copyright notice and this permission notice appear in supporting documentation, and that the name of Silicon Graphics not be used in advertising or publicity pertaining to distribution of the software without specific prior written permission. Silicon Graphics makes no representation about the suitability of this software for any purpose. It is provided "as is" without any express or implied warranty.

SILICON GRAPHICS DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL SILICON GRAPHICS BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Copyright 1987, 1988 by Digital Equipment Corporation, Maynard, Massachusetts.

All Rights Reserved

Permission to use, copy, modify, and distribute this software and its documentation for any purpose and without fee is hereby granted, provided that the above copyright notice appear in all copies and that both that copyright notice and this permission notice appear in supporting documentation, and that the name of Digital not be used in advertising or publicity pertaining to distribution of the software without specific, written prior permission.

DIGITAL DISCLAIMS ALL WARRANTIES WITH REGARD TO THIS SOFTWARE, INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS, IN NO EVENT SHALL DIGITAL BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN ACTION OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Copyright (C) 2011 Joseph Adams <joeyadams3.14159@gmail.com>

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

-
- Module: libgcrypt
-

Additional license notices for Libgcrypt. -*- org -*-

This file contains the copying permission notices for various files in the Libgcrypt distribution which are not covered by the GNU Lesser General Public License (LGPL) or the GNU General Public License (GPL).

These notices all require that a copy of the notice be included in the accompanying documentation and be distributed with binary distributions of the code, so be sure to include this file along with any binary distributions derived from the GNU C Library.

* BSD_3Clause

For files:
- cipher/sha256-avx-amd64.S
- cipher/sha256-avx2-bmi2-amd64.S
- cipher/sha256-ssse3-amd64.S
- cipher/sha512-avx-amd64.S
- cipher/sha512-avx2-bmi2-amd64.S
- cipher/sha512-ssse3-amd64.S

#+begin_quote
Copyright (c) 2012, Intel Corporation

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

* Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

* Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

* Neither the name of the Intel Corporation nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY INTEL CORPORATION "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL INTEL CORPORATION OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
#+end_quote

* X License
For files:
- install.sh

#+begin_quote
Copyright (C) 1994 X Consortium

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE X CONSORTIUM BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name of the X Consortium shall not be used in advertising or otherwise to promote the sale, use or other dealings in this Software without prior written authorization from the X Consortium.
#+end_quote

* Public domain

For files:
- cipher/arcfour-amd64.S

#+begin_quote

Author: Marc Bevand <bevand_m (at) epita.fr>
Licence: I hereby disclaim the copyright on this code and place it
in the public domain.
#+end_quote

* OCB license 1
For files:
- cipher/cipher-ocb.c

#+begin_quote
OCB is covered by several patents but may be used freely by most
software. See http://web.cs.ucdavis.edu/~rogaway/ocb/license.htm .
In particular license 1 is suitable for Libgcrypt: See
http://web.cs.ucdavis.edu/~rogaway/ocb/license1.pdf for the full
license document; it basically says:

License 1 — License for Open-Source Software Implementations of OCB
(Jan 9, 2013)

Under this license, you are authorized to make, use, and
distribute open-source software implementations of OCB. This
license terminates for you if you sue someone over their
open-source software implementation of OCB claiming that you have
a patent covering their implementation.

License for Open Source Software Implementations of OCB
January 9, 2013

1 Definitions
1.1 "Licensor" means Phillip Rogaway.

1.2 "Licensed Patents" means any patent that claims priority to United States Patent Application No. 09/918,615 entitled "Method and Apparatus for Facilitating Efficient Authenticated Encryption," and any utility, divisional, provisional, continuation, continuations-in-part, reexamination, reissue, or foreign counterpart patents that may issue with respect to the aforesaid patent application. This includes, but is not limited to, United States Patent No. 7,046,802; United States Patent No. 7,200,227; United States Patent No. 7,949,129; United States Patent No. 8,321,675 ; and any patent that issues out of United States Patent Application No. 13/669,114.

1.3 "Use" means any practice of any invention claimed in the Licensed Patents.

1.4 "Software Implementation" means any practice of any invention claimed in the Licensed Patents that takes the form of software executing on a user-programmable, general-purpose computer or that takes the form of a computer-readable medium storing such software. Software Implementation does not include, for example, application-specific integrated circuits (ASICs), field-programmable gate arrays (FPGAs), embedded systems, or IP cores.

1.5 "Open Source Software" means software whose source code is published and made available for inspection and use by anyone because either (a) the source code is subject to a license that permits recipients to copy, modify, and distribute the source code without payment of fees or royalties, or (b) the source code is in the public domain, including code released for public use through a CC0 waiver. All licenses certified by the Open Source Initiative at opensource.org as of January 9, 2013 and all Creative Commons licenses identified on the creativecommons.org website as of January 9, 2013, including the Public License Fallback of the CC0 waiver, satisfy these requirements for the purposes of this license.

1.6 "Open Source Software Implementation" means a Software Implementation in which the software implicating the Licensed Patents is Open Source Software. Open Source Software Implementation does not include any Software Implementation in which the software implicating the Licensed Patents is combined, so as to form a larger program, with software that is not Open Source Software.

2 License Grant

2.1 License. Subject to your compliance with the term s of this license, including the restriction set forth in Section 2.2, Licensor hereby grants to you a perpetual, worldwide, non-exclusive, non-transferable, non-sublicenseable, no-charge, royalty-free, irrevocable license to practice any invention claimed in the Licensed Patents in any Open Source Software Implementation.

2.2 Restriction. If you or your affiliates institute patent litigation (including, but not limited to, a cross-claim or counterclaim in a lawsuit) against any entity alleging that any Use authorized by this license infringes another patent, then any rights granted to you under this license automatically terminate as of the date such litigation is filed.

3 Disclaimer
YOUR USE OF THE LICENSED PATENTS IS AT YOUR OWN RISK AND UNLESS REQUIRED BY APPLICABLE LAW, LICENSOR MAKES NO REPRESENTATIONS OR WARRANTIES OF ANY KIND CONCERNING THE LICENSED PATENTS OR ANY PRODUCT EMBODYING ANY LICENSED PATENT, EXPRESS OR IMPLIED, STATUT ORY OR OTHERWISE, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF TITLE, MERCHANTIBILITY, FITNESS FOR A PARTICULAR PURPOSE, OR NONINFRINGEMENT. IN NO EVENT WILL LICENSOR BE LIABLE FOR ANY
CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN CONTRACT, TORT OR OTHERWISE, ARISING FROM OR RELATED TO ANY USE OF THE LICENSED PATENTS, INCLUDING, WITHOUT LIMITATION, DIRECT, INDIRECT, INCIDENTAL, CONSEQUENTIAL, PUNITIVE OR SPECIAL DAMAGES, EVEN IF LICENSOR HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES PRIOR TO SUCH AN OCCURRENCE.
#+end_quote

-
- Module: jansson
-

Copyright (c) 2009-2014 Petri Lehtinen <petri@digip.org>

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

-
- Module: libcurl
-

COPYRIGHT AND PERMISSION NOTICE

Copyright (c) 1996 - 2016, Daniel Stenberg, <daniel@haxx.se>, and many contributors, see the THANKS file.
All rights reserved.
Permission to use, copy, modify, and distribute this software for any purpose with or without fee is hereby granted, provided that the above copyright notice and this permission notice appear in all copies.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OF THIRD PARTY RIGHTS. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Except as contained in this notice, the name of a copyright holder shall not be used in advertising or otherwise to promote the sale, use or other dealings in this Software without prior written authorization of the copyright holder.

-
- Module: openssh
-

The licences which components of this software fall under are as follows. First, we will summarize and say that all components are under a BSD licence, or a licence more free than that.

OpenSSH contains no GPL code.

1)

```
 * Copyright (c) 1995 Tatu Ylonen <ylo@cs.hut.fi>, Espoo, Finland
 *                    All rights reserved
 *
 * As far as I am concerned, the code I have written for this software
 * can be used freely for any purpose.  Any derived versions of this
 * software must be clearly marked as such, and if the derived work is
 * incompatible with the protocol description in the RFC file, it must be
 * called by a name other than "ssh" or "Secure Shell".
```

[Tatu continues]

```
 *  However, I am not implying to give any licenses to any patents or
 * copyrights held by third parties, and the software includes parts that
 * are not under my direct control.  As far as I know, all included
 * source code is used in accordance with the relevant license agreements
 * and can be used freely for any purpose (the GNU license being the most
 * restrictive); see below for details.
```

[However, none of that term is relevant at this point in time. All of these restrictively licenced software components which he talks about have been removed from OpenSSH, i.e.,

- RSA is no longer included, found in the OpenSSL library
- IDEA is no longer included, its use is deprecated
- DES is now external, in the OpenSSL library
- GMP is no longer used, and instead we call BN code from OpenSSL
- Zlib is now external, in a library
- The make-ssh-known-hosts script is no longer included
- TSS has been removed
- MD5 is now external, in the OpenSSL library
- RC4 support has been replaced with ARC4 support from OpenSSL
- Blowfish is now external, in the OpenSSL library

Note that any information and cryptographic algorithms used in this software are publicly available on the Internet and at any major bookstore, scientific library, and patent office worldwide. More information can be found e.g. at "http://www.cs.hut.fi/crypto".

The legal status of this program is some combination of all these permissions and restrictions. Use only at your own responsibility. You will be responsible for any legal consequences yourself; I am not making any claims whether possessing or using this is legal or not in your country, and I am not taking any responsibility on your behalf.

NO WARRANTY

BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.
IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

2)

The 32-bit CRC compensation attack detector in deattack.c was contributed by CORE SDI S.A. under a BSD-style license.

```
 * Cryptographic attack detector for ssh - source code
 *
 * Copyright (c) 1998 CORE SDI S.A., Buenos Aires, Argentina.
 *
 * All rights reserved. Redistribution and use in source and binary
 * forms, with or without modification, are permitted provided that
 * this copyright notice is retained.
 *
 * THIS SOFTWARE IS PROVIDED ``AS IS'' AND ANY EXPRESS OR IMPLIED
 * WARRANTIES ARE DISCLAIMED. IN NO EVENT SHALL CORE SDI S.A. BE
 * LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY OR
 * CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OR MISUSE OF THIS
 * SOFTWARE.
 *
 * Ariel Futoransky <futo@core-sdi.com>
 * <http://www.core-sdi.com>
```

3)
ssh-keyscan was contributed by David Mazieres under a BSD-style license.

```
* Copyright 1995, 1996 by David Mazieres <dm@lcs.mit.edu>.
*
* Modification and redistribution in source and binary forms is
* permitted provided that due credit is given to the author and the
* OpenBSD project by leaving this copyright notice intact.
```

4)
The Rijndael implementation by Vincent Rijmen, Antoon Bosselaers and Paulo Barreto is in the public domain and distributed with the following license:

```
* @version 3.0 (December 2000)
*
* Optimised ANSI C code for the Rijndael cipher (now AES)
*
* @author Vincent Rijmen <vincent.rijmen@esat.kuleuven.ac.be>
* @author Antoon Bosselaers <antoon.bosselaers@esat.kuleuven.ac.be>
* @author Paulo Barreto <paulo.barreto@terra.com.br>
*
* This code is hereby placed in the public domain.
*
* THIS SOFTWARE IS PROVIDED BY THE AUTHORS ''AS IS'' AND ANY EXPRESS
* OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED
* WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
* ARE DISCLAIMED.  IN NO EVENT SHALL THE AUTHORS OR CONTRIBUTORS BE
* LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
* CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF
* SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR
* BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY,
* WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE
* OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE,
* EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
```

5)
One component of the ssh source code is under a 3-clause BSD license, held by the University of California, since we pulled these parts from original Berkeley code.

```
* Copyright (c) 1983, 1990, 1992, 1993, 1995
*      The Regents of the University of California.  All rights reserved.
*
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
* 1. Redistributions of source code must retain the above copyright
*    notice, this list of conditions and the following disclaimer.
* 2. Redistributions in binary form must reproduce the above copyright
*    notice, this list of conditions and the following disclaimer in the
*    documentation and/or other materials provided with the distribution.
* 3. Neither the name of the University nor the names of its contributors
*    may be used to endorse or promote products derived from this software
*    without specific prior written permission.
*
* THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS'' AND
* ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
PURPOSE
* ARE DISCLAIMED.  IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
* FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR
CONSEQUENTIAL
* DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE
GOODS
* OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
* HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT,
STRICT
* LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY
WAY
* OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
* SUCH DAMAGE.
```

6)
Remaining components of the software are provided under a standard 2-term BSD licence with the following names as copyright holders:

Markus Friedl
Theo de Raadt
Niels Provos
Dug Song
Aaron Campbell
Damien Miller
Kevin Steves
Daniel Kouril
Wesley Griffin
Per Allansson
Nils Nordman
Simon Wilkinson

Portable OpenSSH additionally includes code from the following copyright holders, also under the 2-term BSD license:

Ben Lindstrom
Tim Rice
Andre Lucas
Chris Adams
Corinna Vinschen
Cray Inc.
Denis Parker
Gert Doering
Jakob Schlyter
Jason Downs
Juha Yrjölä
Michael Stone
Networks Associates Technology, Inc.
Solar Designer
Todd C. Miller
Wayne Schroeder
William Jones
Darren Tucker
Sun Microsystems
The SCO Group
Daniel Walsh
Red Hat, Inc
Simon Vallet / Genoscope

```
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
* 1. Redistributions of source code must retain the above copyright
*    notice, this list of conditions and the following disclaimer.
* 2. Redistributions in binary form must reproduce the above copyright
*    notice, this list of conditions and the following disclaimer in the
*    documentation and/or other materials provided with the distribution.
*
* THIS SOFTWARE IS PROVIDED BY THE AUTHOR ``AS IS'' AND ANY EXPRESS OR
* IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES
* OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED.
* IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT,
* INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING,
BUT
* NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF
USE,
* DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY
* THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
* (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE
OF
* THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
```

8) Portable OpenSSH contains the following additional licenses:

a) md5crypt.c, md5crypt.h

```
* "THE BEER-WARE LICENSE" (Revision 42):
* <phk@login.dknet.dk> wrote this file.  As long as you retain this
* notice you can do whatever you want with this stuff. If we meet
* some day, and you think this stuff is worth it, you can buy me a
* beer in return.   Poul-Henning Kamp
```

b) snprintf replacement

```
* Copyright Patrick Powell 1995
* This code is based on code written by Patrick Powell
* (papowell@astart.com) It may be used for any purpose as long as this
* notice remains intact on all source code distributions
```

c) Compatibility code (openbsd-compat)

Apart from the previously mentioned licenses, various pieces of code in the openbsd-compat/ subdirectory are licensed as follows:

Some code is licensed under a 3-term BSD license, to the following copyright holders:

Todd C. Miller
Theo de Raadt
Damien Miller
Eric P. Allman
The Regents of the University of California
Constantin S. Svintsoff

```
* Redistribution and use in source and binary forms, with or without
* modification, are permitted provided that the following conditions
* are met:
* 1. Redistributions of source code must retain the above copyright
*    notice, this list of conditions and the following disclaimer.
* 2. Redistributions in binary form must reproduce the above copyright
*    notice, this list of conditions and the following disclaimer in the
*    documentation and/or other materials provided with the distribution.
* 3. Neither the name of the University nor the names of its contributors
*    may be used to endorse or promote products derived from this software
*    without specific prior written permission.
*
* THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS'' AND
* ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE
* IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR
PURPOSE
* ARE DISCLAIMED.  IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE
```

* FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL
* DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS
* OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION)
* HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT,
* STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY
* WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF
* SUCH DAMAGE.

Some code is licensed under an ISC-style license, to the following copyright holders:

Internet Software Consortium.
Todd C. Miller
Reyk Floeter
Chad Mynhier

* Permission to use, copy, modify, and distribute this software for any
* purpose with or without fee is hereby granted, provided that the above
* copyright notice and this permission notice appear in all copies.
*
* THE SOFTWARE IS PROVIDED "AS IS" AND TODD C. MILLER DISCLAIMS ALL
* WARRANTIES WITH REGARD TO THIS SOFTWARE INCLUDING ALL IMPLIED WARRANTIES
* OF MERCHANTABILITY AND FITNESS. IN NO EVENT SHALL TODD C. MILLER BE LIABLE
* FOR ANY SPECIAL, DIRECT, INDIRECT, OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES
* WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER IN AN
ACTION
* OF CONTRACT, NEGLIGENCE OR OTHER TORTIOUS ACTION, ARISING OUT OF OR IN
* CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

Some code is licensed under a MIT-style license to the following copyright holders:

Free Software Foundation, Inc.

* Permission is hereby granted, free of charge, to any person obtaining a *
* copy of this software and associated documentation files (the *
* "Software"), to deal in the Software without restriction, including *
* without limitation the rights to use, copy, modify, merge, publish, *
* distribute, distribute with modifications, sublicense, and/or sell *
* copies of the Software, and to permit persons to whom the Software is *
* furnished to do so, subject to the following conditions: *
* *
* The above copyright notice and this permission notice shall be included *
* in all copies or substantial portions of the Software. *
* *
* THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS *
* OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF *
* MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. *
* IN NO EVENT SHALL THE ABOVE COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, *
* DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR *
* OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR
*
* THE USE OR OTHER DEALINGS IN THE SOFTWARE. *
* *
* Except as contained in this notice, the name(s) of the above copyright *
* holders shall not be used in advertising or otherwise to promote the *
* sale, use or other dealings in this Software without prior written *
* authorization. *
***/

-
- Module: freebsd-libc
-

@(#)COPYRIGHT 8.2 (Berkeley) 3/21/94

All of the documentation and software included in the 4.4BSD and 4.4BSD-Lite Releases is copyrighted by The Regents of the University of California.

Copyright 1979, 1980, 1983, 1986, 1988, 1989, 1991, 1992, 1993, 1994
The Regents of the University of California. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. All advertising materials mentioning features or use of this software must display the following acknowledgement:

This product includes software developed by the University of California, Berkeley and its contributors.

4. Neither the name of the University nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE REGENTS AND CONTRIBUTORS ``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE REGENTS OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

The Institute of Electrical and Electronics Engineers and the American National Standards Committee X3, on Information Processing Systems have given us permission to reprint portions of their documentation.

In the following statement, the phrase ``this text'' refers to portions of the system documentation.

Portions of this text are reprinted and reproduced in electronic form in the second BSD Networking Software Release, from IEEE Std 1003.1-1988, IEEE Standard Portable Operating System Interface for Computer Environments (POSIX), copyright C 1988 by the Institute of Electrical and Electronics Engineers, Inc. In the event of any discrepancy between these versions and the original IEEE Standard, the original IEEE Standard is the referee document.

In the following statement, the phrase ``This material'' refers to portions of the system documentation.

This material is reproduced with permission from American National Standards Committee X3, on Information Processing Systems. Computer and Business Equipment Manufacturers Association (CBEMA), 311 First St., NW, Suite 500, Washington, DC 20001-2178. The developmental work of Programming Language C was completed by the X3J11 Technical Committee.

The views and conclusions contained in the software and documentation are those of the authors and should not be interpreted as representing official policies, either expressed or implied, of the Regents of the University of California.

-
- Module: strace
-

Copyright (c) 1991, 1992 Paul Kranenburg <pk@cs.few.eur.nl>
Copyright (c) 1993 Branko Lankester <branko@hacktic.nl>
Copyright (c) 1993 Ulrich Pegelow <pegelow@moorea.uni-muenster.de>
Copyright (c) 1995, 1996 Michael Elizabeth Chastain <mec@duracef.shout.net>
Copyright (c) 1993, 1994, 1995, 1996 Rick Sladkey <jrs@world.std.com>
Copyright (C) 1998-2001 Wichert Akkerman <wakkerma@deephackmode.org>
Copyright (C) 2001-2017 The strace developers.
All rights reserved.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:
1. Redistributions of source code must retain the above copyright
   notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
   notice, this list of conditions and the following disclaimer in the
   documentation and/or other materials provided with the distribution.
3. The name of the author may not be used to endorse or promote products
   derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR ``AS IS'' AND ANY EXPRESS OR
IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES
OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED.
IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT,
INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT
NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE,
DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY
THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF
THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

-
- Module: libpcap
-

Copyright (C) 1993-2008 The Regents of the University of California.

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
   notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
   notice, this list of conditions and the following disclaimer in
   the documentation and/or other materials provided with the
   distribution.
3. The names of the authors may not be used to endorse or promote
   products derived from this software without specific prior
   written permission.

THIS SOFTWARE IS PROVIDED ``AS IS'' AND WITHOUT ANY EXPRESS OR
IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED
WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

-
- Module: tcpdump
-

Licensed under the 3-clause BSD license:

Redistribution and use in source and binary forms, with or without
modification, are permitted provided that the following conditions
are met:

1. Redistributions of source code must retain the above copyright
   notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright
   notice, this list of conditions and the following disclaimer in
   the documentation and/or other materials provided with the
   distribution.
3. The names of the authors may not be used to endorse or promote
   products derived from this software without specific prior
   written permission.

THIS SOFTWARE IS PROVIDED ``AS IS'' AND WITHOUT ANY EXPRESS OR

IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Some files in this package are licensed under the 4-clause BSD license, the copyright on most of them belongs to The Regents of the University of California. Since the license was retroactively changed in 1999 to remove the advertising clause, they are effectively under the 3-clause license even if the text of the license in the files hasn't been updated. See the following document for more details:

ftp://ftp.cs.berkeley.edu/pub/4bsd/README.Impt.License.Change>

Other files under the 4-clause BSD license and whose copyright doesn't belong to the The Regents of the University of California are listed below:

- aodv.h, Copyright (c) 2003 Bruce M. Simpson
- atmuni31.h, Copyright (c) 1997 Yen Yen Lim and North Dakota State University
- ieee802_11.h, Copyright (c) 2001 Fortress Technologies and Charlie Lenahan
- print-802_11.c, Copyright (c) 2001 Fortress Technologies and Charlie Lenahan
- print-aodv.c, Copyright (c) 2003 Bruce M. Simpson
- print-ascii.c, Copyright (c) 1997, 1998 The NetBSD Foundation, Inc.
- print-cnfp.c, Copyright (c) 1998 Michael Shalayeff
- print-gre.c, Copyright (c) 2002 Jason L. Wright
- print-mobile.c, Copyright (c) 1998 The NetBSD Foundation, Inc.
- print-sunatm.c, Copyright (c) 1997 Yen Yen Lim and North Dakota State University
- print-telnet.c, Copyright (c) 1997, 1998 The NetBSD Foundation, Inc.
- print-timed.c, Copyright (c) 2000 Ben Smithurst
- missing/inet_aton.c, Copyright (c) 1995, 1996, 1997 Kungliga Tekniska Högskolan (Royal Institute of Technology, Stockholm, Sweden).
- missing/inet_ntop.c, Copyright (c) 1995, 1996, 1997 Kungliga Tekniska Högskolan (Royal Institute of Technology, Stockholm, Sweden).
- missing/inet_pton.c, Copyright (c) 1995, 1996, 1997 Kungliga Tekniska Högskolan (Royal Institute of Technology, Stockholm, Sweden).

-
- Module: ssmping
-

Copyright (C) 2005, 2006 Stig Venaas <venaas@uninett.no>

Permission to use, copy, modify, and distribute this software for any purpose with or without fee is hereby granted, provided that the above copyright notice and this permission notice appear in all copies.

SAFETY INFORMATION

- For use in dry, oil free indoor environments only.
- Warning - live parts contained within power adapter(s).
- No user serviceable parts within power adapter(s) - do not dismantle.
- Plug the power adapter(s) into socket outlets close to the node that they are powering.
- Do not use an unearthed power socket or extension cable.
- Do not use a power adapter if its case becomes damaged, cracked or broken or if you suspect that it is not operating properly.
- Replace the power adapter(s) with a manufacturer approved type only.
- If you use a power extension cord with the node, 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 nodes yourself.

WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT (WEEE)

Household users only

At the end of its useful life, your product is considered to be WEEE. As such, it is important to note that: WEEE is not to be disposed of as unsorted municipal waste. It is to be collected separately such that it can be disassembled so its components and materials can be recycled, re-used, and recovered (burned for energy content in the production of electricity).

Public collection points have been set up by municipalities for the collection of WEEE, free of charge to you. Please return your WEEE to the collection facility nearest your home or office. If you have difficulty locating a collection facility, the retailer that sold you the product should accept your WEEE. If you are no longer in contact with your retailer, please contact Adder Technology Ltd for assistance with this matter.

Recycling of WEEE is geared toward protecting the environment, protecting human health, preserving raw materials, improving sustainable development, and ensuring a better supply of commodities in the European Union. This will be achieved by retrieving valuable secondary raw materials and reducing the disposal of waste. You can contribute to the success of these goals by returning your WEEE to a collection facility.

Your product is marked with the WEEE symbol (wheelie bin with an X through it). This symbol is to inform you that the WEEE is not to be disposed of as unsorted municipal waste.

B2B Users only

For B2B WEEE collection and reprocessing requirements refer to Adder Technology's Terms and Conditions of Purchase.

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 see the Getting assistance section.

RADIO FREQUENCY ENERGY

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

European EMC directive 2014/30/EU

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 EN55032. In a residential environment, this equipment may cause radio interference.

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 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: www.adder.com/support

Documentation by: CORPORATE TEXT & DESIGN www.ctxd.com

© 2018 Adder Technology Limited
All trademarks are acknowledged.
Part No. MAN-XDIP-ADDER • Release 1.3

Index

A

Adapters
  video 8
Admin menus 20
Advanced page
  receiver 23
  transmitter 28
Audio connections 11

C

Cable types 36
Category rating 36
Channel List 16
Channels
  switching 30
Configuration wizard 13
Connections
  audio 11
  computer 7
  console 10
  link 11
  overview 6
  power 12
Crosstalk 36

D

Disconnect
  from channel 30
DisplayPort 8
DVI 8

F

Fast-Leave
  IGMP 34
File systems
  supported 25
FTP 36

G

General Settings page
  receiver 20
  transmitter 26

H

Hotkeys 21
  channel switching 30
  configuring 31

I

IGMP 34
Indicators 32
Interference
  protection 36
Internet Group Management
    Protocol 34

K

Keyboard navigation 13

L

Link connection 11
LNK
  indicator 32

M

Manage Ports page
  receiver 22
  transmitter 27
Menu
  admin 20
Mounting 6

N

Navigation
  of menus 13
Network switch
  specifications 11
Node
  restore 19

O

Optional extras 5
OSD Mouse Launch 21
OSD Settings page 21
OSD Timeout 21

P

PiMF 36
PoE 11
Power connection 12
Power over Ethernet 11
PWR
  indicator 32

R

Rack mount bracket 6
Recovery mode 32
Remote Logging Address 24,28
Remote Support 24,28
Reset 19
Reset button 3
Restore node 19

S

Safety information 59
Screening 36
Setup Channels page 26
Severity Level 24,28
Shielding 36
Snooping
  IGMP 34
Software Upgrade page
  receiver 25
  transmitter 29
SoL 15
Start of Life 15
STP 36
Supplied items 4
Supported file systems 25
Switching channels 30

T

Transmitter node
  add 17

U

USB
  indicator 32
UTP 36

V

VID
  indicator 32
Video format
  conversion 8,9
Video resolutions
  maximum 7

W

Warranty 59
Wizard
  configuration 13