

IPEPSMINI-VGA
IPEPSMINI-HM
IPEPSMINI-DP



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Introduction



WELCOME

Thank you for choosing the **AdderLink ipeps mini** KVM-over-IP module. Using the tried and trusted RealVNC® software, each AdderLink ipeps mini module provides highly secure remote connectivity across the Internet or corporate network. The AdderLink ipeps mini module naturally permits secure remote access to a single host, however, with the addition of a suitable KVM switch, a choice of many hosts becomes possible.

Highly secure

Enterprise grade security (using AES 128 or 256-bit encryption and RSA 2048-bit public key authentication) is employed as standard. This is further enhanced by VNC®, which allows the creation of ciphered user communications.

User management

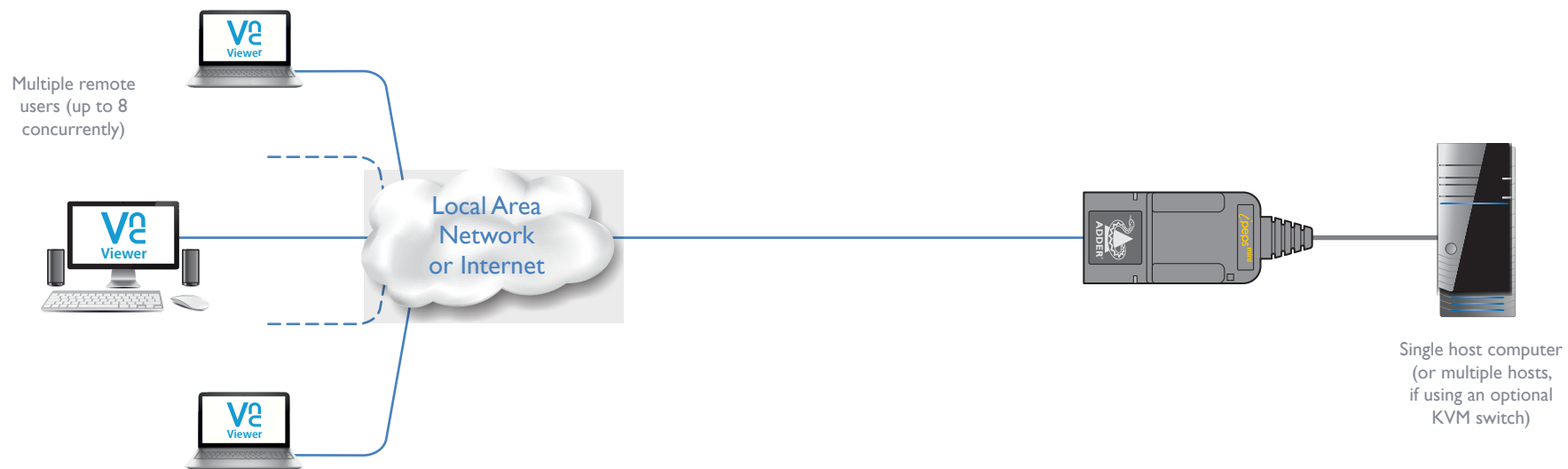
The AdderLink ipeps mini can create up to 15 user profiles (plus the admin user) with defined access rights. Up to 8 remote users may access the unit simultaneously, subject to available network bandwidth and content.

High quality remote video

Despite its small size the AdderLink ipeps mini offers video streaming at resolutions up to 1920 x 1200 with non-blocking access for up to eight remote users.

EDID management

The AdderLink ipeps mini has intelligent EDID management allowing the user to specify the video modes generated by the controlled device.



INSTALLATION

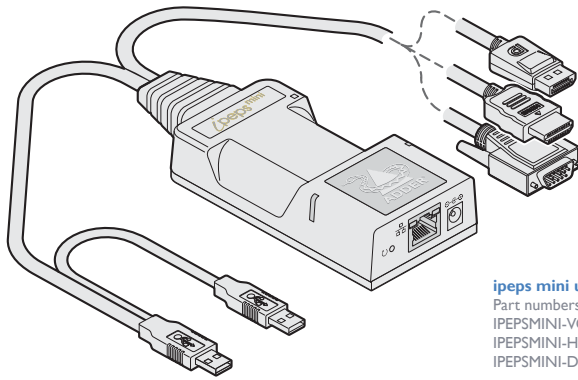
CONFIGURATION

OPERATION

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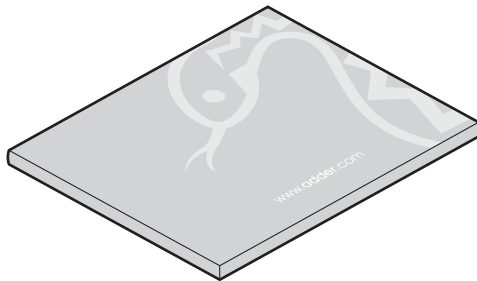
SUPPLIED ITEMS



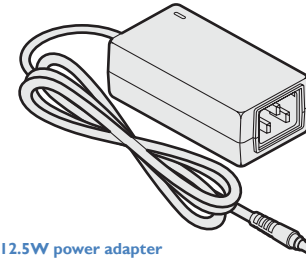
ipeps mini unit
Part numbers:
IPEPSMINI-VGA
IPEPSMINI-HM
IPEPSMINI-DP

**Information wallet
containing:**

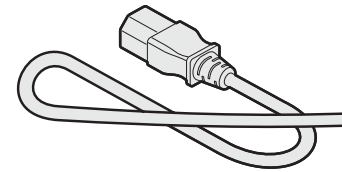
Four self-adhesive rubber feet
Safety document



OPTIONAL EXTRAS



12.5W power adapter
Part number: PSU-IEC-5VDC-2.5A



Country-specific power cords
CAB-IEC-AUS (Australia)
CAB-IEC-EURO (Europe)
CAB-IEC-UK (United Kingdom)
CAB-IEC-USA (United States)

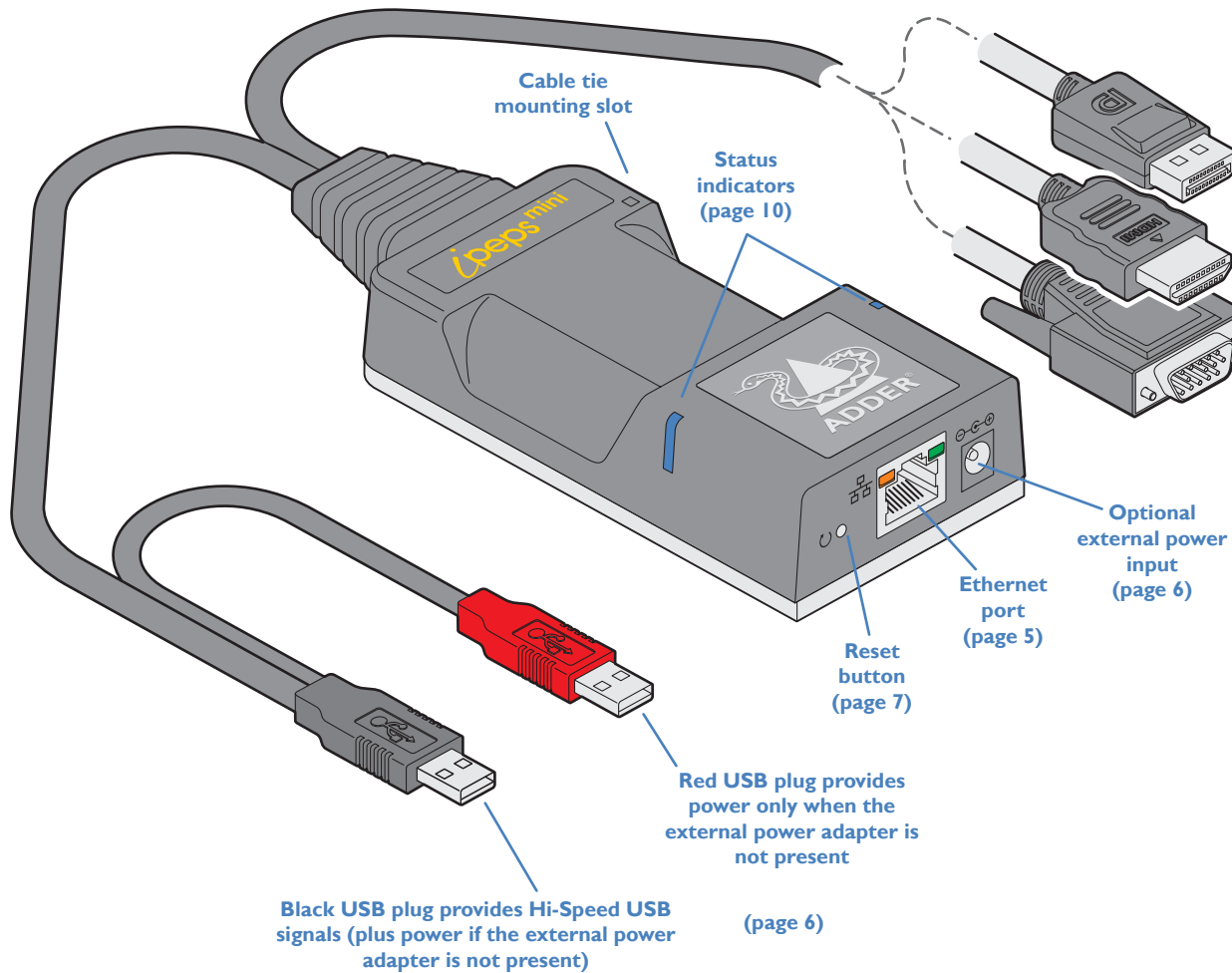
Installation

CONNECTIONS

Installation involves linking the ipeps mini unit to various ports on the host computer:

‘Suitable for installation in Information Technology Rooms in accordance with Article 645 of the National Electrical Code and NFPA 75.

Peut être installé dans des salles de matériel de traitement de l'information conformément à l'article 645 du National Electrical Code et à la NFPA 75.’



Video connection options:

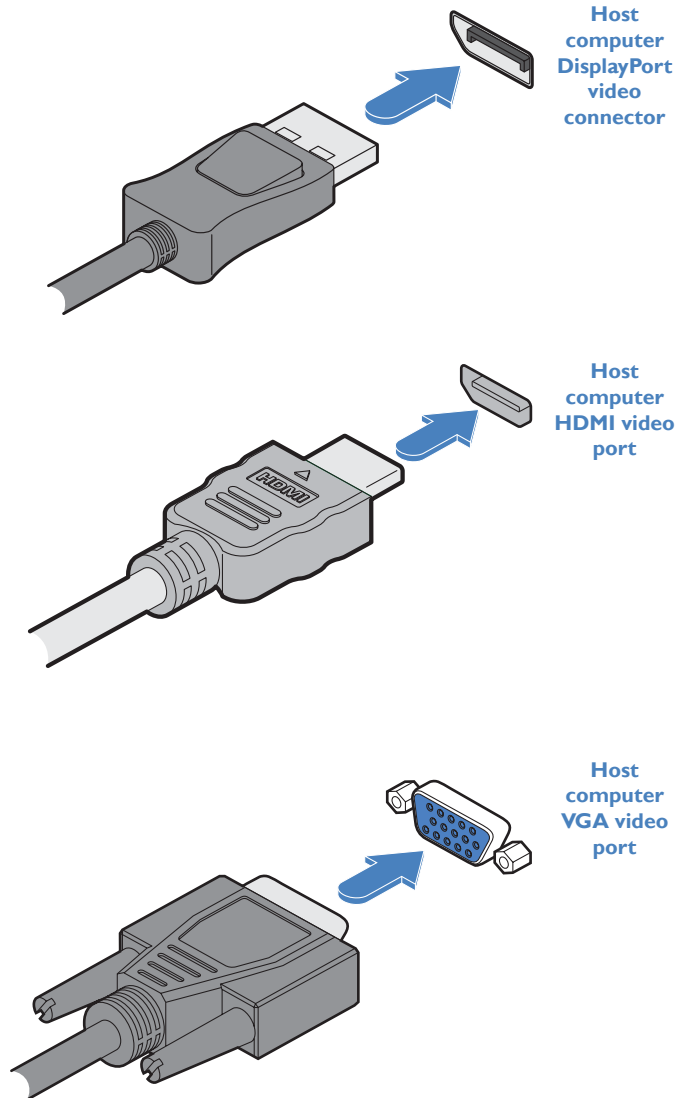
- DisplayPort®
- or
- HDMI™
- or
- VGA

Video link

The ipeps mini unit is supplied with a single video connector - DisplayPort®, HDMI™ or VGA depending on the chosen ipeps mini variant. Video resolutions up to 1920x1200 are supported (*maximum 1920x1080 for VGA variants*).

To make a video link

- 1 Connect the ipeps mini video connector to the video socket of the host computer:

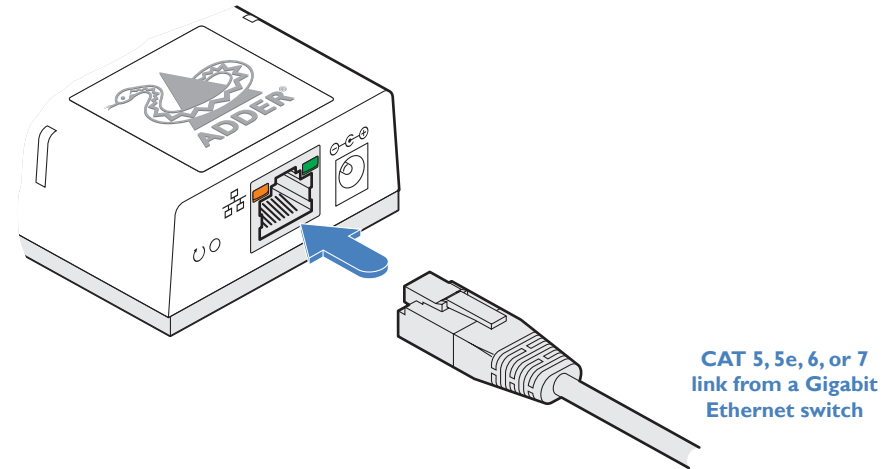


Link connection

Use the network port to join the ipeps mini to a suitable network switch. It is also possible to connect a computer directly to the network port for configuration purposes.

To make a link connection

- 1 Insert a standard network cable into the socket on the front panel of the ipeps mini unit.



- 2 Connect the other end of the cable either directly to a suitable network switch.

Please see [Appendix D](#) for important tips about networking ipeps mini units.

USB and power connections

The ipeps mini unit is designed to be as flexible as possible. It can either operate using an optional external power adapter (see page 3) or derive all of its power from its two USB plugs. The main advantage offered by using an external power adapter is that it allows the ipeps mini unit to be active before the host computer; thus allowing a remote user to access the host's initial boot up and access the BIOS menu, when required.

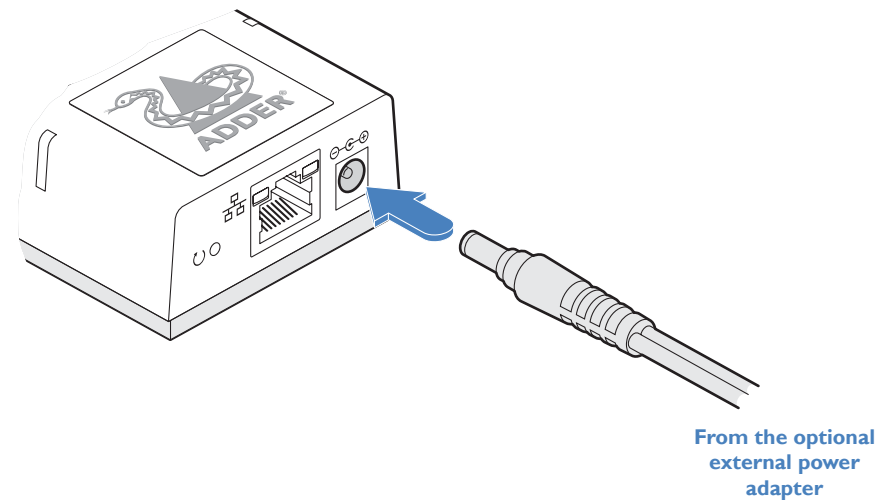
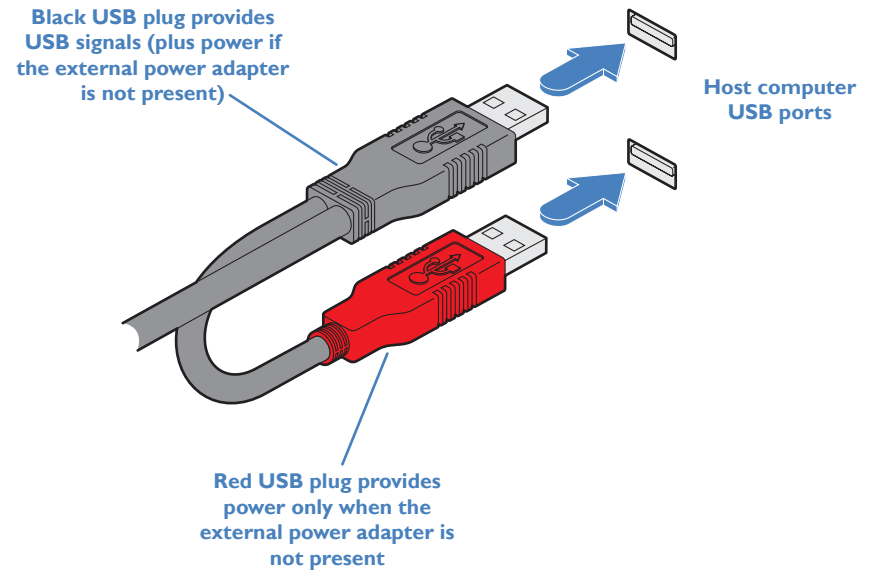
If powered by USB only, then both the black and red USB plugs need to be connected.

If powered by external power adapter, only the black Hi-Speed USB plug needs to be connected, for signal purposes. Whenever the external power adapter is attached and operating, then power will be taken from it rather than the USB plugs. There is no problem if the red USB plug remains connected while the power adapter is used.

This is summarized as follows:

Power adapter	Black USB	Red USB	Power sourcing behavior
✗	✓	✓	Power taken from both USB plugs.
✓	✓	✗	Power taken from power adapter only.
✓	✓	✓	Power taken from power adapter only, unless it becomes unavailable, in which case power will be taken from both USB plugs after a short interruption.

Note: The USB plugs do not operate as a seamless failover for the external power adapter; there will be a short interruption as operation switches from one power source to the other.



Configuration



CONNECTING TO IPEPS MINI

Connection to (and configuration of) ipeps mini is carried out over a network, using a VNC Viewer® program running on a computer or mobile device. VNC Viewers are available for most computers, tablets and smartphones.

- If you already have a VNC viewer, please follow the Initial configuration instructions given on the next page.

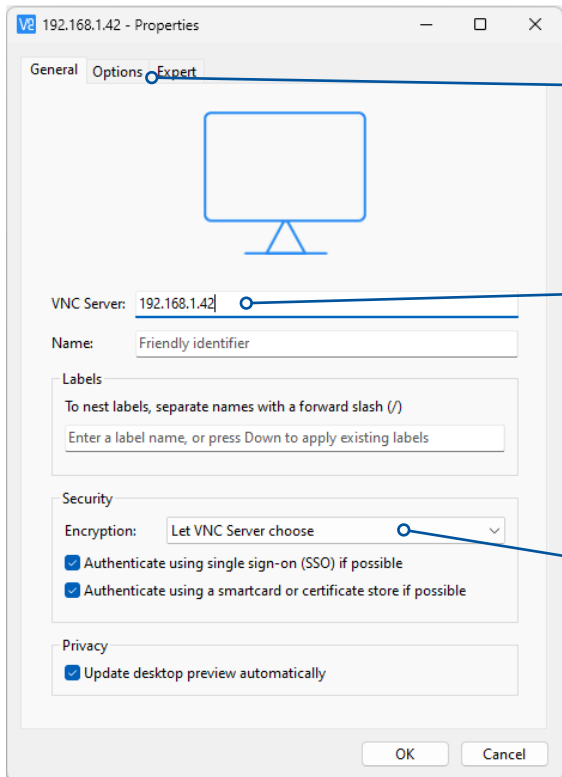
If you do not already have a VNC viewer, you can download the latest VNC Viewers for most operating systems via the RealVNC® website, or for tablets and smartphones from the appropriate app store.

INITIAL CONFIGURATION

To perform the initial configuration, you need to connect the ipeps mini to an IP network and use a computer located on the same network to connect to it.

To perform the initial configuration

- 1 Connect the ipeps mini to an IP network where a suitable computer is available on the same subnet.
- 2 Use a computer connected to the same subnet of the network. On that computer, you will need to use the VNC Viewer® application, which is available as a free download from www.realvnc.com. On the computer, locate and select the VNC viewer icon ⇨
- 3 Within the VNC Viewer application, click the File menu and choose the New connection... option. A connection details dialog will be displayed:



Options tab
Provides a range of viewer and connection settings.

Enter the ipeps mini address here and click OK

If required, select the encryption mode

- 4 In the VNC Server entry, type the default address of the ipeps mini: **192.168.1.42**

Note: One or more warning messages may be displayed regarding the 'VNC server not being recognized' and/or 'unencrypted connection'. If so, click the Continue button to proceed.

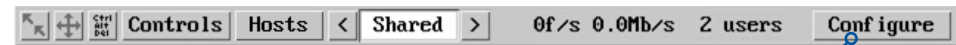
- 5 Click the OK button. If the module has not been previously configured, you will be asked to set an admin password:



- 6 Click the Enter Password button to display the Set Password popup:

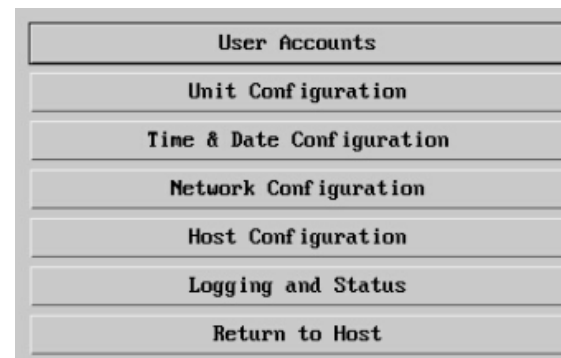


- 7 Enter a suitably strong password: it must have 8 or more characters and contain at least 1 letter, 1 digit and 1 special character. The input field will change from red to white when the password is suitably strong. Confirm the same password in the second field and click the OK button. Click the Continue button in the next popup to complete the process and access the Viewer window:



Click the Configure button

- 8 Click the Configure button to display the Configuration menu:



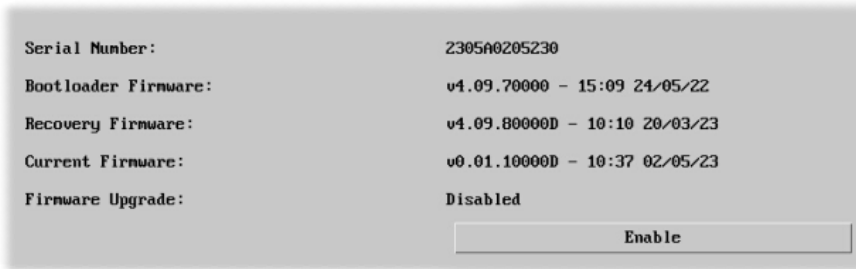
Use the various options (particularly the 'Unit Configuration' and 'Network Configuration' options) to arrange the ipeps mini to suit your requirements. See "Appendix I - Remote configuration menus (via VNC)" on page 18.

PERFORMING A FLASH UPGRADE

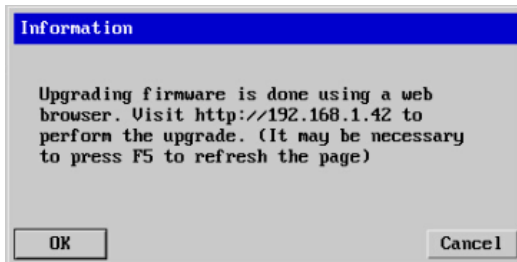
The firmware in ipeps mini is fully upgradable and is carried out via remote connection (through the IP network port). Upgrades are digitally signed by Adder using a secure key. This prevents unauthorized or altered firmware images being downloaded into the unit.

To perform a flash upgrade

- 1 Download the latest firmware revision for the ipeps mini from the Adder website and decompress the download file. View the decompressed files and make a note of the name and location of the .bin file that was part of the download file collection.
- 2 Make a remote connection to the ipeps mini unit and login as the admin user.
- 3 Once logged in, click the 'Configure' button in the top right corner of the window.
- 4 Click the 'Unit Configuration' button.
- 5 Click the 'Advanced Unit Configuration' button.
- 6 Click the 'Firmware' button to view the following page:

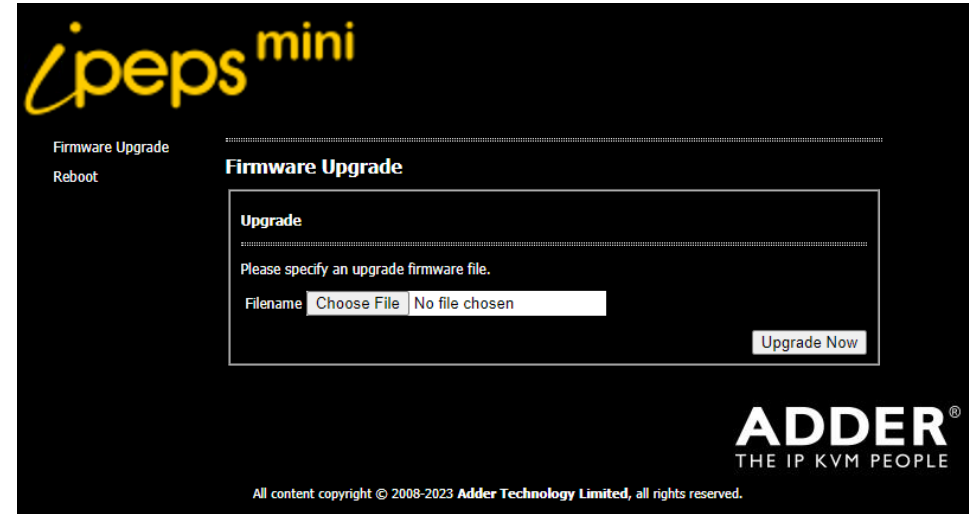


- 7 Click the Enable button. The following popup message will be displayed:



- 8 Note the IP address shown in the dialog box and click OK.

- 9 The unit is now ready to accept the upgrade files. Open your browser and log into the ipeps mini using the IP address that was confirmed in the dialog. Once connected, the unit will show the following:



- 10 Click the 'Choose File' button and locate the .bin upgrade file that you downloaded earlier. Click the 'Upgrade Now' button. The upgrade will take place and its progress will be shown on screen. The unit will then reboot automatically once the upgrade process has completed.

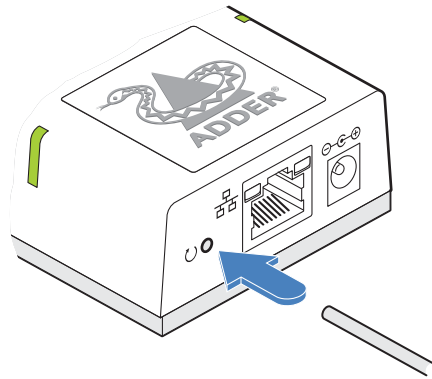
Note: If the flash upgrade fails, you can restore a backup firmware image to return the unit to a fully working state. See "Restoring a backup firmware image" on page 10.

RESTORING A BACKUP FIRMWARE IMAGE

The AdderLink ipeps mini module retains a backup image of the previous firmware version in order to provide a fallback in case of any issues with the primary image. The backup image has no video or USB functionality; once invoked, you will need to load an upgrade file using the web interface to load a new primary image - see “Performing a flash upgrade” on page 9.

To restore the backup firmware image

- 1 Power on the AdderLink ipeps mini module.
- 2 Use a narrow implement (e.g. a straightened-out paper clip) to press-and-hold the recessed reset button for roughly ten seconds until the indicators flash **green/red**.



Use a straightened-out paper clip to press the reset button for roughly 10 seconds

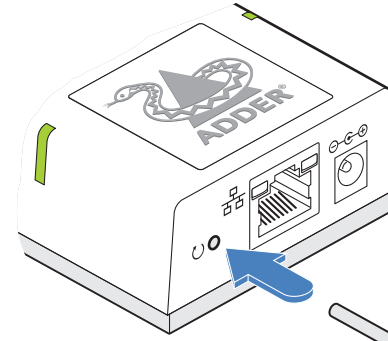
- 3 Release the reset switch.
- 4 The module will switch to the backup firmware image. Once complete, the module will then continually flash **green/red**.
- 5 Perform an upgrade to reinstate a fresh primary firmware image - see “Performing a flash upgrade” on page 9.

RESETTING

The recessed reset button provides a way to take control of the module if normal operation is affected.

To reset the module

- 1 Power on the module.
- 2 Use a narrow implement (e.g. a straightened-out paper clip) to press-and-hold the recessed reset button for more than 15 seconds until the status indicators turn **blue**:



Use a straightened-out paper clip to press the reset button for more than 15 seconds

- 3 Release the reset switch.

NOTE: Allow the module to fully complete the reset process by waiting for at least 30 seconds after you have released the reset button.

CONNECTING WITH THE HOST COMPUTER(S)

The AdderLink ipeps mini module allows up to eight concurrent users to remotely connect with a host computer. If an optional KVM switch is attached, a choice of multiple host computers becomes possible, although only one host may be selected at any one time.

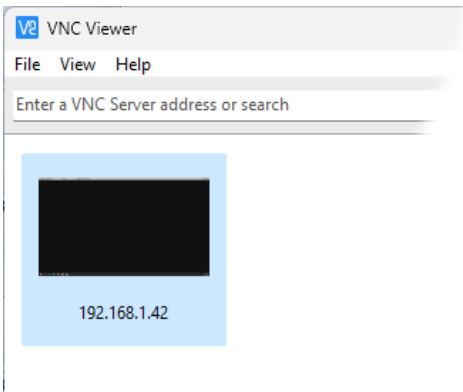
Remote connections

The VNC Viewer® application is available as a free download from www.realvnc.com. It gives you the ability to view and control the AdderLink ipeps mini and its host computer(s).



To remotely connect with a host

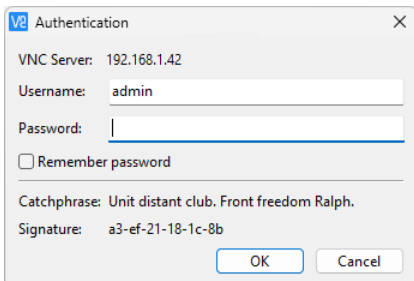
1 Install and run the VNC Viewer application. The connection dialog will be displayed:



2 Enter the network address into the search bar (the default is 192.168.1.42) and press Enter (or double click the connection entry for the ipeps mini - if one has previously been created).

The VNC Viewer will attempt make a connection to the AdderLink ipeps mini module.

Once a connection is made, you should be presented with the login dialog:



3 Enter your username and password and click OK.

4 If a successful connection is made a new window will be opened with a VNC menu bar along the top edge:

Ctrl Alt Del
Sends the Ctrl Alt Del sequence to the current host computer.

Controls
Displays a menu of options concerning keyboard, video, mouse and file transfer operations.

Dialog area
Indicates the framerate and bitrate, plus the number of remote users.

Re-sync mouse
Ensures that the mouse pointer which you move and the mouse pointer on the host system are correctly synchronized.

Auto calibrate
Determines the optimum mouse settings (when using Relative Mouse mode) for the currently selected host computer. This button will flash red when a new host screen is encountered. Click this button when you first visit a new screen.

Hosts
Click to display a list of computers. Choose an entry to connect to that host computer.

Access mode
Allows you to choose between Shared and Private access modes.

Configure
This option is only available to the admin user and provides access to the main configuration menus.

For details about how to determine the options on the menu bar; see [User Accounts > Menu Bar Edit](#).

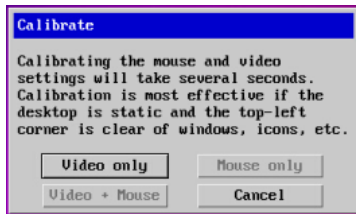
Note: The VNC Viewer Idle Timeout option is set to zero by default, meaning that it will not automatically disconnect.

Auto calibrate

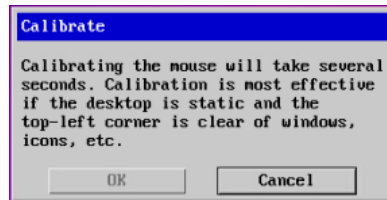
Auto calibrate will calibrate the mouse only if relative mouse mode is selected. This detects the mouse motion and will report back that the mouse has been calibrated correctly depending upon the operating system.

Note: When performing an auto calibration, ensure that the screen image is static (no moving images) and also try to remove any on-screen displays (such as host names or menus). This is because they can affect the calibration process and result in a lower overall performance level. For mouse calibration, ensure that there are no application windows located around the upper left corner of the screen. This is because as the mouse calibration takes place, the cursor may change (to match the application as it skims across the window) and this may confuse the calculation. Also ensure that the host system does not have the mouse cursor trails option enabled.

Click the button to display a dialog:



On VGA-equipped versions



On DP/HDMI-equipped versions

Click the required option to proceed with calibration.


See the notes on [Advanced mouse configuration](#) for more details.

Once this has been done, providing you use the 'Hosts' button to switch between host computers, the video settings for each machine will be re-used.

Re-synchronize mouse

If you find that your local mouse pointer and that of the host are not correctly synchronized, use this feature to re-align their movements. This operation is also selectable from the Controls menu.

To re-synchronize the mouse

- 1 Use the Hosts button to select the required computer.
- 2 Click the  button and then click OK in the subsequent pop-up message.

Note: If you find that this doesn't work, you may need to perform a mouse calibration again.

Access mode - shared/private

Up to eight remote users can be simultaneously logged-in and all will view the same host. If you need to perform a sensitive task that should not be viewed by other users, you can change the access mode to Private. This action prevents other users connecting at the same time.

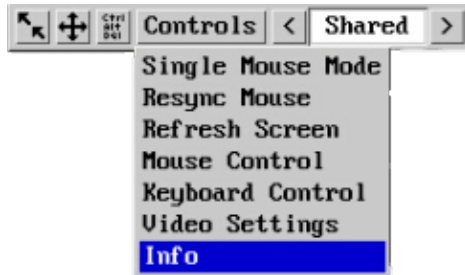
To change the access mode

- 1 Click one of the arrow buttons adjacent to the Shared/Private indicator.



Controls

When clicked, this button reveals a menu of options concerned with keyboard, video and mouse operation.



Single Mouse Mode

This mode is for fast network connections where the cursor response is sufficient to provide instant visual feedback on the remote screen. When enabled, the cursor is 'captured' within the viewer window until you use the 'escape' hot keys.

To quit from single mouse mode, press F8 and then P. Alternatively, enable and use the mouse button escape sequences - see Advanced unit configuration for details.

The single mouse mode does not require calibration.

Resync Mouse

This option has the same effect as the  button on the menu bar and re-synchronizes the local and remote mouse pointers.

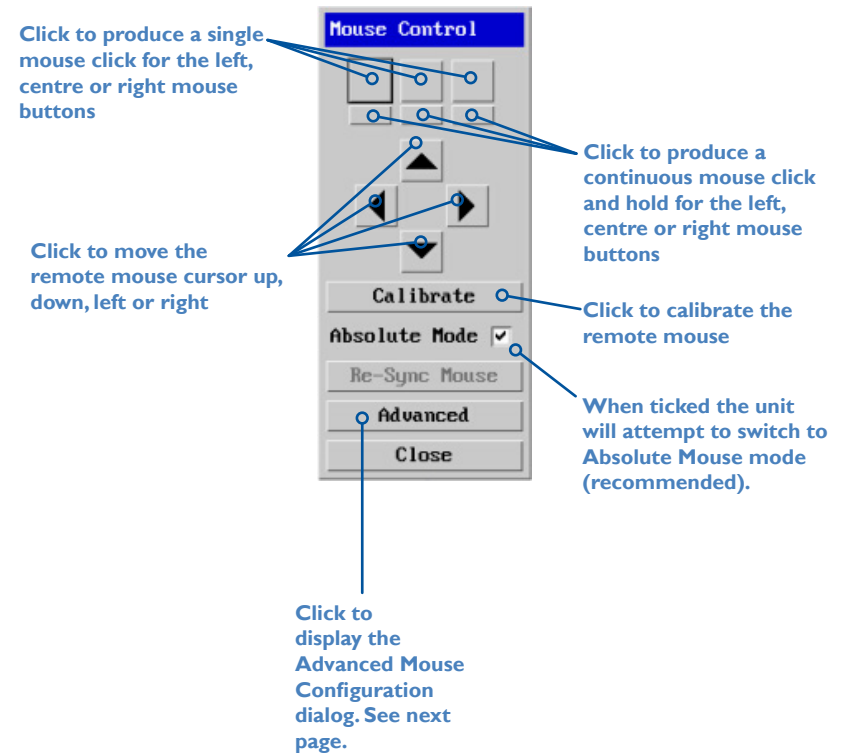
Refresh Screen

This option refreshes the whole screen image to remove any artefacts from moved screen items. This is useful when using very low refresh rates on slow speed communication links.

Mouse Control

This option displays a mouse control dialog and is useful when the remote cursor is failing to respond correctly to your mouse movements, even after using the Resync mouse option.

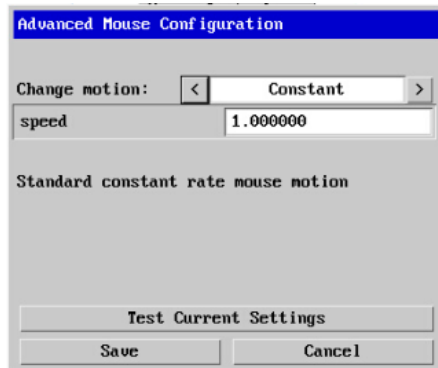
The mouse control dialog allows you to control the remote mouse cursor using a selection of buttons that you click with your local mouse.



Advanced mouse configuration

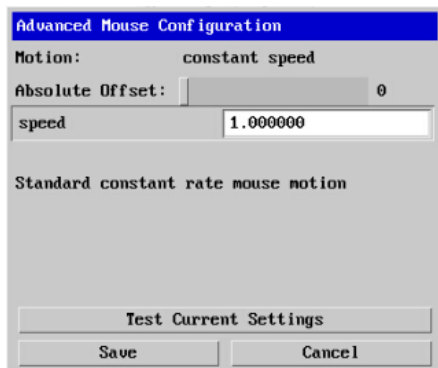
This dialog (accessible via the Mouse Control popup) allows the mouse acceleration to be configured according to the operating system in use and also permits manual fine tuning for situations where problems are encountered with the Calibrate function.

For best results, choose the appropriate *Change motion*: entry to match the host in use.



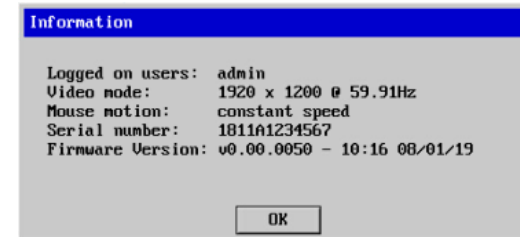
The available Change Motion schemes are: *Constant*, *Windows 7/8/10*, *Solaris*, *Solaris 9* and *Mac OSX*.

When the *Absolute Mode* option is ticked in the main [Mouse Control](#) menu, this dialog allows you to adjust the *Absolute Offset* scale:



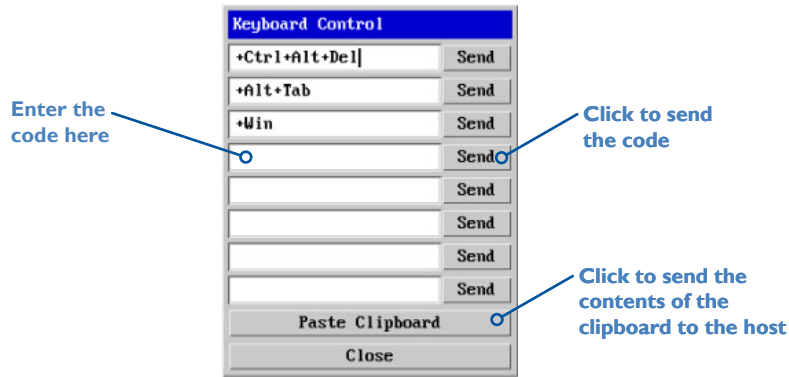
Info

When selected, this option displays an information dialog showing the current logged on users, the current host, its video mode and its mouse motion details.



Keyboard Control

This option displays a keyboard control dialog and is useful for sending keyboard combinations (to the host) that are needed regularly or that are trapped by the AdderLink ipeps mini module.



When entering codes:

- + means press down the key that follows
- means release the key that follows
- +– means press down and release the key that follows
- * means wait 250ms (note: if a number immediately follows the asterisk, then the delay will equal the number, in milliseconds)

It is automatically assumed that all keys specified will be released at the end, so there is need to specify -Ctrl or -Alt if these keys are to be released together.

Examples:

- 'Ctrl + Alt I2' would be expressed as: +Ctrl+ Alt+ I–I+2
- +N means press the 'N' key
- +Scroll means press the Scroll lock key
- +Space means press the space key

Video Settings

This dialog provides access to all of the key video settings that determine image quality and link performance.

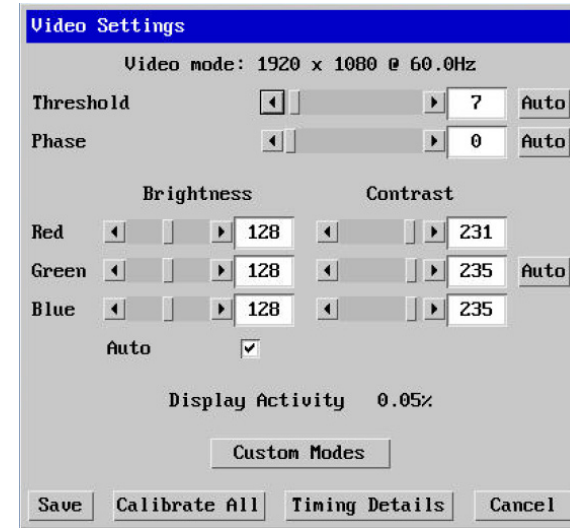
VGA models (for DisplayPort® and HDMI™ models, please see the next page)

Threshold

The threshold is effectively a noise filter that differentiates between valid video signals and background noise or interference. This has the effect of reducing unnecessary video signals between the ipeps mini and the remote system, thus improving performance.

Phase

The phase setting adjusts the alignment of the host video output and the remote system video display to achieve the sharpest image.



Brightness & contrast

Provides manual sliders and also automatic settings to optimize these important video constituents for the current host and connection speed.

Calibrate all

Click to determine the optimum settings for all aspects of video the video connection from the host system.

Timing details

Click to view specific horizontal and vertical video timings.

Display activity

Indicates the level of video activity currently in progress.

Using automatic configurations

- Every setting can be individually subjected to an automatic configuration (click the appropriate 'Auto' button) and most can also be manually adjusted.
- Use the 'Calibrate All' button to automatically determine the optimum settings for all items.

Note: Before using the 'Calibrate All' option, if possible, remove on-screen display (OSD) elements. These OSD elements use different video rates to those of the host system and can affect the setting of the automatic threshold value. The ipeps mini module uses an improved calculation procedure to filter out the effect of these elements. However, best results are obtained when the screen contains only host system information.

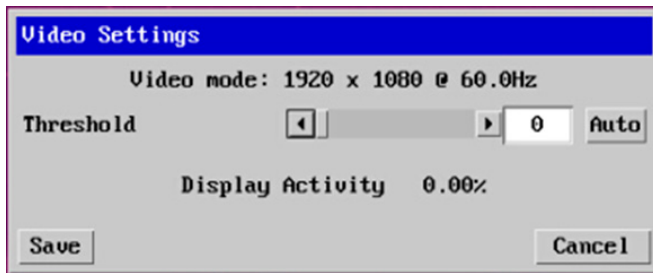
Note: To maximise performance, the threshold level is automatically increased by 50% when a slow link is detected.

Setting the Threshold manually

Occasionally it can be useful to manually adjust the Threshold setting, in order to achieve a setting that best suits your particular requirements.

- 1 Use the 'Calibrate All' function to ensure that all other settings are optimized.
- 2 Click the Threshold left arrow button to decrement the setting by one and observe the 'Display Activity' indicator.
- 3 Repeat step 2 until the Display Activity indicator suddenly rises to a much higher level (i.e. 50%). This will mean that you have reached the noise boundary. At this point, increment the Threshold value by 2 or 3 points to achieve an optimum setting.

DisplayPort® and HDMI™ models (for VGA models, please see the previous page)



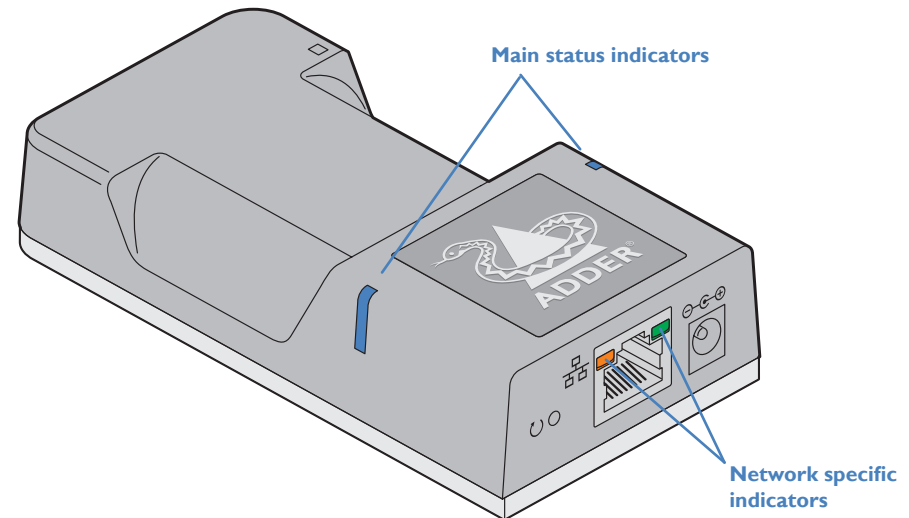
Threshold is effectively a noise filter that differentiates between valid video signals and background noise or interference. This has the effect of reducing unnecessary video signals between the ipeps mini module and the remote system, thus improving performance. A good way to choose the value is to watch the Display Activity indicator for a static screen. If the Threshold is too low, the Display Activity will be a high percentage while nothing is really changing. If the Threshold is too high, the Display Activity will be very low (or zero) but some real changes in the screen may be missed.

INDICATORS

The AdderLink ipeps mini module contains various indicators to provide you with status information.

Status indicators

The two top panel indicators on the unit provide a useful guide to operation:



Main status indicators

- Off No power
- Green Operating - Video, USB and network link all present
- Orange Operating - But video, USB and/or network link missing.
- Red (momentarily) Unit is booting up, or (consistently) Unit has failed, try rebooting.
- Red/green flashing Unit is in backup mode.
- Blue Factory reset has been activated.
- Red/blue flashing Unit is in upgrade mode.

Network specific indicators

- Orange Off: No link On: Link established
- Green Off: No link Flashing: Network activity On: Quiescent link

Further information



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

- Getting assistance - see right
- [Appendix 1](#) - Remote configuration menus (via VNC®)
- [Appendix 2](#) - Networking issues
- [Appendix 3](#) - Security considerations
- [Appendix 4](#) - Product compatibility
- [Appendix 5](#) - Hotkey sequences
- [Appendix 6](#) - Open source licenses

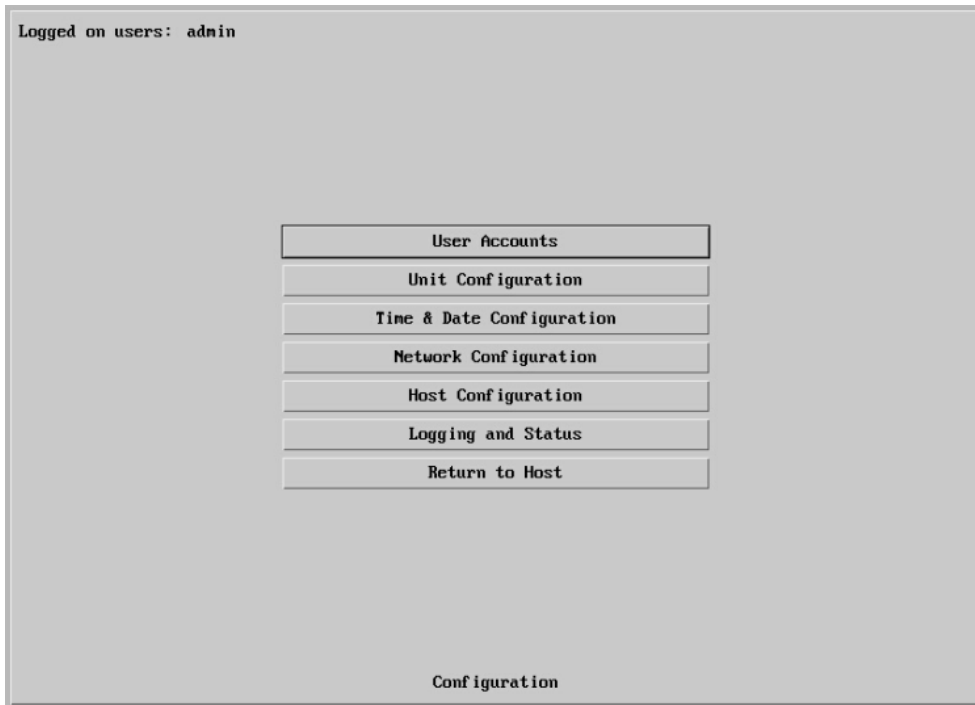
GETTING ASSISTANCE

If you are still experiencing problems after checking the information contained within this guide, then please refer to the Support section of our website:

www.adder.com

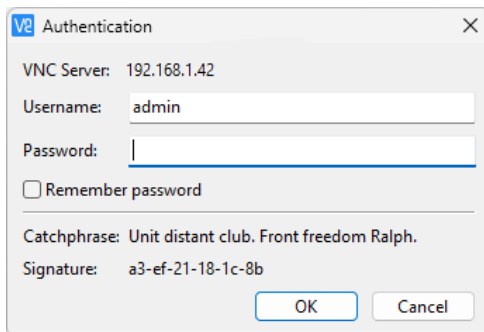
APPENDIX I - REMOTE CONFIGURATION MENUS (VIA VNC)

When connected remotely via VNC®, with admin privileges, a Configure button is made available on the right side of the VNC menu bar. The resulting configuration menu provides access to all main settings of the AdderLink ipeps mini module:



To view the main configuration menu

1 Using the VNC viewer® application, log on as the 'admin' user.



2 Click the 'Configure' button in the top right corner. The main configuration menu will be displayed (shown above).

The various configuration pages are covered within this appendix:

- [User Accounts](#)
 - [Menu Bar \(Gui edit configuration\)](#)
- [Unit Configuration](#)
 - [EDID Configuration](#)
 - [Console Configuration](#)
 - [Advanced unit Configuration](#)
- [Time & Date Configuration](#)
- [Network Configuration](#)
 - [IP Access Control](#)
- [Host Configuration](#)
- [Logging and Status](#)

User Accounts

There is one admin user account, which has full access to the configuration menu. Up to 15 users can be created by the admin user, each with their own password and access privileges.

Logged on users: admin

User Name	Password	View Only	Menu Bar
admin	Change Password	<input type="checkbox"/>	Edit
	Enter Password	<input type="checkbox"/>	Edit
	Enter Password	<input type="checkbox"/>	Edit
	Enter Password	<input type="checkbox"/>	Edit
	Enter Password	<input type="checkbox"/>	Edit
	Enter Password	<input type="checkbox"/>	Edit
	Enter Password	<input type="checkbox"/>	Edit
	Enter Password	<input type="checkbox"/>	Edit
	Enter Password	<input type="checkbox"/>	Edit
	Enter Password	<input type="checkbox"/>	Edit
	Enter Password	<input type="checkbox"/>	Edit
	Enter Password	<input type="checkbox"/>	Edit
	Enter Password	<input type="checkbox"/>	Edit
	Enter Password	<input type="checkbox"/>	Edit
	Enter Password	<input type="checkbox"/>	Edit
	Enter Password	<input type="checkbox"/>	Edit
	Enter Password	<input type="checkbox"/>	Edit
	Enter Password	<input type="checkbox"/>	Edit

Save User Configuration Cancel

To get here

- 1 Using VNC viewer®, log on as the 'admin' user.
- 2 Click the 'Configure' button in the top right corner.
- 3 Click the 'User Accounts' option.

User Name

All user names must consist of lower case characters, numbers and certain non-alphanumeric characters (e.g. '_') only. No symbols or upper case characters are permissible. The user name can be between 1 and 32 characters in length but cannot contain foreign characters.

Password

Click the button to display a password popup. Each password can be up to 16 characters in length. Passwords must be at least 8 characters, including at least 1 letter, 1 number and a special character.

View Only

When ticked, no control data (from keyboard or mouse) are sent to the ipeps mini.

Menu Bar

Optionally click to customize the menu bar for each user. See next page.

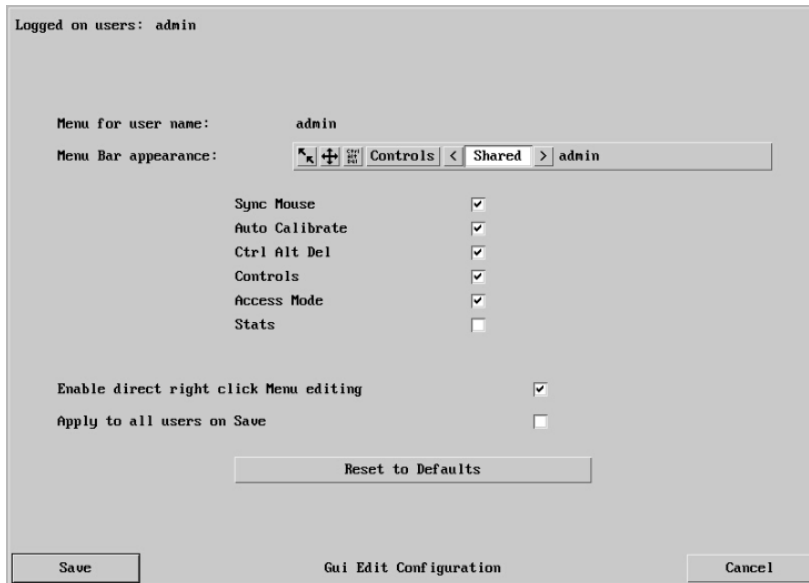
Menu Bar Edit (Gui Edit Configuration)

If required, you can customize the menu bar of the viewer window to ensure that it contains only the necessary options.

The menu bar can be edited locally by each user or edited singly by the admin or alternatively, the admin can globally alter the menu bar for all users.

To globally edit the menu bar via admin

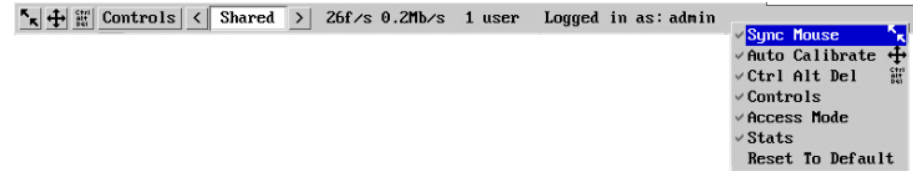
- 1 Using VNC viewer®, log on as the 'admin' user.
- 2 Click the 'Configure' button in the top right corner.
- 3 Click on User Accounts.
- 4 Click on the relevant Edit button to display the following page:



- 5 Tick/untick the required menu bar options and then click Save.

To edit the menu bar locally

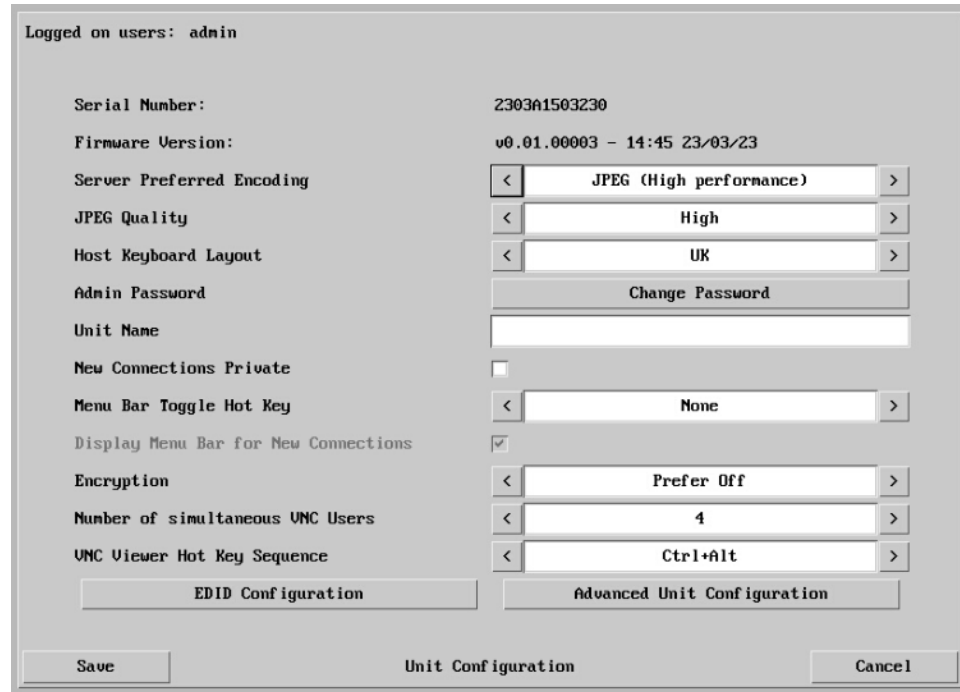
- 1 Login remotely via VNC viewer and display the viewer window.
- 2 Place the mouse pointer on the menu bar and click the right mouse button. A popup will be displayed:



- 3 Click on any option within the popup to add it to or remove it from the menu bar.
- 4 When all changes have been made, click anywhere else within the viewer window. Changes made in this way will affect the individual user only.

Unit Configuration

This page provides access to a selection of both basic and advanced settings for the AdderLink ipeps mini module.



Firmware Version

Indicates the version of the internal software within the AdderLink ipeps mini module flash memory.

Server Preferred Encoding

Determines the preferred graphics encoding method to be used across the VNC connection. Options are: JPEG (High performance), Use Viewer Preference, raw, RRE, hextile, TRLE, ZRLE. *Note: If the Use Viewer Preference option is selected, the user may have to reset the unit (see Advanced Unit Configuration) when switching between different VNC Viewer Preferred Encoding property settings.*

Host Keyboard Layout

Use the arrow buttons to match the keyboard layout expected by the host system. *Note: The chosen keyboard layout may be different from the keyboard layout being used by one or more remote users.*

Admin Password

Click the button to display a popup which allows you to optionally edit the password that will be used to gain administrator access to the AdderLink ipeps mini module.

Unit Name

The name entered here will be displayed on the remote VNC viewer/browser windows.

To get here

- 1 Using VNC viewer®, log on as the 'admin' user.
- 2 Click the 'Configure' button in the top right corner.
- 3 Click the 'Unit Configuration' option.

New Connections Private

Allows you to determine whether new VNC connections should be set up as private (when ticked) or as shared (when unticked).

Menu Bar Toggle Hot Key

Determines the function key that can be used to display/hide the menu bar within the VNC screen.

Display Menu Bar for New Connections

If a menu bar hot key is set (see above), this tick box option becomes available and determines whether or not a menu bar is shown when each new connection occurs.

Encryption

Four options are available: Always On, Always Maximum, Prefer Off or Prefer On. The one to choose depends on the specific details of your installation. The use of encryption imposes a slight performance overhead, but is highly secure against third party intrusion. Maximum selects 256 bit encryption.

Number of simultaneous VNC Users

Allows you to restrict the number of concurrent VNC sessions. The maximum number is 8 and the default is 4.

VNC Viewer Hot Key Sequence

When using the VNC Viewer, you can use key press combinations to select host computers and also to display the host selection menu. This option allows you to choose which keys should be used to form the hotkeys that will precede a switching command. The default setting is CTRL + ALT, so as an example when you press the CTRL ALT and 2 keys, the viewer will change to the host with "Hotkey Host Number" 2 - see [Host configuration](#).

There are three additional buttons at the foot of the page:

- [EDID Configuration](#) - Details the timings for the various video modes supported by the host computer and also allows you to edit timings where necessary. It is not normally necessary to make any changes within this section.
- [Advanced Unit Configuration](#) - Allows access to timings and calibration options which do not usually require attention.

EDID Configuration

This page details the timings for the various video modes supported by the host computer. The Edit Preferred, Standard & DVT Timing page also allows you to edit timings where necessary. It is not normally necessary to make any changes within these pages.

Logged on users: admin

Preferred Timing

Preferred Mode 1920 x 1080 @ 60Hz 148.50 MHz

active	fp	sync	bp	polarity	active	fp	sync	bp	polarity		
Horizontal	1920	88	44	148	Pos	Vertical	1080	4	5	36	Pos

Established Timing

<input checked="" type="checkbox"/> 720 x 400 @ 70 Hz	<input checked="" type="checkbox"/> 640 x 480 @ 60 Hz	<input checked="" type="checkbox"/> 640 x 480 @ 67 Hz	<input checked="" type="checkbox"/> 640 x 480 @ 72 Hz	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> 640 x 480 @ 75 Hz	<input checked="" type="checkbox"/> 800 x 600 @ 56 Hz	<input checked="" type="checkbox"/> 800 x 600 @ 60 Hz	<input checked="" type="checkbox"/> 800 x 600 @ 72 Hz	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> 800 x 600 @ 75 Hz	<input checked="" type="checkbox"/> 832 x 624 @ 75 Hz	<input checked="" type="checkbox"/> 1024 x 768 @ 60 Hz	<input checked="" type="checkbox"/> 1024 x 768 @ 70 Hz	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> 1024 x 768 @ 75 Hz	<input checked="" type="checkbox"/> 1280 x 1024 @ 75 Hz	<input checked="" type="checkbox"/> 1152 x 870 @ 75 Hz	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Standard Timing

1920 x 1080 @ 60Hz	1920 x 1200 @ 60Hz	800 x 600 @ 85Hz	1024 x 768 @ 85Hz
1152 x 864 @ 75Hz	1280 x 960 @ 60Hz	1280 x 1024 @ 85Hz	1600 x 1200 @ 60Hz
1152 x 864 @ 60Hz	1280 x 1024 @ 67Hz	640 x 480 @ 85Hz	

Support Default GTF HDMI

Monitor Name: KVM-via-IP

Coordinated Video Timing (CUT)

1920 x 1200 @ 60Hz RB

Restore to Defaults Edit Preferred, Standard & CUT Timing

Save Advanced EDID Configuration Cancel

Note: The HDMI checkbox is normally checked.

This string is displayed as the monitor type when Display Settings are displayed on the host PC.

Logged on users: admin

Preferred Timing Mode

Resolution: 1280 X 1024 @ 60 Hz Find

Pixel Clock: 108.00

Active Front Sync Back Polarity
Porch Porch

Horizontal: 1280 48 112 248 < + >

Vertical: 1024 1 3 38 < + >

Standard Timing Modes

[] X [] @ [] Hz Add

Remove Up Down

1920 x 1080 @ 60Hz
1920 x 1200 @ 60Hz
800 x 600 @ 85Hz
1024 x 768 @ 85Hz
1152 x 864 @ 75Hz

Coordinated Video Timing Modes

[] X [] @ [] Hz RB Add

Remove Up Down

1920 x 1200 @ 60Hz RB

Save Preferred, Standard & CUT Timing Cancel

Advanced Unit Configuration

Click this button to display advanced options that do not normally require alteration.

Logged on users: admin

Force UNC Protocol 3.3	<input type="checkbox"/>
Idle Timeout (minutes)	60
Session Sleep Timeout (minutes)	20
Protocol Timeout (seconds)	20
Background Refresh Rate	< Slow >
Mouse Latency Allowance (milliseconds)	0
Mouse Rate (milliseconds)	8
Single Mouse Mode Mouse Switch	< Disabled >
Use Quick Mouse Calibration	<input checked="" type="checkbox"/>
Use Absolute Mouse by default	<input checked="" type="checkbox"/>
Set viewer cursor to arrow	<input type="checkbox"/>
Behaviour for admin connections when limit reached	< Replace oldest connection >
Use VESA GTF	<input checked="" type="checkbox"/>

Force VNC Protocol 3.3

IMPORTANT: Protocol 3.3 is a legacy version that does not offer any encryption. Hashed passwords are not supported with 3.3

Idle Timeout

Determines the period of inactivity on a global connection before the user is logged out. The idle timeout period can be set to any time span, expressed in minutes.

Session Sleep Timeout

Determines the period of inactivity before the viewer screen will blank and a message is displayed.

Protocol Timeout

Sets the time period by which responses should have been received to outgoing data packets. If the stated period is exceeded, then a connection is considered lost and terminated.

Background Refresh Rate

Use the arrow keys to alter the background refresh rate used to correct any screen changes missed in normal operation. The options are: Slow, Medium, Fast, Auto or Disabled. The Auto option automatically varies the refresh rate when multiple VNC sessions are active to provide a balance between the sessions.

Note: When a low connection speed is detected, the background refresh is automatically disabled, regardless of the settings of this option.

Mouse Latency Allowance

This option (*used only for Relative Mouse mode*) is used during calibration to account for latency delays that may be caused as signals pass through a device.

During calibration, the AdderLink ipeps mini module waits for 40ms after each mouse movement before sampling the next. If a device adds a significant delay to the flow of data, the calibration process can be lengthened or may fail entirely. The value entered here is added to (or subtracted from) the default 40ms sampling time.

Note: You can enter negative values (down to -40) in order to speed up the calibration process when using fast KVM switches. Use this option with caution as it can adversely affect the calibration process.

Mouse Rate

Defines the rate at which mouse movement data are transmitted to the system. The default option is 20ms, which equates to 50 mouse events per second. This is used to slow down the rate in exceptional circumstances but normally requires no adjustment.

Single Mouse Mode Mouse Switch

Select the mouse button combination to exit from single mouse mode (when active).

Use Quick Mouse Calibration

Invokes optimized calibration techniques that handle the majority of mouse types (*used only for Relative Mouse mode*).

Use Absolute Mouse by default

When selected, absolute mouse positioning data will be used rather than relative values.

Set viewer cursor to arrow

When checked, the viewer's mouse cursor will default to an arrow.

Behaviour for admin connections when limit reached

Determines what should occur when the limit on VNC® users is reached. Options are: *Replace oldest connection*, *Replace newest connection* and *Don't replace*.

Firmware

Allows you to upgrade the firmware of the AdderLink ipeps mini module. See page 9.

Remote Support

The AdderLink ipeps mini unit has a remote support feature which allows technical support to connect, should the need arise. It works by establishing a secure SSL connection with a managed secure server hosted on the internet. Using a reverse tunnel, technical support can connect to the unit via the secure server. Each support representative has their own unique SSL keys for full traceability when making a remote connection.

Adder Technical Support will guide you through the enabling process and confirm whether the standard port number 22 needs to be changed.

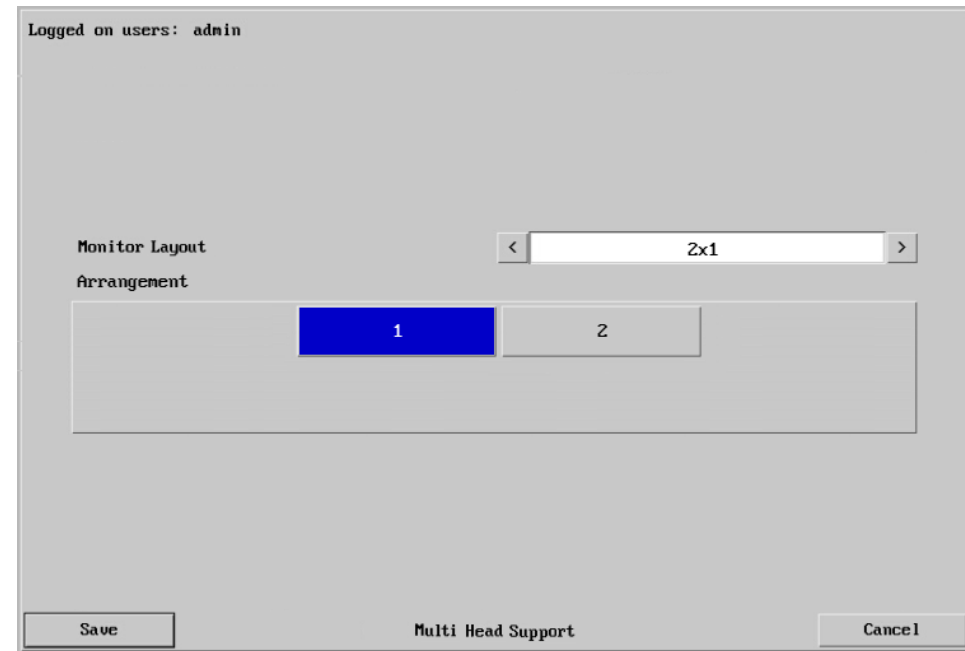
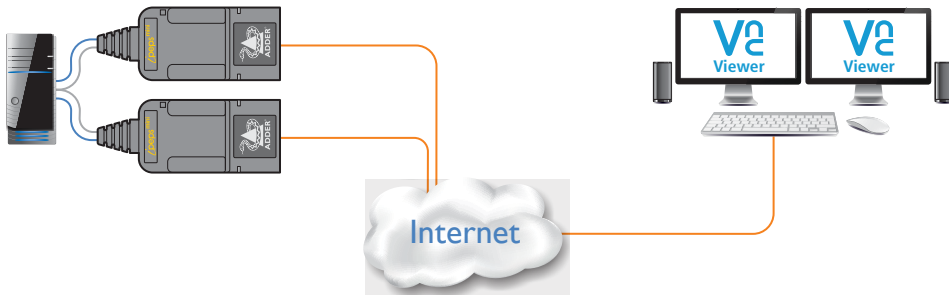
Multi Head

When clicked the Multi Head Support dialog (shown right) is displayed. This allows you to configure connection to a multi-head computer that has up to 4 displays. A separate ipeps mini module is used to connect to each head, each accessed by a separate VNC session. All ipeps mini modules are required to have a video and USB connection to the host computer.

The standard VNC Viewer[®] application, downloaded from www.realvnc.com, will suffice.

Note: Multi-head operation relies upon the host computer using Single mouse mode.

The Multi Head Support dialog is used to specify that multi-head mode is being used, as well as confirming the monitor layout and which monitor within the layout this ipeps mini module is connected to:



Monitor Layout

Layout are specified in the format HxV, where H is number of horizontal displays and V are the vertical number. The list of choices is: 1x1 (default single head), 2x1, 4x1, 2x2, 1x2.

Arrangement

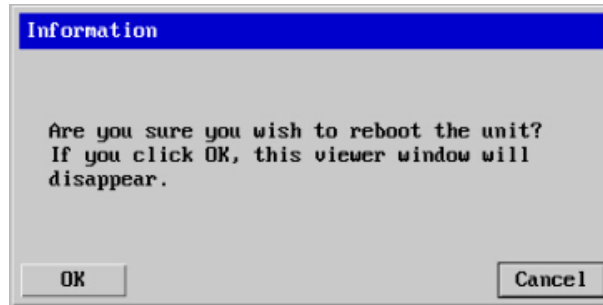
The graphic shows the chosen monitor layout. You should select the position of the ipeps mini module within the layout.

Note: There are no communications between ipeps mini modules, so it is up to you to ensure that each one is configured correctly.

Although it is possible to move the mouse between displays, there is a restriction when dragging items, such as windows. It is only possible to drag the mouse to the display edge. You should then move the mouse to the target display to complete the drag. If this is not possible, then you should use the Move command to move the window using cursor keys instead.

Reboot Unit

Performs a complete cold boot of the AdderLink ipeps mini module.



Time & Date Configuration

This page allows you to configure all aspects relating to time and date within the unit.

Logged on users: admin

Time And Date:

Timezone specifier (e.g. EST5):

Use NTP:

NTP Server IP address:

Use NTP

When this option is selected, the AdderLink ipeps mini module will synchronize its internal clocks using information from the (Network Time Protocol) server listed in the *NTP Server IP address* field.

NTP Server IP address

Optionally enter the IP address for a known Network Time Protocol server (the Use NTP option needs to be checked).

Set Time from NTP Server

Click to immediately use the time and date information from the listed NTP server.

To get here

- 1 Using VNC viewer®, log on as the 'admin' user.
- 2 Click the 'Configure' button in the top right corner.
- 3 Click the 'Time & Date Configuration' option.

Timezone specifier

Optionally enter a recognized timezone specifier related to the current position of the AdderLink ipeps mini module. When an NTP server is used, the specifier will be used to provide the correct real time.

The timezone specifier takes the following form:

std offset dst [offset], start[/time], end[/time]

The *std* and *offset* specify the standard time zone, such as GMT and 0, or CET and -1, or EST and 5, respectively.

The *dst* string and *[offset]* specify the name and offset for the corresponding Daylight Saving Time zone; if the *offset* is omitted, it defaults to one hour ahead of standard time.

The remainder of the specification describes when Daylight Saving Time is in effect. The *start* field is when Daylight Saving Time goes into effect and the *end* field is when the change is made back to standard time. The most common format used for the daylight saving time is: *Mm.w.d*

Where: *m* specifies the month and must be between 1 and 12. The day *d* must be between 0 (Sunday) and 6. The week *w* must be between 1 and 5; week 1 is the first week in which day *d* occurs, and week 5 specifies the *last d* day in the month.

The *time* fields specify when, in the local time currently in effect, the change to the other time occurs. If omitted, the default is 02:00:00.

Typical examples are:

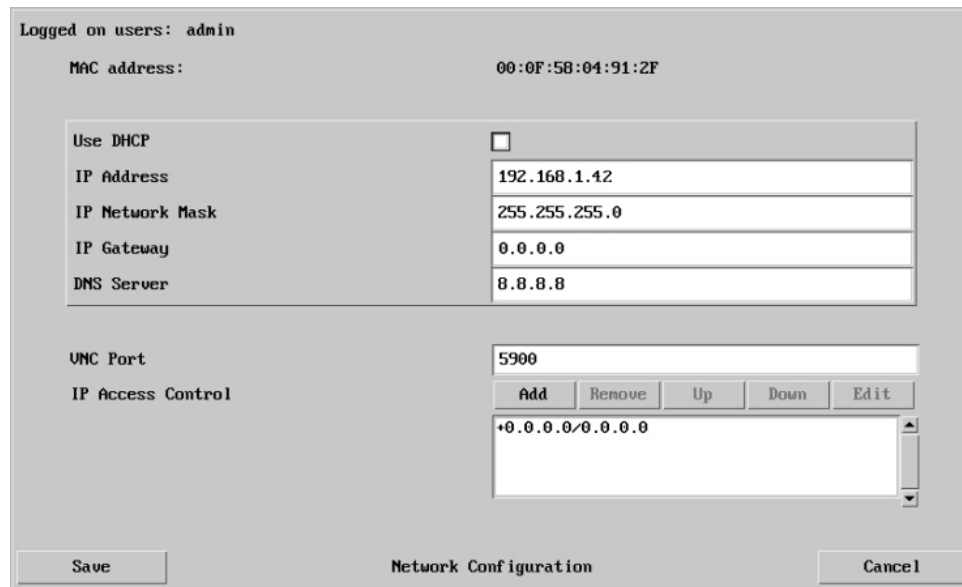
UK:	GMT0BST,M3.5.0/1,M10.5.0/2
Central Europe:	CET-1CEST,M3.5.0/2,M10.5.0/3
US Eastern:	EST5EDT,M3.2.0/2,M11.1.0/2
US Pacific:	PST5PDT,M3.2.0/2,M11.1.0/2

For further details

- For details of timezone specifier formats, please refer to: http://www.gnu.org/software/libc/manual/html_node/TZ-Variable.html
- For details of the Network Time Protocol (main RFC number: 1305; the SNTP subset used as the basis for the AdderLink ipeps mini module: 4330) <http://www.ietf.org/rfc.html>

Network Configuration

This page allows you to configure the various aspects of the IP port. See also [Appendix 3 - Networking issues](#) for useful configuration advice.



MAC address

Media Access Control address – this is the unique and unchangeable code that was hard coded within the module when it was built. It consists of six 2-digit hexadecimal (base 16) numbers separated by colons. A section of the MAC address identifies the manufacturer, while the remainder is effectively the unique electronic serial number of your particular unit.

Use DHCP

Determines whether a DHCP (Dynamic Host Configuration Protocol) server should be consulted on the connected network to automatically set an appropriate IP Address, IP Network Mask and IP Gateway.

IP Address

If the *Use DHCP* option is set to No, use this option to set an IP address for the AdderLink ipeps mini module which is appropriate for the network to which it is connected.

To get here

- 1 Using VNC viewer®, log on as the 'admin' user.
- 2 Click the 'Configure' button in the top right corner.
- 3 Click the 'Network Configuration' option.

IP Network Mask

If the *Use DHCP* option is set to No, use this option to set a subnet-mask for the AdderLink ipeps mini module which is appropriate for the network to which it is connected.

IP Gateway

If the *Use DHCP* option is set to No, use this option to set a gateway address for a network router which gives access to another network, to be used whenever a required address lies outside the current network.

DNS Server

If the *Use DHCP* option is set to No, enter a valid IP address here for a Domain Name System server which is reachable through the connected network.

VNC Port

This is the logical link through which communications with a remote VNC viewer will be channelled. The default setting is 5900 which is a widely recognized port number for use by VNC software. However, in certain circumstances it may be advantageous to alter this number - see 'Security issues with ports' for more details.

IP Access Control

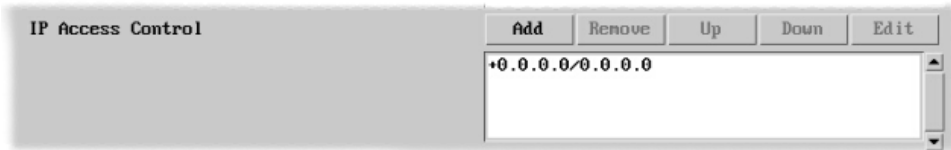
This section allows you to optionally specify ranges of addresses which will or won't be granted access to the AdderLink ipeps mini module. If this option is left unchanged, then the default entry of '+0.0.0.0/0.0.0.0' ensures that access from all IP addresses will be permitted. See [Setting IP access control](#) for details.

Setting IP Access Control

The golden rule with this feature is 'Include before you exclude' or to put it another way 'Arrange *allowed* addresses in the list *before* the *denied* addresses'.

This is because the positions of entries in the list are vitally important. Once a range of addresses is denied access, it is not possible to make exceptions for particular addresses within that range. For instance, if the range of addresses from A to F are denied access first, then the address C could not be granted access lower down the list. Address C needs to be placed in the list before the denied range.

IMPORTANT: This feature should be configured with extreme caution as it is possible to deny access to everyone. If such an error occurs, you will need to perform a reset to factory default settings in order to regain access.



In the list, access control addresses prefixed by '+' are allow entries while those prefixed by '-' are deny entries.

To get here

- 1 Using VNC viewer®, log on as the 'admin' user.
- 2 Click the 'Configure' button in the top right corner.
- 3 Click the 'Network Configuration' option.
- 4 In the Set IP Access section, click Add or Edit, as necessary.

To define a new IP access control entry

1 Click the Add button to display a popup dialog:



Network/Address

Enter the network address that is to be allowed or denied access. If a range of addresses is being specified then specify any one of the addresses within the range and use the Mask entry to indicate the size of the range.

Mask

Enter an IP network mask that indicates the range of addresses that are to be allowed or denied access. For instance, if only a single specified IP address were to be required, the mask entry would be 255.255.255.255 in order to specify a single location.

Access

Use the arrow buttons to select either 'Allow' or 'Deny' as appropriate.

- 2 Enter the base network address, the mask and select the appropriate access setting.
- 3 Click the OK button.

To reorder access control entries

IMPORTANT: When reordering, ensure that any specific allowed addresses are listed higher in the list than any denied addresses. Take care not to invoke any deny access settings that would exclude valid users.

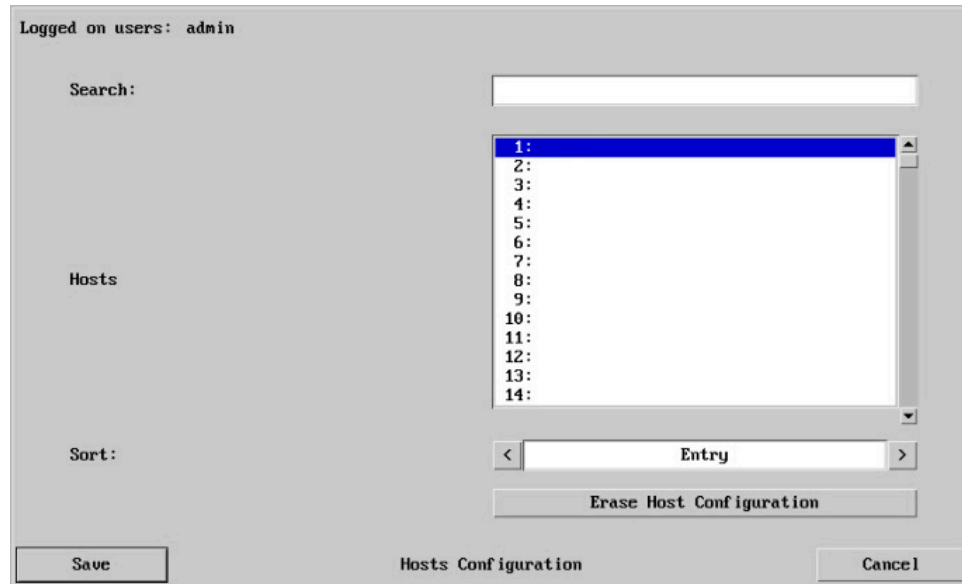
- 1 In the access control list, click on the entry to be moved.
- 2 Click the Up or Down buttons as appropriate.

To edit/remove access control entries

- 1 In the access control list, click on the appropriate entry.
- 2 Click either the Edit or Remove button as appropriate.

Host Configuration

This page provides the opportunity to configure various details for each of the host systems that may be connected to the AdderLink ipeps mini module. Each entry can be configured with a name, the permitted users, the hot key combinations required to switch to it and, if required, appropriate power control commands.



Sort

Allows you to reorder the list of hosts either alphabetically or by entry number.

Erase Host Configuration

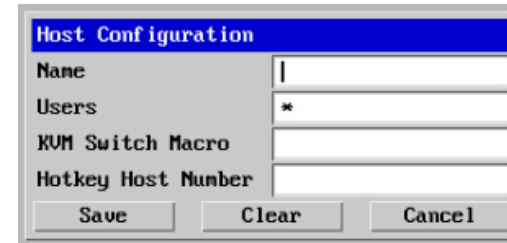
Removes all hosts from the list.

To get here

- 1 Using VNC viewer®, log on as the 'admin' user.
- 2 Click the 'Configure' button in the top right corner.
- 3 Click the 'Host Configuration' option.

To create a new host entry

- 1 Click one of the host entries to reveal a Host configuration dialog.



- 2 Enter the required information in each field.

- 3 Click the OK button.

Name

Enter the name that will be displayed in the viewer window when you click the Host button.

Users

Select the users that will be permitted to connect to this host. Either enter * to allow all users or a list of users separated by commas.

KVM Switch Macro

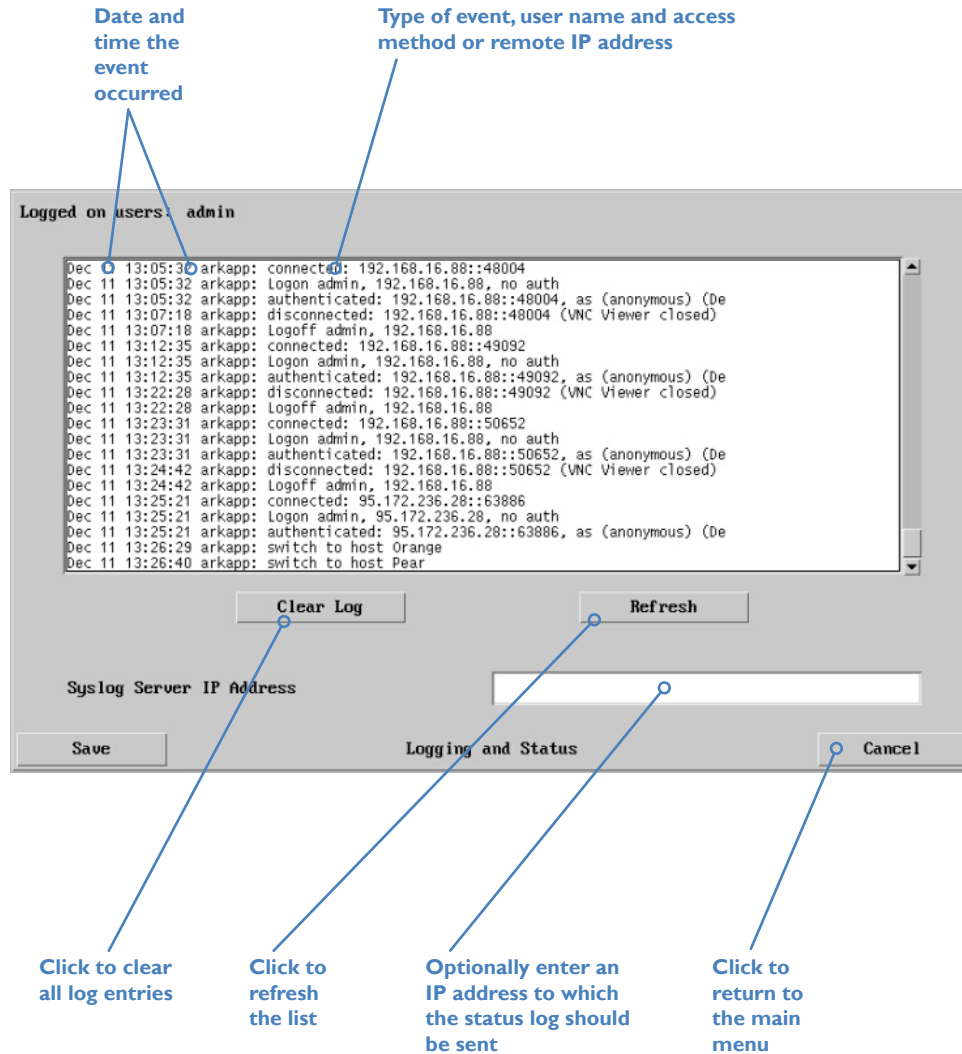
Declare the hot key sequence that will cause the KVM switch to link with the required host system. *Note: If this is left blank, the host will not be included in the Hosts menu.*

Hotkey Host Number

Declare the numeric sequence that is pressed together with the VNC viewer hotkeys (usually Ctrl + Alt) to select this host system, which is the same value as the KVM port number.

Logging and Status

This screen provides various details about the user activity on the AdderLink ipeps mini module.



Date and time the event occurred

Type of event, user name and access method or remote IP address

Logged on users: admin

```

Dec 11 13:05:30 arkapp: connected: 192.168.16.88::48004
Dec 11 13:05:32 arkapp: Logon admin, 192.168.16.88, no auth
Dec 11 13:05:32 arkapp: authenticated: 192.168.16.88::48004, as (anonymous) (De
Dec 11 13:07:18 arkapp: disconnected: 192.168.16.88::48004 (VNC Viewer closed)
Dec 11 13:07:18 arkapp: Logoff admin, 192.168.16.88
Dec 11 13:12:35 arkapp: connected: 192.168.16.88::49092
Dec 11 13:12:35 arkapp: Logon admin, 192.168.16.88, no auth
Dec 11 13:12:35 arkapp: authenticated: 192.168.16.88::49092, as (anonymous) (De
Dec 11 13:22:28 arkapp: disconnected: 192.168.16.88::49092 (VNC Viewer closed)
Dec 11 13:22:28 arkapp: Logoff admin, 192.168.16.88
Dec 11 13:23:31 arkapp: connected: 192.168.16.88::50652
Dec 11 13:23:31 arkapp: Logon admin, 192.168.16.88, no auth
Dec 11 13:23:31 arkapp: authenticated: 192.168.16.88::50652, as (anonymous) (De
Dec 11 13:24:42 arkapp: disconnected: 192.168.16.88::50652 (VNC Viewer closed)
Dec 11 13:24:42 arkapp: Logoff admin, 192.168.16.88
Dec 11 13:25:21 arkapp: connected: 95.172.236.28::63886
Dec 11 13:25:21 arkapp: Logon admin, 95.172.236.28, no auth
Dec 11 13:25:21 arkapp: authenticated: 95.172.236.28::63886, as (anonymous) (De
Dec 11 13:26:29 arkapp: switch to host Orange
Dec 11 13:26:40 arkapp: switch to host Pear
  
```

Clear Log **Refresh**

Syslog Server IP Address

Save **Logging and Status** **Cancel**

Click to clear all log entries

Click to refresh the list

Optionally enter an IP address to which the status log should be sent

Click to return to the main menu

To copy and paste the log

You can copy the information listed within the log and paste it into another application.

- 1 While viewing the log screen, press Ctrl and C, to copy the data into the clipboard.
- 2 In a text application (i.e. Word, WordPad, Notepad) press Ctrl and V, or right mouse click and 'Paste'.

Syslog Server IP Address

Logging information can optionally be sent, as it occurs, to a separate system using the standard Syslog protocol. Enter the IP address of a suitable system in the field provided.

For further details

- For details of the Syslog protocol (RFC number: 3164) <http://www.ietf.org/rfc.html>

To get here

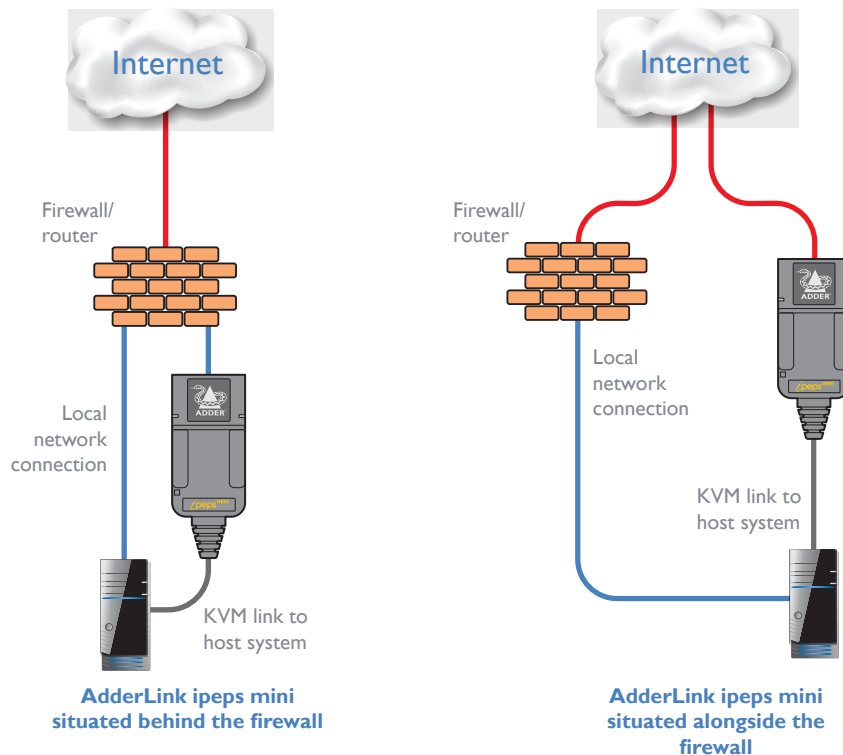
- 1 Using VNC viewer® log on as the 'admin' user.
- 2 Click the 'Configure' button in the top right corner.
- 3 Click the 'Logging and Status' option.

APPENDIX 2 - NETWORKING ISSUES

Thanks to its robust security the AdderLink ipeps mini offers you great flexibility in how it integrates into an existing network structure. The AdderLink ipeps mini is designed to reside either on an internal network, behind a firewall/router or alternatively with its own direct Internet connection.

Positioning AdderLink ipeps mini in the network

Every network setup is different and great care needs to be taken when introducing a powerful device such as the AdderLink ipeps mini into an existing configuration. A common cause of potential problems can be in clashes with firewall configurations. For this reason the AdderLink ipeps mini is designed to be intelligent, flexible and secure. With the minimum of effort the AdderLink ipeps mini can reside either behind the firewall or alongside with its own separate Internet connection.



IMPORTANT: When the AdderLink ipeps mini is accessible from the Internet, you must ensure that sufficient security measures are employed.

Placing AdderLink ipeps mini behind a router or firewall

A possible point of contention between the AdderLink ipeps mini and a firewall can occasionally arise over the use of IP ports. Every port through the firewall represents a potential point of attack from outside and so it is advisable to minimize the number of open ports. The AdderLink ipeps mini usually uses two separate port numbers, however, these are easily changeable and can even be combined into a single port.

IMPORTANT: The correct configuration of routers and firewalls requires advanced networking skills and intimate knowledge of the particular network. Adder Technology cannot provide specific advice on how to configure your network devices and strongly recommend that such tasks are carried out by a qualified professional.

Port settings

As standard, the AdderLink ipeps mini uses two ports to support its two types of viewer:

- **Port 80** for users making contact with a web browser, and
- **Port 5900** for those using the VNC viewer®.

When these port numbers are used, VNC viewers and web browsers will locate the AdderLink ipeps mini correctly using only its network address. The firewall/router must be informed to transfer traffic, requesting these port numbers, through to the AdderLink ipeps mini.

If you need to change the VNC port number

If you change the VNC port to anything other than 5900, then each VNC viewer user will need to specify the port address as well as the IP address. For instance, if you set the VNC port to '11590' and the IP address is '192.168.47.10' then VNC viewer users will need to enter:

192.168.47.10::11590

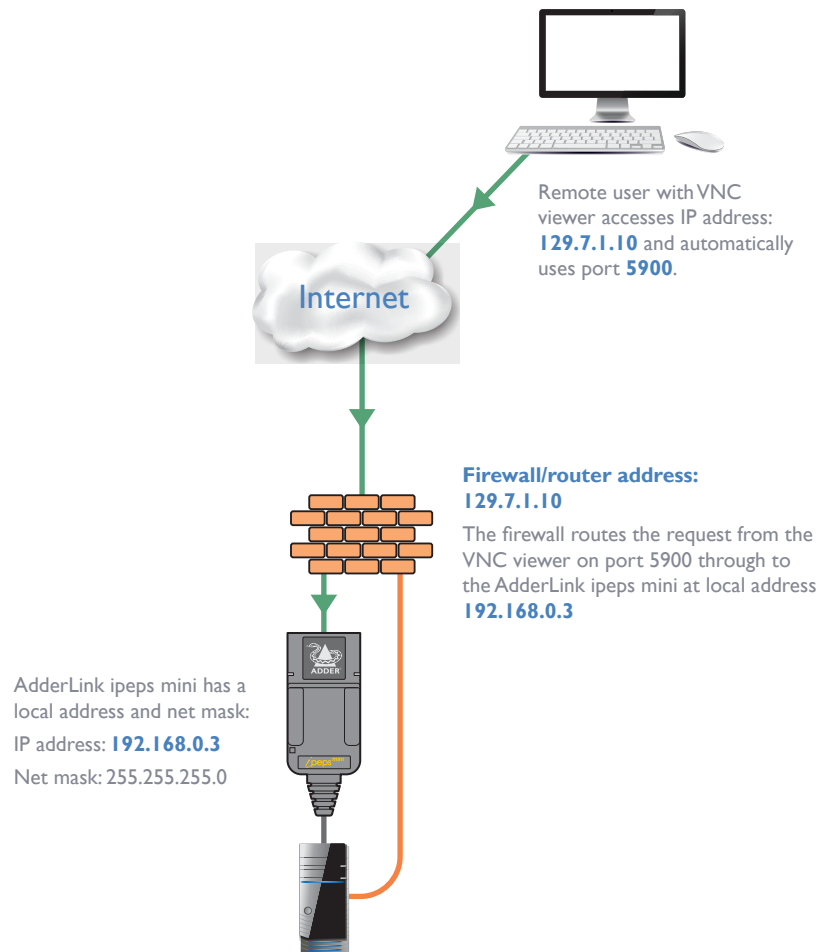
(Note the **double** colons that separate the IP address and port number).

The firewall/router would also need to be informed to transfer all traffic to the new port number through to the AdderLink ipeps mini.

Addressing

When the AdderLink ipeps mini is situated within the local network, you will need to give it an appropriate local IP address and IP network mask. This is achieved most easily using the DHCP server option which will apply these details automatically. If a DHCP server is not available on the network, then these details need to be applied manually in accordance with the network administrator.

The firewall/router must then be informed to route incoming requests to port 5900 or port 80 (if available) through to the local address being used by the AdderLink ipeps mini.



Placing AdderLink ipeps mini alongside the firewall

AdderLink ipeps mini is built from the ground-up to be secure. It employs a sophisticated 128bit public/private key system that has been rigorously analysed and found to be highly secure (a security white paper is available upon request from Adder Technology Ltd). Therefore, you can position the AdderLink ipeps mini alongside the firewall and control a computer that is also IP connected within the local network.

IMPORTANT: If you make the AdderLink ipeps mini accessible from the public Internet, care should be taken to ensure that the maximum security available is activated. You are strongly advised to enable encryption and use a strong password. Security may be further improved by restricting client IP addresses, using a non-standard port number for access.

Ports

In this configuration there should be no constraints on the port numbers because the AdderLink ipeps mini will probably be the only device at that IP address. Therefore, maintain the HTTP port as 80 and the VNC port as 5900.

Addressing

When the AdderLink ipeps mini is situated alongside the firewall, it will require a public static IP address (i.e. one provided by your Internet service provider).

More addressing information:

[Discover DHCP-allocated addresses](#)

[DNS addressing](#)

APPENDIX 3 - SECURITY CONSIDERATIONS

The security capabilities offered by the AdderLink ipeps mini are only truly effective when they are correctly used. An open or weak password or unencrypted link can cause security loopholes and opportunities for potential intruders. For network links in general and direct Internet connections in particular, you should carefully consider and implement the following:

- Ensure that [encryption is enabled](#).
- Ensure that you have selected secure passwords with at least 8 characters, a mixture of upper and lower case and numeric characters plus a special character.
- Reserve the admin password for administration use only and use a non-admin user profile for day-to-day access.
- Use the latest Secure VNC viewer (this has more in-built security than is available with the Java viewer).
- Use non-standard [port numbers](#).
- Restrict the range of IP addresses that are allowed to access the AdderLink ipeps mini to only those that you will need to use. To [restrict IP access](#).
- Do NOT Force VNC protocol 3.3.
- Ensure that the computer accessing the AdderLink ipeps mini is clean of viruses and spyware and has up-to-date firewall and anti-virus software loaded that is appropriately configured.
- Avoid accessing the AdderLink ipeps mini from public computers.

Security can be further improved by using the following suggestions:

- Place the AdderLink ipeps mini behind a firewall and use port the numbers to route the VNC network traffic to an internal IP address.
- Review the activity log from time to time to check for unauthorized use.
- Lock your server consoles after they have been used.

A security white paper that gives further details is available upon request from Adder Technology Limited.

Older versions of VNC Viewer

Although ipeps mini allows passwords of up to 16 characters, versions of VNC Viewer pre 4.2 will only validate up to 8 characters. Administrators may prevent such access by setting the encryption scheme to 'Always On' or 'Always Max'. See page 21.

APPENDIX 4 - PRODUCT COMPATIBILITY

AdderLink ipeps mini is compatible with the following Adder products:

- AdderView DDX and AdderLink XDIP small Matrix systems.
- AdderLink Infinity 1000 and AdderLink Infinity 2000 receivers to allow a VNC connection into an Infinity Matrix.
- AdderView AV4PRO KVM switch to allow remote access to four USB/DVI computers.

APPENDIX 5 - HOTKEY SEQUENCES

AdderLink ipeps mini allows you to enter commands suitable for any KVM switch in order to choose from up to 128 host systems. These switching commands can take the form of hotkey sequences that emulate standard keypress combinations or, for KVM switches that support the Adder Port Direct format, merely basic port numbers.

Hotkey sequences

Almost any combination of keypresses can be emulated using the following notations:

- + means press down the key that follows;
- means release the key that follows
- +- means press and then release the key that follows
- * means add a delay. The standard delay period is 250ms, however, if a number immediately follows the asterisk, this will define an alternate delay period (in milliseconds)

Notes

- The entries are not case sensitive.
- All characters can be entered using their ASCII codes, from 32 to 126 (i.e. A,B,C, ... 1,2,3 etc.) with the exception of the special characters above.
- It is not necessary to specify all keys to be released at the end because they are all released automatically after the last code.
- A number of KVM switches from alternative manufacturers use hot key sequences that begin with a press/release of either the Scroll Lock or Ctrl keys. These often require a delay between the initial key press and the channel number to allow the switch to respond. A 500ms delay is usually sufficient.

Examples

To send the command *Ctrl + Alt 4* you should use the following: `+Ctrl+Alt+4`.

To send the command *Ctrl + Alt I 2* you should use the following: `+Ctrl+ALT+-I+2` (the '+-I' entry causes the I key to be pressed and released before the 2 key is pressed).

To send the command *Scroll lock I + Enter* (with a 500ms delay) you should use the following: `+-Scr*500+I+Ent`

Main control keys (see 'Using abbreviations')

Backspace | Tab | Return | Enter | Ctrl | Alt | Win | Shift | LShift | RShift
 LCtrl | RCtrl | LAlt | AltGr | RAlt | LWin | RWin | Menu | Escape | Space
 CapsLock | NumLock | PrintScreen | Scrolllock

Math operand keys (see 'Using abbreviations')

Add (Plus) | Subtract (Minus) | Multiply

Central control keys (see 'Using abbreviations')

Insert | Delete | Home | End | PageUp | PageDown
 Up | Down | Left | Right | Print | Pause

Keypad keys (see 'Using abbreviations')

KP_Insert | KP_Delete | KP_Home | KP_End | KP_PageUp
 KP_PageDown | KP_Up | KP_Down | KP_Left | KP_Right | KP_Enter
 KP_Add | KP_Subtract | KP_Divide | KP_Multiply
 KP_0 to KP_9

Function keys

F1 | F2 | F3 | F4 | F5 | F6 | F7 | F8 | F9 | F10 | F11 | F12

Creating macro sequences

Hot key macro sequences can be up to 256 characters long. All keys are assumed to be released at the end of a line, however, you can also determine that a key is pressed and released within a sequence. Any of the following three examples will send a command that emulates and a press and release of the Scroll Lock key:

+SCROLL-SCROLL
 +-SCROLL
 +SCROLL-

Example:

`+SCROLL+SCROLL+I+ENTER`

Press and release scroll twice, press I then enter then release all keys (equivalent definition is `+SCROLL-SCROLL+SCROLL-SCROLL+I+ENTER-I-ENTER`)

Using abbreviations

To reduce the length of the key definitions, any unique abbreviation for a key can be used. For example: "scroll", "scr" and even "sc" all provide an identifiable match for "ScrollLock" whereas "en" could not be used because it might mean "Enter" or "End" ("ent" would be suitable for "Enter").

Note: Hotkey sequences and abbreviations are not case sensitive.

For information about where to enter these codes, please see the section [Host configuration](#).

APPENDIX 6 - OPEN SOURCE LICENSES

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u-boot-xlnx
linux-xlnx
busybox
util-linux
udev
termcap
mtd-utils
libpbe
stress
haserl
```

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libgcrypt
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```

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19. [20]John Hay <jhay@icomtek.csr.co.za> IPv6 support and testing

20. [21]Dave Hart <davehart@davehart.com> General maintenance, Windows port interpolation rewrite

21. [22]Claas Hilbrecht <neoclock4x@linum.com> NeoClock4X clock driver

22. [23]Glenn Hollinger <glenn@herald.usask.ca> GOES clock driver

23. [24]Mike Iglesias <iglesias@uci.edu> DEC Alpha port

24. [25]Jim Jagielski <jim@jagubox.gsfc.nasa.gov> A/UX port

25. [26]Jeff Johnson <jbj@chatham.usdesign.com> massive prototyping overhaul

26. [27]Hans Lambermont <Hans.Lambermont@nl.origin-it.com> or [28]<H.Lambermont@chello.nl> ntpsweep

27. [29]Poul-Henning Kamp <phk@FreeBSD.ORG> Oncore driver (Original author)

28. [30]Frank Kardel [31]<kardel (at) ntp (dot) org> PARSE <GENERIC> (driver 14 reference clocks), STREAMS modules for PARSE, support scripts, syslog cleanup, dynamic interface handling

29. [32]Johannes Maximilian Kuehn <kuehn@ntp.org> Rewrote snpt to comply with NTPv4 specification, ntpq saveconfig

30. [33]William L. Jones <jones@hermes.chpc.utexas.edu> RS/6000 AIX modifications, HPUX modifications

31. [34]Dave Katz <dkatz@cisco.com> RS/6000 AIX port

32. [35]Craig Leres <leres@ee.lbl.gov> 4.4BSD port, ppsclock, Magnavox GPS clock driver

33. [36]George Lindholm <lindholm@ucs.ubc.ca> SunOS 5.1 port

34. [37]Louis A. Mamakos <louie@ni.umd.edu> MD5-based authentication

35. [38]Lars H. Mathiesen <thorinn@diku.dk> adaptation of foundation code for Version 3 as specified in RFC-1305

36. [39]Danny Mayer <mayer@ntp.org> Network I/O, Windows Port, Code Maintenance

37. [40]David L. Mills <mills@udel.edu> Version 4 foundation, precision kernel; clock drivers: 1, 3, 4, 6, 7, 11, 13, 18, 19, 22, 36

38. [41]Wolfgang Moeller <moeller@gwdgvl.dnet.gwdg.de> VMS port

39. [42]Jeffrey Mogul <mogul@pa.dec.com> ntptrace utility

40. [43]Tom Moore <tmoore@fiavel.daytonoh.ncr.com> i386 svr4 port

41. [44]Kamal A Mostafa <kamal@whence.com> SCO OpenServer port

42. [45]Derek Mulcahy <derek@toybox.demon.co.uk> and [46]Damon Hart-Davis <d@hd.org> ARCRON MSF clock driver

43. [47]Rob Neal <neal@ntp.org> Bancomm refclock and config/parse code maintenance

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45. [49]Dirce Richards <dirce@zk3.dec.com> Digital UNIX V4.0 port

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49. [53]Ray Schnitzler <schnitz@unipress.com> Unixware I port

50. [54]Michael Shields <shields@tembel.org> USNO clock driver

51. [55]Jeff Steinman <jss@pebbles.jpl.nasa.gov> Datum PTS clock driver

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53. [57]Kenneth Stone <ken@sdd.hp.com> HP-UX port

54. [58]Ajit Thyagarajan <ajit@ee.udel.edu> IP multicast/anycast support

55. [59]Tomoaki TSURUOKA <tsuruoka@nc.fukuoka-u.ac.jp> TRAK clock driver

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57. [61]Loganaden Velvindron <loganaden@gmail.com> Sandboxing (libseccomp) support

58. [62]Paul A Vixie <vixie@vix.com> TrueTime GPS driver, generic TrueTime clock driver

59. [63]Ulrich Windl <Ulrich.Windl@rz.uni-regensburg.de> corrected and validated HTML documents according to the HTML DTD

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- Module: dropbear

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atomicio.h
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curve25519.c:

Modified TweetNaCl version 20140427, a self-contained public-domain C library.
<https://tweetnacl.cr.yp.to/>

Contributors (alphabetical order)
Daniel J. Bernstein, University of Illinois at Chicago and Technische Universiteit Eindhoven
Bernard van Gastel, Radboud Universiteit Nijmegen
Wesley Janssen, Radboud Universiteit Nijmegen
Tanja Lange, Technische Universiteit Eindhoven
Peter Schwabe, Radboud Universiteit Nijmegen
Sjaak Smetsers, Radboud Universiteit Nijmegen

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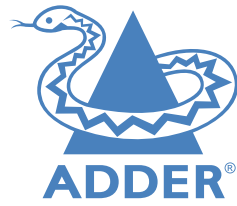
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