



# ADDERView™ Secure (AVS 2114, 2214, 4114, 4214)

User Guide



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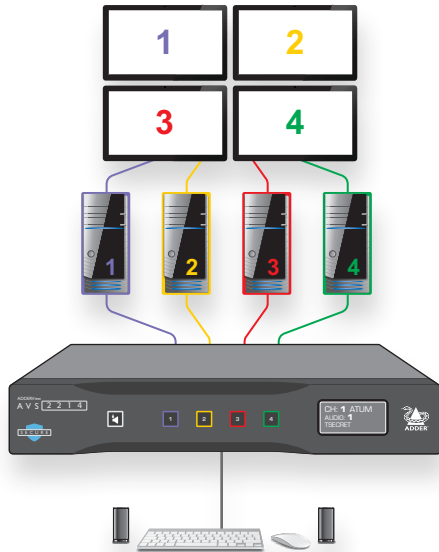
# Introduction



## WELCOME

Thank you for choosing a ADDERView™ AVS secure switch for sharing single or dual head video, USB keyboard and mouse, plus analog audio between four computers spanning multiple security classification levels. Separate models are available which support single video displays for each channel or dual video displays throughout. In each case you have a choice of either DVI or DisplayPort video operation.

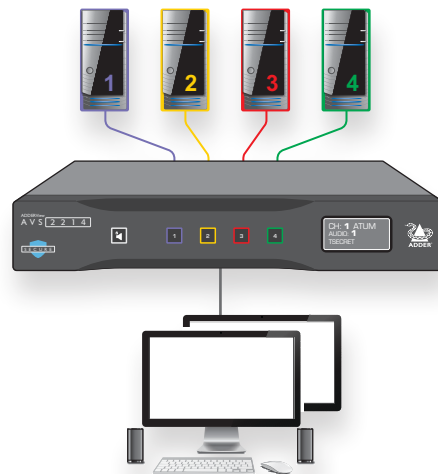
The secure switch can be used in two main configurations depending on the requirements of the installation:



### KM configuration

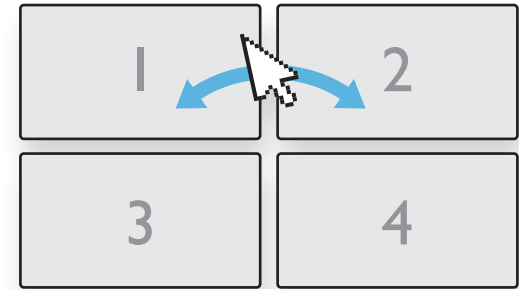
The user console consists of keyboard, mouse and speakers. The video displays are arranged in a default 2x2 grid and are all connected directly to their respective computers. The operator can view all of the channel outputs simultaneously. This arrangement requires the *Free-Flow* feature (see page 14) to be used to allow automatic switching of the console between channels.

**KVM configuration**  
The user console consists of keyboard, mouse, speakers and also video display(s), which are all connected to the secure switch. The common video display(s) show the output of the currently active channel.



## Free-Flow

To remove the need to press channel buttons when switching, you can use the Free-Flow feature instead (see page 14). When enabled, you may switch channels by moving the mouse across monitor edges according to the video layout. The front panel displays the currently selected channel number.



## Features

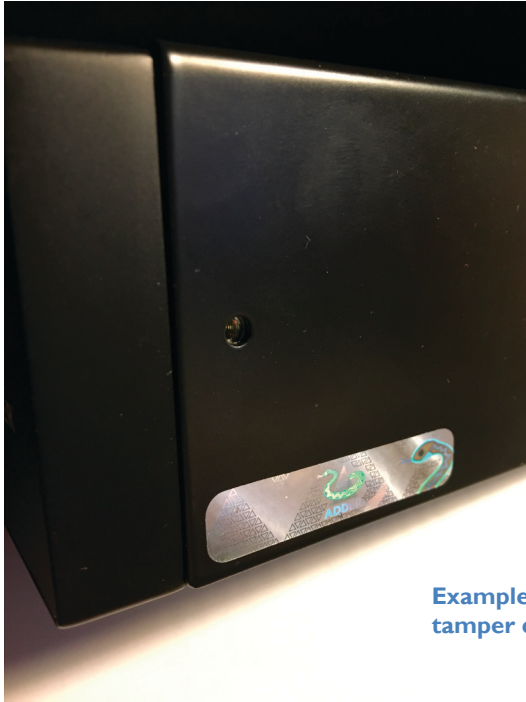
- Uni-directional keyboard, video, mouse and audio data paths prevent any potential information leakage through shared peripherals.
- No shared memory between channels: The keyboard and mouse processor is powered down and reset at each switchover to thwart shared data leakages.
- Automatic switching between channels (configurable *Free-Flow* mode) without the need to press any buttons. Simply move the mouse between windows.
- Clear channel identification to reduce the chances of operator error by displaying a user defined name and security classification for each channel on the status display. The color of the channel indicators may also be configured to reflect the security classification.
- Hardware anti-tampering: Holographic anti-tampering labels protect the product's enclosure, providing a clear visual indication if it has been opened or compromised.
- Restricted USB function: The USB ports will only accept HID (Human Interface Devices), such as keyboards and mice.
- There is no access to the product's firmware or memory through any port. Firmware is permanently stored in non-reprogrammable Read Only Memory (ROM) to prevent modification. Firmware integrity is verified through a self-test procedure during power up. Detection of a critical failure disables the device and provides a clear visual indication to the user.

## Safety

Please refer to the safety booklet provided in the box before use of this product.

## TAMPER-EVIDENT LABELS

The secure switch models and also the smart card reader use holographic tamper evident labels to provide visual indications in case of an enclosure intrusion attempt. When opening product packaging inspect the tampering evident labels.



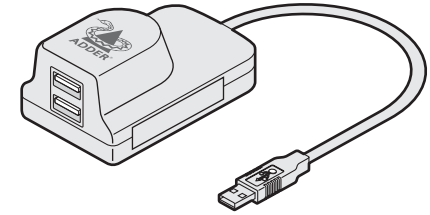
**Example of a holographic tamper evident label**

If for any reason one or more tamper-evident label is missing, appears disrupted, or looks different than the example shown here, please call Technical Support and avoid using that product.

## OPTIONAL EXTRA ITEMS

### USB Port Expander

The USB Port Expander (part number:AS-UHF) provides an additional USB port for applications that require, say a touchscreen device in addition to keyboard and mouse. It also provides advanced protection incorporating physical and programmed protection of computer USB ports, as summarized below.



### Protection features

- The expander physically mounts and locks on a standard USB port.
- Forced removal damages the USB port making it unusable.
- Accepts only USB HID devices (keyboards and mice) and blocks other HID devices.
- Hardcoded ASCII keyboard / mice characters.
- Incapable of processing any code other than HID-ASCII.
- Highly secure, read-only non-configurable chip.

## TECHNICAL SPECIFICATIONS

### Approvals / Compliance

CE, FCC class A, TUV US & Canada

NIAP PP 4.0 Compliant Design for Peripheral Sharing Devices (PSD)

### Video resolutions

AVS-2114 and AVS-2214: Supports 1920 x 1200 @ 60 Hz.

AVS-4114 and AVS-4214: Supports 3840 x 2160 @ 60 Hz.

### Software compatibility

Windows, Linux, Mac host computer OS's

USB HID, including touchscreens compliant with Microsoft® Digitizer.

### Console connections

DVI-D (AVS-2114, AVS-2214) or DisplayPort/HDMI (AVS-4114, AVS-4214),

USB type A

Audio (3.5mm)

RJ12 for remote control

### Computer connections

Single-head AVS-2114: 4x DVI-D, USB type B, Audio 3.5mm

AVS-4114: 4x DisplayPort/HDMI, USB type B, Audio 3.5mm

Dual-head AVS-2214: 8x DVI-D, USB type B, Audio 3.5mm

AVS-4214: 8x DisplayPort/HDMI USB type B, Audio 3.5mm

### Front panel

Audio hold button and status LED

4x Channel selection button and status LED

E-paper for status display (212 x 104)

### Physical design

Robust metal construction

Single-head (AVS-2114 or AVS-4114):

13.54"/344mm(w), 1.73"/44mm(h), 6.73"/171mm(d) 1.6kg/3.53lbs

Dual-head (AVS-2214 or AVS-4214):

13.54"/344mm(w), 2.4"/61mm(h), 6.5"/165mm(d) 2.0kg/4.41lbs

### Power supply

100 - 240V AC, 47/63Hz

12V DC 18W output from power supply unit

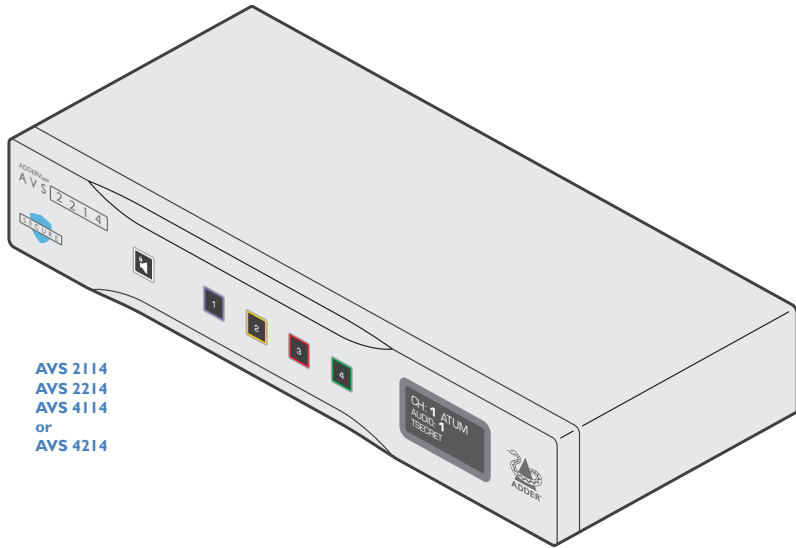
### Environmental

Operating temp: 32°F to 104°F (0°C to 40°C)

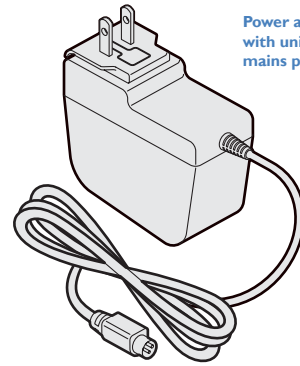
Storage temp: -4°F to 140°F (-20°C to 60°C)

Humidity: 0-80% RH, non-condensing

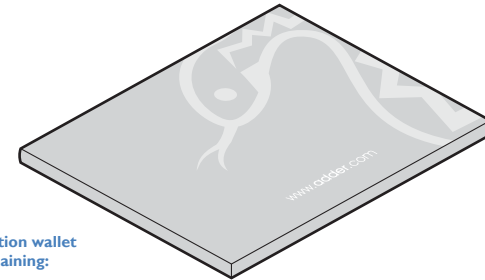
# SUPPLIED ITEMS



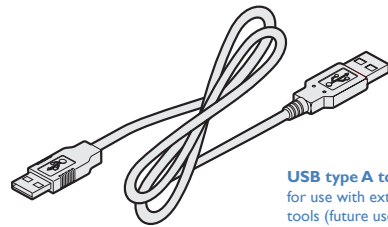
AVS 2114  
AVS 2214  
AVS 4114  
or  
AVS 4214



Power adapter  
with universal  
mains plug

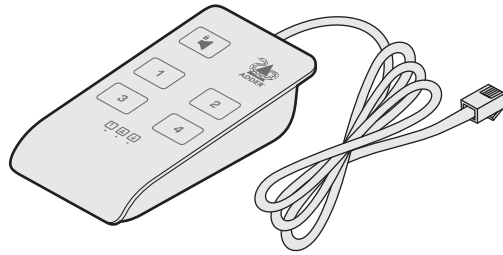


Information wallet  
containing:  
Four self-adhesive rubber feet  
Quick start guide  
Safety document

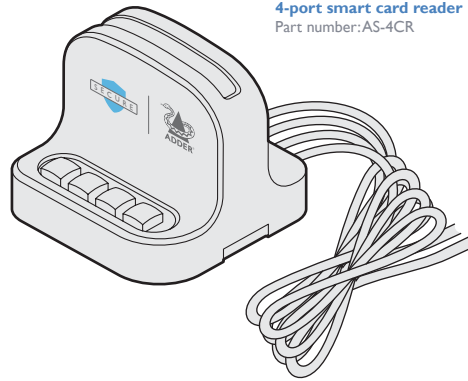


USB type A to type A cable  
for use with external configuration  
tools (future use)

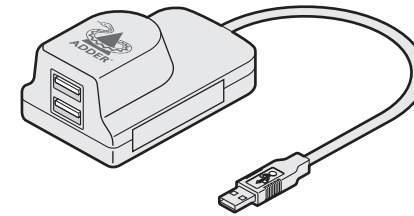
# OPTIONAL EXTRAS



**Remote control unit (RCU)**  
Part number: AS-4RCU

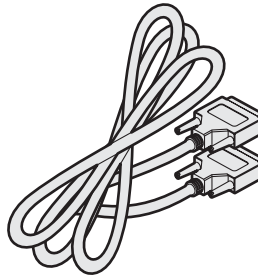
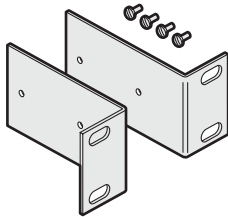


**4-port smart card reader**  
Part number: AS-4CR

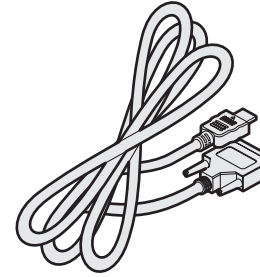


**USB port expander**  
Part number: AS-UHF

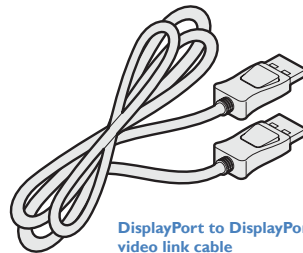
**19" rack-mount kit**  
Part number: RMK13



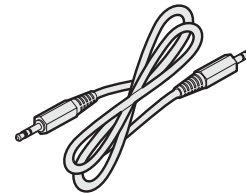
**Single link DVI-D to DVI-D video cable 2m**  
Part number: VSCD1



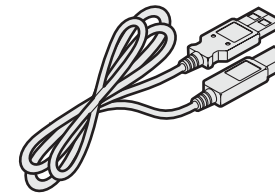
**HDMI to DVI-D video cable 2m**  
Part number: VSCD11



**DisplayPort to DisplayPort video link cable**  
Part number: VSCD17



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

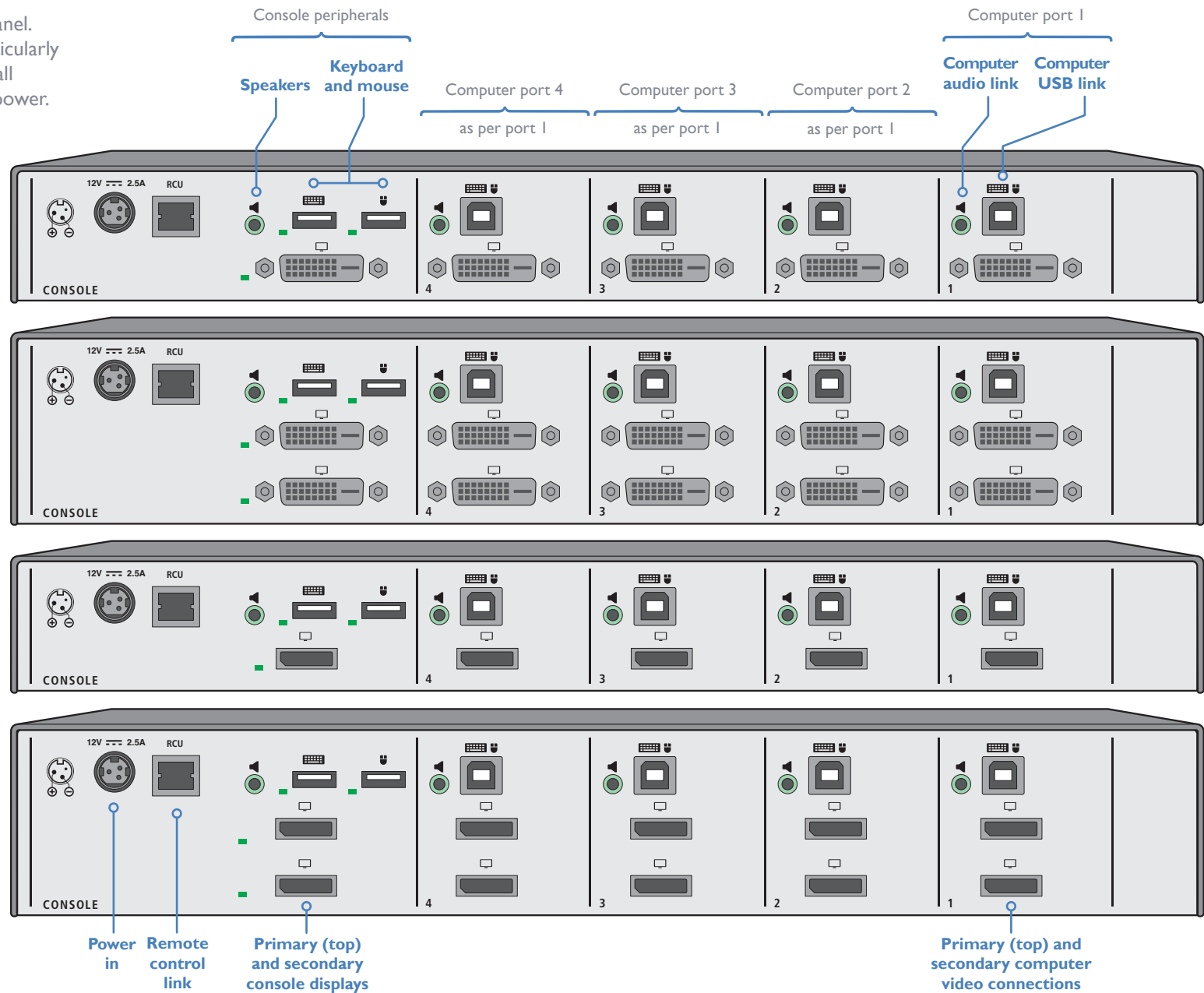


**USB cable 2m (type A to B)**  
Part number: VSC24

# Installation

## CONNECTIONS

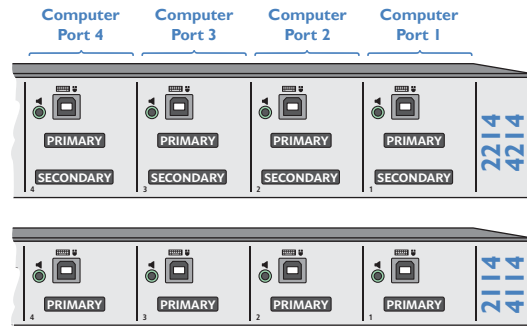
All connections are made at the rear panel. Use only approved shielded cables, particularly for the video connections. Ensure that all connections are made before applying power.





## Computer connections

The secure switch has four computer ports, each of which consists of: one (AVS 2114/4114) or two (AVS 2214/4214) video links, a USB link and an audio connection. *Note: The secure switch can be used either with video display(s) connected to the console ports (KVM configuration) or alternatively with displays connected to each computer (KM configuration - see page 15) to allow the operator to view them all simultaneously.*



AVS 2114 and 2214 units support single Link DVI video resolutions up to 1920 x 1200 @ 60Hz.

AVS 4114 and 4214 units support DisplayPort or HDMI video resolutions up to 3840 x 2160 @ 60 Hz.

### To make connections (to each computer port)

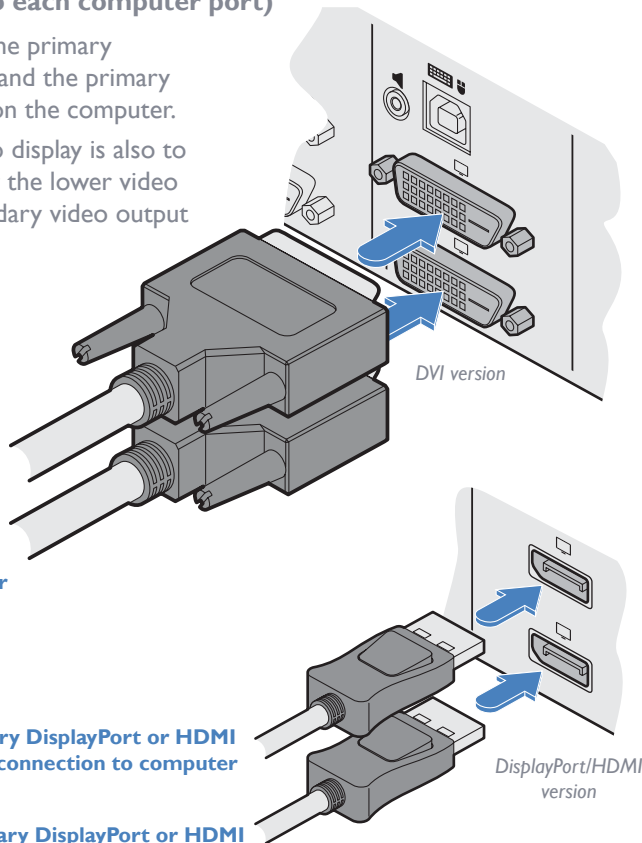
- 1 Attach a cable between the primary (upper) video connector and the primary video output connector on the computer.
- 2 Where a secondary video display is also to be used, repeat step 1 for the lower video connector and the secondary video output on the computer.

Primary DVI video connection to computer

Secondary DVI video connection to computer

Primary DisplayPort or HDMI video connection to computer

Secondary DisplayPort or HDMI video connection to computer

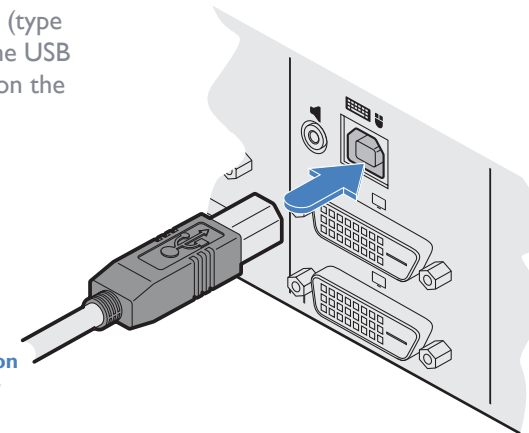


The green indicator associated with each console port should be ON to signify correct communications with the peripheral device. The video indicator will flash on power up whilst the switch is reading the EDID from the display. As a security measure, once the video indicator is ON the switch will not read the EDID again unless the switch is power cycled.

*Note: If dual link cables are connected together with a monitor capable of a higher resolution than 1920x1200, then the computer graphics card may auto-select a higher resolution, which may result in video artifacts.*

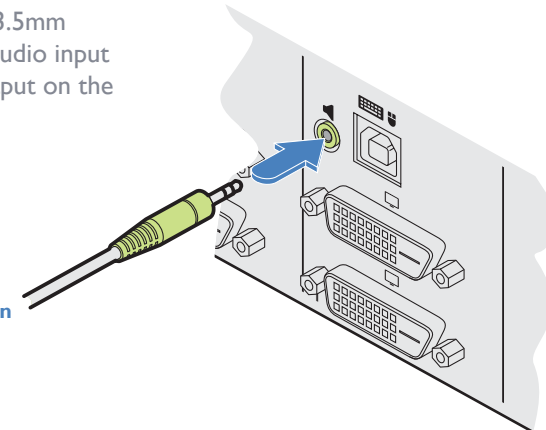
- 3 Insert one of the supplied USB (type A to type B) cables between the USB socket and a vacant USB port on the computer.

USB connection to computer



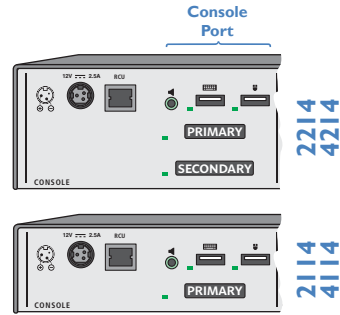
- 4 Insert one of the supplied 3.5mm audio cables between the audio input socket and the speaker output on the computer.

Audio connection to computer



## Console connections

The video display(s), keyboard, mouse and speakers are attached to the various connectors on the rear panel that constitute the console port. *Note: The secure switch can be used either with video display(s) connected to the console ports (KVM configuration) or alternatively with displays connected to each computer to allow the operator to view them all simultaneously (KM configuration) - see page 15.*

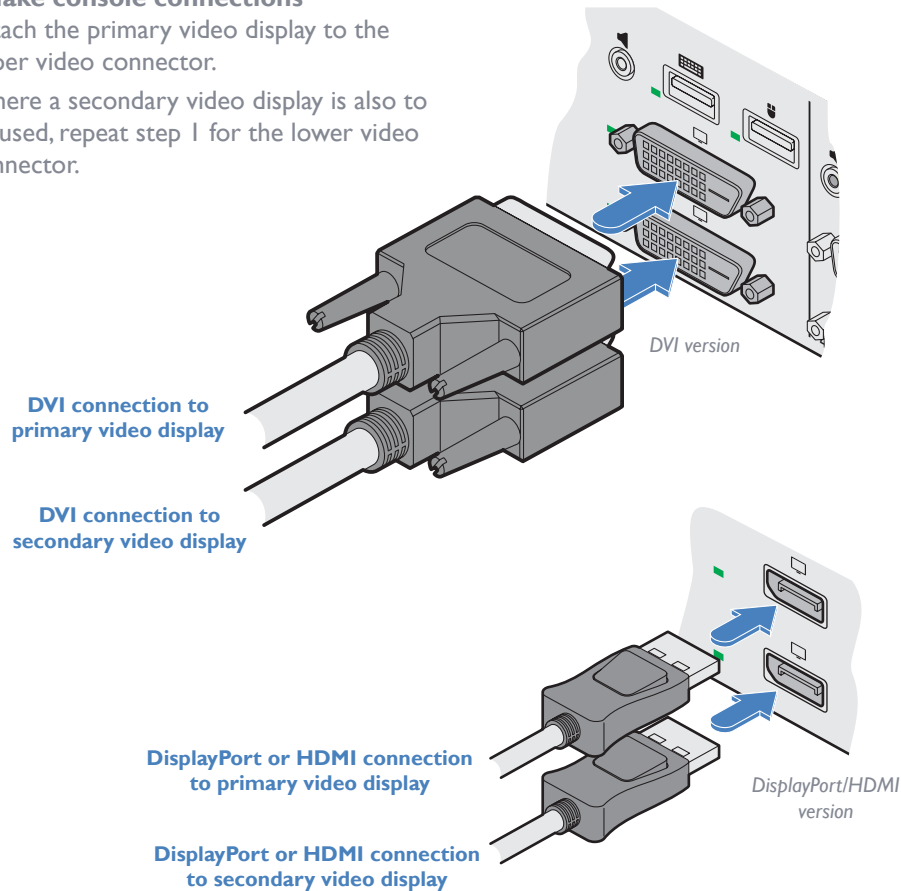


AVS 2114 and 2214 units support single Link DVI video resolutions up to 1920 x 1200 @ 60Hz.

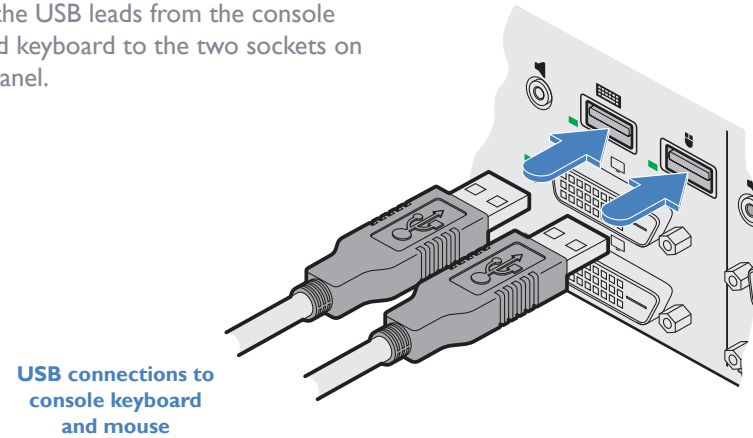
AVS 4114 and 4214 units support DisplayPort or HDMI video resolutions up to 3840 x 2160 @ 60 Hz.

### To make console connections

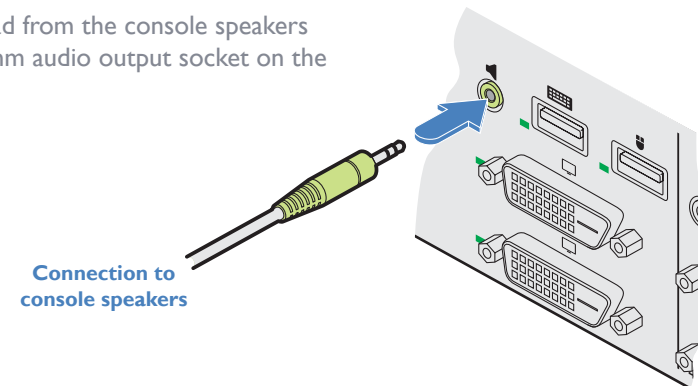
- 1 Attach the primary video display to the upper video connector.
- 2 Where a secondary video display is also to be used, repeat step 1 for the lower video connector.



- 3 Connect the USB leads from the console mouse and keyboard to the two sockets on the rear panel.

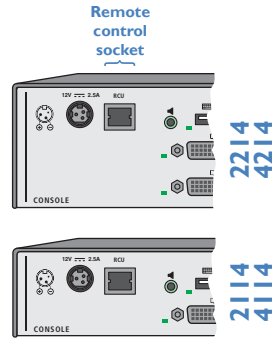


- 4 Insert the lead from the console speakers into the 3.5mm audio output socket on the rear panel.



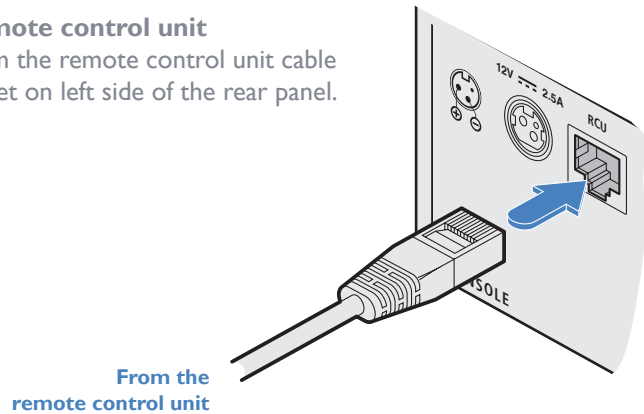
## Remote control unit connection

The optional remote control unit allows the operator to change channels when the secure switch unit is not within reach.



### To connect the remote control unit

- 1 Insert the plug from the remote control unit cable into the RCU socket on left side of the rear panel.



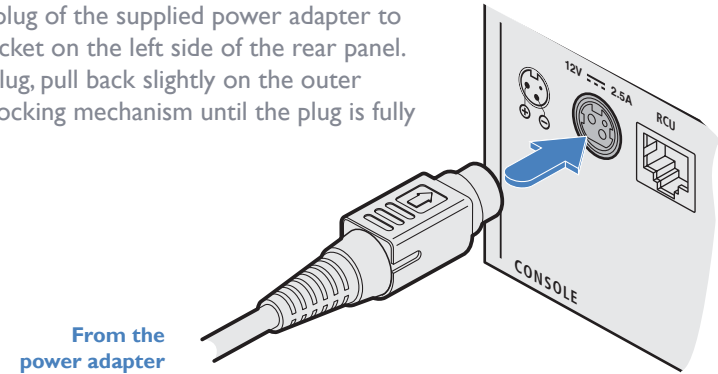
## Power connection

**IMPORTANT:** Ensure that the video displays connected to the secure switch are powered on before applying power to the secure switch itself.

The supplied power adapter uses a locking-type plug to help prevent accidental disconnection from the secure switch; please follow the instructions below when disconnecting the power adapter.

### To connect the power adapter

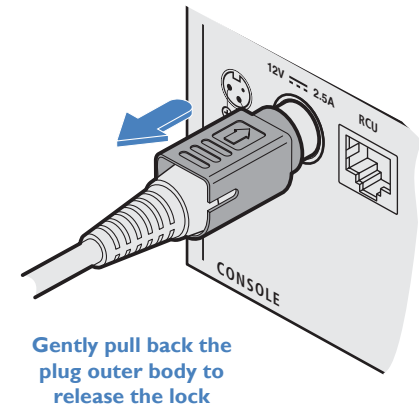
- 1 Attach the output plug of the supplied power adapter to the power input socket on the left side of the rear panel. As you insert the plug, pull back slightly on the outer body to assist the locking mechanism until the plug is fully inserted.



- 2 Attach the appropriate country-specific plug to the power adapter body and insert it into a nearby mains outlet.

### 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 supplied safety guide. In particular, do not use an unearthed power socket or extension cable.

# Configuration



The secure switch has an internal Terminal Mode, which requires you to run a text editor application (such as Windows Notepad, Word, etc.) on the computer that is connected to channel 1. As you type commands on the console keyboard, the secure switch will use the text editor application to communicate with you.

Note: Always use the number buttons above the letters (not the numeric keypad).

Note: After three failed login attempts, terminal mode will be locked. Cycle the device power and try again.

## To enter Terminal Mode

1 Switch to computer 1 and ensure that a text editor application (such as Windows Notepad, Word, etc.) is running and that the cursor is active within it.

2 On the console keyboard, enter the following in succession:

- **Left Ctrl** then **Right Ctrl** then **t** (upper or lower case is accepted)

Within the text editor application, the secure switch will respond with:  
*secure switch configuration, please enter admin name*

3 Type the default admin name: **admin1234** (or an alternative if it has been changed) and press Enter. If correct, the secure switch will respond with:

*[sc]please enter the password...*

4 Type the default password: **Adder123%** and press Enter.

- **IMPORTANT: On first access, you will be compelled to change the default password.**

If the password is correct, the secure switch will now list the top level options:

*authentication succeeded. please select operation...*

- 0 – asset management
- 1 – firmware versions
- 3 – configure sc (system controller)
- 4 – account management
- 5 – reset to factory defaults
- 6 – logs and events
- 7 – configure peripheral devices
- 8 – exit terminal mode
- 9 – power cycle the kvm

5 On the console keyboard, enter the number of the required option. See map right >

## To exit terminal mode

- To exit from the menu but still remain logged in: Press option **8** at the top level.
- To log out completely from the menu: Press option **9** at the top level.

## Terminal mode map

This map shows the top level options (0 to 9) and the second level options within each - certain options also have third level menu items. Note: Every sub-level group also includes the options: **8** - back (to return to the top level menu) and also **9** - exit terminal mode.

- 0 – asset management.....see page 17
  - 1 – use standard descriptor as asset container
  - 2 – use custom descriptor as asset container
  - 3 – enter new asset tag
  - 4 – show current asset tag
  - 5 – apply asset tag to de
- 1 – firmware versions.....see page 17
  - 1 – de version
  - 2 – sc version
  - 3 – vc version
  - 4 – dpp version (not used on these models)
  - 5 – fp version
- 3 – configure sc.....see page 17
  - 1 – enter desktop configuration (not used on these models)
  - 2 – enter mouse speed [0-32][default=5]
  - 3 – upload configuration from the host
  - 4 – use ctrl key as shortcut prefix
  - 5 – use alt key as shortcut prefix
  - 6 – guard mode configuration
  - 7 – fp configuration
- 4 – account management.....see page 18
  - 1 – change password
  - 2 – create admin account
  - 3 – delete all accounts
- 5 – reset to factory defaults.....see page 13
- 6 – logs and events.....see page 18
  - 1 – show otp log
  - 2 – show critical ram log
  - 3 – show non-critical ram log
- 7 – configure peripheral devices.....see page 19
  - 1 – toggle touch screen support
  - 2 – toggle consumer control support
  - 3 – configure absolute mouse support
  - 4 – toggle copy/paste support
  - 5 – toggle video follow mouse
- 8 – exit terminal mode
- 9 – power cycle the kvm

For details of each option, please refer to Appendix A. See page 17.

## Creating a new admin account

Each switch can have up to nine admin accounts in addition to the default account. You can create a new admin account at any time.

### To create a new admin account

- 1 Enter terminal mode (see page 11).
- 2 Choose option **4 - account management**.
- 3 Choose option **2 - create admin account**.
- 4 Enter a username for your new admin account and press Enter. *Note: Admin usernames must be 5 to 11 characters and must contain a mix of upper and lowercase characters.*
- 5 Repeat the new admin account username and press Enter.
- 6 Enter a password for the new account. *Note: Passwords must be 8 to 15 characters in length and must contain a mix of at least one each of the following: Uppercase letters, lowercase letters, digits 0 to 9 and any of these special characters: “!@#%&\*()-\_”*
- 7 Repeat the password and press Enter.  
If the two passwords match you will be returned to the top level menu.
- 8 Once you are finished with terminal mode, don't forget to log out completely by choosing option **9** from the top level menu.

### To delete all accounts

- 1 Enter terminal mode (see page 11).
- 2 Choose option **4 - account management**.
- 3 Choose option **3 - delete all accounts**.  
All accounts except the default admin account will be removed.

## Changing an admin account password

You can change the password for any admin account by first logging in to the account you wish to change.

### To change the access password

- 1 Log in to the admin account that you wish to change and enter terminal mode (see page 11).
- 2 Choose option **4 - account management**.
- 3 Choose option **1 - change password**.
- 4 Enter a new password for the chosen admin account and press Enter. *Note: Passwords must be 8 to 15 characters in length and must contain a mix of at least one each of the following: Uppercase letters, lowercase letters, digits 0 to 9 and any of these special characters: “!@#%&\*()-\_”*
- 5 Repeat the new password and press Enter.  
If the two passwords match you will be returned to the top level menu.
- 6 Once you are finished with terminal mode, don't forget to log out completely by choosing option **9** from the top level menu.

## Changing channel button indicator colors

On the front panel there is a numbered button for each channel. To assist with visual feedback for the operator you can change the highlight color for each button that will be shown as each channel is selected.

### To change the button indicator colors

- 1 Enter terminal mode (see page 11).
- 2 Choose option **3 - configure sc**.
- 3 Choose option **7 - fp configuration**.
- 4 Choose option **2 - select colors for channels**.
- 5 Type the number of the channel whose color you wish to change. The secure switch will list all of the color options for your chosen channel indicator:
  - r – red
  - o – orange
  - y – yellow
  - w – white
  - m – mint
  - g – green
  - c – cyan
  - b – blue
  - p – purple
  - t – magenta
- 6 Type the letter representing the required color. The selected color will be applied to the channel.
- 7 Optionally, enable upload mode to allow the RGB configuration tool to upload. Choose option **1 - Upload FP configuration from a host**. Reserved for future use.
- 8 Choose option **8** to go up one menu level. Then:
  - To change another indicator; choose option **7** and repeat steps 4 to 6 above.
  - To return to the top menu level, choose option **8** again.
  - Once you are finished with terminal mode, don't forget to log out completely by choosing option **9** from the top level menu.

*Note: The chosen channel colors will also be shown on the optional remote control, when used.*

## Performing a factory reset

A factory reset will return most configuration options to their default settings. The default admin account will not be affected and neither will the contents of any logs.

### To perform a factory reset

- 1 Enter terminal mode (see page 11).
- 2 Choose option **5 - reset to factory defaults.**
  - The secure switch will immediately perform the reset operation and return to normal operation.
- You can also initiate a factory reset using **Left Ctrl then Right Ctrl then F11 then r** at any time.

## Changing the hotkeys

Certain operations on the secure switch, such as entering terminal mode, changing between mouse modes, etc, require you to press certain key combinations, known as hotkeys. By default, the left and right Ctrl keys are used, however, these can be changed to the left and right Alt keys, if required.

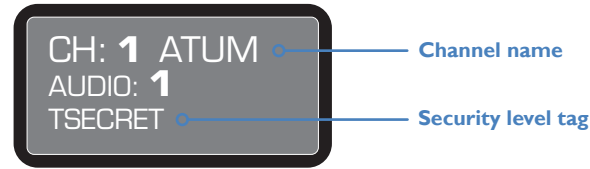
### To change the hotkeys

- 1 Enter terminal mode (see page 11).
- 2 Choose option **3 - configure sc.**
- 3 Choose the required option:
  - **4 - use ctrl key as shortcut prefix**, or
  - **5 - use alt key as shortcut prefix.**

The chosen hotkey (short cut prefix) will be confirmed within the on screen text editor.
- 4 Choose option **8** to go up one menu level. Then:
  - To return to the top menu level, choose option **8** again.
  - Once you are finished with terminal mode, don't forget to log out completely by choosing option **9** from the top level menu.

## Channel names and security levels

The front panel display screen clearly shows the currently selected channel number (and audio channel) source(s). In addition, you can optionally choose to show a channel name and/or standard security level tag:



### To enter/edit a channel name

- 1 Enter terminal mode (see page 11).
- 2 Choose option **3 - configure sc.**
- 3 Choose option **7 - fp configuration.**
- 4 Choose option **5 - enter channel names and security information.**
- 5 Choose option **2 - update channel name.**
- 6 Select a channel number (1 to 4).
- 7 Enter the required channel name (up to 8 characters) and press enter. *Note: To delete an existing channel name, delete all characters and press enter.*
- 8 Choose option **8** to go up one menu level. Then:
  - To return to the top menu level, choose option **8** again.
  - Once you are finished with terminal mode, don't forget to log out completely by choosing option **9** from the top level menu.

### To choose a security level tag

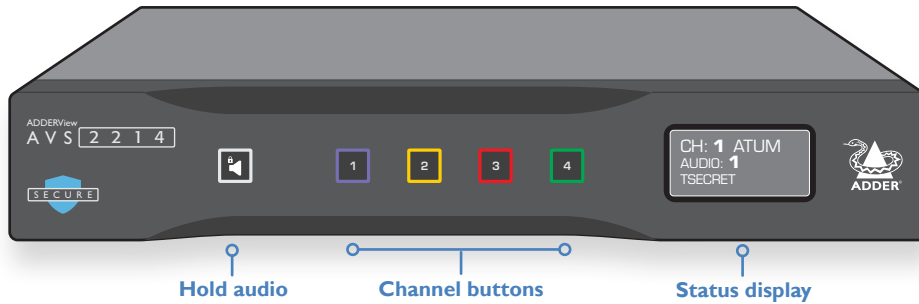
- 1 Follow steps 1 to 4 shown above.
- 2 Choose option **3 - update channel security.**
- 3 Select a channel number (1 to 4).
- 4 Select the security level tag for the chosen channel:

key	screen text	meaning
0	[blank]	Leaves the security field blank (default)
1	UNCLASS	Unclassified
2	FOUO	For Official Use Only
3	CONF	Confidential
4	SECRET	Secret
5	TSECRET	Top Secret
6	TS SCI	Top Secret SCI

- 5 Press Esc, then choose option **8** to go up one menu level. Then:
  - To return to the top menu level, choose option **8** again.
  - Once you are finished with terminal mode, don't forget to log out completely by choosing option **9** from the top level menu.

## SWITCHING BETWEEN CHANNELS

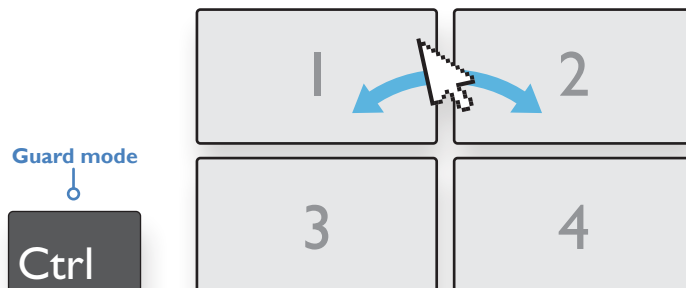
- Press the required channel button on the front panel:



- When using the optional remote control unit (AS-4RCU), select the required channel from there:



- Use the *Free-Flow* feature to automatically switch channels as your mouse pointer crosses a video display boundary.



## Free-Flow

Adder Free-Flow allows you to automatically switch between target computers simply by moving the mouse across the edge of the screen. This is most often used when separate video displays are all connected directly to the computers; with only the keyboard, mouse and audio being switched (also known as KM mode). With the multiple video displays arranged in a grid, you can clearly see which display you are working on and the direction in which you need to move the mouse in order to select the next.

The default display layout is 2x2, however, this may be changed to 4x1 by pressing: **Left Ctrl** then **Left Ctrl** then **F11** then **F2**.

To revert to 2x2 layout mode, use **F1** at the end instead.

Notes:

- When used with dual head displays connected to computers running older versions of Windows, it may require looping through the displays twice to effect a switch. The problem may be resolved by installing the MuMo (multi-monitor) driver available from Adder.com
- Free-flow works for both single and dual head displays.
- Upon switching, the operator is advised to check the front panel display to confirm the currently selected channel.
- The Free-Flow feature is disabled by default and a factory reset will return it to a disabled state.

This feature requires the mouse to be used in absolute mode so that the switch can determine its exact position on each video display, rather than the default relative mode.

Note: Older versions of Linux do not support Absolute mode, so cannot be used with Free-Flow.

## To enable Free-Flow

- Select absolute mouse mode: Press **Left Ctrl** then **Right Ctrl** then **F11** then **c**

## To disable Free-Flow

- Select relative mouse mode: Press **Left Ctrl** then **Right Ctrl** then **F11** then **b**

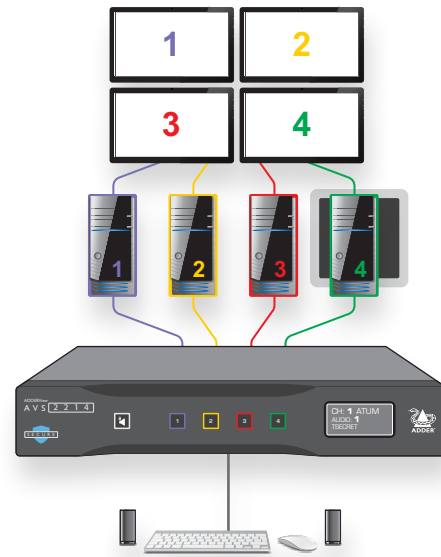
Note: Free-Flow mode can also be enabled/disabled from terminal mode. Ensure that 'video follow mouse' mode is enabled, otherwise only the USB and audio will switch. See page 19.

## Guard mode

Once Free-Flow is enabled, whenever you wish to switch to another computer, simply hold down the **Left Ctrl** key on the console keyboard as you move the mouse pointer from the boundary of one screen towards that of the next. The channel should change as the pointer crosses the boundary. The necessity to hold down the Left Ctrl key is called *Guard Mode* and is there to prevent accidental switching. If required, you can disable guard mode, as discussed on page 17.

## KM CONFIGURATION

When Free-Flow is enabled (see page 14), it is possible to use the switch in KM Configuration, where the video displays are arranged in a default 2x2 grid and are all connected directly to their respective computers. This allows the operator to view all channel outputs simultaneously. No further configuration is required.



## AUDIO HOLD

This front panel button (also replicated on the optional remote control unit) allows you to take the audio output from one computer while operating on another.

### To use audio hold

- 1 Use any of the switching methods to choose the computer whose audio you wish to hear.
- 2 Press the Audio Hold button, either on the secure switch front panel or on the optional remote control unit.
- 3 Switch to the computer that you wish to use.

The audio feed to the speakers (attached to the secure switch) will continue to feed from the initially connected computer.

## STATUS DISPLAY

The status display shows the current channel number, channel name (if configured), audio channel and hold status, plus security classification (if configured). It also indicates whether the switch is under remote control.



## REMOTE CONTROL UNIT

When a remote control unit is connected, the front panel buttons will have no effect, however, the button indicators will continue to reflect the current channel selection, as determined by button presses on the remote control unit.

### Adding and removing an RCU

An RCU may be added or removed at any time:

- Once connected, associate the RCU by pressing any key.
- Once disconnected, power cycle the switch unit.

## ERROR INDICATIONS

The secure switch continually runs integrity checks throughout its circuitry. If any unexpected behavior is detected the secure switch will immediately cease operation, lock all ports and provide operator feedback by flashing all of the channel button indicators.

Following an error indication: Remove power from the unit, check all connections and peripheral devices before re-applying power to the secure switch.



# Further information



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

- Getting assistance - see right
- [Appendix A](#) - Configuration menu items
- [Appendix B](#) - Hotkey commands

## 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](http://www.adder.com)

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## Appendix A - Terminal mode configuration

This section lists the terminal mode options available within the secure switch. For details of how to access terminal mode, see page 11.

*Note: Every sub-level group also includes the options: 8 - back (to return to the top level menu) and also 9 - exit terminal mode.*

### asset management - [option 0 from the top level menu]

These options are deal with the USB name (descriptor) that the secure switch uses to identify itself to the connected computers. In order to avoid a standard descriptor being used across numerous computers, serving as a marker for potential attackers, use these options to enter a new custom tag (option 3), set it as the default (option 2) and send it to the attached computers (option 5). Once a descriptor is set, it will be sent to the computers at every power up.

#### 1 – use standard descriptor as asset container

Select this option to use the standard descriptor, which was defined during manufacture, when declaring itself to the connected computers.

#### 2 – use custom descriptor as asset container

Select this option to use the asset tag entered using option 3 (below) as the descriptor that is declared to the connected computers.

#### 3 – enter new asset tag

Use this option to enter a custom asset tag for the secure switch, when enabled using option 2 (above), which will then be reported to the connected computers at each power up or by using option 5 (below).

#### 4 – show current asset tag

Select this option to view the custom asset tag that is stored (if any).

#### 5 – apply asset tag to de

Select this option to send either the standard or custom descriptor (as determined by the selection of either options 1 or 2 above) to all of the connected computers.

### firmware versions - [option 1 from the top level menu]

These options display the firmware versions of the various primary components of the secure switch.

#### 1 – de version

Displays the firmware version for the desktop environment (interface).

#### 2 – sc version

Displays the firmware version for the main system controller.

#### 3 – vc version

Displays the firmware version for the video controller.

#### 4 – dpp version

Not used on these models.

#### 5 – fp version

Displays the firmware version for the front panel controller.

### configure sc - [option 3 from the top level menu]

These system controller options deal with numerous aspects of secure switch configuration.

#### 1 – enter desktop configuration [0-40][default=0]

Not used on these models.

#### 2 – enter mouse speed [0-32][default=5]

Use this option to determine the speed of mouse movement.

#### 3 – upload configuration from the host

Reserved for Adder Support use only - Opens channels for kmc tool to upload a new KM config.

#### 4 – use ctrl key as shortcut prefix

Use this option to use the left and right Ctrl keys as the hotkeys for accessing terminal mode and invoking other features.

#### 5 – use alt key as shortcut prefix

Use this option to use the left and right Alt keys (the right Alt key is often marked as Alt Gr) as the hotkeys for accessing terminal mode and invoking other features.

#### 6 – guard mode configuration

To enable: choose option 1 - switch hosts with mouse and ctrl key pressed.

To disable: choose option 2 - switch hosts with ordinary mouse movements.

The chosen mode will be confirmed within the on screen text editor. Note: Guard mode is enabled by default and will be re-enabled when the switch is power cycled.

#### 7 – fp configuration

See next page

## configure sc - continued

### 7- fp configuration

#### 1 – upload fp configuration from a host

Allows the unit to communicate with the FP Config tool for defining the front panel configuration. Note: It is also possible to enter unit to upload mode with the Left Ctrl | Right Ctrl | L hotkey.

#### 2 – select colors for channels

Allows you to change the button indicator colors. See page 12.

#### 3 – select dimming

By default, the LEDs for unselected channels are off. This option allows them to be displayed dimmed, such that the user can see all of the channel colors.

#### 4 – enter screen cycles refresh [1-50][default=10]

The ePaper screen used on the front panel requires a full refresh after so many updates (cycles). This option allows the user to specify the cycles between screen refreshes.

#### 5 – enter channel names and security information (see page 13)

1- display current (shows the current front panel configuration)

2 - update channel name (allows you to add/edit names for channels)

3 - update channel security (allows you to configure the security level tag):

- select a channel [1-4]
- select the security level tag for the chosen channel:

key	screen text	meaning
0	[blank]	Leaves the security field blank (default)
1	UNCLASS	Unclassified
2	FOUO	For Official Use Only
3	CONF	Confidential
4	SECRET	Secret
5	TSECRET	Top Secret
6	TS SCI	Top Secret SCI

- once selected, press esc to go back

## account management - [option 4 from the top level menu]

These options relate to the admin accounts and their passwords.

#### 1 – change password

Allows you to change the access password for any admin account. See page 12.

#### 2 – create admin account

Allows you to create a new admin account. See page 12.

#### 3 – delete all accounts

Deletes all admin accounts except the default one. See page 12.

## reset to factory defaults - [option 5 from the top level menu]

This option returns all settings to the factory defaults but does not change the admin username and password or the event logs. See page 13.

## logs and events - [option 6 from the top level menu]

These options are all related to system monitoring and the logs that are retained as a record of operational events.

#### 1 – show otp log

This (one time programmable) log stores up to 64 critical events in parallel with the critical ram log and the entries can never be deleted or overwritten. The 65th entry and beyond will only be written to the critical ram log.

#### 2 – show critical ram log

This log stores the date, time and username of events that are defined as critical, such as: self test failures, peripheral device rejection, tampering event, factory resets and admin password changes. It stores up to 64 events in a cyclic way (overwrites the new events instead of the oldest ones). This log is not affected by a factory reset.

#### 3 – show non-critical ram log

This log stores records of non-critical events such as power ups, peripheral device acceptance, simple configuration change, Admin logins, user add/delete, password changes or password lock, etc. It retains 128 of the latest events and overwrites the oldest entries when it is full. This log is not affected by a factory reset.

## configure peripheral devices - [option 7 from the top level menu]

These options relate to connected peripheral devices. Changes to these settings require up to ten seconds to become active.

### 1 – toggle touch screen support

*Enable support for touch screen input devices. These must adhere to the Microsoft Digitizer standard.*

### 2 – toggle consumer control support

*Enable support for consumer report keyboards.*

### 3 – configure absolute mouse support

*Allows you to choose whether the connected console mouse operates in relative mode (the default manner) or absolute mode. The latter is required if you wish to use the Free-Flow mode to change between computers. See page 14. Note: Absolute mode is not supported on older versions of Linux.*

### 4 – toggle copy/paste support

*Copy and paste are permanently disabled on secure switches.*

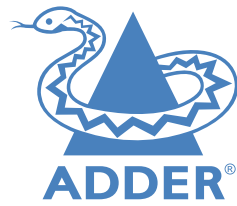
### 5 – toggle video follow mouse

*Allows you to enable/disable the Free-Flow feature. If disabled, Free-Flow will only switch the USB and audio. See page 14.*

## Appendix B - Hotkey commands

This section provides a summary of hotkey commands used on the secure switch. In each case, press and release the listed keyboard buttons in the order shown.

Toggle between mouse modes	<i>(Absolute)</i>	L CTRL   L CTRL   F11   c	
	<i>(Relative)</i>	L CTRL   L CTRL   F11   b	
Alter mouse speed	<i>(Increase)</i>	L CTRL   L CTRL   F11   +	<i>Note: Altering mouse speed is only available in Absolute mode. Use main keyboard + and -, not the numeric keypad.</i>
	<i>(Decrease)</i>	L CTRL   L CTRL   F11   -	
System reset to factory defaults		L CTRL   L CTRL   F11   r	
Enter Terminal mode		L CTRL   R CTRL   t	
Exit Terminal mode		L CTRL   R CTRL   x	
Display layout (2x2)		L CTRL   L CTRL   F11   F1	
Display layout (4x1)		L CTRL   L CTRL   F11   F2	
Upload mode		L CTRL   L CTRL   L	<i>Note: The switch takes 5 seconds before Upload mode becomes active.</i>



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