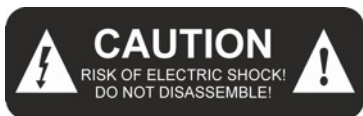


SK4u & SK4vu Manual

Document part number: HB-K4US-0001

Revision: 2 29-03-11



Caution: To reduce the risk of electric shock, do not remove any circuit board or power supply covers. There are no user serviceable parts inside; refer to qualified personnel.

Warning: To reduce the risk of fire or electric shock, do not expose this appliance to rain and moisture. The appliance should not be exposed to dripping or splashing and no objects filled with liquids should be placed on or near the appliance.

Detailed safety instructions

- ☒ Read these instructions
- 2 Keep these instructions
- 3 Take notice of our warnings
- 4 Follow instructions
- 5 Clean only with a dry cloth
- 6 Keep the product away from liquids
- 7 Keep all ventilation openings free from obstructions
- 8 Install in accordance with these instructions
- 9 Do not install near significant sources of heat e.g. radiators, stoves etc.
- ☒0 Ensure the product is properly grounded
- ☒☒ Only use approved attachments or accessories.
- ☒2 Refer all servicing to qualified personnel

About this manual.

This manual is designed to give you both an overview of the **SK4u /SK4vu** as well as a detailed explanation on how to install, configure and use it. However, there are bound to be questions we haven't answered so don't hesitate to contact technical support for expert assistance.

Write down the contact details for your local technical support group here:

You can do this by phone or by email:

UK: +44 (0) 207 9602400 or
+44 (0) 1626 837 900
US: +1 212 269 9300

European Tech Support:
eurosupport@amulethotkey.com

US Tech Support:
ussupport@amulethotkey.com

Asia Tech Support:
apsupport@amulethotkey.com

Check out the Tech. Support page of our website for additional contacts:

www.amulethotkey.com

Shipment.

1 Your **SK4u / SK4vu**, PSU and cables were carefully packed prior to despatch to guarantee safe transit. However, we recommend that you thoroughly examine all packaging and contents for signs of physical damage before use.

2 If any damage has occurred, please notify the shipping company and your supplier immediately otherwise claims for damage or replacement may not be granted.

3 Retain the original packaging for use in the event that the equipment has to be stored, shipped or returned for service.

4 If you choose to dispose of the packaging please do so in an environmentally friendly fashion. *We like our planet and want it to last a long time.* 😊

Introduction

Thank you from everyone here at **Amulet Hotkey**® for purchasing this product. A great deal of time and energy has gone into making this the best and most reliable in its class.

With over 16 years experience working around the world in a variety of installations we are confident that we have provided a state of the art system that will provide you with long and reliable service regardless of the application.

To get the best from this product please take time to study this manual carefully even if you are familiar with other similar products.

Conventions in this manual.

Throughout this manual we use notes in the page border to highlight points made in the main body of the text. These notes are marked with one of the following graphics:

Warning: Anything preceded by this icon is an important warning. You must read these and please take note of our advice.

Hints and Tips: Following this icon you will find what we consider to be useful advice based on our extensive experience. Take it or leave it – it's up to you.

Info: This icon signals information related to the main text that we thought we'd share with you. Hopefully you will find it of interest.



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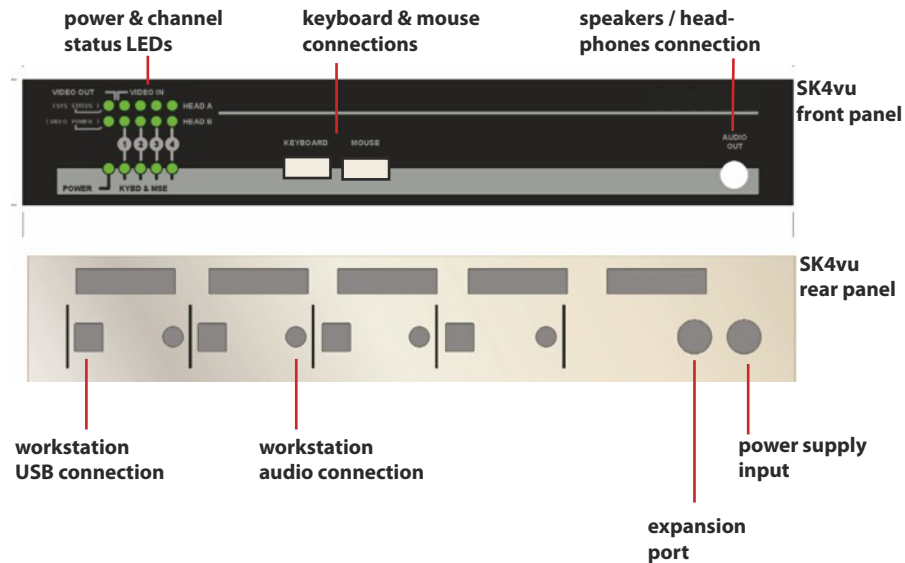
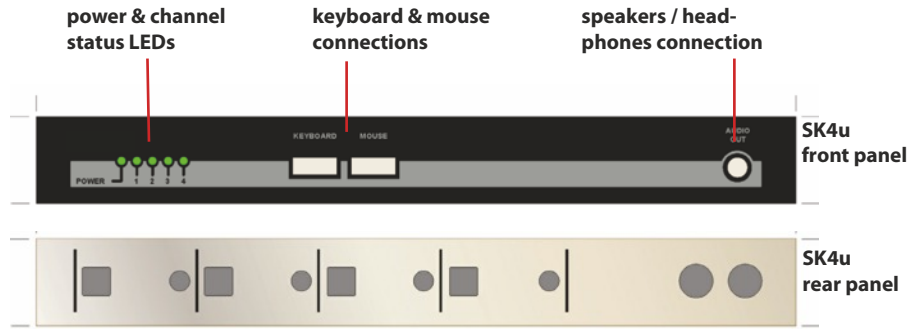
SK4u / SK4vu Overview and Features

The **SK4u** is a 4 channel USB keyboard, mouse and stereo audio switch specifically designed for secure applications. It enables up to four computers to be controlled from a single keyboard and mouse. The stereo audio outputs of the four computers can also be switched (or mixed) through to a single set of speakers.

The **SK4vu** differs from the **SK4u** only in that it is also capable of switching video from the attached computers through to a common output. The video switching system can support both analogue and digital video formats in **dual head** configurations. *Unless otherwise stated, all the following sections of this manual refer to both the **SK4u** and the **SK4vu**.*

The **SK4u / SK4vu** is configured using a bank of DIP switches fitted to the underside of the case.

Overview: Front and Rear panels





Quick start guide

SK4u

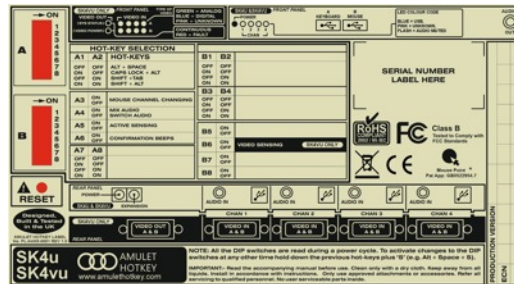
The SK4u is a keyboard and mouse switch. It does not accept video signals of any kind. You will need to attach monitors directly to the video output ports on your computers in the normal way.

The SK4u is supplied with cables for connecting a computer to each of the 4 channels.

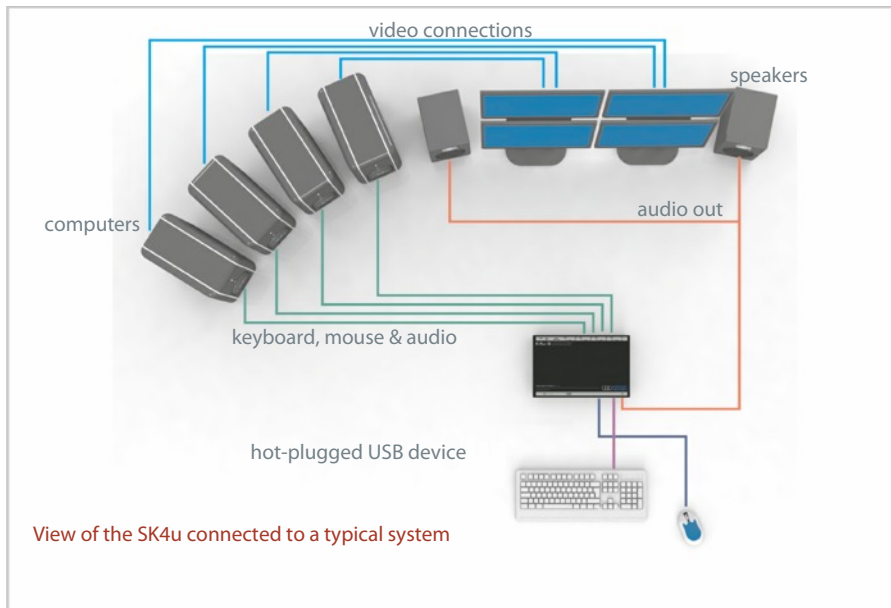
STEP1 - Before you connect the SK4u to anything check that the DIP switches on the underside of the unit are set correctly. For a full explanation of the functions controlled by these switches refer to section 4 on page 15 of this manual.

With the DIP switches in their default positions the SK4u will operate in the following way:

- Channel change hot-keys will be Alt'and Space'
- Mouse channel change is enabled
- Audio from all computers will be mixed to the common output
- Channel active sensing is on
- The internal beeper is enabled
- USB keyboard layout is UK



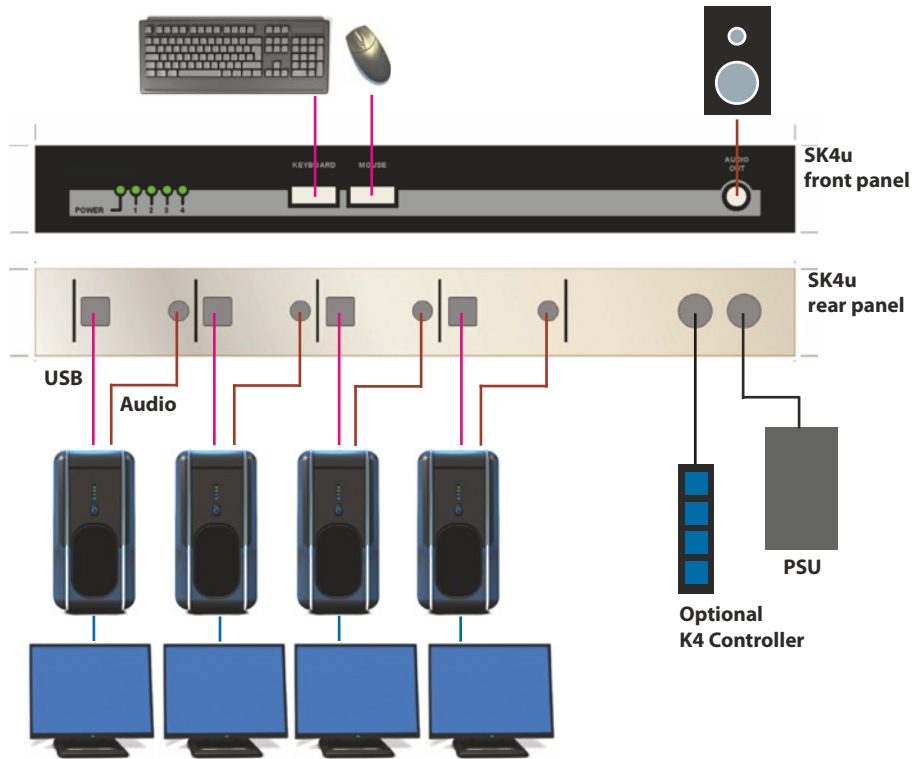
STEP 2 - Connect a keyboard of your choice to an appropriate front panel port. Connect a suitable mouse to the front panel port provided.



STEP 3 - Connect up the SK4u power supply and power the device on. After short delay the unit will beep and illuminate its front panel LEDs: The power LED should be on, all other LEDs should be pink indicating that no computers are detected.

Quick Start

STEP 4 You can now connect each of your computers to the rear panel of the SK4u using the USB and audio cables provided. You don't have to power down the computers while connecting them to the SK4u. The diagram below will help guide you through the connection process.



Quick Start

SK4vu

Everything in the preceding quick start section applies equally to the SK4vu. The main difference is that the SK4vu is also capable of switching video signals. These can be from either an analogue or digital source. This next section of the quick start guide describes how to connect up your computers and monitors to the SK4vu.

Step 1 – Additional DIP switch settings: Video Sensing. DIP switch B6 is set to the 'off' by default. This means that a channel can be selected even when there is no video signal coming from a computer into that channel. This is useful for switching to a computer that is about to be powered up and you want to monitor the process.

Step 2 – Identifying video types and selecting a suitable monitor. You will need to connect one or more monitors to the video output port of the SK4vu. Make sure you have a monitor capable of handling the type of video signal in use: Digital and / or analogue, resolution etc.

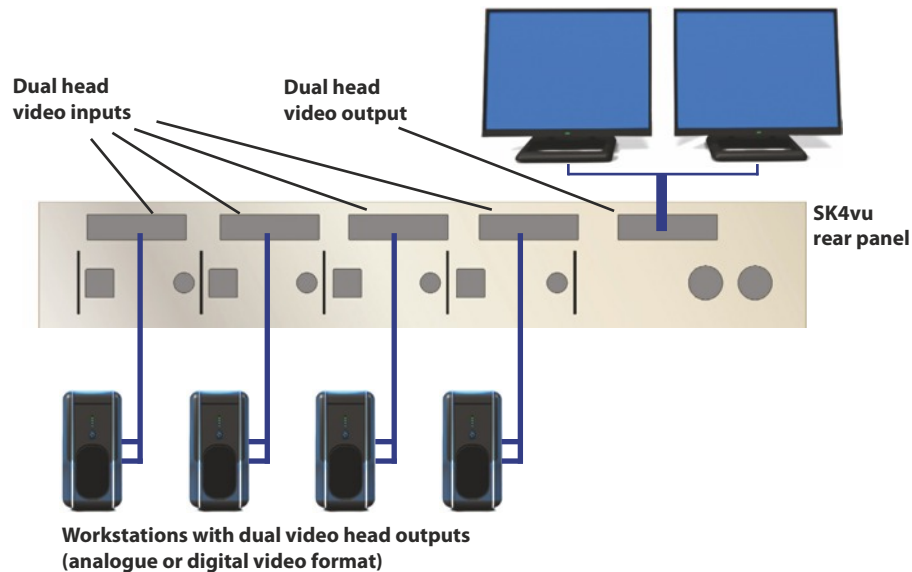
Step 3 – Connecting cables. There are a variety of cables types and adapters for routing video through the SK4vu (see section 10 page 38). This quick start section makes the assumption you have already chosen the correct cables for your particular hardware. It is preferable that you connect the cables from the computers to the SK4vu rear panel before the computers are powered on. This is because many graphics cards only check their output ports to determine what kind of monitor is attached when booting up. The SK4vu video inputs 'look like' a monitor to the graphics card and during boot up, it will try to establish what capabilities the monitor has: digital, analogue, resolution and so on.

Step 4 – Optimising the video performance with Termination Resistors. If you are working with analogue outputs from a graphics card it may help to enable 'termination resistors' on associated SK4vu video input port especially if the video output from the SK4vu appears overly bright. Termination resistors can be enabled or disabled for a selected channel by first switching to that channel using one of the methods described earlier and then pressing and holding the channel change hot-keys (default: Alt + Space) and then pressing 'v'.



The SK4vu is designed to handle a variety of analogue and digital video signals. Note that the SK4vu does not convert these signals from one format into another. Therefore, if you are routing a digital video signal through the SK4vu make sure you attach a suitable monitor.

This diagram shows how to connect a dual head system to the SK4vu. If a single head (screen) system is used, only one of the cables needs to be connected. More detailed information on connecting video through the k4vu-s can be found in section 6 on page 20 of this manual.



Operation the SK4u / SK4vu: A Quick Start Guide using the default DIP switch configuration.

Now that you have your system set up you will need to know how to use it. Remember that the purpose of these devices is to allow a single keyboard, mouse and monitor (SK4vu only) to be switched between four computers. With everything connected and powered up you will need to know how to switch from one channel to another...

Changing channels using a keyboard:

Simply hold down the hot-keys (default: Alt + Space) and then press either 1,2,3 or 4 above the qwerty keys.

Changing channels using a mouse:

Simply hold down the centre button or scroll wheel and then press either the left or right button to increment or decrement the channel number.

As you switch between the channels notice that the front panel indicators light to confirm selection of a channel.

NOTE: Active sensing is switched on by default (DIP switch A5) so you will not be allowed to switch to a channel that has either no computer attached or where the associated computer is powered off.



SK4u / SK4vu Detailed introduction

SK4u

The k4u-s is a keyboard and mouse switch specifically designed for mission critical applications where reliability, security and faultless long term operation are paramount.

It is used to switch a single USB keyboard and mouse between any one of up to 4 computers. The SK4u is not a video switch. You will still need to attach your monitors directly to the video output ports of the computers. The SK4u is ideally suited for use in military and secure applications in that it has a robust, tamper proof operating system that isolates each channel completely from the next. This makes the unit ideal for use with workstations of differing security levels.

The SK4u employs a fully hosted architecture in which each of the four channels to which a computer can be attached is fitted with its own dedicated processor. This ensures that full support is available for a computer connected to the SK4u at all times.

Although the SK4u can draw its power from the attached computers we always recommend using the external power supply provided. This is particularly important if you are using the optional 'focus' or 'sharing' indicators or the K4 controller described elsewhere in this manual.

It is recommended that the SK4u power supply is connected to a Uninterruptible Power Supply.

The primary means of configuring the SK4u is through the DIP switches located on the base of the unit.

There are various ways of operating the SK4u: The basic procedure is to use predefined keyboard **hot-keys** to switch your keyboard and mouse between the attached computers. We refer to this as **channel changing** and it amounts to changing the 'focus' of the keyboard and mouse from one computer to another. Note that the keyboard and mouse can only communicate with one computer at a time.

An alternative method of changing channels, is to use the mouse: On a mouse with three or more buttons you simply hold down the centre mouse button and then press either the left or right buttons to scroll around the channels.

The K4 optional controller can be used to switch directly from one channel to the next. The controller is fitted with four illuminated switches - one per channel - so you simply press the switch associated with the channel you wish to select.

Another method of controlling the SK4u is to load the Mouse Point® application on to each of the attached computers. Mouse Point® is an exciting feature and you will find more about it in section 7 on page 22 of this Manual.

The SK4u also integrates easily with Amulet Hotkey KVM DXiP series extenders to allow 'remotely' located computers to be mixed with 'local' computers.

The embedded audio system is capable of receiving stereo analogue audio signals from each of the attached computers and can either mix or selectively switch the signals through to a common output. When the option to mix all audio inputs is selected, the user can opt to mute selected signals using keyboard hot-key combinations.

Front panel LEDs provide constant feedback relating the units status. This includes the currently selected channel, the audio muting status and finally the power status of the SK4u.

Security notes

The SK4u-s and SK4vu are completely secure and prevent all channel crosstalk. Keyboard buffers are flushed prior to channel changing preventing accidental data leakage. Firmware cannot be modified outside of the factory. Keystrokes are not recorded. It is impossible to setup a data pump between attached computers using the SK4u / SK4vu as an intermediary.

SK4vu

All of the preceding introduction applies equally to the SK4vu. The key difference is that the SK4vu has a video switching system built in. This supports digital and analogue formats and is capable of handling dual head video on each of its four inputs. Note that, although the SK4vu can handle both digital and analogue video signals simultaneously, it won't convert from one format to the other.

Video connections to the SK4vu are made through DMS59 sockets which require special cables. At the time of writing SK4vu video input cables are not supplied as standard and should be ordered separately to suit your specific requirements.

A video output adaptor cable is supplied with your SK4vu which permits the attachment of up to two monitors completing the dual head switching facility.

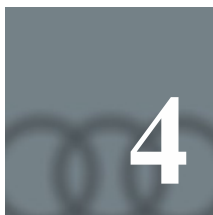
The SK4vu should always be powered from the external supply included. It is good practice to connect power supply to a UPS.

In addition to the front panel status LEDs fitted to the SK4u, the SK4vu has LEDs relating to the video switching system. These provide information about the kind of video input and outputs connected. The SK4vu fully supports the DDC protocol used by graphics cards to determine what kind of monitors are attached. To compliment this feature, the SK4vu is equipped with 'termination resistors' which can be manually switched into the video input path to provide an accurate load for analogue graphic cards. Termination resistors can be inserted using either a keyboard hot-key combination or the K4 configuration application.

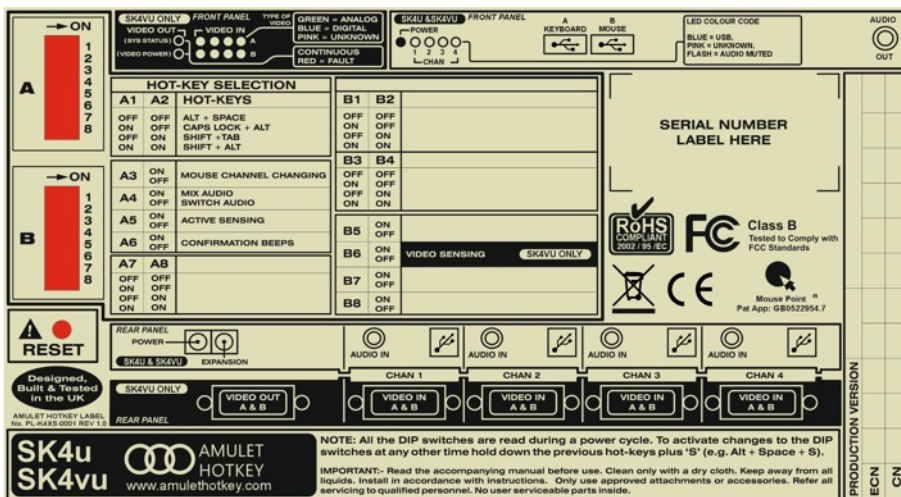
Summary.

The SK4u-s and SK4vu are feature rich, extremely dependable switches of the highest quality. Once installed they are designed to run 24/7 all year round without fault.

The next section covers the DIP switches in more detail and describes how the SK4u and SK4vu can be configured to better suit your specific application.



DIP Switch Settings



The DIP switches are located on the base of the SK4u / SK4vu. A label (shown above) clearly indicates the function of each of these switches together with useful information about other aspects of the product. Note that only one of the DIP switches (B6) is specifically related to the SK4vu with the remainder being applicable to both the SK4u and the SK4vu.

DIP switches should ideally be set prior to connection of the product. However, they can be changed at any time: the side bar on this page gives more information.



The DIP switches are set out into two banks of eight, labelled A and B. Changes to the switch settings will not be recognized until the unit is either power cycled, reset using the reset button on the bottom of the unit or the device is forced to check the DIP switches pressing the hot-keys + S.

4.1 A1 & A2 - Set Hotkey Combination - Factory default: A1=OFF, A2=OFF The hot-key combination is two preassigned keyboard keys which, when pressed and held down together in sequence with a third key, will activate a special function or feature of the **SK4u / SK4vu** switch. The factory default setting is ALT+SPACE with DIP switches A1 and A2 set to the OFF position. There are three other alternatives which can be found listed on the configuration label fitted to the underside of the unit.

4.2 A3 - Mouse Channel Changing - Factory default: A3=ON The **SK4u / SK4vu** can change channel focus using the mouse by pressing and holding down the middle button (when using a three or more button mouse) and using the buttons to the right and left to change up and down channels respectively. This feature can be disabled should the user desire by setting DIP switch A3 to the OFF position.

4.3 A4 - Audio Mix / Switch - Factory default: A4=ON The **SK4u / SK4vu** can mix all four stereo audio inputs through to the single output on the front of the unit regardless of the focused channel. This is the default setting with DIP switch A4 set to the ON position. When set to the OFF position, the audio output will switch with the keyboard and mouse focus.

4.4 A5 - Active Sensing - Factory default: A5=ON When enabled, the **SK4u / K4vus-** will only switch to channels that have an active computer attached (i.e. connected and powered). It will not switch to empty channels and will skip over them when channel changing with the mouse.

4.5 A6 - Confirmation Beeps - Factory default: A6=ON When enabled, the **SK4u / SK4vu** will give the user a confirmation beep whenever there is a change of focused channel or some hotkey function has been invoked. Note, even when confirmation beeps are disabled the switch will still give the user warning beeps (e.g. when the unit resets, or a new keyboard or mouse are detected [hot-plugged] on the front of the unit).

4.6 A7 and A8 - USB Keyboard Country layout output - Factory default is country specific for users who have a USB workstation but a non-country layout reporting keyboard.

4.7 B1 and B2 - Not used

3.8 B3 and B4 - Not used

4.9 B5 - Not used

4.10 B6 - Video Sensing - Factory default: B6= OFF - **SK4vu only!** This feature controls the way in which the SK4vu switches to a channel where the video input is either switched off or left unconnected. When DIP B6 is set to OFF, the SK4vu will select this channel in the normal way. When DIP B6 is set to ON, keyboard and mouse will be switched to the new channel but the video will be left focused on the last channel with a valid video signal.

4.11 B7 - Not used

4.12 B8 - Not used



If mouse channel changing is enabled, you may still use the middle mouse button as normal if you move the mouse a little while holding the button down.



Operating the SK4u / SK4vu

5.1 Channel Selection Using the Keyboard

There are three ways to change channel on the **SK4u / SK4vu** using any standard keyboard: Hold down the hot-keys as defined by DIP switches A1 & A2 and press either 1, 2, 3, or 4 on the QWERTY section of the keyboard OR, hold down the hot-keys and press 4 or 6 on the numeric key pad to change up and down through the channels. In addition, a quick double press of the Scroll Lock key on its own will change up a channel. If already on the highest channel, the switch will loop back to the lowest channel.

5.2 Channel Selection Using the Mouse

Hold down the centre button on a three or more button mouse and right click to change up, left click to change down. If change up is selected when on channel 4 then the switch will loop to channel 1. If change down is selected when on channel 1 then the switch will loop to channel 4.

To use the middle mouse button in an application on the PC simply hold down the centre button and move the mouse a few pixels and it will operate normally. Alternatively, disable mouse channel changing using DIP switch A3 and use one of the other methods to change channel on your **SK4u / SK4vu**.

5.3 Channel Selection Using the K4 Controller

An optional K4 controller can be connected to the **SK4u / SK4vu** to provide single button channel selection with focus indication. The K4 controller can be placed in a convenient position using the Velcro™ tabs to hold the controller in place. The K4 controller connects to the 8 pin Mini-DIN EXP port on the **SK4u / SK4vu** rear panel.



If active sensing is enabled, channels without a powered PC attached cannot be selected and the SK4u / SK4vu will emit a warning beep to notify the user of the failed action.



If active sensing is enabled, inactive (disconnected or powered down) channels will be skipped when channel changing with the mouse.

5.4 The Audio System.

The **SK4u / SK4vu** can be set to **mix** or **switch** the stereo audio output, from each of the attached computers through to the common audio output on the front panel using DIP switch A4. The key difference is that, when audio is **mixed**, sounds originating from any of the attached computers will be heard regardless the focus of keyboard and mouse activity (which channel is selected). Whereas, in the switched audio mode, only sound originating from the currently selected computer will be heard.

In addition, it is possible mute a selected channel using a simple keyboard hot-key combination. This muting facility is available in both the switched and mixed audio modes. The following sections describe how to control these modes.

5.5 Controlling the Audio Output in mixed or switched mode

Mute single channel (hot-keys + Backspace)

To turn the audio off on a selected channel, first switch to that channel and then press the hot-keys + Backspace. This prevents the channel audio signal mixing into the output. You can switch off as many channels as you wish in this way. To switch a channel back on, follow the same procedure: switch to the channel and then press the hot-keys + Backspace.

Muting all audio output of the SK4u / SK4vu (hot-keys + 0)

To turn off or mute **all** audio, press the hot-keys + 0 (number zero in main QWERTY section). When the **SK4u / SK4vu** is set to mute, the focus LED on the front of the unit will flash. To enable audio simply repeat the hot-keys + 0 combination - the LEDs will stop flashing.

5.6 SK4u Front Panel LEDs

The channel focus indicators illuminate to show which channel has current keyboard and mouse focus. They are also colour coded to provide the following information:

- Blue: The channel has located a USB computer
- Pink: The channel is unable to detect a valid computer
- Flashing: Audio is muted on the channel



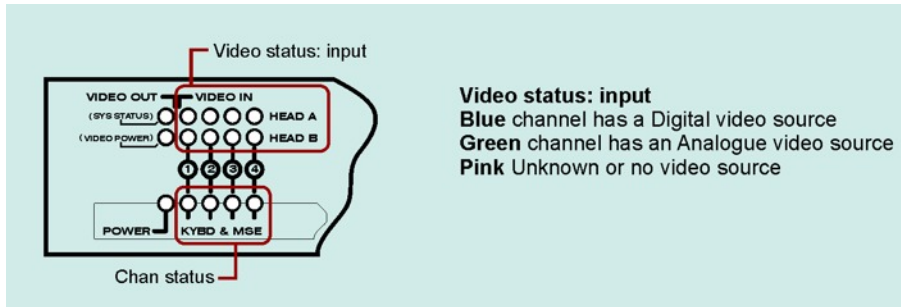
Audio settings entered via hot-keys will be lost if the unit is reset or power cycled. Volume levels for each channel should be adjusted on the attached computers. The SK4u has no volume level control.

5.7 K4vu Front Panel LEDs

The **SK4vu** has two sets of front panel LEDs. The lower set are the same as those found on the SK4u and are described in the previous section.

The upper set of LEDs are used to determine the status of the **SK4vu** video i/o. Again this is achieved using colour coding - see below.

Two of the LEDs on the **SK4vu** front panel have dual function in that they indicate the video card power and status during power up and then, after a short delay, revert to indicating what type of monitor is attached to each of the SK4vu video output ports: analogue or digital. Refer to the illustration below.



The SK4vu is designed to handle a variety of analogue and digital video signals. Note that the SK4vu does not convert these signals from one format into another. Therefore, if you are routing a digital video signal through the SK4vu make sure you attach a suitable digital monitor.

During a system reset or when a new monitor / video source is hot-plugged into the **SK4vu**, the upper set of LEDs will flash orange momentarily. This indicates that an internal update of the **SK4vu** video interface data is taking place in order to support the newly detected monitor or video source.



The K4vu video system

6.0 The SK4vu Video Ports

The **SK4vu** is capable of receiving and switching video signals from both analogue and digital sources. The factory default is for each **SK4vu** video input to be optimised to receive analogue signals with termination resistors switched **in circuit**.

Analogue: If you will be working exclusively with analogue video inputs connect up the computer video outputs to the **k4vu-s** rear panel using the appropriate cables. Then connect suitable monitor(s) to the **SK4vu** video output port. These monitors can be either analogue only or **DVI-I** - that is, they must be able to receive and display analogue video signals. If an analogue video signal looks too bright or over driven on your monitor it is probably because the termination resistors have been switched **out of circuit**.

Digital: If you want to connect a digital only video source to the **SK4vu** you will need to remove the termination resistors from the input circuit as described in the next section and ensure that your monitor is capable of receiving and displaying digital video signals.

The third (best) option is where the output of the graphics card can be switched (often automatically) between the analogue or digital format. In this case, having the termination resistors in circuit will (in most cases) force the video card to output analogue signals. Again, use the hot-keys as described below to control the status of the resistors.

You can verify that the status of a video input by checking the colour of the associated front panel video status LED on the SK4vu. It will be illuminated green if an analogue signal is detected or blue if the source is digital. A pink LED indicates that a video signal has not been detected (check cables and graphics card) or for some reason the source signal is not recognised.

6.1 Configuring SK4vu termination resistors

The termination resistors are required with analogue video sources and, depending on your graphics card, it is prudent to ensure that they are switched out of circuit for digital video sources.

Hot-keys: To do this first switch to the SK4vu input channel you wish to configure. Use the hot-keys + V to toggle the resistors in or out of circuit. Note that in early production units, this setting will be lost following a k4vu reset or power cycle.

Control Application: This application allows the SK4vu to be configured in detail from any one of the attached computers. All settings are non-volatile and easily understood. Additional features for optimising video quality and updating the system firmware are also included.

6.2 Graphics card notes - SK4vu

In testing we have found that not all graphics cards are equal. Most will not react to a change on their out-put connections (ie a change in monitor) immediately. Instead, a change will not be detected until a reboot or power cycle takes place. How does this effect you?

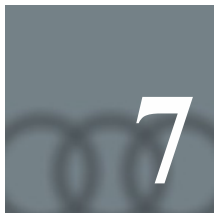
From the point of view of the graphics card, changing the state of the termination resistors in the SK4vu is the same as plugging in a new monitor. Some will react to this and reconfigure their video output to suit right away, others will not. If you dont get a response from your card when the resistors are switched in or out of circuit you may need to do one of the following:

unplug and then reconnect the video cable running between the K4vu and graphics card, access the video settings panel on the computer to force an update or ...

simply power cycle the PC.

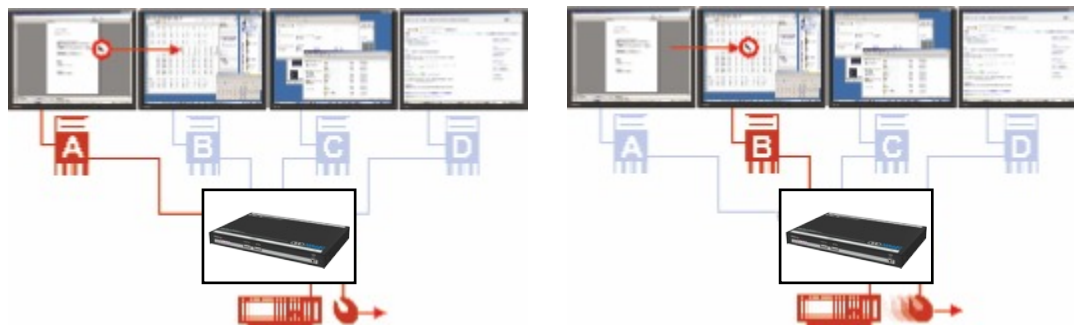


Ensure that the monitor(s) you are using with the SK4vu are capable of handling the type of video signal (analogue and / or Digital) and the display resolution in use. For best performance, all outputs and resolutions should be of the same type.



Mouse Point™ for the SK4u

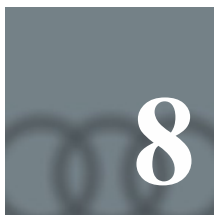
Mouse Point® is a unique and revolutionary system for switching channels on the **SK4u**. Easily configured, **Mouse Point®** allows you to switch from one channel to the next by simply moving the cursor from one screen to the next...



To implement **Mouse Point®** on your **SK4u** you first need to install some software on each of the computers to which it is connected.

You use this software to create a file which describes to the **SK4u** how the monitors on your desktop are arranged in relation to each other. This file is then loaded into the **SK4u** non volatile memory using a utility provided. The **SK4u** is then able to drive the **Mouse Point®** system.

All the **Mouse Point®** software is included on the Resource CD that came with your **SK4u**. You will also find a Quick Start Guide containing instructions for installing this software. Full operating instructions are built into the **Mouse Point®** programming application.



Hot-key combinations - a summary.

Hot-keys used with a USB keyboard.

Press and hold down hot-keys (default is Alt - Space) then press...

1'	(qwerty only) select channel 1
2'	(qwerty only) select channel 2
3'	(qwerty only) select channel 3
4'	(qwerty only) select channel 4
S'	re-read the dip switch settings
4'	(numpad only) decrement current channel
6'	(numpad only) increment current channel
0'	(qwerty only) toggle mute on all audio output (only in mixed audio mode)
R'	reset main processor & warm boot the switch (must be pressed twice in succession) ¹
Backspace'	toggle mixed audio output for currently selected channel
Scroll lock'	disable double scroll lock channel changing
V'	toggle analog video termination resistors (k4vu-s only)



Parts Kit and Options

9.0 SK4u

You should have the following items with each **SK4u** product. If anything is missing please contact your supplier. Standard parts kit (order code KT-K4US-0001) ships with:

Qty	Description	Part Number
1	SK4u switch	CA-K4US-0001
4	2m Stereo Audio Cable 3.5mm Plug to Plug	CL-XX02-0010
4	2m USB - B Plug to USB - A Plug	CL-USBB-0001
1	12V 1.25A Isolated Ground PSU with IEC Lead	CA-XX01-0002
1	Resources CD	CD-AHCD-0001

9.1 SK4vu

You should have the following items with each **SK4vu** product. If anything is missing please contact your supplier. Standard parts kit (order code KT-K4VS-0001) ships with:

Qty	Description	Part Number
1	SK4vu switch	CA-K4VS-0001
1	12V 3.333A Isolated Ground PSU with IEC Lead	CA-XX01-0008
1	Resources CD	CD-AHCD-0001
1	Video output adaptor cable	CL-NVC2-0002

9.2 Optional Accessories - SK4u / SK4vu

The following items are available from Amulet Hotkey Ltd. as options:

K4 Controller	CA-HKCT-0001
Red Focus Indicators, 2.5m	CL-HK04-0001
Green Focus Indicators, 2.5m	CL-HK04-0004

10

Technical Specifications

10.0 SK4u

Power supply	12V 125 mA external supply
Power consumption (switch only)	Less than 5 W
Dimensions (WxHxD)	250x31x155 mm (9.8 x 1.2 x 6.1 inches)
Unit weight	1.376 Kg (3.03 lbs)
Channel Kybd & mouse input	2x USB type A
Channel USB input	4 x USB type B
Channel Audio input	4 x 3.5mm Stereo audio socket
Audio output	1 x 3.5mm stereo audio socket
Supported devices	USB Keyboard, mouse & audio devices

Conforms to relevant parts of EN55024, EN55022 and FCC Part 15b

Tempest level B

Designed and built in the UK.

10.1 K4vu

Power supply	12V DC 3.333A - 40W external supply
Power consumption (switch only)	Less than 40W
Dimensions (WxHxD)	250x45x155 mm (9.8 x 1.8 x 6.1 inches)
Unit weight	1.6 Kg (3.5 lbs)
Channel Kybd & mouse input	2 x USB type A
Channel USB input	4 x USB type B
Channel Audio input	4 x 3.5mm Stereo audio socket
Audio output	1 x 3.5mm stereo audio socket, line level
Video input	4 x DMS 59 connector
Supported video input	Analogue: RGB video with digital separate syncs in to Dual out up to 500MHz bandwidth (i.e. QSXGA - 2560 x 2048 @60Hz). Digital: DVI single link upto 165MHz clock rate in to Dual out (i.e. upto 1600 x 1200 @60Hz CVT or 1920 x 1200 @60Hz CVT-RB) .
Video ouput	1 x DMS 59 connecor
Flash program	1 x D9 socket
Supported devices	Keyboard, mouse & audio devices

Conforms to relevant parts of EN55024, EN55022 and FCC Part 15b

Tempest level B

Designed and built in the UK.



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NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: Re orient or relocate the receiving antenna. Increase the separation between the equipment and receiver. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected. Consult the dealer or an experienced radio/TV technician for help.