

User's Manual

4-Port USB KVM Switch

Version 2.0 15/8/2004

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1. Introduction

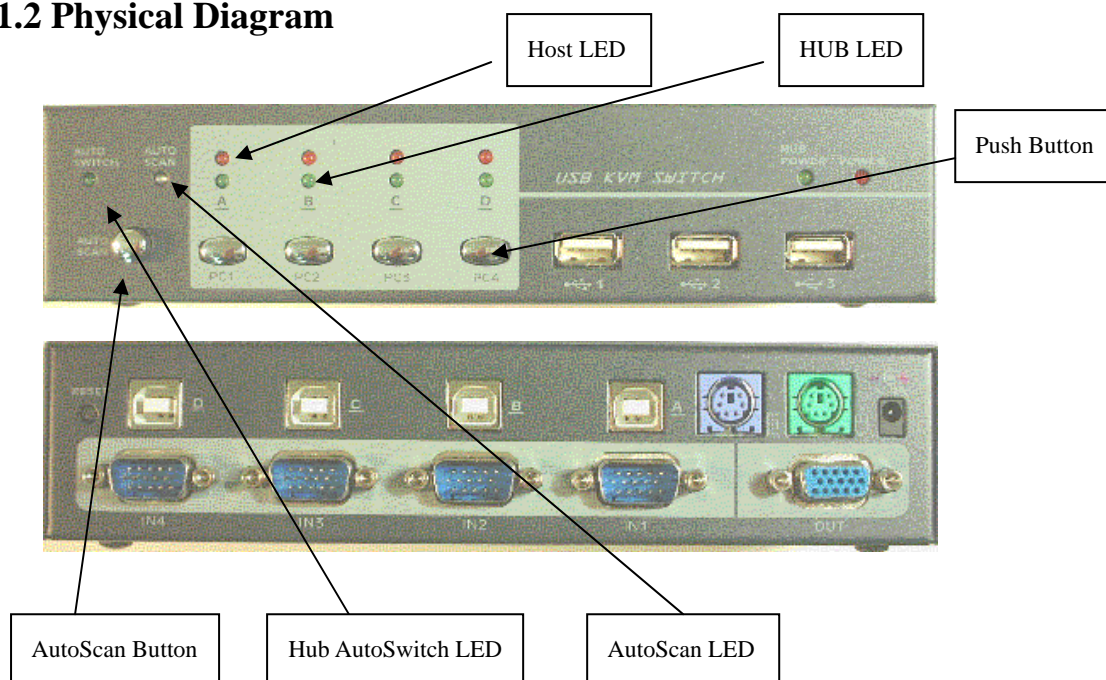
The 4-Port USB KVM Switch allows you to control up to four computers with a single keyboard, mouse, and monitor. For added convenience, this KVM switch works with both USB and PS2 mice and keyboards. The 4-Port USB KVM Switch also features a 3-port USB hub, so any of the four connected computers can share USB devices.

1.1 Features

1. Controls 4 computers from a single console (Keyboard/Mouse) over USB connection using standard USB cables.
2. Supports PS/2 and USB Keyboard/Mouse (Hot-Key function supports only on PS/2 Keyboard).
3. Fully compliant with the USB 1.1 specification.
4. Supports Windows, Linux, Mac OS9/OSX, SunMicro Solaris 8 (For Sun Micro users, the external power adaptor is necessary when using the KVM Switch).
5. Supports 3 USB downstream ports.
6. 4 computers can share 3 USB Downstream ports.
7. Supports 3 types of switching: hardware push button, Hot-Keys on PS/2 keyboard, and On-Screen-Display (OSD) utility software (for Windows only).
8. OSD and LED display for easy status monitoring.
9. OSD utility indicates:
 1. Power status of connected computer(s).
 2. Active host computer.
10. Provide HUB switching in independent method or combination with the host switching(AutoSwitch mode).
11. Auto-Scan function (Time interval can be adjusted between 5-20 seconds when the Auto-Scan function is enable).
12. Supports VGA resolutions up to 2048x1536 @ 85HZ.
13. Plug and Play (Windows 98/SE users might need your Windows CD to install the HID driver for USB Keyboard/Mouse).

4-Port USB KVM Switch

1.2 Physical Diagram



1.3 Package Contents

The product you purchased should contain the equipment and accessories as follows:

1. 4-Port USB KVM Switch
2. CD with user manual and On-Screen-Display(OSD) utility
3. Four sets of USB+VGA cables

2. Specifications

2.1 General

Specification	
Operating Temperature	5~ 40°C
Humidity	0%~80%RH
Cables Included	4
Cable Length	1.8M
Dimensions (LxWxH)	200 x 82 x 44mm
Unit Weight	721g
Number Of Computer Controlled	4
PS/2 Keyboard & Mouse Support	Yes
Keyboard Hot-Key Switching Supported	Yes (By PS/2 Keyboard only)
USB Downstream ports	3
Compliant with USB Version	USB1.0 / USB1.1
Compliant with HID Version	USB HID 1.1
Over-Current protection design for USB Downstream ports	Yes
Power	By Host or External Adaptor (Optional)
Basic Power Consumption	DC 5V
Bus-Power limit current protection	500mA (When external adaptor applied)
Output Voltage	5V
Output Current	2A
OSD (On Screen Display)	Yes (Application Program, Windows only)
DDC, DDC2 monitor	Yes (Max. Resolution: 2048x1536)
Hot Pluggable	Yes (USB & PS/2)
Auto-Scan function	Yes (5 ~20 seconds)
Support Sun Micro Serious	Yes
Support Mac Serous	Yes
Support Linux Serious	Yes
Device driver	No

2.2 LED Indicators

- **Power status LED indicator:**

On (Green): The power is connected and the device is ready to work.

Off: No power is connected.

- **USB Downstream Ports LED Indicator:**

ON (Green): USB ports are ready to work.

Off: USB ports are in over-current condition or are not ready to work.

Note:

If over-current situation happens for certain USB downstream ports, the corresponding USB indicator will turn **OFF** to indicate that these ports is not working now. When over-current situation is solved, the USB indicator will turn **ON** again.

- **Auto-Switch LED Indicator:**

ON: Auto Switch mode is on.

Off(Green): Auto Switch mode is off.

- **Auto-Scan LED Indicator:**

Off: Auto Scan mode is off.

ON (Green): Auto Scan mode is on.

- **PC Host LED Indicator (Red):**

ON: Indicates which Host PC is selected.

- **HUB LED Indicator (Green):**

ON: Indicates which Host connect with the three USB downstream HUB ports.

3. Installation

3.1 System Requirements

- One available USB port and one available VGA port
- Windows 98 or later, Mac OS9/OSX, Solaris 8 (SUN BLADE 100), Linux Kernel 2.3 or later

3.2 Hardware Installation

1. Make sure that the USB port of your computer is enabled and working properly.
2. Connect the USB cable Type-A end to the USB port of your computer, and the USB cable Type-B end to any available port on the KVM Switch.
3. Connect the VGA male-to-female cable between the video port of your computer and video port that corresponds to the USB port you selected in step 2.
4. Repeat steps 1-3 for any other computers you are connecting up. Up to 4 computers can be connected at the same time.
5. Plug the power adaptor cable into the KVM switch if necessary.

3.3 Hot Plugging

The KVM switch supports USB plug & play technology. All the components can be added and removed at any time without the need to shut the unit down.

3.4 Driver Installation (Windows 98/SE only)

After you connect the KVM Switch to your PC, Win 98 will automatically detect the device and prompt for the driver installation. Please install the KVM Switch by following the instructions from **Step A-E**. Please have your Windows 98 CD ready.



A. Press “Next” to Continue.
(Ref. Fig. A)

Fig. A

4-Port USB KVM Switch

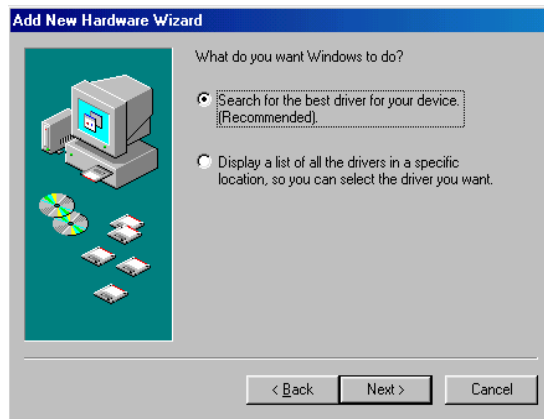


Fig. B

B. Select “Search for the best driver for your device” and press “Next” to continue.
(Ref. Fig. B).



Fig. C

C. Please insert the “Windows 98” CD into your CD-ROM drive. Click “CD-Rom drive” and press “Next” to continue.
(Ref. Fig. C)



Fig. D

D. Press “Next” to start the installation process.
(Ref. Fig. D)

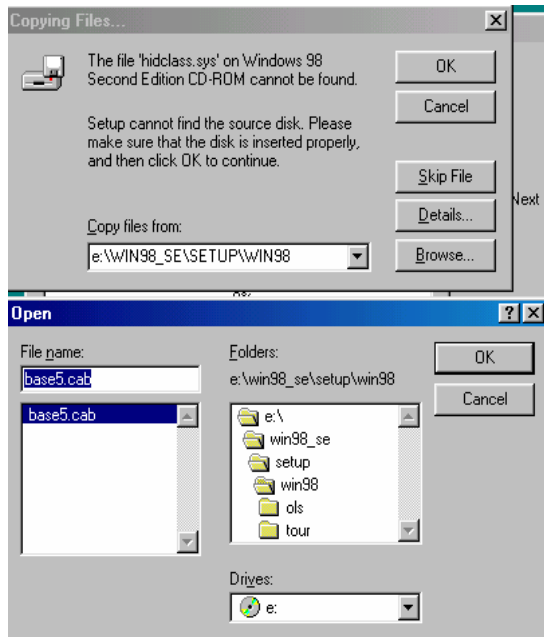


Fig. D1

D1. Sometimes Windows cannot locate the necessary driver automatically. So you need to choose “Browse” to specify the location of the driver on your “Windows 98” CD manually. *
(Ref. Fig. D1)

* The driver might be located in a different directory from the figure above.

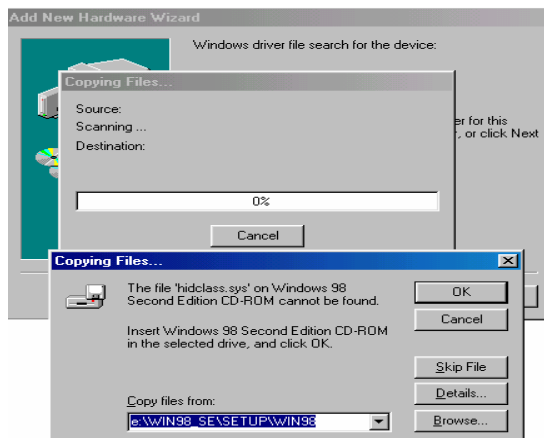
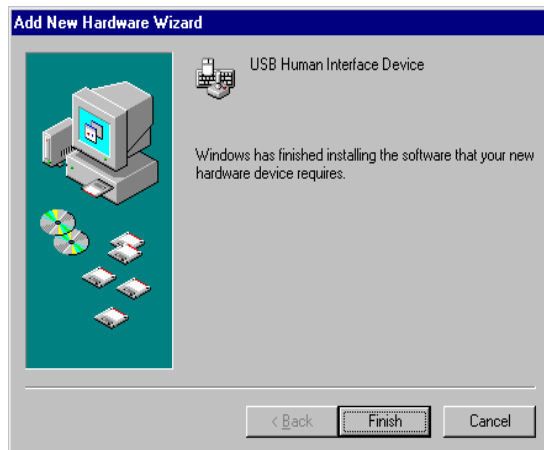


Fig. D2

D2. Press “OK” to continue
(Ref. Fig. D2)



E. Press “Finish” and Windows has finished installing the USB Human Interface Device driver for PS/2 keyboard & mouse. (Ref. Fig. E)

Fig. E

3.5 Using the OSD program

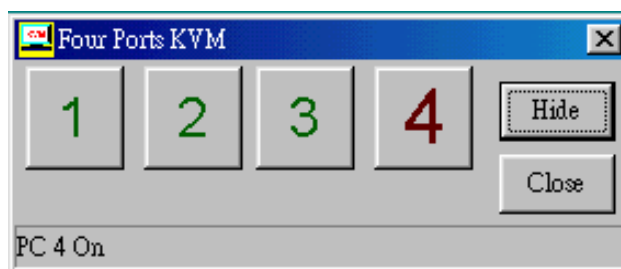


Fig. F

There are four different statuses:

- a. “No PCs Found” means that the KVM Switch cannot acquire the PC status. This is either because the PC did not connect or is powered off. (Ref. Fig. G)



Fig. G

The large red “4” and small green “2” mean that two PCs are connected to Port 1 and Port 4 of your KVM Switch respectively, and you have switched to Port 4 already. So the OSD program will display “PC 4 On” underneath. You can click the “2” to switch to this available host. (Ref. Fig. H)

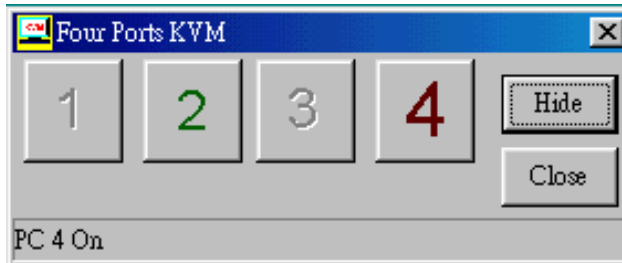


Fig. H

The large red “4” and small green “1, 2, 3” means that four PCs are connected to Port 1 and Port 4 of your KVM Switch respectively, and you have switched to Port 4 already. So the OSD program displays a “PC 4 On” underneath. You can click on “1, 2 or 3” to switch to a certain available host. (Ref. Fig. I)

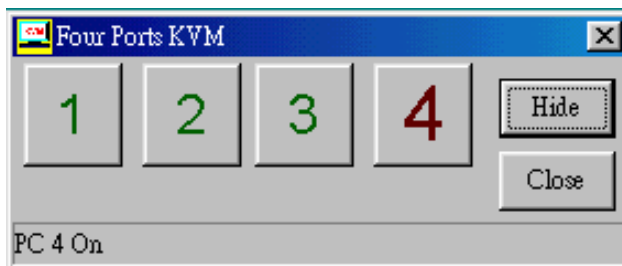


Fig. I

4-Port USB KVM Switch

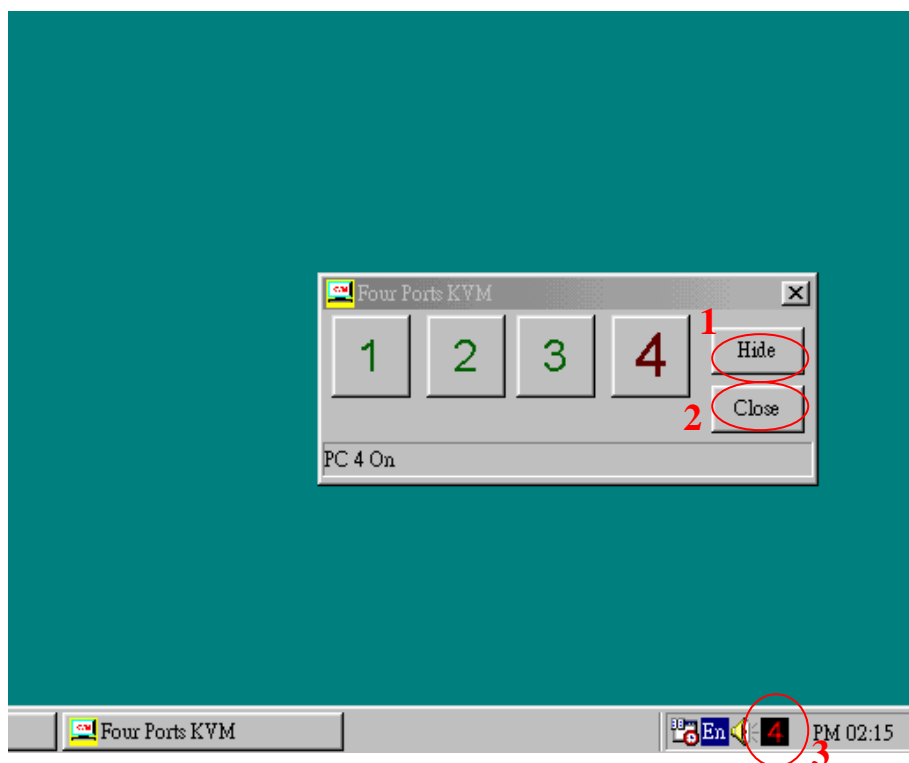


Fig. J

When you click the “Hide” button, the OSD program window will hide in the Taskbar. When you click on the “Close” button, the OSD program will exit. If the OSD program is hidden in the Taskbar, you can use mouse right button to show or exit program.

4. Operation

The KVM Switch supports three methods to switch between computers:

Pushbutton, Hot Keys, and OSD. Due to the refresh of the video and re-synchronization of the mouse and keyboard signal, it will take 1-3 seconds of configure time after each switching. This is normal operation that ensures proper synchronization is established.

Note:

The drivers for most USB devices (Mass Storage device, CCD Cameras, Scanners, Card Reader, Printers, e.g.) are required to be shut down or follow the “**Safely Remove**” command provided in Windows before you disconnect the device in order to avoid system freezes. When you switch computers with the Port Selection Switch, it is the equivalent of disconnecting the device. Therefore, if you have peripheral devices (other than a second keyboard and mouse) connected to these ports, you must be sure to shut down or safely remove the USB driver for them before switching computers.

1. Manual Switch by pushbutton:

You can switch to any other available active USB host connection by simply push the appropriate switch button on the KVM Switch. The LED will be lit to indicate which port is currently selected.

2. Three Step Hot Key Switch by keyboard:

You can switch to any available active USB host connection by using the three step Hot Keys directly, instead of manually selecting by pushbutton. To send commands to the KVM Switch, [Ctrl] must be pressed twice (Step 1 & Step2). Then you can press [1] to [5] (Step 3) to switch between ports. **(Supports PS/2 Keyboard only)**

***After invoking the Hot Key function with the [Ctrl] , [Ctrl] , you must key in the corresponding active key (Step 2) within 3 seconds for each key press.**

Three Steps Hot Key definition table

Step 1	Step 2	Step3	Action
[Ctrl]	[Ctrl]	[H]	USB HUB Auto-Switch mode
[Ctrl]	[Ctrl]	[1]	Switches access to the computer which connecting to host1
[Ctrl]	[Ctrl]	[2]	Switches access to the computer which connecting to host2
[Ctrl]	[Ctrl]	[3]	Switches access to the computer which connecting to host3
[Ctrl]	[Ctrl]	[4]	Switches access to the computer which connecting to host4
[Ctrl]	[Ctrl]	[Q]	Switch the HUB to host1
[Ctrl]	[Ctrl]	[W]	Switch the HUB to host2
[Ctrl]	[Ctrl]	[E]	Switch the HUB to host3
[Ctrl]	[Ctrl]	[R]	Switch the HUB to host4
		*[1]	AutoScan time interval is 5 seconds (Available only when Auto-Scan function is ON)
		*[2]	AutoScan time interval is 10 seconds (Available only when Auto-Scan function is ON)
		*[3]	AutoScan time interval is 15 seconds (Available only when Auto-Scan function is ON)
		*[4]	AutoScan time interval is 20 seconds (Available only when Auto-Scan function is ON)

*** Notice : To adjust the interval time for AutoScan, you do not need to press the CTRL key, and this can be used only by normal number key.**

3. On-Screen-Display (OSD) Switch (Windows only):

You may also use the OSD utility software from the enclosed CD to switch between computers.

* Auto-Switch Function:

When Auto-Switch mode is ON:

When you enable the AutoSwitch mode the KVM will switch the HUB when you switch the host. This means host and HUB will switch together by hotkey, OSD, or push button. This way, the USB devices always follow the host.

There are two ways to turn the HUB Auto-Switch mode ON :

- A). By hot key [Ctrl+Ctrl][H] : please reference the hotkey table in page 14.
- B). Press any host push button continually for 2 seconds when the Auto-Switch mode is OFF. (The Auto-Switch LED will be ON).

When Auto-Switch mode is OFF:

You must switch the hub to the new target host by hotkey.

There are two ways to turn the HUB Auto-Switch mode OFF :

- A). By hot key [Ctrl+Ctrl][H] : please reference the hotkey table in page 14.
- B). Press any host push button continually for 2 seconds when the Auto-Switch mode in ON. (The AutoSwitch LED will be OFF)..

* Auto-Scan Function:

When you press the Auto-Scan button, the KVM Switch switches cycles through all the ports and displays them on the monitor. Each port is displayed for 5,10,15,20 seconds before switching to the next. You can press the normal numeric key 1,2,3,4 to adjust the interval time (Please reference the hotkey table in page 14). If you press the Auto-Scan button again, the monitor screen will jump back to the port that it was started.

Note:

The mouse and keyboard will have no effect in this mode. This is necessary to prevent errors such as erratic movement and wrong characters to display when using the mouse or keyboard accidentally.

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This device generates and uses radio frequency and may cause interference to radio and television reception if not installed and used properly. This has been tested and found to comply with the limits of a Class B computing device in accordance with the specifications in Part 15 of the FCC Rules. These specifications are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this device does cause harmful interference to radio or television reception, which can be determined by plugging the device in and out, the user can try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the device and receiver.
- Connect the computer 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.