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Please read this manual thoroughly and follow the **Installation** procedures to prevent any damage to the KVM Switch or any connecting device.

SYSTEM REQUIREMENT

Due to the variety of computer peripheral ports, you must have the right cables and adapters (if necessary) before attempting to connect anything to KVM switch.

Cables	SW0403C SW0404C	SW0802C SW0803C SW0804C	SW1602C SW1603C
PS/2 (mouse/keyboard) cable (mini-DIN-6 male-to-male)	x8	x16	x32
Standard VGA cable (HD-DB-15 male-to-female)	x4	x8	x16

Peripheral			
PS/2 mouse	x1	x1 / x2	x1 / x2

Adapter

● DIN-5 female to mini-DIN-6 male adapter for your AT keyboard (not necessary if you have a PS/2 keyboard).

● DIN-5 male to mini-DIN-6 female adapter for each computer using AT keyboard (not necessary if the computer has a PS/2 keyboard port).

This device is tested and complies with Part 15 of FCC/class B, CE and VCCI rules.

FC CE VCI

----------------------- *Introduction*

Overview

The KVM Switch allows you to access multiple computers from a set of keyboard, mouse and monitor.   There is no interface card or software to configure.   Installation is as easy as connecting cables to the KVM Switch and your computers.   Operation is as simple as pressing push button, entering hotkey command and navigating through the user-friendly on-screen menu (OSD).   It increases the productivity of server and computer management.   Depending on the model you have, it switches up to 4 (SW0403C/SW0404C), 8 (SW0802C/SW0803C) or 16 (SW1602C) IBM-compatible computers.   The KVM Switch is independent of the computer operating system, allowing the attached computers to run different applications.

The advanced multi-access KVM Switches enable you to control multiple computers from two different locations, remote and local with two sets of keyboard, mouse and monitor.

On-Screen Display (OSD) Menu
For SW0404C, SW0803C, SW0804C
SW1602C & SW1603C models

For KVM Switches with built-in OSD control, you can name your computers, switch to a desired computer from a list, configure settings with easy-to-use menus, view the name of the selected computer on-screen with programmable time interval, etc.   Besides, the OSD displays the system status throughout operation.   Improved technology ensures steady OSD menu between computers of different VGA resolutions and smooth switching without leaving OSD garbage characters on the screen.

Automatic Mouse Conversion

This technology enables you to connect computers with either PS/2 or serial mouse ports to the KVM Switch, and control the computers from one PS/2 mouse.   With a special mouse adapter connected to a computer using serial mouse, the KVM Switch automatically identifies the mouse and switches to proper mouse protocol.

High Video Quality

This KVM Switch supports VGA resolution up to 1920x1440 without any degradation. Besides, advanced VGA circuit design guarantees smooth and flicker-free switching from one computer to the other with distances up to 100ft (30M)* at both Console and PC sides.

NOTE: This User's Manual is written for the following KVM Switches.

KVM Switch Models				
Console port	1	1	1	2	2
PC port	4	8	16	8	16
No OSD	SW0403C	SW0802C	-	-	-
OSD	SW0404C	SW0803C	SW1602C	SW0804C	SW1603C

* Tested with high-quality UL2919-rated, low-loss, and shielded cables.

Features

- ■Supports both PS/2 and serial mouse
- ■Cascade configuration expands system capability
- ■Auto-scan automatically selects computers sequentially
- ■Supports Microsoft IntelliMouse (Pro)
- ■Hot-key functions allow easy computer access
- ■Keyboard states automatically saved and restored when switching computers
- ■Operating system independent, transparent to all applications
- ■Plug and play system configuration
- ■Keyboard and mouse can be hot plugged at any time
- ■High VGA resolution 1920x1440
- ■DDC2B compatible
- ■Optional standard 19 inch rack mounting accessories

Extra features for On-Screen Display model

- ■Assign computers with unique and meaningful names
- ■Identify and select computers by the names
- ■Programmable scan filters unused computers
- ■Store system settings and name entries to non-volatile memory
- ■Password security locks computer from unauthorized access
- ■Gain complete control with easy-to-use OSD interface

More features for multi-access models

- ■Manage multiple computers from two locations
- ■Different Console may have different type of mouse i.e. generic PS/2 mouse and scroll mouse
- ■Selectable User Timeout

Configurations

The KVM Switch has several models supporting different number of computers. For applications requiring a large number of computers, KVM Switches can be cascaded in a master/slave configuration to support even more computers to meet the needs of various organizations.

Single KVM Switch Configuration

Connect a PS/2 keyboard, a PS/2 mouse and a VGA multi-sync monitor directly to the *Master*'s **CONSOLE** port. Then, connect multiple sets of keyboard, mouse and monitor cables to the "**PC** x" ports of the KVM Switch, as shown in figure 1.
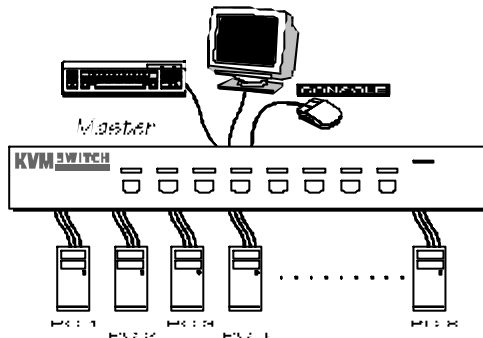

Figure 1: A single KVM Switch configuration

Cascade (Master/Slave) Configuration

You can connect a second level of one or more KVM Switches to "**PC 1**"~"**PC 4**" (SW0403C/SW0404C) or "**PC 1**"~"**PC 8**" ports (SW0802C/SW0803C/SW1602C) of a *Master* unit. Cascade configuration expands system ability allowing you to select computers connected to the *Master* or *Slaves*. There is only one *Master*, which has a mouse, a keyboard and a monitor connected to its **CONSOLE** port directly operated by a user. Once connected, KVM Switches automatically configure themselves to either *Master* or *Slave*. *Slaves* of different KVM Switch models can be mixed in cascade configuration. *[NOTE: Master must have equal or more PC ports than that of Slaves, i.e., if SW0803C is a master, SW0802C, SW0803C, SW0403C and SW0404C can be Slaves, but SW1602C can not.]*
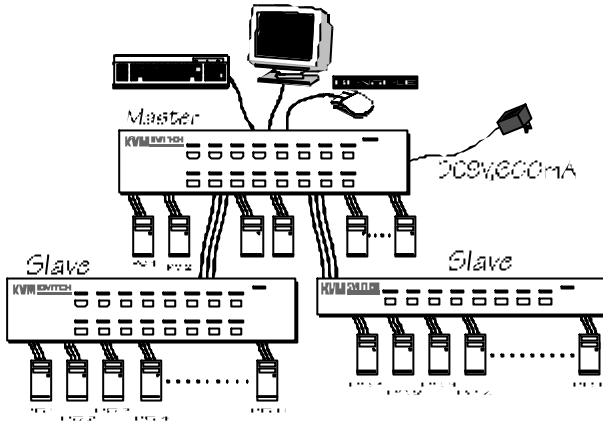
- 4 -

Figure 2: A cascade KVM Switch configuration

Throughout this manual, *Master* is the KVM Switch that has a physical keyboard, mouse and monitor connected to its **CONSOLE** port. *Slave* is a KVM Switch that has its **CONSOLE** port connected to a *Master's* "**PC** x" port. *Slave* only exists in cascade configuration.

----------------------- *Installation*

Device Connection

The monitor connected to the HDB15 VGA port of a *Master* **CONSOLE** must be capable of synchronizing with the computer's video signal. If you are uncertain about the monitor type, please consult the monitor user's manual. Connect a PS/2 mouse and a keyboard to the **CONSOLE** port marked with a mouse and a keyboard respectively as shown in figure 3. *[NOTE: There is no serial mouse for the* **CONSOLE***, just a PS/2 mouse. The KVM Switch's automatic mouse conversion system allows you to connect computers using serial mouse and control the computers from one PS/2 mouse.]*
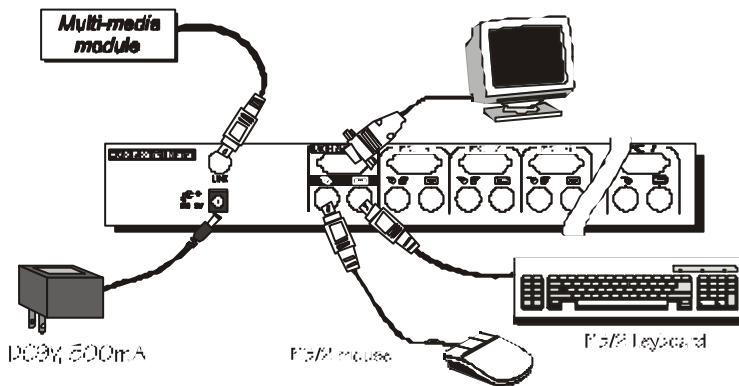

Figure 3: Master console connection

Determine the channel address of each computer. For computers using PS/2 mouse, connect the computer's mouse and keyboard cables to the KVM Switch's connectors marked with a mouse and keyboard respectively, as shown in figure 4.
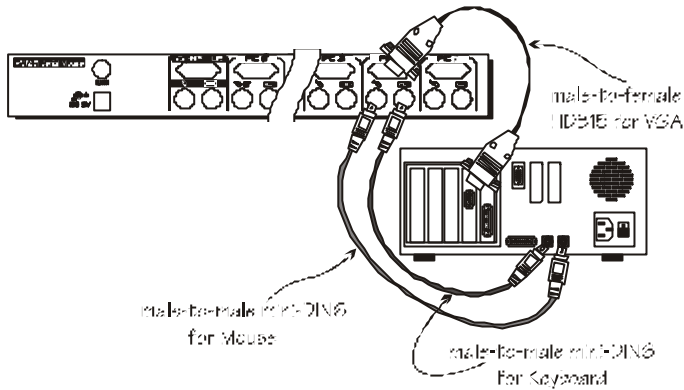
Figure 4: Master computer connection

For computers using serial mouse, connect the DB-9 to mini-DIN-6 adapter (*comes with the KVM Switch*) to the computer mouse port, then use PS/2 cables to connect the mouse to the KVM Switch, see figure 5. Connect the computer's monitor cable to the HDB15 VGA connector. Repeat above steps for all remaining computers to be connected to the KVM Switch. This feature is available for all the ports of a 4-port switch and for 5 ~ 8 ports of an 8/16-port switches.
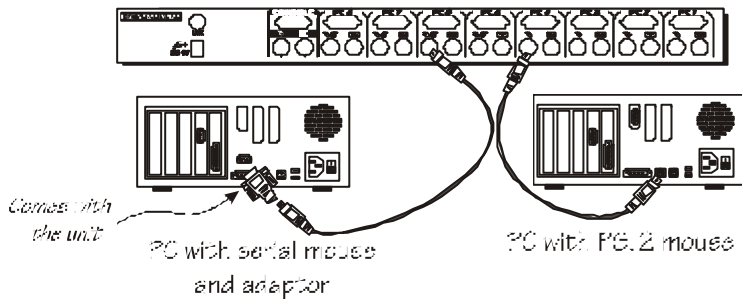

Figure 5: Adapter and serial mouse connection

Initial Power-Up

Make sure all computers and KVM Switches are powered down during installation. You must power up the Master KVM Switch before turning on any other devices.

▸ *For single KVM Switch:* Just turn on the KVM Switch by power adapter.
▸ *For cascade:*
1) Apply a power adapter to the *Master*.
2) Turn on *Master's* computers.
3) Turn on *Slave's* computers.

This procedure ensures the *Master* receive computer settings correctly when computer boots. Therefore, the KVM Switch generates correct responses and allows all computers and *Slaves* to boot successfully without user intervention. Should you decide to expand the system in the future or to replace failed devices, you may hot plug any additional power-downed computer or *Slave* without turning the *Master* off.

Replace Master Console Devices

You can replace a faulty keyboard or mouse of the *Master* **CONSOLE** port at any time without powering down the Master, as long as your computers are booted with proper device driver for the new device. Should you encounter any difficulty, just activate **K/M RESET** by holding the front-panel '**1**' and '**2**' push buttons downs for 3 seconds.

Adhesive Rubber Foot

For desk-top operation, you may stick the four round rubber feet (come with the unit) to the bottom of the KVM Switch. *[NOTE: Do not use the rubber feet for rack mount operation.]*

Optional Rack Mount Accessories

Figure 6 shows how to attach optional mounting brackets to the KVM Switch unit for standard 19-inch rack.   Figure 7 shows how to assemble rack cable support then screw it to the back and inside the rack cabinet vertical post.
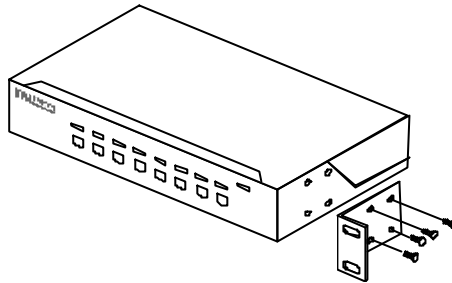

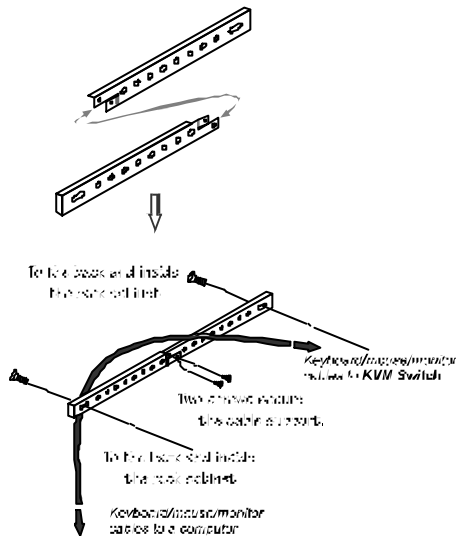*Figure 6: Attaching rack mount bracket*

Figure 7: Assembling rack cable support

Then, keyboard/mouse/monitor cables can be routed over the cable support. You can use plastic cable ties to bundle and label the cables through the rack cable support holes for easy identification.

----------------------- *Operation*

Front Panel Push Buttons

You may select a computer by pressing the front panel push button directly, by issuing hot-key commands or by activating the OSD window. The front panel indicator changes to reflect the computer port selected (red) and whether the port is connected to a powered computer (green). The indicator flashes red when it is in either *Auto Scan* or *Manual Scan* mode. See figure 8 below.
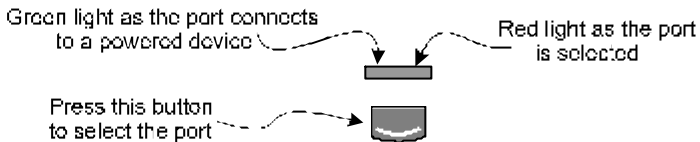

Figure 8: Front panel indictor

Some computers support 'keyboard/mouse power up' function, i.e., press certain keys or mouse buttons to startup the computers. Their corresponding green front indicators lit all the time even if the computers are 'off'.

■ K/M RESET

K/M RESET is a very handy function that solves most problems developed by keyboard, mouse, device replacement, change of configuration, etc. You may press down both the front-panel number **1** and **2** push buttons for 3 seconds to re-configure the whole system without turning either KVM Switch or any computer off. The end of **K/M RESET** is recognized when keyboard's *Num Lock, Caps Lock* and *Scroll Lock* LEDs flash.

■ AUTO SCAN

The KVM Switch provides an easy to use feature to start *Auto Scan*ning. You can press down both the front-panel number **7** and **8** buttons for 2 seconds to start Auto Scanning.

OSD (On-Screen-Display) Operation

SW0404C, SW0803C, SW1602C
SW0804C & SW1603C
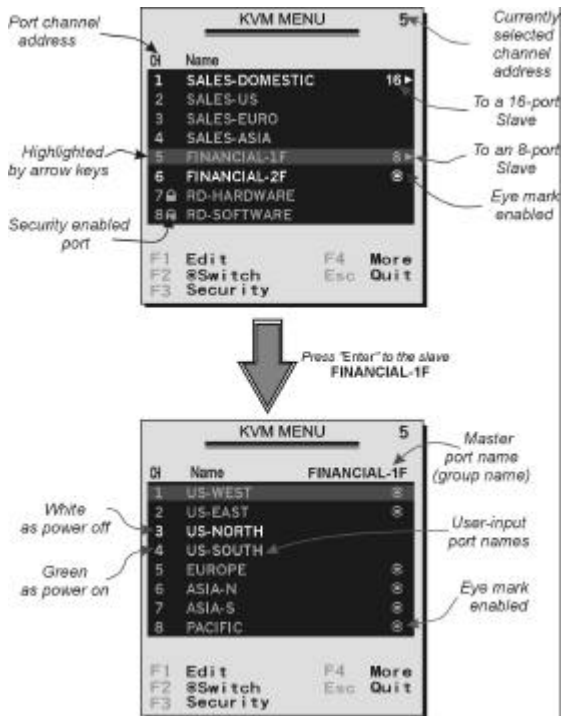
Figure 9: OSD screen illustration

By hitting the left <CTRL> key twice within two seconds, you may see the '**Hotkey Menu**' if it is enabled (an OSD option). Or, by hitting the left <CTRL> key three times within two seconds, you will see a **KVM MENU**' screen showing a list of the computers with corresponding port numbers, names and status, see figure 9. The OSD menu of a 4-port KVM switch looks slightly different.

The port number of the currently selected computer is displayed in red, same as the front indicator, at the right corner of the OSD menu.

The color of a device name is green if it has power and is ready for operation, or the color is white as it has no power. OSD menu updates the color when it is activated. The <PageUp> and <PageDown> keys can be used to view 8 other computers at a time, not effective for a 4-port KVM switch.

Use the "**?**", "**?**", "1" ~ "8" or "A" ~ "H" to highlight a computer and the <ENTER> key to select it. Or, you may press <ESCAPE> to exit OSD and remove the OSD menu from the display; the status window returns to the display and indicates the currently selected computer or operating status. For a 4-port KVM switch, you can only use the "**?**" and "**?**" arrow keys to highlight a computer.

A triangle mark (▸) to the right of a name indicates the port is cascaded to a *Slave*; the number at the left of the triangle mark shows the number of ports the *Slave* has, i.e. **8** ▸ for an 8-port switch. <ENTER> key brings you one level down and another screen pops up listing the names of the computers on that *Slave*. The name of the *Slave* will be shown at the upper right corner of the OSD menu. It is useful to group computers and still be able to see the group name.

An eye mark (👁) to the right of a name indicating the computer is selected to be monitored in Scan mode. In OSD, this mark can be switched on or off by function key <F2>.

Press <ESCAPE> key to exit OSD and to return to the selected computer; the computer name is also shown on the screen.

● <u>Function key <F1></u>: To edit name entry of a computer or a *Slave* with up to 14 characters. For 4-port KVM switches, the maximum number of character is 8. First, highlight a port then press <F1> followed by name entry. Valid characters are 'A'~'Z', '0'~'9' and the dash character. Lowercase letters are converted to uppercase ones. Press <BACKSPACE> to delete a letter one at a time. Non-volatile memory stores all name entries until you change, even if the unit is powered down.

● <u>Function key <F2></u>: To switch the eye mark (👁) of a computer on or off. First, use the <UP> and <DOWN> arrow keys to highlight it, then press <F2> to switch its eye mark on or off. If *Scan Type* is **Ready**

**PC +**👁', only the power-on and eye mark selected computers will be displayed sequentially in Scan mode.

● <u>Function key <F3></u>: To lock a computer from unauthorized access. To lock a device, highlight it then press <F3>.   Now, enter up to 4 characters ('A' ~' Z', '0' ~' 9, '-') followed by <ENTER> as new password. A Security-enabled device is marked with a lock (🔒) following its port number. To permanently disable the security function from a locked device, highlight it, press <F3> then enter the password. For a 4-port KVM switch, only one port can be locked by password.

If you want to access the locked device temporarily, simply highlight it and press <ENTER>, the OSD will ask you for the password.   After entering the correct password, you are allowed to use the device.   This device is automatically re-locked once you switch to another port. During Scan mode, OSD skips the password-protected devices.

If you forget the password, the only way to permanently erase all the passwords is to:
Press and hold the front panel buttons "1" and "2", then hold "7" and "8". Release "7" and "8", then release "1" and "2".

For 4-port KVM switches: If you forget the password, the only way to permanently disable the security function is to remove all possible power sources from the master KVM switch. You need to turn off all computers and unplug the power adapter, then restart everything.

● <u>Function key <F4></u>: More functions are available by hitting <F4>. A new screen pops up displaying more functions as described below. Most of them are marked with a triangle (▶) indicating there are options to choose from. Using the <UP> and <DOWN> arrow keys, select the functions and press <ENTER>. Available options will be shown in the middle of the screen. Again, using the <UP> and <DOWN> arrow keys to view options then press <ENTER> to select it. You can press <ESCAPE> to exit at any time.

■ *Auto Scan*
In this mode, the KVM Switch automatically switches from one power-on computer to the next sequentially in a fixed interval. During *Auto Scan* mode, the OSD displays the name of the selected computer.   When *Auto Scan* detects any keyboard or mouse activity, it suspends the scanning till the activity stops; it then resumes with the next computer in sequence. To abort the *Auto Scan* mode, press the left <CTRL> twice, or, press any front button. *Scan Type* and *Scan Rate* set the scan pattern. *Scan Type* (<F4>: More\Scan Type) determines if scanned computers must also be eye mark selected. *Scan Rate* (<F4>: More\Scan Rate) sets the display interval when a computer is selected before selecting the next one.

■ *Manual Scan*
Scan through power-on computers one by one by keyboard control. Scan Type (<F4>: More\Scan Type) determines if scanned computers must also be eye mark selected. Press the up arrow key ( ) to select the previous computer and the down arrow key ( ) to select the next computer.   Press any other key to abort the Manual Scan mode.

■ *Audio Stick*
An optional multimedia module can be LINKed to the back of each KVM switch for selecting microphone and stereo speaker signals. There are two options for *Audio Stick*: **ON** and **Off**. When set to '**On**', audio selection follows computer selection. When set to **Off**', audio selection stops following computer selection. It is useful if you want to listen to a particular computer's audio signal while operating other computers. The non-volatile memory stores the *Audio Stick* setting.

■ *Scan Type*
Ready PC +👁: In Scan mode, scan through power-on and eye mark selected computers.

Ready P C: In Scan mode, scan through power-on computers.

👁 **Only**: In Scan mode, scan through any 👁 selected computer regardless of computer power status. This option is not available for 4-port KVM switches.
The non-volatile memory stores the *Scan Type* setting.

■ *Scan Rate*
Sets the duration of a computer displayed in *Auto Scan* mode. The options are **3 seconds, 8 seconds, 15 seconds and 30 seconds**. The non-volatile memory stores the *Scan Rate* setting.

■ *Keyboard Speed*
KVM Switch offers keyboard typematic setting that overrides the similar settings in BIOS and in Windows. Available speed options are **Low**, **Middle**, **Fast** and **Faster** as 10, 15, 20 and 30 characters/sec respectively. The non-volatile memory stores the Keyboard Speed setting.

■ *Hotkey Menu*
When you hit the left <CTRL> key twice within two seconds, the "Hotkey Menu" appears displaying a list of hot-key commands if the option is **On**. The 'Hotkey Menu' can be turned **Off** if you prefer not to see it when the left <CTRL> key is hit twice. The non-volatile memory stores the Hotkey Menu setting.

■ *CH Display*
Auto Off: After you select a computer, the port number and name of the computer will appear on the screen for 3 seconds then disappear automatically. Always On: The port number and name of a selected computer and/or OSD status displayed on the screen all the time. The non-volatile memory stores the CH Display setting.

■ *Position*

The position of the selected computer name and/or OSD status displayed on screen during operation.   The actual display position shifts due to different VGA resolution, the higher the resolution the higher the display position.   The non-volatile memory stores the Position setting.

Upper Left (**UL**),   **Upper Right** (**UR**),
Lower Left (**LL**),   **Lower Right** (**LR**).
Middle   (**MI**).

● <u>ESC</u>: To exit the OSD, press the <ESCAPE> key.

Hotkey commands

Hotkey command is a short keyboard sequence to select a computer, to activate computer scan, etc. The KVM Switch interprets keystrokes for hot-keys all the time. A hotkey sequence starts with two left <CTRL> keystrokes followed by one or two more keystrokes. A built-in buzzer generates a high-pitch beep for correct hot-key command; otherwise, one low-pitch beep for error and the bad key sequence will not be forwarded to the selected computer.

The short form hot-key menu can be turned on as an OSD function (<F4>: more\Hotkey Menu) every time the left <CTRL> key is pressed twice.

> **L-CTRL**: is the <CTRL> key located at the left side of the keyboard.
> **1~8/A~H**: are the number keys '1' ~ '8' at the upper row of the keyboard and character keys 'A' ~ 'H' case insensitive. *Do not use the keypad at the right of the keyboard.*

■ To select a computer by hot-key command, you must know its channel address, which is determined by the connection at the back of the KVM Switch. For a computer connected to a *Master*, its address is represented by the PC port label (1~8 or A~H). For a computer connected to a *Slave*, two characters represent its address. The first character is the channel address of the *Master* unit (1~8) and the second one is the channel address of the *Slave* (1~8 or A~H). Please note that only *Master's* 'PC 1' ~'PC 8' ports can be connected to a *Slave*.

> Left ***Ctrl*** + left ***Ctrl*** + ***7***

Selects a computer connected to port 7 of the *Master*.

> Left ***Ctrl*** + left ***Ctrl*** + ***6*** + ***C***

Selects a computer connected to port C of a *Slave* connected to port 6 of the *Master*.

■ To start *Auto Scan*, automatically scan <u>power-on</u> computers one by one at a fixed interval:

> left ***Ctrl*** + left ***Ctrl*** + ***F 1***

When *Auto Scan* detects any keyboard or mouse activity, it suspends the scanning till activity stops; it then resumes with the next computer in sequence. The length of the *Auto Scan* interval (*Scan Rate)* is adjustable, see below. To abort the *Auto Scan* mode, press the left ***Ctrl*** key twice.

Note: For OSD models, *Scan Type* determines whether eye mark is necessary during *Auto Scan*.

- *Manual Scan* enables you to manually switch back and forth between power-on computers.

  left *Ctrl* + left *Ctrl* + *F2*

  Press or to select the previous or the next computer in sequence. And, press any other key to abort the *Manual Scan*.

  Note: For OSD models, *Scan Type* determines whether eye mark is necessary during *Manual Scan*.

- To adjust *Scan Rate* which sets the duration before switching to the next computer in *Auto Scan*:

  left *Ctrl* + left *Ctrl* + *F3*

  The KVM Switch sends one to four beeps indicating scan interval of *3*, *8*, *15* and *30* seconds respectively.

- To adjust keyboard typematic rate (characters/sec), this setting over-rides that of BIOS and any operating system:

  left *Ctrl* + left *Ctrl* + *F4*

  The KVM Switch generates 1 to 4 beeps corresponding to *10*, *15*, *20* and *30* characters/sec respectively.

- *Audio Stick*

  An optional multimedia module can be LINKed to the back of each KVM Switch for selecting microphone and stereo speaker signals. There are two options for *Audio Stick*: **ON** and **Off**. When set to '**On**', audio selection follows computer selection. When set to '**Off**', audio selection stops following computer selection. It is useful if you want to listen to a particular computer's audio signal while operating other computers.

  left *Ctrl* + left *Ctrl* + *F5*

  The KVM Switch generates 1 or 2 beeps corresponding to *On* and *Off* respectively.

-------------- *Cascade Configuration*

Connection

Before connecting a device (a computer or a Slave) to the Master under power, you must turn off the device. The Master must have equal or more 'PC x' ports than that of the Slave, i.e., if an 8-port KVM Switch is the master, 4- or 8-port KVM Switch can be Slaves, but 16-port KVM Switch can not.

The ports labeled "**PC 1**"~"**PC 8**" can be connected to either a computer or a *Slave*'s **CONSOLE** port, as shown in figure 10. The ports "**PC A**"~"**PC H**" can only be connected to a computer. A power adapter with DC 9V/500mA output rating must be connected to the *Master*.
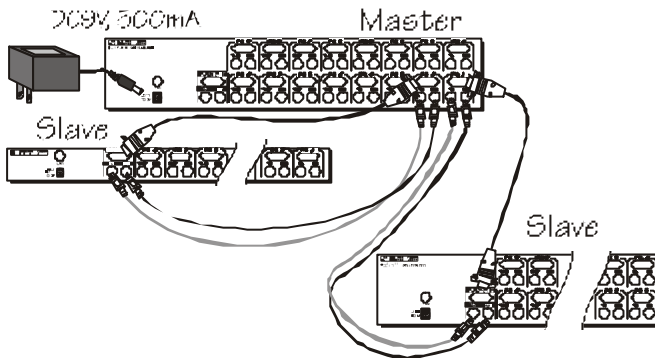

Figure 10: Slave console connection

The maximum number of computers controlled by a master/slave configuration with all SW0403C and SW0404C is 16 with 4 *Slaves* and each *Slave* connects to 4 computers, see figure 11. For an all SW0802C/SW0803C configuration, the number is 64 with 8 *Slaves* and each *Slave* connects to 8 computers, see figure 12. For an all SW1602C configuration, the number is 136, see figure 13. The *Master* SW1602C connects to 8 *Slaves* and 8 computers, and each *Slave* connects to 16 computers.
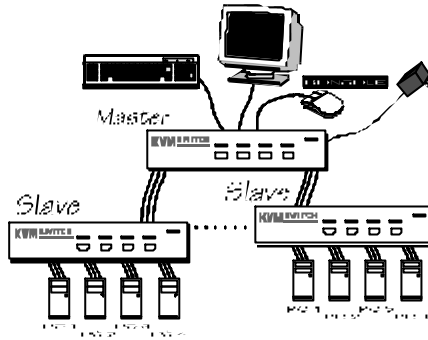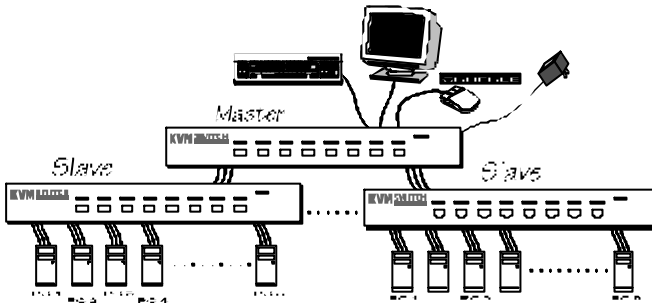
Figure 11: Cascaded 4-port KVM Switches
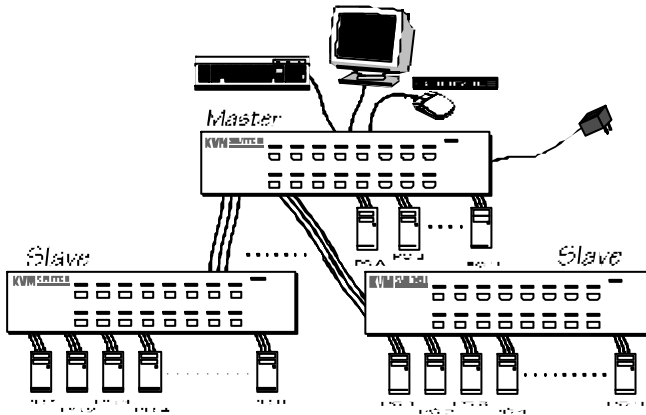

Figure 12: Cascaded 8-port KVM Switches

Figure 13: Cascaded 16-port KVM Switches

> **_For OSD model:_**
> After connection completes, you should re-activate the OSD menu to check if the *Master* recognizes the *Slaves*. A triangle mark (▶) is placed to the right of the channel name indicating the port is connected to a *Slave not* a computer. A number to the left of the triangle mark indicates the *Slave* model, i.e. **8** ▶ for SW0802C or SW0803C.

Change Configuration while Running

Devices at any '**PC** x' port can be changed at any time after initial power-up. If you change any one of the "**PC 1**" to "**PC 8**" ports connection from a computer to a *Slave* or vice versa, or replace the devices of a port; the OSD will update this change the next time it is activated. *[NOTE: Any new device, a computer or a Slave, must be turned off before it is connected to the Master.]*

# ------------------*Multi-access KVM Switch*

SW0804C & SW1603C

Overview

The advanced multi-access SW0804C and SW1603C have all the features of SW0803C and SW1602C respectively. Both models have two Console ports facilitate you to access multiple computers from two different locations, local and remote. Thanks to the high-drive circuit design, you may connect high quality cables at Console and PC sides for up to 100ft (30M), a definite plus for server room applications. Now you can access all computers either in the server room when you have to physically access the computers such as software upgrade, or away from the server room for everyday use.

Connections:

Connect two sets of keyboards, mice and monitors to the two **CONSOLE** ports. The built-in PS/2 mouse signal translation enables you to connect PS/2 mice of different type to the **CONSOLE** ports, i.e., a generic PS/2 mouse for one **CONSOLE** and a scroll mouse for another.
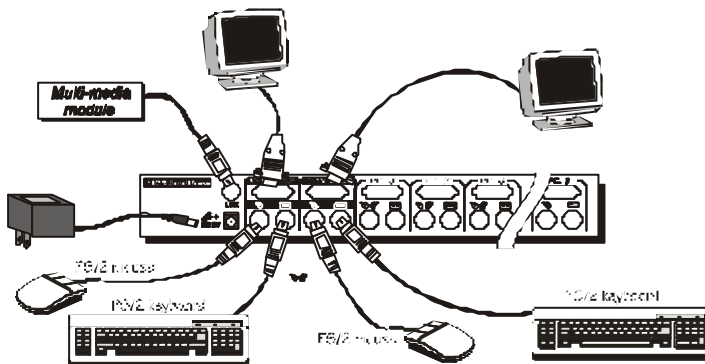
Operation:

On power up, the SW0804C and SW1603C are in Idle mode broadcasting VGA signal from the selected computer to both **CONSOLE**s and detecting for keyboard and mouse activity at both **CONSOLE**s. User LEDs (marked with reverse white **A** and **B**) are both red indicating the KVM Switch is not in use.

When either keyboard or mouse activity is detected at one **CONSOLE**, the KVM Switch immediately disables the other **CONSOLE** from accessing the computer. Only one User LED, at the front panel, remains lit indicating the KVM Switch is under user operation. In the mean time, keyboard LEDs (Num/Caps/Scroll Lock) of the other **CONSOLE** start to flash as its access is denied and the monitor is blocked from VGA signal for security reason. After the user has finished his operation for a period of time (i.e., *User Timeout*), the multi-access KVM Switch returns to Idle mode. *User Timeout* has four options, **5 sec**, **30 sec**, **60 sec** and **HOLD**. Select **HOLD** when you plan to access the KVM Switch for a long time. Pressing the <Scroll Lock> twice forces the KVM Switch return to Idle mode immediately regardless of the *User Timeout* setting.

The *User Timeout* is available in the OSD menu by pressing the Function key <F4>, under the sub-menu **More**. [*Note: **Keyboard Speed** option is not available for multi-access models.]*

Configuration:

To expand the number of computers under control, you may connect **CONSOLE** port of another KVM Switch to '**PC 1**' ~ '**PC 8**' port of the SW0804C and SW1603C. Refer to the chapter *Cascade Configuration* for more details. There are rules to apply for Master/Slave configuration. When SW0804C is a Master, its slave includes SW0403C, SW0404C, SW0802C and SW0803C. When SW1603C is a Master, its slaves includes all the above and SW1602C. Since SW0804C and SW1603C already come with OSD menu, their Slaves do not have to be OSD equipped. For maximum capacity of SW0804C, refer to figure 12 and replace the Master with SW0804C. Likewise, change the Master in figure 13 to SW1603C for its maximum capacity.

----------------------- *Appendices*

Specifications:

Specifications	SW0403C SW0404C	SW0802C SW0803C	SW1602C	SW0804C	SW1603C
User port number	*1*	*1*	*1*	*2*	*2*
Computer port number	*4*	*8*	*16*	*8*	*16*
Cascade control PC number	*Up to 16**	*Up to 64**	*Up to 136**	*Up to 64**	*Up to 136**
On-screen display (OSD)	SW0404C	SW0803C	*Yes*		
Front panel button control	*4*	*8*	*16*	*8*	*16*
Hot plug-and-play	*Yes*				
Hotkey control	*Yes*				
Rack-mount kit	*RMK04*	*RMK08*	*RMK16*	*RMK08*	*RMK16*
Automatic scan interval	*3, 8, 15, 30 seconds*				
Programmable scan pattern	*SW0404C*	*SW0803C*	*Yes*		
Year 2000 compliant	*Yes*				
Cable length (Max)	*30M (100ft) at CONSOLE* *30M (100ft) at PC ports*				
VGA	*1920 x 1440, DDC2B*				
Computer keyboard mouse connector monitor	*PS/2* *PS/2, serial (with adapter)* *HDB15 male*				
Console keyboard mouse connector monitor	*PS/2* *PS/2* *HDB15 female*				
H x W x D (mm) (in.) size	*44x220x130* *1.7x8.7x5.1* *Compact*	*44x436x180* *1.7x17.2x7.0* *1U*	*88x436x220* *3.5x17.2x8.7* *2U*	*44x436x180* *1.7x17.2x7.0* *1U*	*88x436x220* *3.5x17.2x8.7* *2U*
Power supply (min)	*9V DC, 500mA*				

* Cascaded with the same model of KVM Switches. If other models (SW0403C, SW0404C,
SW0802C, SW0803C and SW1602C) are cascaded, you can control up to 136 computers.

Troubleshooting:

Ensure that all cables are well seated. Check that keyboard/mouse cables are not swapped. Label and bundle the cables for each computer to avoid confusion when connected to the KVM Switch.

Symptom	*Possible causes*	*Recommended solutions*
Fuzzy image on monitor	.Loose cable .VGA setting is too high .Loose power adapter	.Secure all VGA cables .Lower the VGA resolution setting, refresh rate and use low-loss, shielded cables .Secure power adapter
No OSD screen	.No power to KVM Switch .Loose monitor connection .Monitor not multi-sync	.Establish power by turning on computers, wait, press left CTRL keys several times. .Reconnect monitor .Use multi-sync monitor
Keyboard error on boot	.Loose keyboard connection	.Make sure keyboard cables are Well seated
Master/slave does not work	.Improper installation procedures	.Make sure slave's CONSOLE is connected to *Master's* PC 1~ PC 8 port .Press and hold the **1** and **2** push buttons to initiate K/M RESET .Remove any possible power supply to the slave (unplug all cables), before connecting it to the *Master*
Keyboard strokes shifted	.The computer was in shifted state when last switched	.Press both SHIFT keys
The and keys do not work in *Manual Scan*	.All PCs are off or only one PC is turned on. Scan mode works for power-on computers only .*Scan type* is eye mark selected but no PC is eye mark selected in OSD.	.Turn computers on. .Press any other key to abort *Manual Scan* mode. .Set proper *Scan type* in OSD and determine which PCs are eye mark selected, do it in OSD.
Mouse does not work properly	.Improper mouse drive .Non-ps/2 mouse	.Make sure you have the latest mouse driver and only one driver installed. .Use standard PS/2 mouse or Intellimouse. Some scroll mouse, dual-wheel mouse,4-button mouse, cordless mouse are not PS/2 standard. .Remove any mouse driver from config. Sys or autoexec.bat.

Auto Scan does not switch PC and KVM Switch beeps from time to time and red indicator flashes	.All PCs are off or only one PC is turned on. Scan mode works for power-on computers only .*Scan type* is eye mark selected but no power-up PC is eye mark selected in OSD.	.Turn on computers .Set proper *Scan Type* in OSD and determine which PCs are eye mark selected, do it in OSD. .Press left CTRL key twice to abort *Auto Scan* mode. .Press any front button to select a PC, and *Auto Scan* stops.
.Double OSD images at cascade configuration	.Improper slave connection procedure.	.Press push buttons 1 and 2 down for 3 seconds to activate K/M RESET. . Remove any possible power supply to the *Slave* (unplug all cables), before connecting it to the *Master.*
OSD menu is not at the proper position	.OSD menu has fixed resolution and its size varies due to different computer VGA resolution.	.Use <F4>:More\Position to select UL or UR. OSD menu may appear near the middle of the screen when LL or LR is selected.
Computer can not use serial mouse	.Loose mouse adapter .Incorrect mouse adapter	.Secure the mouse adapter to computer's COM port .Use only the mouse adapter comes with the unit
Can not select a computer connected to a slave	.Improper *Master* unit connection .Improper slave unit connection .Too many levels of slaves	.Only *Master* ports PC1~PC8 can be connected to slaves. .Connect slave CONSOLE port to PC1~PC8 ports of the *Master* .Only one level of slave units is allowed. Pop up OSD again to check if *Master* recognizes the slave connection. Look for triangle mark and the number before it.
The KVM Switch fails to function occasionally.	.Computers do not supply enough power.	.Add a power adapter with minimum of 9V DC 500mA output rating to the SPARE power jack.

FCC Statement

This equipment has been test 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 instruction, 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 cab 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:

-Reorient or relocate the receiving antenna.

-Increase 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 technician for help.

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