STACKABLE

4 / 8 / 16 PORT PS2 KVM SWITCH

USER' S MANUAL

PC / Mac / Sun

Multi Platform

Rev 1.1

TABLE OF CONTENTS

Introduction

Thank you for purchasing KVM switch. KVM switch can save your MONEY, TIME, SPACE, EQUIPMENT and POWER.

Controlling multiple PCs from One Keyboard, Mouse and VGA Monitor. KVM switch is loaded with features such as 19" Rack Mount Size, Daisy Chain up to eight units, On Screen Display Menu, Password security, Searching PC server name, Hot key Control, Front Panel Push Button and Auto Scan Control. It has complete keyboard and mouse emulation for simultaneous PCs boot-up process.

Features

- 4/8/16 port KVM switch is 19" rack mount size design.
- Support Microsoft Intellimouse, Microsoft Intellimouse Explorer, Logitech Net Mouse or the other fully compatible MS mouse.
- Provide Console PS/2 to PC serial mouse conversion
- Support DOS, Win3.X, Win95/98/98SE/2000/ME/XP, WinNT, Netware, SCO Unix, HP Unix, Linux
- Hot Plug - Add PCs or Remove Connected PCs for Maintenance without Powering Down the KVM switch or PCs.
- Very High Video Quality - Up To 1920X1440, Bandwidth: 200MHz
- No Software Required - easy PC selection via On Screen Display Manual, Push Buttons, Hot Keys
- Support eight characters password protection and search PC server name
- Auto Scan Mode for monitoring PCs and flexible Scan time from 5~99 seconds
- Keyboard status restored when switching PCs
- LED Display for easy status monitoring
- Buzzer sound for switching port confirmation.
- Using Standard Keyboard, VGA, Mouse cable.
- Built-in one extra daisy chain port and no waste any PC port
- No DIP switch setting needed and auto detect daisy chain bank

Package Contents

4 port KVM Switch

4 port KVM Switch	1 PCS
User' s manual	1 PCS
AC to DC Power Adapter	1 PCS
Stack Kit	1 SET
Daisy Chain Cable	1 SET

8 port KVM Switch

8 port KVM Switch	1 PCS
User' s manual	1 PCS
AC to DC Power Adapter	1 PCS
Stack Kit	1 SET
Daisy Chain Cable	1 SET

16 port KVM Switch

16 port KVM Switch	1 PCS
User' s manual	1 PCS
AC to DC Power Adapter	1 PCS
Stack Kit	1 SET
Daisy Chain Cable	1 SET

Technical Specifications

Model No.	4 port KVM Switch	8 port KVM Switch	16 port KVM Switch
PC Port	4	8	16
Console Port	1	1	1
PC Port Connector (All Female Type)	PS/2 Keyboard mini Din 6 pin PS/2 Mouse Mini Din 6 pin VGA HDDB 15pin		
Console Port Connector (All Female Type)	PS/2 Keyboard mini Din 6 pin PS/2 Mouse Mini Din 6 pin VGA HDDB 15pin		
Daisy Chain Port Connector (All Female Type)	PS/2 Keyboard mini Din 6 pin PS/2 Mouse Mini Din 6 pin VGA HDDB 15pin		
PC selection	On Screen Display Menu, Hot Key, Push Button		
7 segment LED	One Bank LED, Two PC Port LEDs		
On Screen Display Control	Yes		
Scan Intervals	5~99 Sec.		
Keyboard Emulation	PS2		
Mouse Emulation	PS2		
Mouse Conversion (Only Console port to PC port)	Console PS/2 to each PC port serial mouse		
VGA Resolution	1920X1440		
Bandwidth	200MHz		
Daisy Chain MAX Level	8 levels		
MAX PC Connection	116	120	128
Housing	Metal		
Power Adapter	DC 12V 1A or DC 9V 1A		
Operation Temperature	0~40		
Storage Temperature	-20 ~ 60		
Humidity	0~80%, Non-Condensing		
Size	19" Rack Mount / 1RU	19" Rack Mount / 1RU	19" Rack Mount/ 2RU
Weight (kg)	1.3kg	2.2kg	3.5kg
Dimension (cm)	41(L) X 16.5(W) X 4.4(H)	41(L) X 16.5(W) X 4.4(H)	41(L) X 22.5(W) X 8.9(H)

System Requirements

Specifications:

Model No.	4 port KVM Switch
Console side	One VGA Monitor One PS/2 Keyboard One PS/2 Mouse
Computer side	4 HDB 15 pin male to male VGA cables 4 PS/2 cables male to male for Keyboard 4 PS/2 cables male to male for Mouse

Model No.	8 port KVM Switch
Console side	One VGA Monitor One PS/2 Keyboard One PS/2 Mouse
Computer side	8 HDB 15 pin male to male VGA cables 8 PS/2 cables male to male for Keyboard 8 PS/2 cables male to male for Mouse

Model No.	16 port KVM Switch
Console side	One VGA Monitor One PS/2 Keyboard One PS/2 Mouse
Computer side	16 HDB 15 pin male to male VGA cables 16 PS/2 cables male to male for Keyboard 16 PS/2 cables male to male for Mouse

Cable Diagrams

PS/2 Cable:
Mini Din 6 pin Male to Male

VGA Cable:
HDB15 pin Male to Male

AT to PS/2 keyboard adapter: (Optional)
Din 5 pin Male to Mini Din 6 pin Female

PS2 to DB9 adapter (Optional)
Mini Din 6 pin Female to DB 9 pin Female

Product Details

Front Panel & Rear Panel of 4 port KVM Switch:

Front Panel & Rear Panel of 8 port KVM Switch:

**Front Panel & Rear Panel of 16 port KVM Switch:**

Hardware Installation

Before installation, please make sure all of peripherals and computers have been turned off. This example of installation is based on 8 port KVM Switch and you also can think that 4 port KVM Switch and 16 port KVM Switch have the same installation procedures

Step 1

Find a convenient place to put your KVM Switch. Its 19" rack mount form factor makes it ideal stackable on 19" rack. When stacking to a rack, attach the included brackets to the sides of the KVM Switch. Take note of the length of your cables so that your computers, KVM Switch, keyboard, mouse and monitor are distanced properly.
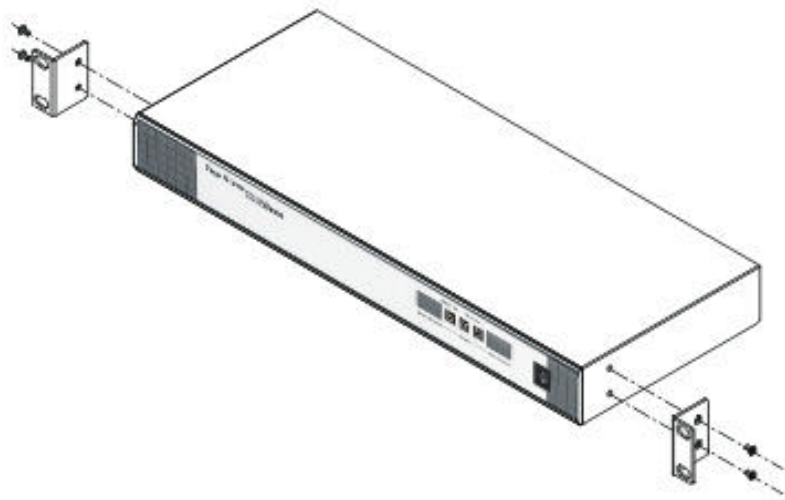
Step 2

Connect the monitor to the KVM Switch. Using the attached cable, or the one included with your monitor, connect it to the HD DB-15 female port on the back of the KVM unit labeled with the monitor symbol at the CONSOLE port connector.

Step 3

Connect the keyboard to the KVM Switch. If you have an AT type keyboard, you will need an AT to PS/2 adapter.

Step 4

Connect the mouse to the KVM Switch.

Step 5

Now the PC connections will be made with the monitor (VGA) connections first. Connect a VGA cable (15-pin HDDB Male / Male) with the Male side to both of the PC and the rear panel of the KVM switch to the connector labeled VGA. Repeat this for all PCs.

The rear side of PC

Step 6

Connect the first computer's mouse cable to the KVM Switch. If using a PS/2 cable, connect one end to the PS/2 mouse port on the computer, and the other end to the PC1 PS/2 mouse port on the back of KVM Switch. If using a serial mouse cable (optional), connect one end to a DB-9 serial port on the computer, and the other end to the PC1 DB-9 serial mouse port on the back of the KVM Switch. If you need Serial DB-9 to PS2 Mini Din 6 pin adapter, please contact your supplier.

The rear side of PC

Step 7

Connect the first computer's keyboard cable to the KVM Switch. Using another PS/2 cable connect one end to PS/2 keyboard port on the computer, and the other end to the PC1 keyboard port on the back of KVM unit. If your computer has an AT type keyboard port, you will need a PS/2 to AT keyboard adapter.

The rear side of PC

Step 8

Double-check all of the connections. You can check the color of keyboard and mouse connector to make sure the keyboard and mouse cables go to the correct ports.

Step 9

Repeat step 5 to 7 for the remainder of the computers.

Step 10

Attach the power supply to the KVM unit and plug the other end into an electrical receptacle. Now you will see the LED for Port 1 light up, and you will hear a beep. Switch on your monitor.

NOTE:

Please be remind to plug in power adapter. Although the PCs connected to KVM Switch are able to support enough power to the stand alone switch, KVM Switch still needs a power adapter for daisy chain more banks. If you forget to plug in power adapter on the status of daisy chain, it may cause the unexpected status occurred.

Usage

The power on state of 4/8/16 port KVM switch:

When you power on KVM switch, it will ask you the password, **the default password value is eight zero –" 00000000 "**. Please key in eight zero and enter the same value at retype field.

Note: Before you are not familiar with the operation of OSD menu, please don' t change the password – i.e. keep default eight zero (00000000) value. Otherwise, if you have set the password and unfortunately forget the password, you need send it back to your distributor for maintaining the password.

The Push Buttons ▭ **:**

Pressing the button cyclically through all the ports.
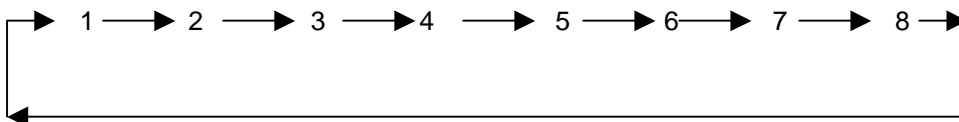
4 port KVM Switch
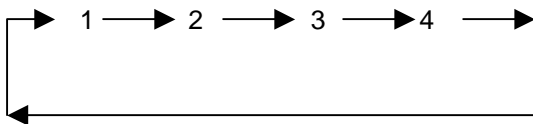
LED Indication:

You can press the button in order like mentioned-above diagram.

When you select one of four PC ports and this PC is shut down or this PC port is disconnected to the PC, the selected port LED will flash. When you select one of four PCs ports and this PC is powered on, the selected port LED is lit.
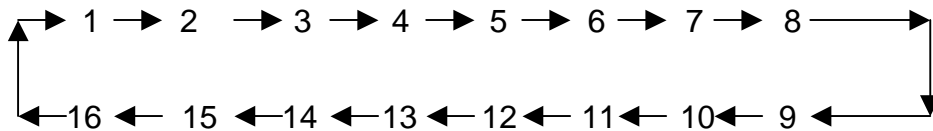
8 port KVM Switch

7-Segment LED Indication 🔲 **:**

You can press the button in order like mentioned-above diagram.

When you select one of eight PC ports and this PC is shut down or this PC port is disconnected to the PC, the selected port LED will flash. When you select one of eight PCs ports and this PC is powered on, the selected port LED is lit.

16 port KVM Switch

```
      ┌──► 1 ─► 2 ─► 3 ─► 4 ─► 5 ─► 6 ─► 7 ─► 8 ───────┐
      │                                                 │
      │                                                 ▼
      └── 16 ◄─ 15 ◄─ 14 ◄─ 13 ◄─ 12 ◄─ 11 ◄─ 10 ◄─ 9 ◄┘
```

7-Segment LED Indication 　8. :

You can press the button in order like mentioned-above diagram.

When you select one of sixteen PCs ports and this PC is powered on, the selected port LED is lit. When you select one of sixteen PC ports and this PC is shut down or disconnected a PC, the selected port LED will flash.

Reset Button (▢ (Bank Select) and ▢ (Port Select)):

To press both "select" button and "bank" button of master bank simultaneously can reset KVM switch. This reset action will not only return KVM switch back to initial state --- Check the password, but also re-check all of slave banks which connected to mast KVM Switch.
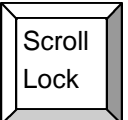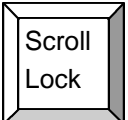
If you add a new KVM Switch as a slave bank, please use reset button of master KVM Switch to automatic assign a new ID to it. You can view this new slave bank go through OSD menu. The PC ports of KVM Switch does not be reset by reset command.
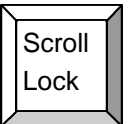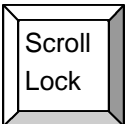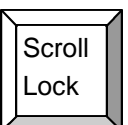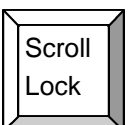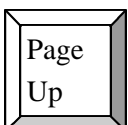
Keyboard Hot Key Commands:

You can also conveniently command KVM switch by switching ports through simple key sequences. To send commands to KVM switch, **the "SCROLL LOCK" key must be pressed twice within 2 seconds.** You will hear a beep for confirmation and the keyboard is in hot key mode. If you have not pressed any key in hot key mode within 2 seconds (It means to key in any key follows up "Scroll Lock" "Scroll Lock" key), the keyboard will back to under Operation System control state.
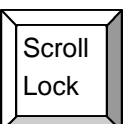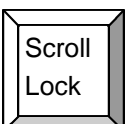
Below are the different hot key commands:

```
   ┌──► within 2 seconds ◄──┐
```

| Scroll Lock | + | Scroll Lock | + | ▯ | = | Previous Channel |

| Scroll Lock | + | Scroll Lock | + | ▯ | = | Next Channel |

(Note: You also could press "up arrow key" or "down arrow key" longer time to speed up selecting the destination port)

| Scroll Lock | + | Scroll Lock | + | Page Up | = | Previous Bank |

| Scroll Lock | + | Scroll Lock | + | Page Down | = | Next Bank |

To select PC port:

Scroll Lock	+	Scroll Lock	+	Bank No		Port No		Port No. 1~4 (4 port) 1~8 (8port) 1~16 (16 port)

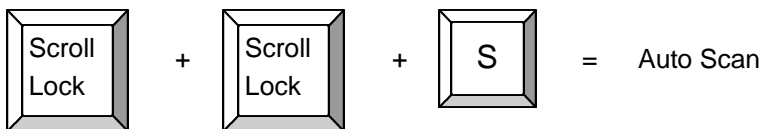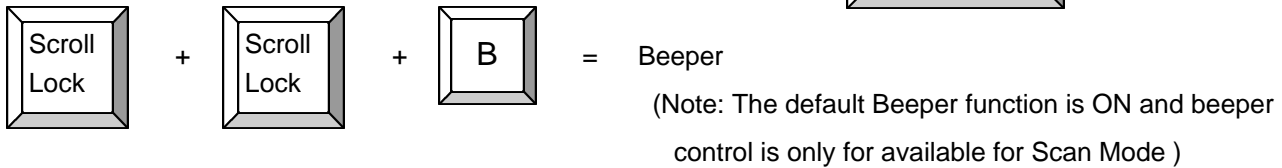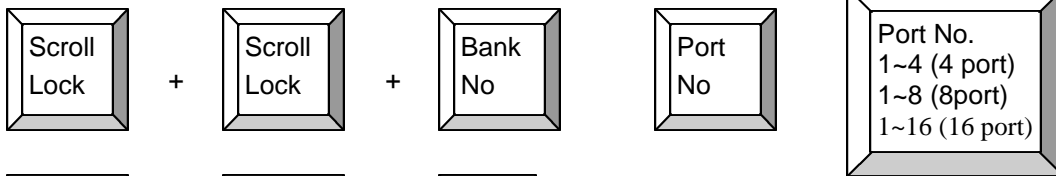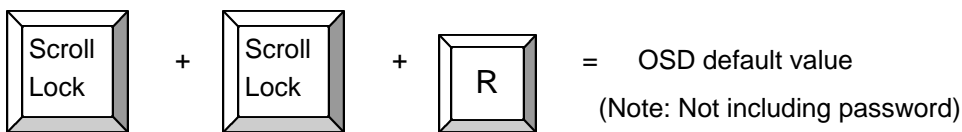| Scroll Lock	+	Scroll Lock	+	B	=	Beeper

(Note: The default Beeper function is ON and beeper control is only for available for Scan Mode)

Scroll Lock	+	Scroll Lock	+	S	=	Auto Scan

To get out of Auto Scan Mode, Press any key or SPACE bar.

Scroll Lock	+	Scroll Lock	+	R	=	OSD default value

(Note: Not including password)

ROM   REFLASH

Scroll Lock	+	Scroll Lock	+	F	=	Search the same PC name

(Note: Search PC name starting from 1st PC port)

F I N D :

Scroll Lock	+	Scroll Lock	+ Space bar = On Screen Display Menu
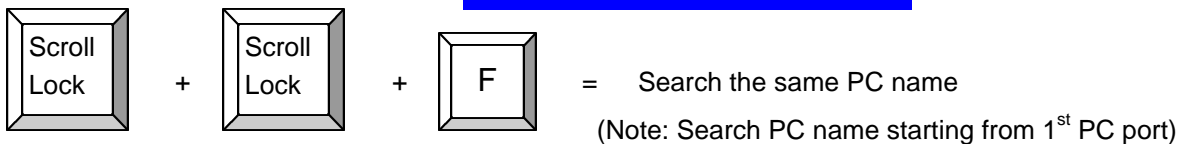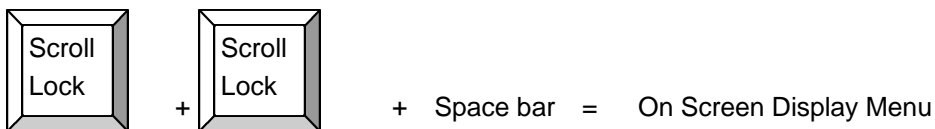
Example

A. To access a computer attached to Port 6 of the fifth Bank. You can press through hot key as below:

Scroll lock + Scroll lock + " 5 " + " 0 "   " 6"

B. To access a computer attached from Bank 3 to Bank 4, You can press through hot key as below:

Scroll lock + Scroll lock + Page Down

Note:
Bank no. and Port no. selection must be made using the numeric keys on the keyboard. Numeric keys on the keypad are not available as a hot key command.

Daisy Chain Connection Diagram

**Please use the attached 3 feet 3-in-one daisy chain Cable Kit to daisy chain the KVM Switch.**

A. Connect Keyboard, Mouse and Monitor to the console port (white color block) of bank 1 KVM switch.

B. Use one end of 3-in-one Cable Kit to connect the daisy chain port of bank 1 and the other end for the console port (white color block) of bank 2 KVM switch.

C. Please repeat item B to daisy chain more bank as you want. But, the maximum daisy chain bank is eight levels.

D. Before chaining the slave bank up to six banks, you need a VGA extender (Max. 100 feet) between the fifth bank and the sixth bank to enhance the VGA signal.

Maximum 8 Levels
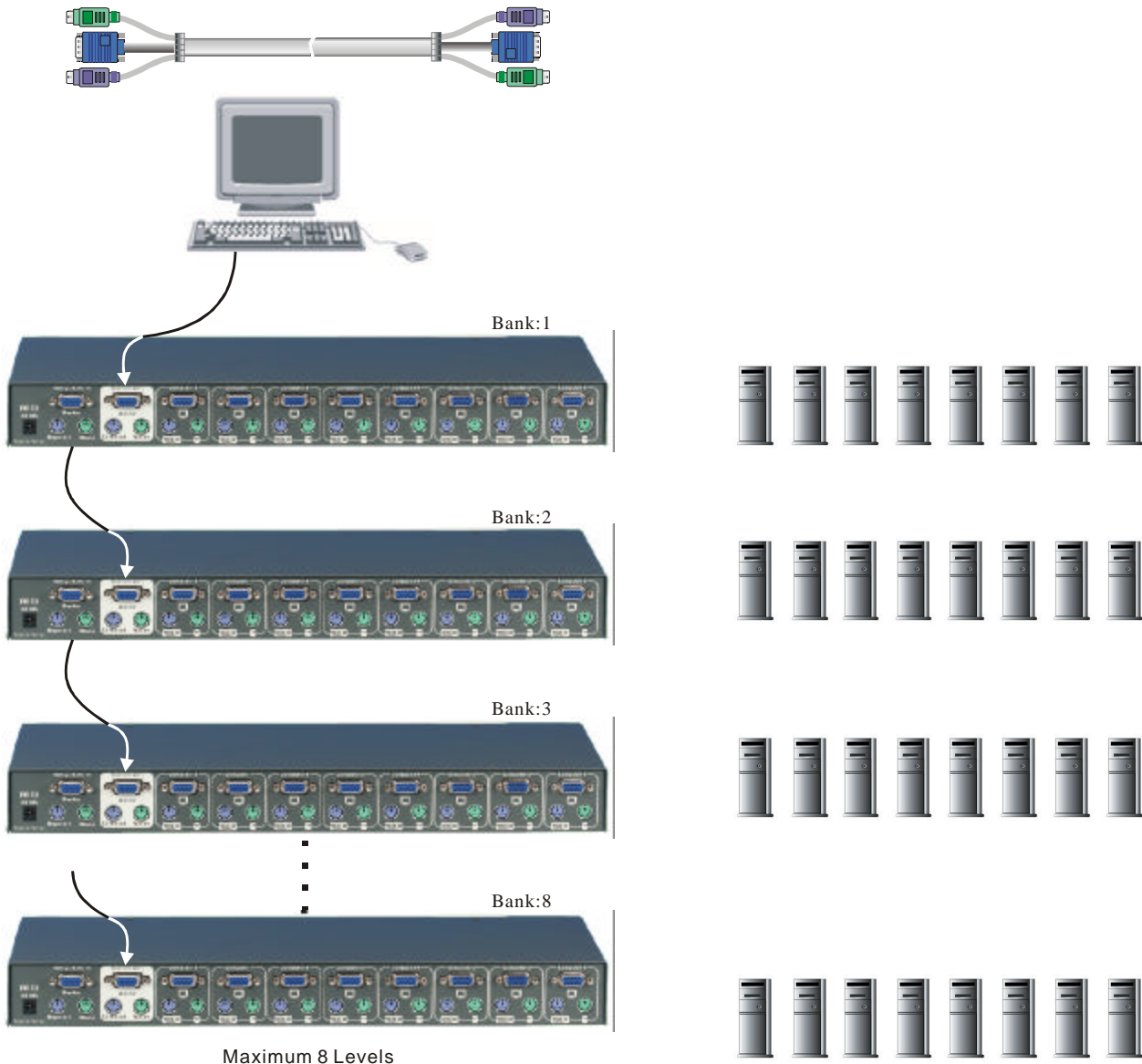
Hot Plug

The KVM Switch supports " Hot Plug " function for easy addition or removal of PCs. The user can arrange or maintain PCs as follows:

a. A PC can be disconnected and reconnected to the same or different port of the KVM unit without having to power it off as long as it is not the Daisy-chain port or pass through port.
b. The pass through port PC (i.e. The pass through port means the console port is connected to PC directly) is powered on. Before you go hot plug function, please switch to this pass through port to next port and then switch back to the pass through port.
c. You may unplug the mouse or the keyboard from the console port and plug it back in at any time.

> **NOTE:**
> **Some O.S. (Operation Systems) like SCO Unix are unable to support " Hot Plug " function. If you apply "Hot Plug" to this kind of O.S., it will cause unpredictable behavior or shut down the PC. Before attempting to use " Hot Plug " , please make sure your O.S. and software driver supports the "Hot Plug" function.**

On Screen Display Operation

When you pop up the OSD menu window go through the hot key, you will see the following small window on your monitor.

BANK : 1			
01 SYSTEM 01	02 SYSTEM 02 ☜		
03 SYSTEM 03	04 SYSTEM 04		
05 SYSTEM 05	06 SYSTEM 06		
07 SYSTEM 07	08 SYSTEM 08		
09 SYSTEM 09	10 SYSTEM 10		
11 SYSTEM 11	12 SYSTEM 12		
13 SYSTEM 13	14 SYSTEM 14		
15 SYSTEM 15	16 SYSTEM 16		
OSD : 1 0 SEC.	CHANGE PASSWORD		
SCAN: 1 0 SEC.	CONSOLE ON/OFF		
ESC : QUIT	ENTER :COMPLETE		
TAB : NEXT	INSERT :EDIT		
⬆/⬇ : SELECT PORT			
PgDn/PgUp: BANK SELECT			

a. The 1ST line bar is Bank no.

b. The 2nd block is your PC system name list. You will find the system number list from 01 to 04 (if the current box is 4 port) or from 01 to 8 (if the current box no. is 8 port)or from 01 to 16 (if the current box no. is 16 port). You can define your PC name in maximum 8 characters. The factory default of 16 port KVM switch PC name is from "SYSTEM 01", "SYSTEM 02" , .., "SYSTEM 16" and 8 port KVM switch is from "SYSTEM 01", "SYSTEM 02", .., "SYSTEM 08". Besides, the sun symbol "   " near to the PC name represents the PC system is powered on.

To use up arrow key " ↑ " or down arrow key " ↓ " to select port for destination PC name. After you have selected the PC port already, you can press the ENTER Key to switch the PC port you want immediately
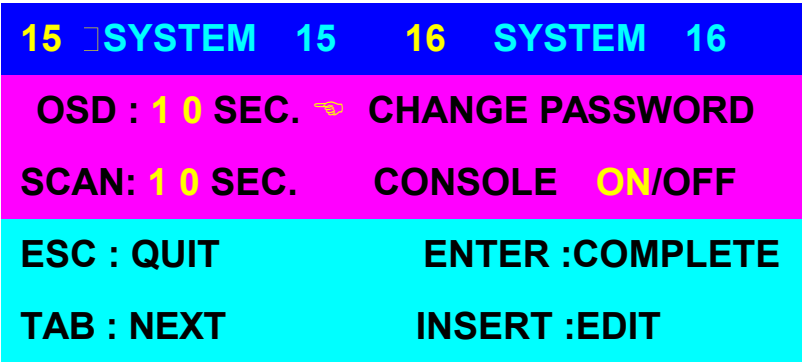
To use " PgUp " key or " PgDn" key for selecting previous or next Bank no. (or Box No.)

BANK : 1

01   SYSTEM   01   02   SYST EM   02
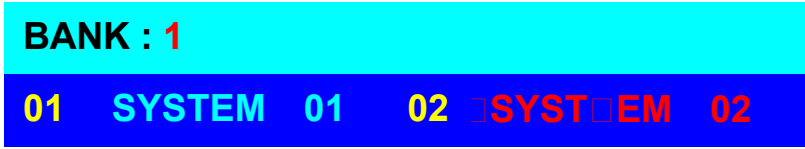
To press " INS" key for editing PC name.

After finishing the edit, please press " Enter " key for saving information.

To use " Tab " key to select items like Bank, OSD, SCAN, CHANGE PASSWORD, CONSOLE ON/OFF, etc…

15   SYSTEM   15   16   SYSTEM   16

OSD : 1 0 SEC. ☞ CHANGE PASSWORD

SCAN: 1 0 SEC.   CONSOLE   ON/OFF

ESC : QUIT   ENTER :COMPLETE

TAB : NEXT   INSERT :EDIT
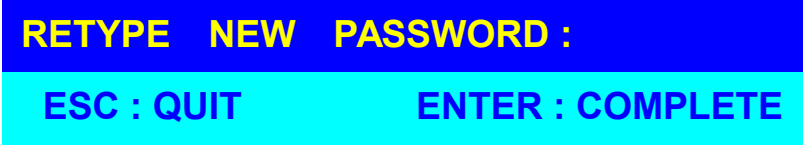
a. The " OSD: 10 SEC" means that the OSD windows display or PC system name exists 10 sec. on your monitor. You can modify it from 05 sec to 99 sec. The factory default value is 10 sec..

b. The " SCAN TIME" means that scan interval from one PC port to next PC port. The default SCAN time is 10 sec and the maximum scan time is 99 sec.

c. The " CHANGE PASSWORD" is for user to avoid all PC systems to be intruded by the other person. The default password is 8 digits " 00000000 " .

ENTER   PASSWORD :

ESC : QUIT   ENTER : COMPLETE
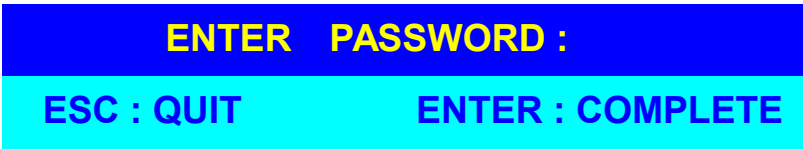
There is an enter password window showed out when you select this item and then press the Enter. The maximum password is eight digits. After you key in the password already and press the Enter key, there is another window for confirming your typed password.

ENTER   NEW   PASSWORD :

ESC : QUIT   ENTER : COMPLETE

RETYPE   NEW   PASSWORD :

ESC : QUIT   ENTER : COMPLETE

You need to retype the password again for rechecking your previous key-in password is matched or not.

NEW   PASSWORD   COMPLETE

ESC : QUIT   ENTER : COMPLETE

d. The " CONSOLE ON/OFF " means to manage the console of KVM switch. If you select " CONSOLE ON ", it means that any user can use the console. If you select " CONSOLE OFF "(factory default OFF state), it means that any user will not be allowed to use the console unless you enter the password. When you enter the password already and pass the KVM switch authentication, the CONSOLE will be set to ON.   After you finish using KVM switch, please don't forget to set up CONSOLE ON state to OFF state. Besides, if current CONSOLE is ON state and you reset KVM switch,   the CONSOLE will be set up ON state back to OFF state.

e. When you finish the set up of PC name and get out of OSD setting mode, you will find the PC name showed at the up-left corner of monitor. Now, you can use ESC key to clear the message right away if you don't need it.

102   SYSTEM   02

f. If you want OSD returning back to factory default value, you can execute "SCROLL LOCK", "SCROLL LOCK" , "R" keys in order. The Seven segment LEDs on the front panel will be flashed during the refresh process.

ROM   REFLASH

When the OSD value back to default setting, the seven segment LEDs on the front panel will stop flashing

Accessories

Ordering information:

1. VGA Extender (DB15 Female to DB15 Female) MAX. 100 feet
2. PC port PS2 Extender (Mini Din 6 Female to Mini Din 6 Female) MAX. 100 feet
3. Daisy Chain port Extender (Mini Din 6 Female to Mini Din 6 Female) MAX. 100 feet
4. PS2 to Serial adapter (Mini Din 6 Female to DB9 Female)
5. 3-in-one 6 feet VGA and PS2 cable for pc port to KVM Switch
6. Stack Brackets

CERTIFICATES

FCC

This equipment has been tested and found to comply with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference

(2) This device must accept any interference received. Including interference that may cause undesired operation.

CE – Certificate

This equipment is in compliance with the requirements of the following regulations: EN 55 022: CLASS B