ComboCAT

8- 16- 32-Port KVM Switch

User Guide

Rev 0.9

RACKit® Technology Corporation

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ComboCAT KVM Switch	1 Pcs
Rack Mount Ears	2 Pcs
Mounting Screws (in a bag)	4 Pcs
Hot-Key Quick Reference Decal	1 Pcs

Table 1-1. Package Contents

1.2 ComboCAT Cables

CCP "Dongles"

A CCP "Dongle" is required to connect a target server to server-ports on ComboCAT switch.

ComboCAT CCP-PS/2 consists of:

- One (1) HDDB15 Male (connects to computer's VGA video port) with thumb-screws.
- One (1) 6-pin MiniDIN purple connector (connects to computer's PS/2 keyboard port)
- One (1) 6-pin MiniDIN green connector (connects to computer's PS/2 mouse port)
- One (1) RJ45 connector used to connect a Cat5/5e/6 cable (up to 130 feet long) that gets connected on the other end to a server-port on the back of ComboCAT switch.

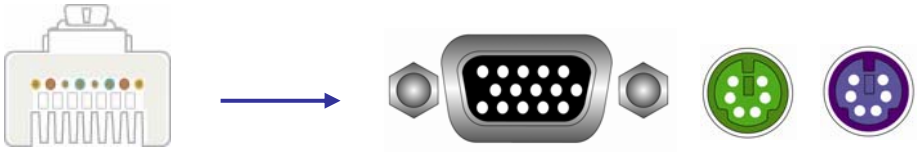


Figure 1-1. ComboCAT CCP-PS/2 connectors

ComboCAT CCP-Universal consists of:

- One (1) ComboCAT CCP-PS/2
- One (1) purple PS/2 keyboard to USB keyboard/mouse due HID adapter

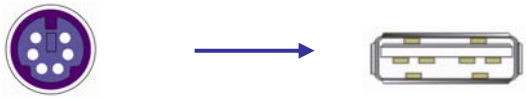


Figure 1-2. PS/2 keyboard to USB adapter

Cat5/5E/6 Straight Through UTP/STP Cable

Pin	Wire Color	Pair	Function
1	White/Orange	2	T
2	Orange	2	R
3	White/Green	3	T
4	Blue	1	R
5	White/Blue	1	T
6	Green	3	R
7	White/Brown	4	T
8	Brown	4	R

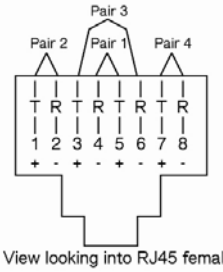


Figure 1-3. Cat5/5E/6 Straight Through UTP/STP Cable (8P8C)

1.3 Rear Panel

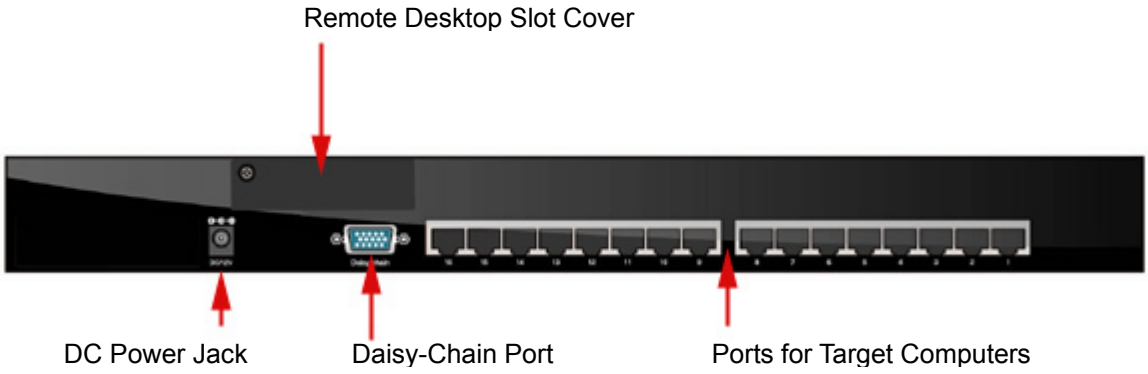


Figure 1-4. Rear Panel

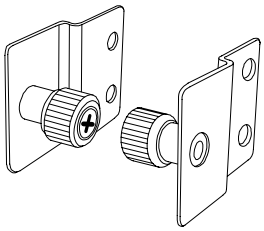
2. Hardware Installation

Before installation, please make sure ComboXCAT KVM Drawer and all of peripherals and computers have been turned off.

2.1 Rack Mount Installation

2.1.1 Hardware Kit Contents

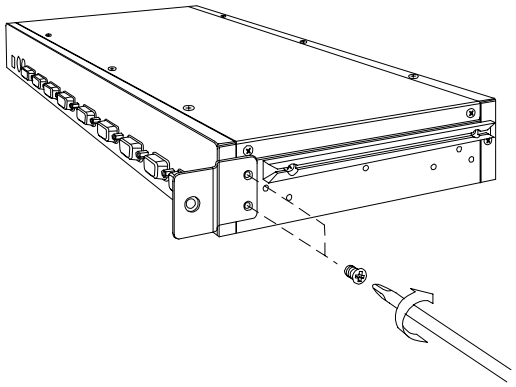
1. Bracket with thumb screw x 2



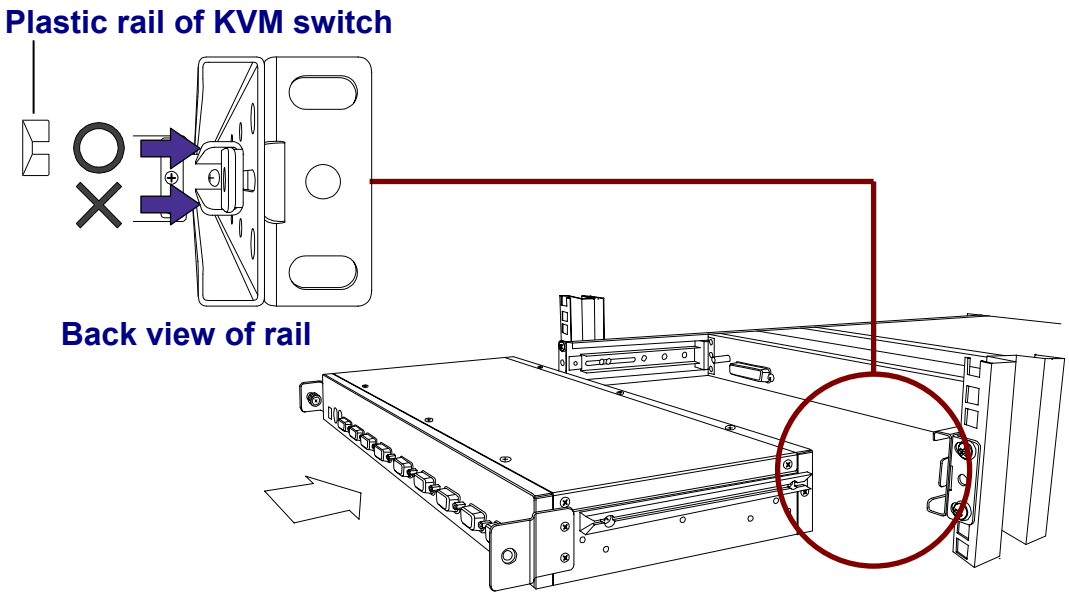
2. 6mm Screw x 4

2.1.2 Installing the Modular KVM Switch behind ComboXCAT KVM Drawer

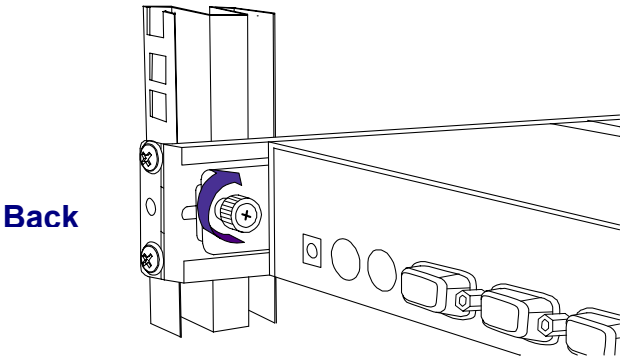
1. Install two 6mm screws to combine bracket and KVM switch, (two screws on each side).



2. Push the KVM switch into the rails from the back of the rack.



3. Tighten-up thumb screw of bracket (one on each side) to secure KVM switch behind the console drawer and complete the installation.



2.2 CCP "Dongle" Installation

CCP-PS/2 has four (4) connectors:

1. An RJ45 connector for connecting Cat5/5e/6 cable to ComboCAT KVM switch.
2. A HDDB15 male connector for connecting CCP to computer's VGA video port. Use the thumb screws to secure the CCP to the computer's VGA port.
3. A purple 6-pin MiniDIN plug for connecting to the computer's PS/2 keyboard port,
4. A green 6-pin MiniDIN plug for connecting to the computer's PS/2 mouse port.

CCP-Universal has four (4) connectors:

1. An RJ45 connector for connecting Cat5/5e/6 cable to ComboCAT KVM switch.
2. A HDDB15 male connector for connecting CCP to computer's VGA video port. Use the thumb screws to secure the CCP to the computer's VGA port.
3. A purple 6-pin MiniDIN plug that connects to the purple PS/2 to USB adapter for connecting to the computer's USB keyboard/mouse port.
4. A green 6-pin MiniDIN plug that remains unused.

Plug all CCPs connectors into the respective ports of computer. Repeat the same procedure for each connected computer

Run a Cat5/5e/6 cable connecting the CCP's RJ45 port to one of ComboCAT's target-computers port.

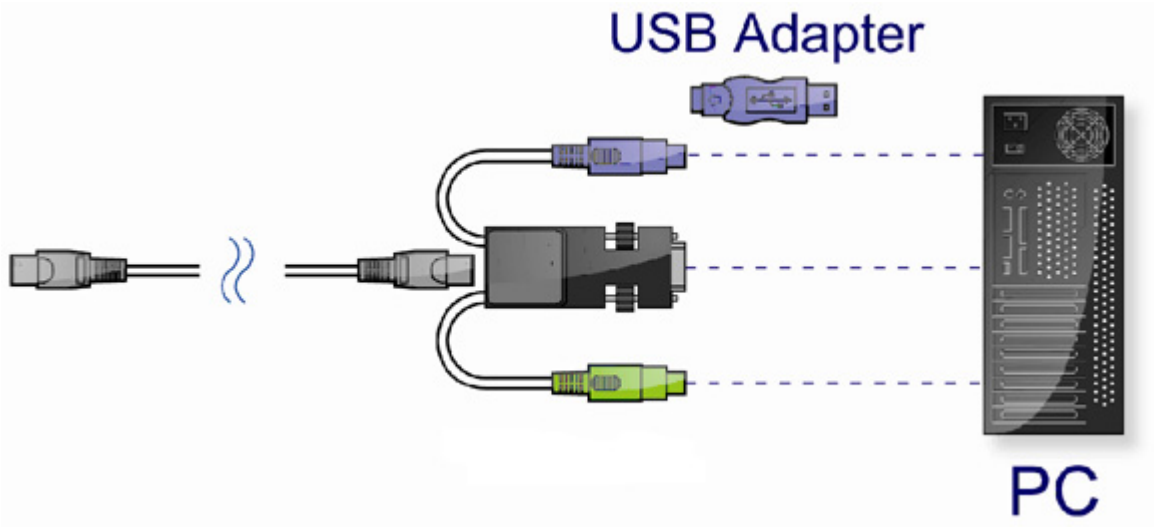


Figure 2-1. CCP

It is strongly recommended to power off all computers/server before connecting CCPs. In the event a PS/2 computer/server cannot be powered off prior to CCP connection, it is highly recommended to connect the CCP in the following order: a) PS/2 mouse connector; b) PS/2 keyboard connector; c) HD15 VGA connector to the PC.

2.3 Power On

ComboCAT KVM switch gets powered through the ComboXCAT KVM Drawer. It is recommended that you first power up ComboXCAT KVM Drawer, then the attached computers.

3 Default User Name and Password

The default user name is eight zero digits: “00000000”

The default password is eight zero digits: “00000000”

Use the Zero key on keyboard’s top row – do not use the numeric keypad for entering user name and/or password.

4 Hot-Key

You can conveniently instruct ComboCAT KVM switch to switch ports and perform other functions through simple hot-key keyboard sequences.

The default hot-key enabler is **Scroll Lock.** You may, however, change the hot-key enabler to better accommodate your application. If you prefer to use a different hot-key enabler, please refer to option #6 on the OSD Menu (see below).

To send commands to ComboCAT KVM switch, the **Scroll Lock** key must be tapped twice in succession (within 2 seconds). A beep will sound for confirmation, indicating that the keyboard is in **Hot-Key mode**. To execute a command you are now required to tap a keyboard key (or key-sequence) within 2 seconds. If you haven’t tapped any key(s) within 2 seconds of entering into **Hot-Key mode,** the system will revert back to its normal state (in which the keyboard is communicating with the selected target computer). A command must be issued in **Hot-Key mode** within 2 seconds.

Command	Function
Space Bar	Active OSD
↑	Previous Channel
↓	Next Channel
[1.2,…,8] Bank, [01,02,…,16] Port	First Digit: Bank number (starting with “1”) Second & Third Digits: Port number (starting with “01”)
PgUp	Previous Bank
PgDn	Next Bank
“B”	Turn Beeper On / Off
“S”	Auto Scan
“U”	Console Security “ON” to “OFF”
“P”	User Logout / Login
“R”	OSD Setting back to Factory Default Value
“L”	Power Saving On / Off

Table 4-1. Hotkey

Example: Hitting **Scroll Lock** twice, then hitting “1” key, “0” key, and “1” key will switch ComboCAT to bank 1 port 01.

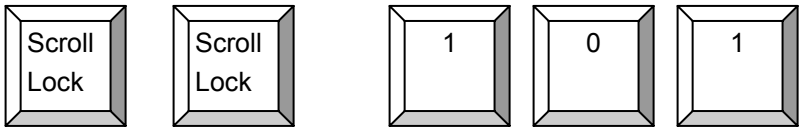


Figure 4-1. Hotkey Example

5 OSD (On Screen Display)

There are two methods to activate the OSD menu:

1. Activate OSD with the mouse

   Holding the right mouse button while tapping the Esc key will activate the OSD.

Holding the left mouse button while tapping the Esc key will activate the Port Display.

2. Activate OSD with Hot-Key twice then press Space bar.

   Tapping **Scroll Lock** twice in succession, then tapping the Space bar will activate the OSD.

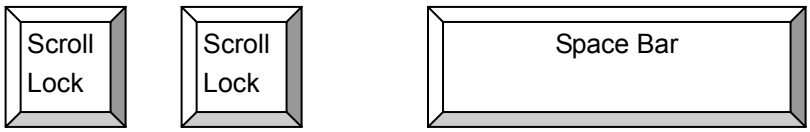


Figure 5-1. Hot-Key for activating OSD

On Screen Display (OSD) provides a menu driven interface to handle setup, operational and administration tasks in three (3) tiers:

1. **Login Window** --- When powering ComboCAT switch up, a login window will show prompting for user name and password. ComboCAT can setup one SUPERVISOR and eight (8) USERS. Prior to setting up an ADMINISTRATOR user's name and password, none of administrator users could access OSD menu. When you login with Supervisor, please go to USER SECURITY to set up one new SUPERVISOR or USERS. SUPERVISOR can access all Main menu options. USER can access PORT NAME and PORT SEARCH for switching.

2. **Port Name**--- Port switching using OSD

3. **Main Menu**--- 8 menus to operate ComboCAT KVM switch

MAIN MENU	Function
01 LANGUAGE	OSD Language Change
02 PORT NAME EDIT	Port Name Modification
03 PORT SEARCH	Quick Searching by Port Name
04 USER SECURITY	Change Password
05 ACCESS LIST	Define User Access Authority
06 HOT KEY	Change Hot-Keys
07 TIME SETTINGS	Modify Scan Time Interval
08 OSD MOUSE	Modify OSD Mouse Speed

Table 5-1. OSD Main Menu

5.1 Login Window

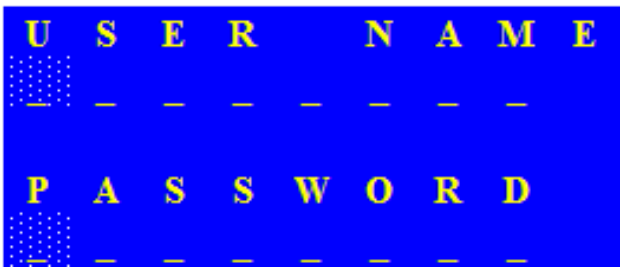


Figure 5-1. Login Window

Upon powering up ComboCAT, a login prompt will show on the screen.

The default Supervisor user name is eight zero digits “00000000”.
The default Supervisor password is eight zero digits “00000000”.

Upon no input of username and password within 1 minute of the login prompt – the monitor’s video signal will shut off.

After logging in (or after port switching either by OSD or Hotkey), the screen will display the following information:

- Three (3) digits representing the Bank Number (1st digit) and the Port Number (2nd and 3rd digits). Example: “101” represents Bank #1 and Port #01.
- Port Name. Example: SYSTEM 01
- Current Hot-Key. Example: Scroll Lock.

Figure 5-2. Login Window

Any keyboard input or mouse movement reverts the screen back to displaying the computer’s video.

Security Logout

Upon no input of username and password within 1 minute of the login prompt – the monitor’s video signal will shut off.

During normal operation, upon no input from console’s keyboard or mouse for over 10 minutes, ComboCAT KVM switch will turn off the screen display. Upon resuming console’s keyboard or mouse activity – the Login prompt will show, asking for user name and password.

5.2 Port Name

Figure 5-3. Port Name

OSD Function Key	Description
F1	Go to Main Menu
F2	Console Off
F3	Previous Menu
Enter	Switch to Selected Port
↑ / ↓	Move Select
PgUp	Previous Bank
PgDn	Next bank
Esc	Quit
1	Show Port 01 ~ 08
2	Show Port 09 ~ 16
3	Show Port 17 ~ 24
4	Show Port 25 ~ 32

Table 5-2. OSD Function Key

Console Off – Logout so the next person needs to enter user name and password in order to do operation on this KVM system

USER: There are two type of user SUPERVISOR and USER. SUPERVISOR can setup the change the OSD settings at Main Menu. USER can do Port switch and Port Search only.

5.3 Main Menu

Figure 5-4. Main Menu

OSD Function Key	Description
Enter	Select
↑ / ↓	Move
F1	Go to Main Menu
F2	Console off
F3	Back
Esc	Exit

Table 5-3. OSD Function Key

5.3.1 LANGUAGE

The default language is ENGLISH. Moving the cursor by keyboard -- Up Arrow key "⬆"or the Down Arrow key "⬇"or mouse to select language as you need.

Figure 5-5. Language

5.3.2 PORT NAME EDIT

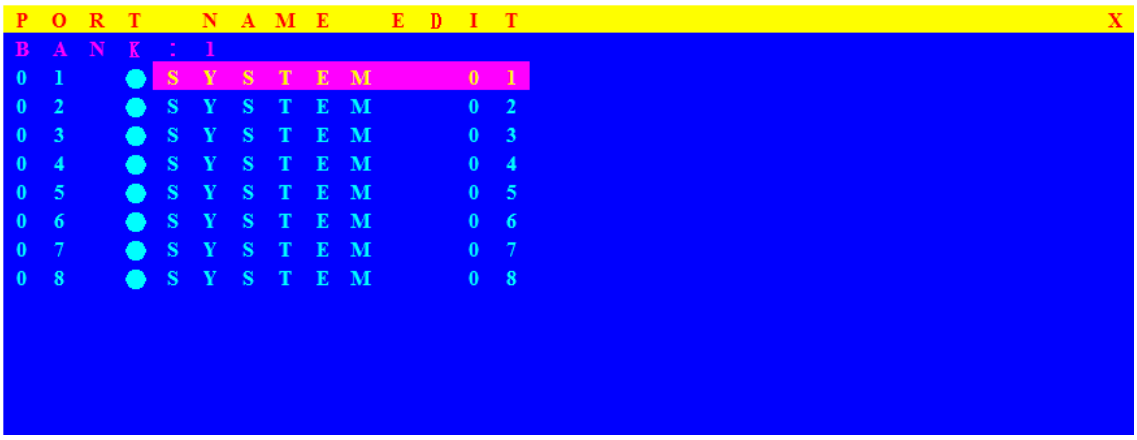


Figure 5-6. Port Name Edit

OSD Function Key	Description
Enter	Port Name Edit
↑ / ↓	Move
F1	Go to Main Menu
F2	Console off
F3	Back
Esc	Exit
1	Show port 01 ~ 08
2	Show port 09 ~ 16
3	Show port 17 ~ 24
4	Show port 25 ~ 32

Table 5-4. OSD Function Key

The first line bar is Bank number, following lines are port name list.
Use Up Arrow key "⬆", Down Arrow key "⬇" or OSD MOUSE to move. After you have selected the PC port already, you can either press the Enter" ↵ "Key, or Move the cursor to PC name double clicks the left button of mouse to switch the PC port immediately. Press PgUp key or PgDn key for selecting previous or next Bank.
Press the Up Arrow key "⬆" or the Down Arrow key"⬇" to select "system 02 " and press Enter"↵ " key to switch current PC port to PC port 2, or moving cursor to SYSTEM 02 and double clicks the left button of mouse to switch current PC port to PC port 2.
Press " **Ins**" key or click the right button of mouse for editing PC name.
Press " **Esc**" key to cancel editing PC name without any change or Enter" ↵ " key to complete the new PC name.

5.3.3 PORT SEARCH

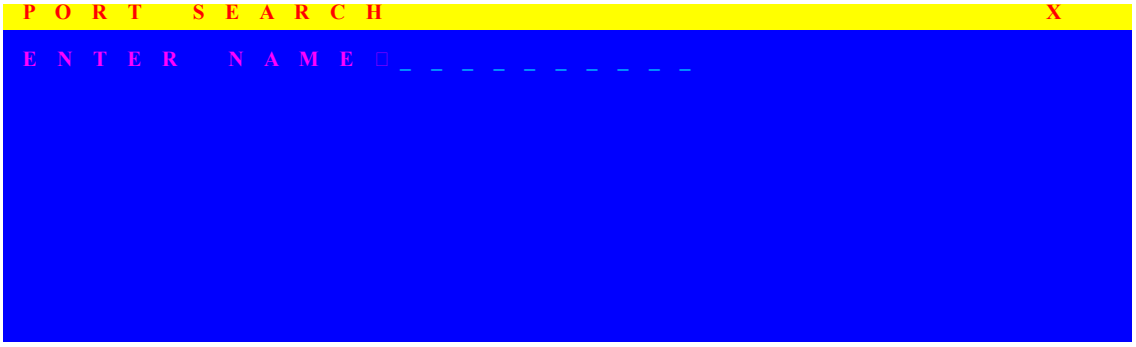


Figure 5-7. Port Search

OSD Function Key	Description
Enter	Start Port Search
F1	Go to Main Menu
F2	Console off
F3	Back
Esc	Exit

Table 5-5. OSD Function Key

Search the computer by port name. Enter “*” will show the all the port.

5.3.4 USER SECURITY

At USER SERCURITY of OSD can setup one SUPERVISOR and eight ADMINISTRATORS all with 8 digits name and password.

Figure 5-8. User Security

OSD Function Key	Description
Enter	Enter user name
→↑←↓	Move
F1	Go to Main Menu
F2	Console off
F3	Back
Esc	Exit

Table 5-6. OSD Function Key

Press “ENTER” key to get USERS list. The left column “S” means SUPERVISOR and “1”, “2”,“3”,…., “8” mean ADMINISTRATOR. The maximum NAME is eight characters maximum (A~Z and 0~9) and PASSWORD is eight characters maximum (A~Z and 0~9).

5.3.5 ACCESS LIST

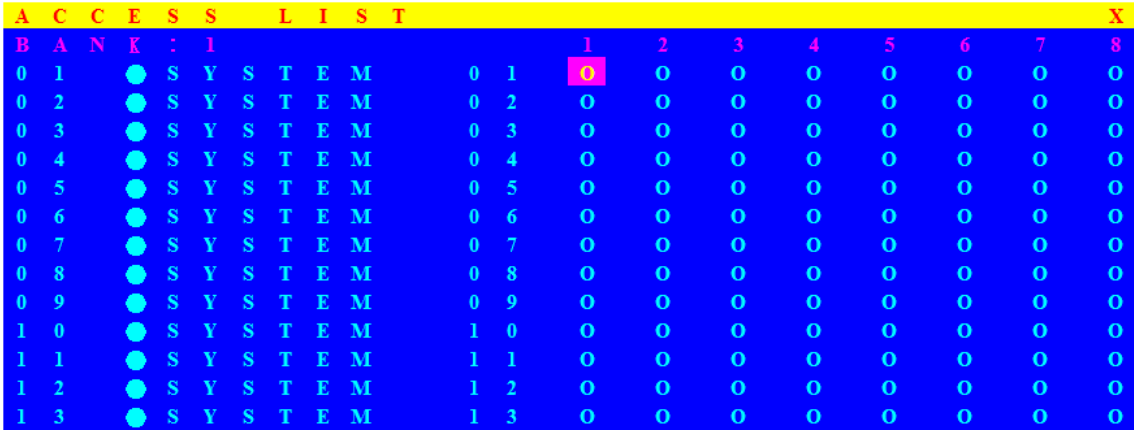


Figure 5-9. Access List

OSD Function Key	Description
Enter	Select
→↑←↓	Move
F1	Go to Main Menu
F2	Console off
F3	Back
Esc	Exit

Table 5-7. OSD Function Key

Only SUPERVISOR can set up the ACCESS LIST. The first column is the PC name list the following 8 column the access right of each ADMINISTRATOR use OSD MOUSE or Enter key to active/inactive the access right of each port. “X” means to disable access and “O” means to enable access.

5.3.6 HOTKEY

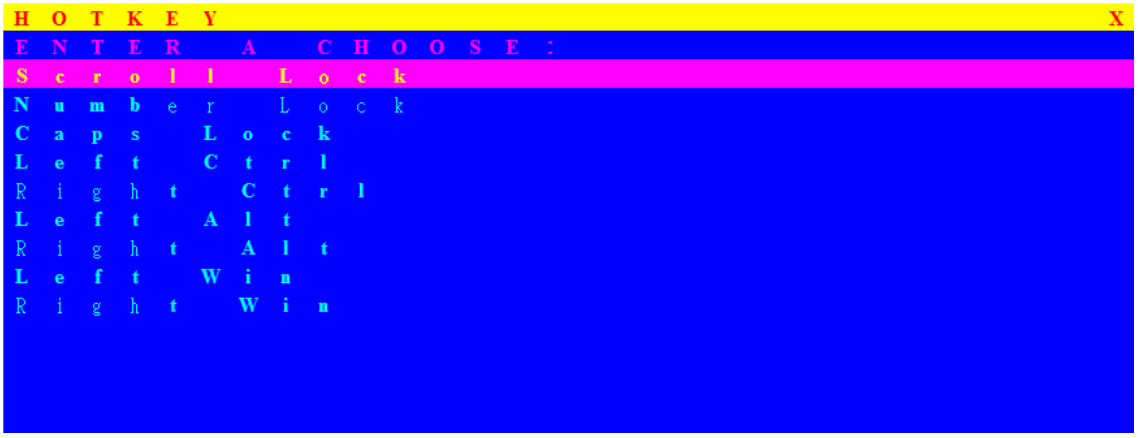


Figure 5-10. Hotkey

OSD Function Key	Description
Enter	Select
→↑←↓	Move
F1	Go to Main Menu
F2	Console off
F3	Back
Esc	Exit

Table 5-8. OSD Function Key

Some keyboard may not equip with all the special keys. Make sure the key you select is available in you keyboard.

5.3.7 TIME SETTINGS

Figure 5-11. Time Settings

OSD Function Key	Description
Enter	Save
F1	Go to Main Menu
F2	Console off
F3	Back
Esc	Exit

Table 5-9. OSD Function Key

The “SCAN TIME: 10 SEC” means that scan interval from one PC port to next PC port. The default SCAN time is 10 seconds and the maximum scan time is 99 seconds, can not use number pad. Press “**Enter**” key to save SCAN TIME.

5.3.8 OSD MOUSE

You can change the move speed of mouse cursor in his item. There are three levels you can choose in it. The fastest move speed is “FAST”, the second is “MIDDLE” and the slowest is “SLOW”. Using "🡅” and “🡇” key on keyboard to move highlight bar and select what move speed you want to use. After press Enter Key, the mouse cursor move speed will change.

Figure 5-12. OSD Mouse

OSD Function Key	Description
Enter	Save
↑ / ↓	Move
F1	Go to Main Menu
F2	Console off
F3	Back
Esc	Exit

Table 5-10. OSD Function Key

6. Troubleshooting

1. No LED display
   - Make sure the power adapter plugs in the KVM Switch. If the LED's still won't light, perform soft reset to KVM switch by press "BANK" button and last port button at the same time.
   - Do the hard reset by unplug the power then plug in again.
2. The computer boot up fine, but keyboard doesn't work
   - PS/2 keyboard or PS/2 mouse port is not designed for Hot Plug. USB mouse and keyboard can Hot Plug, but need to wait few seconds for Computer bus emulations.
   - Don't press any keys on the keyboard while the selected computer is booting up. Otherwise it might cause the keyboard error or keyboard is not detected at Host side.
   - Make sure the keyboard works when directly plugged into the computer.
   - Try a different keyboard, but use only 101, 102 or 104-key keyboard.
3. The Mouse is not detected during PC boot up
   - Make sure to plug in mouse first, then plug in keyboard.
   - Make sure the USB or PS/2 mouse works when directly plugged into the computer.
   - Avoiding moving the mouse or pressing the mouse buttons when switching ports.
4. No video signal display on the remote monitor
   - Please go to check all of VGA cables & connector and CAT5 cable & connector are firmly connected.
5. Video signal is foggy or unclear on the screen
   - Please check if the VGA connector connected firmly. Check if the VGA resolution is too high for the length of CAT5 cable being used. If the problem happened at VGA resolution, to shorten the CAT5 cable length or reduce VGA resolution.
   - It is highly recommended to use "optimal CAT5 cable length" to get the best video quality and not waste unnecessary CAT5 cable.
   - If the CAT5 Receiver is not connecting a local computer, please make sure the monitor is grounded properly.
6. VGA resolution output mismatch with the monitor's
   The KVM switch will provide DDC information to all the PC VGA board. If both the local console's monitor and KVM switch are turned on before the PC boot up, or if the PC boot up faster then the KVM switch, the PC miss the DDC (Data Display Channel) information that causes the VGA resolution output mismatch with the monitor's.
   In this case, please turn off the PC wait few minute then turn on again.

7. Certifications

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. Include interference that may cause undesired operation.

CE

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

RoHS

All contents of this package, including products, packing materials and documentation comply with RoHS.