i-TECH COMPANY

RACKMOUNT SOLUTION

Your Rackmount Display Solution

1U Keyboard / Monitor + **8 / 16** Ports

BHK Black Hawk Series

USER'S MANUAL

Ver.1

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BHK-115-8e/117-8e

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BHK-117-16e

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Specification:

Model	BHK-115e/117e	BHK-115-8e/117-8e	BHK117-16e
Size:	1U 19” Rackmount type		
Keyboard:	Notebook type, 105 Keys		
Mouse:	Touchpad		
Dimension:	444.5 * 44.5 * 550 mm （17.5”*1.75”*21.6”）	444.5 * 44.5 * 580 mm （17.5”*1.75”*22.8”）	444.5 * 44.5 * 590 mm （17.5”*1.75”*23.2”）
Weight:	15 kg（33 lb）	15 kg（33 lb）	17.5 kg（33 lb）
Power Supply:	AC 100 / 240 V Auto Switch or DC+48V	AC 100 / 240 V Auto Switch	AC 100 / 240 V Auto Switch
Protection:	Rail with self-locking device		
Auto Power Switch	LCD back-light will be Turned-off when The screen set is turned down		
Operating Temperature:	0-50°C （32-122°F）		
Folding Angle:	Up to 110°		
Extension Length:	431.8mm（17”）		

Display:

Diagonal Size:	15”	17”
Resolution:	1024×768	1280×1024
Display Area:	304.1 × 228.1 mm	337.9 × 270.3 mm
Contrast Ratio:	250:1	350:1
Brightness:	250 NTS	280 NTS
Frequency:	60Hz	60Hz
Color:	16.7M colors	16.7M colors
Control System:	OSD	OSD

Accessories:

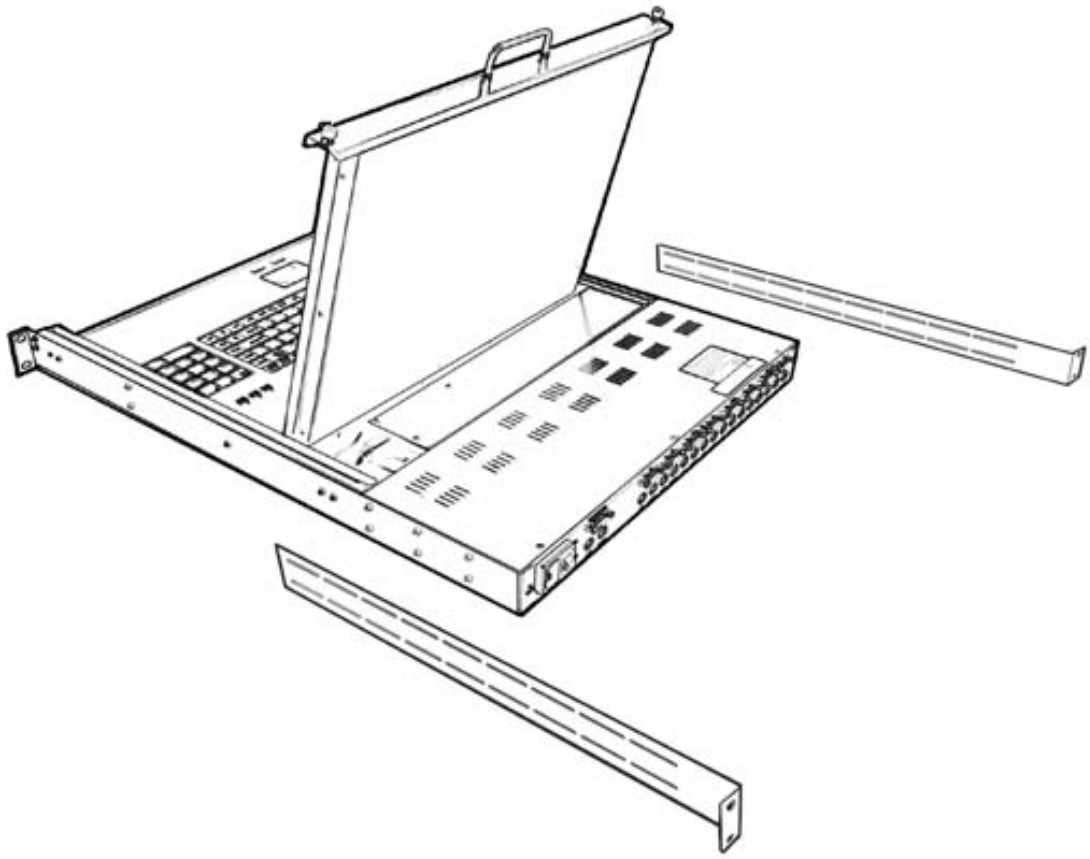
Model	BHK-115e/117e	BHK-115-8e/117-8e	BHK117-16e
Extension Bracket:	× 2	× 2	× 2
Power cord:	× 1	× 1	× 1
D-Sub 15 VGA-PS/2 Cable （3 in 1）:	× 1	× 8	× 16
Screw Package:	× 1	× 1	× 1
User’s Manual:	× 1	× 1	× 1

Rackmount Installation

1. Find the property position to screw these two extension brackets with the ears and both side onto the server rackmount first.

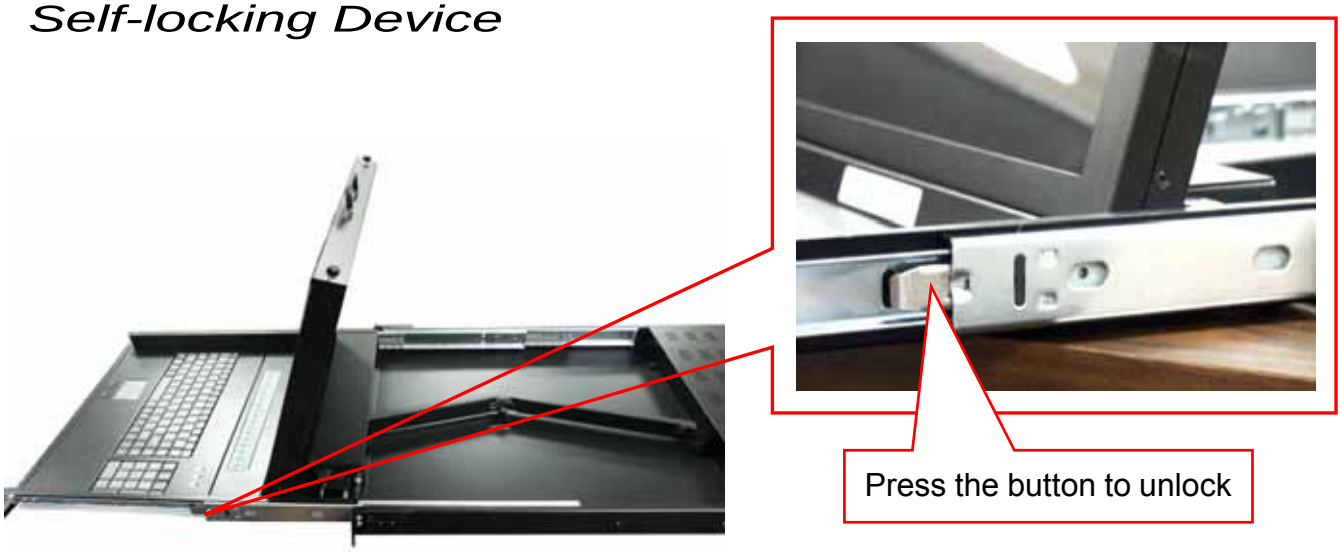
2. Lift & push the BHK inside the rackmount, and screw between bracket and BHK with 4 screws.

3. Mount the front ears of BHK main body onto the server rackmount.

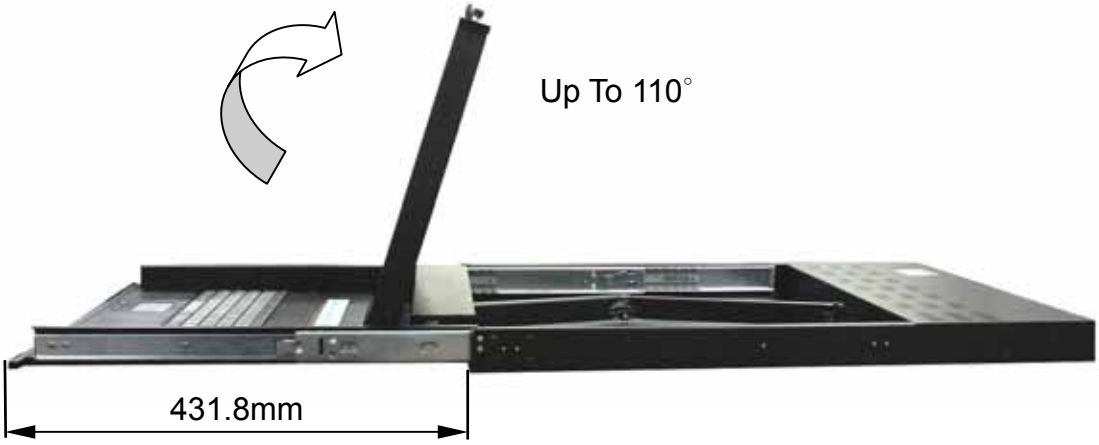


Product Detail

Self-locking Device

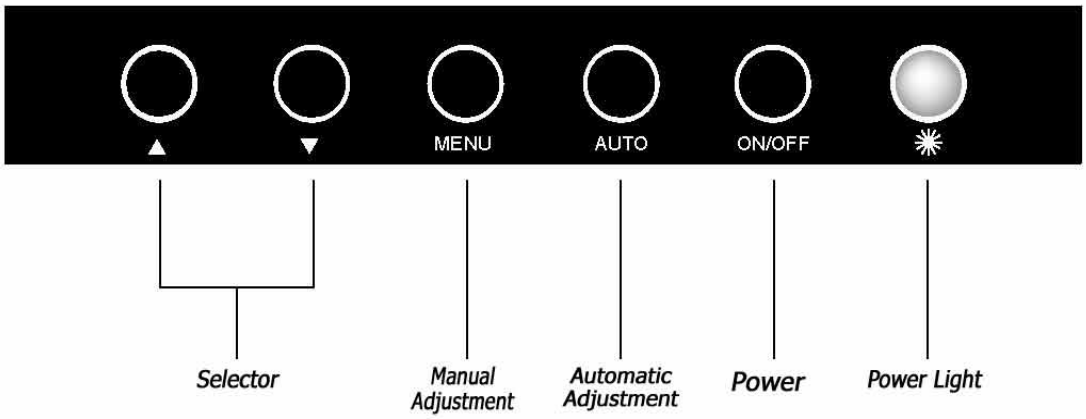


Maximum Extension Length



The view of open & close situation

On Screen Display



1. Manu Key : Use this key into the manual mode.

2. Auto Key : Use this key into the automatic mode.

3. Selector Key : To adjust the items in the manual mode.

4. Power Key : "Turn-on" or "Turn-off " the monitor.

5. Power Light : It shows the monitor is on when green;
   it shows the monitor is turning off when red.

Auto Adiustment

1.Press the "MENU" key, then it will show up the picture of OSD

2.Press "MENU" key again, the monitor will according to the visual signal be the best mode automatically.

3. Press the "AUTO" key will save the course then exit the OSD.

Briaht & Contrast

1.Press the "MANU" key, then it will show up the picture of OSD.

2.Press the "Down" key to select the "Brightness/Contrast" item.

3.Press the "MENU" key again to enter into the "Brightness/ Contrast" mode.

Adjust the Brightness :

Use the "Down" key may reduce the brightness;
Use the "Up" key may increase the brightness.

Adjust the Contrast :

1.Press the "MENU" key, then select the contrast.

2.Use the "Down" key may reduce the contrast;
Use the "Up" key may increase the contrast.

3.Adjust the property degree then press "Select" twice to save the course and exit.

Image Adjustment

1.Press the "MENU" key, then it will show up the picture of OSD.

2.Press the "Down" key, and choose "Image Adjust".

3.Press "MENU" key again, go into "Image Adjust" for adjustment.

Horizontal Position :

According to the procedure, it would change the horizontal position of the monitor.

Use the "Up" & "Down" keys to adjust the position.

Vertical Position :

According to the procedure, it would change the vertical position of the monitor.

1.Press the "MENU" key, and select the vertical one.

2.Use the "Up" & "Down" keys to adjust the position.

Picture Quality Adjustment :

It may improve the flashing & flicker from the different sources' signal.

1.Press "MENU" key, and select picture quality.

2.Use the "Up" & "Down" keys to adjust the position.

Frequency Adjustment :

It may also improve the flashing & flicker from the different sources' signal.

1.Press "MENU" key, and select picture quality.

2.Use the "Up" & "Down" keys to adjust the position.

Color Adiustment

1.Press the "MENU" key, then it will show up the picture of OSD.

2.Press the "Down" key, and choose "Color".

By these procedure, you may adjust individually the red, green and blue colors.

1.Press the "MENU" key, then go into the "Color Adjust".

2.Press the "Up" & "Down" keys, and adjust the "Red".

3.Press the "MENU" key, then go into the "Green".

4.Press the "Up" & "Down" keys, and adjust the degree of "Green".

5.Press the "MENU" key, then go into the "Blue".

6.Press the "Up"&"Down" keys, and adjust the degree of "Blue".

1.Press the "MENU" key, then choose "6500K EUROPE".

2.Press the "Down" key, and the picture will be closer to the blue tone.

1.Press the "MENU" key, then choose "9300K ASIA".

2.Press the "Down" key, and the picture will be closer to the red tone.

1.Press the "MENU" key, then choose "RECALL".

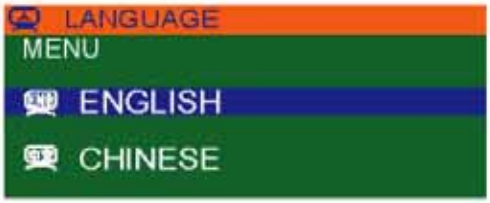
2.Press "Down" key again, and the picture will be reset to the default tone.

Language Selection

1.Press the "MENU" key, then it will go into OSD mode.

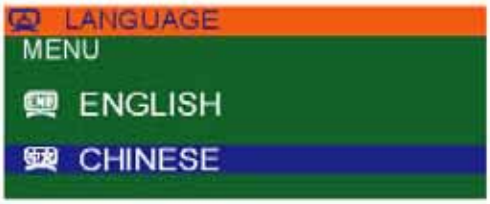
2.Press "Down" key, and select "Language".

** It refer to the screen.*



1.Press the "MENU" key, then it will go into the language mode.

2.Press "MENU" again, and the letter will be showned in English.



1.Press the "Down" key, then select "CHINESE" mode.

2.Press "MENU" again, the words on OSD is shown in Chinese.

Reset

Use the default setting :

1.Press the "MENU" key, then it will go into OSD mode.

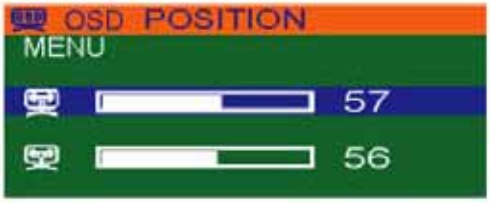
2.Press "Down", and select "RESET".

3.Press "MENU" again, the picture will reset to default setting.

OSD Adjustment

1.Press the "MENU" key, then the picture will go into OSD mode.

2.Press "Down", and select "OSD Adjust".



OSD Position Horizontal Adjustment :

1.Press the "MENU" key, then the picture will go into OSD Position mode.

2.Use the "Up" & "Down" keys to adjust the OSD horizontal position.

OSD Position Vertical Adjustment :

1.Press the "MENU" key, then select the vertical OSD lower case mode.

2.Use the "Up" & "Down" keys to adjust the OSD vertical position.

Exit

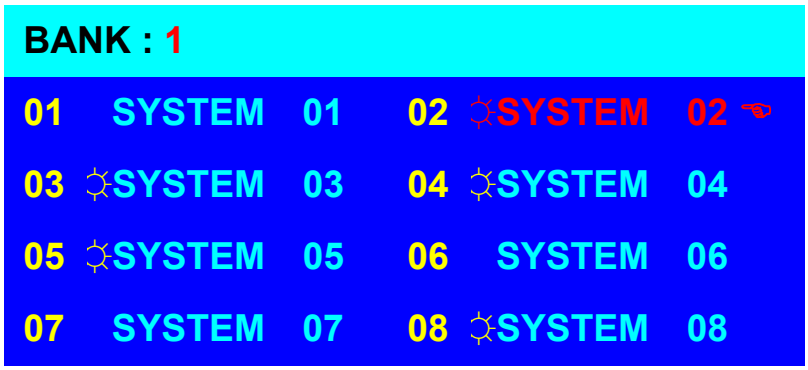
After the OSD Position adjustment, the procedure for exit of OSD :

1.Press the "Down" & "Up", and select "Exit".

2.Press "MENU" to exit the OSD screen.

On Screen Display for KVM Operation

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



a. The 1ST line bar is Bank no.

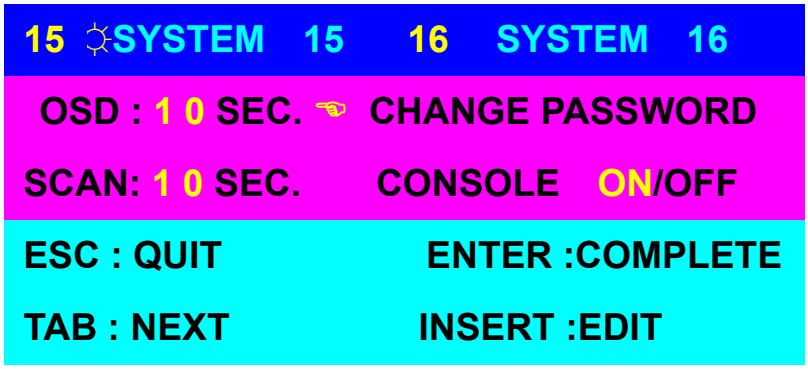
b. The 2nd block is your PC system name list. You will find the system number list from 01 to 8. You can define your PC name in maximum 8 characters. The factory default names for all ports is “SYSTEM 01”, to “SYSTEM 08“. Besides, the sun symbol “ ☼ “ near to the PC name represents the PC system is powered 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.)

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…



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 “.

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.

You need to retype the password again for rechecking your previous key-in password is

matched or not.

d. The " CONSOLE ON/OFF " means to manage the BHK-115-8e/117-8e. 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 BHK-115-8e/117-8e authentication, the CONSOLE will be set to ON. After you finish using BHK-115-8e/117-8e, please don't forget to set CONSOLE ON state to OFF state. Besides, if current CONSOLE is ON state and you reset BHK-115-8e/117-8e, the CONSOLE will be set from ON state back to OFF state.

e. When you finish the setting up of PC name and exiting the 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.

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

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

BHK-115-8e/117-8e
Illustration

Introduction

Thank you for choosing BHK-115-8e/117-8e. BHK-115-8e/117-8e can save your MONEY, TIME, SPACE, EQUIPMENT and POWER.

Controlling multiple PCs from One Keyboard, Mouse and VGA Monitor. BHK-115-8e/117-8e 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

- 8-port KVM switch for standard 19" rack mount design.
- 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 BHK-115-8e/117-8e or PCs.
- High Video Quality - Up To 1024x768, 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.
- Compatible with standard PS/2 Keyboard, PS/2 Mouse, and VGA.
- Built-in one extra daisy chain port and no waste any PC port
- No DIP switch setting needed and auto detect daisy chain bank

Technical Specifications

Model No.	BHK-115-8e/117-8e
PC Port	8
Console Port	1
PC 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
VGA Resolution	1024x768(15”) ; 1280*1024(17”)
Bandwidth	200MHz
Daisy Chain MAX Level	8 levels
MAX PC Connection	120
Housing	Metal
Power	110/220 AC
Operation Temperature	0~40℃
Storage Temperature	-20 ~ 60℃
Humidity	0~90%, Non-Condensing
Size	19” Rack Mount / 1U
Weight (kg)	33lb
Dimension (cm)	23”(L) X 19(W) X 1U(H)

System Requirements

Specifications:

Model No.	*BHK-115-8e/117-8e*

Console	Built-in VGA Monitor Built-in PS/2 Keyboard Built-in PS/2 Touchpad
To Computers	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

Connector 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

Hardware Installation

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

Step 1

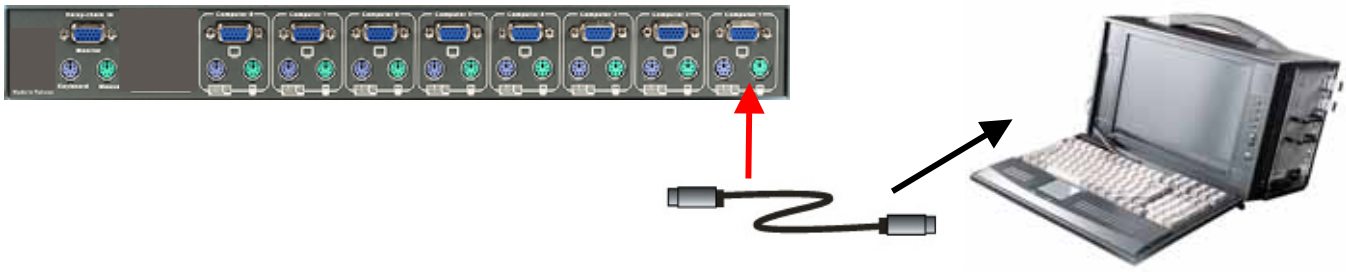
Now the PC connections can be made with the monitor (VGA) connections first. Connect a VGA cable (15-pin HDDB Male / Male) with the Male side to both of the PC and the rear panel of the KVM switch to the connector labeled VGA. Repeat this for all PCs.

Step 2

Connect the first computer's mouse cable to the BHK-115-8e/117-8e. 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 BHK-115-8e/117-8e. 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 BHK-115-8e/117-8e. If you need Serial DB-9 to PS2 Mini Din 6 pin adapter, please contact your supplier.

Step 3

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 BHK-115-8e/117-8e. If your computer has an AT type keyboard port, you will need a PS/2 to AT keyboard adapter.



Step 4

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 5

Repeat step 2 to 4 for the remainder of the computers.

Step 6

Attach the power supply to the BHK-115-8e/117-8e 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.

Usage

The power on state of 8-port BHK-115-8e/117-8e:

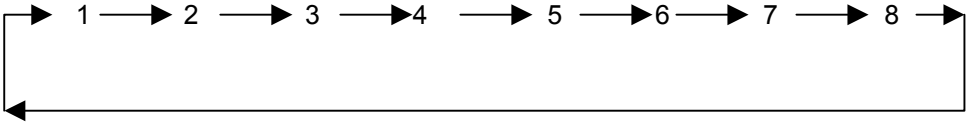
When you power on the BHK-115-8e/117-8e, it will ask you for the password, **the default password value is eight zero –" 00000000 "**. Please key in eight zero and enter the same value at retype field.

Note: If 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.

7-Segment LED Indication **:**

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.

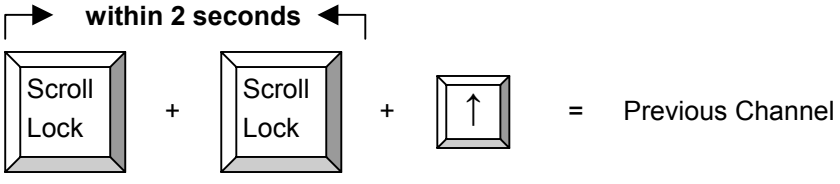
BHK-115-8e/117-8e

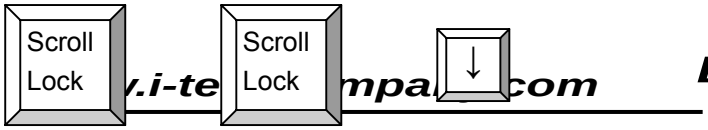


Keyboard Hot Key Commands:

Yond BHK-115-8e/117-8e by switching ports through simple key sequences. To send commands to the BHK-115-8e/117-8e, **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, the keyboard will go back to normal Operation System control state.

Below are the different hot key commands:





+ + = 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

Scroll Lock + Scroll Lock + Bank No Port No

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)

FIND:

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

Notice:

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

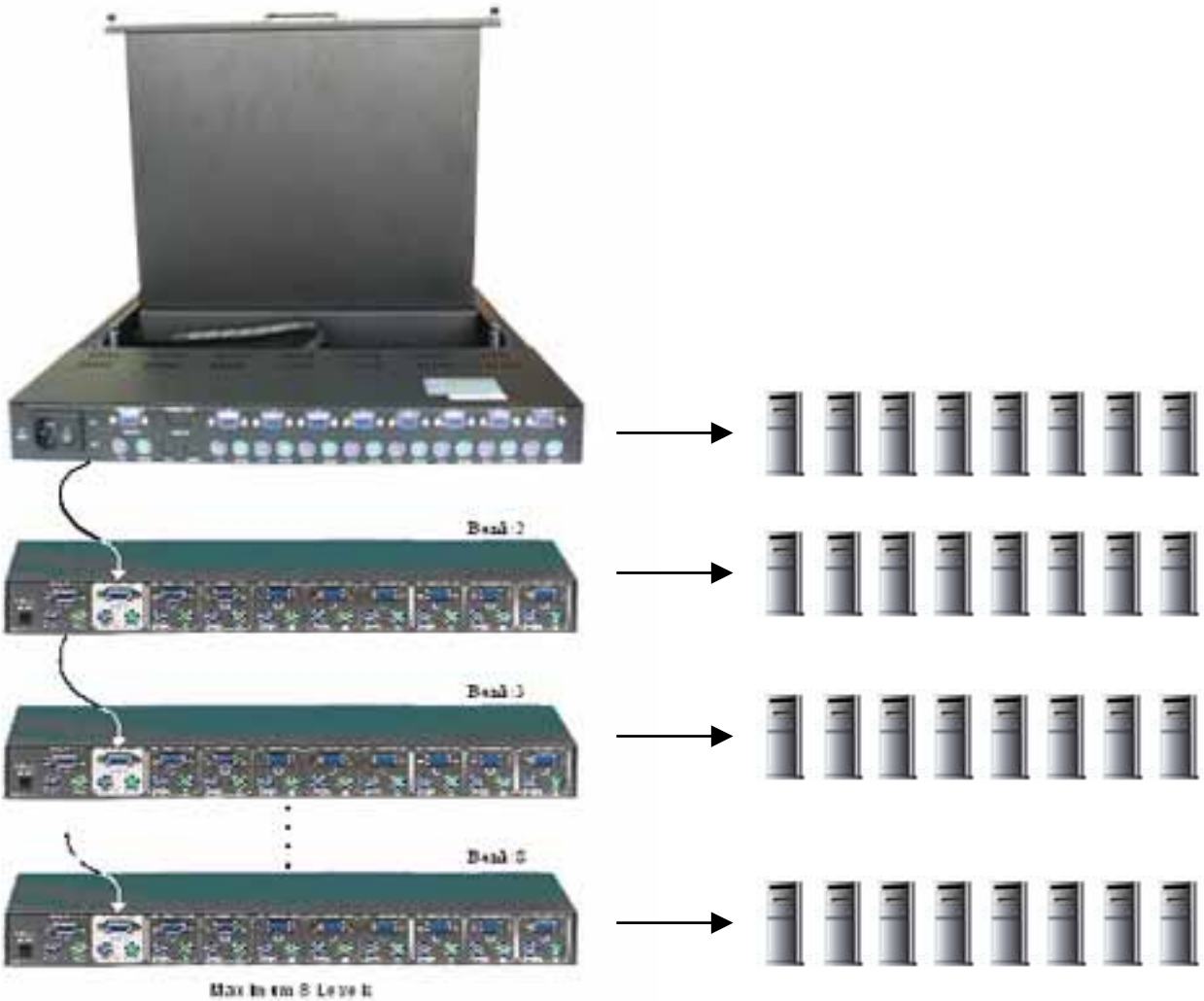
Please use the attached 3 feet 3-in-one daisy chain Cable Kit to daisy chain the BHK-115-8e/117-8e.

A. Connect Keyboard, Mouse and Monitor to the console port (white color block) of bank 1 BHK-115-8e/117-8e.

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 BHK-115-8e/117-8e.

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

D. Before chaining the slave bank up to six banks, you need a VGA extender (Model No. VGA-100, Max. 100 feet) between the fifth bank and the sixth bank to enhance the VGA signal.



Hot Plug

The BHK-115-8e/117-8e 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 BHK-115-8e/117-8e unit without having to power it off as long as it is not the Daisy-chain port or pass through port.
b. You may unplug the mouse or the keyboard from the console port and plug it back in at any time.

NOTICE:
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.

Troubleshooting

1. Ensure that all cables are well seated. Label all of cables with the number for each respective computer to avoid confusion.

2. The recommended VGA cable distance is 5 meters maximum without ghosting and degradation. Normally, the cable length is based on driver capacity of your VGA card. If you need longer VGA cable, please use VGA extender to accomplish your applications.

3. The recommended PS2 cable distance is 5 meters maximum. Normally, the cable length is based on driver capacity of your motherboard PS2 port. If you need longer PS2 cable, please use PS2 extender to accomplish your applications.

4. 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 PC side.

5. The computer boot up fine, but keyboard doesn’t work
- Make sure the keyboard port works on the computer.
- Try a independent keyboard with the computer

6. The Mouse is not detected during PC boot up.
- Make sure the mouse port works on the computer.
- Try a independent mouse with the computer.
- Avoiding moving the mouse or pressing the mouse buttons when switching ports.
- Avoiding switching ports during shutting down the PC process.
- When you switch one PC port to another PC port, the best scan time setting need to be set at 5 sec. or more. Normally, the VGA monitor change one resolution mode to another will take a few seconds.

7. If forgetting the “ password ” you typed, please contact your supplier.

Accessories

Ordering information:

1. **VGA-100** VGA Extender (DB15 Female to DB15 Female) Max distance: 100 feet

- VGA-100 - HDDB 15 pin to HDDB 15 pin,
- All female, Max 100 feet.
- PS2-100 - Two PS/2 Mini Din 6 pin to two PS/2 Mini Din 6 pin, all female, Max 100 feet.

2. **PS2-100** PC port PS2 Extender (Mini Din 6 Female to Mini Din 6 Female), MAX distance: 100 feet

3. **Daisy-100** Daisy Chain PS2 port Extender (Mini Din 6 Female to Mini Din 6 Female) MAX. 100 feet

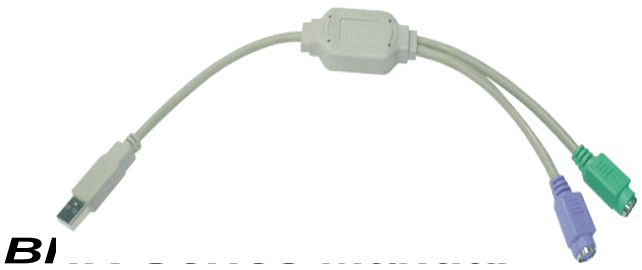
4. **PS2-DB9** PS2 to Serial adapter (Mini Din 6 Female to DB9 Female)

5. **PS2KVM-Cable** 3-in-one 6 feet VGA and PS2 cable for pc port to BHK-117-16e

6. **RMB-2** Rack Mount Brackets

7. **USB-PS2** USB to PS2 for converting KVM PS2 port to USB PC, MAC or USB SUN Microsystems.

- Support Two PS/2 Device Simultaneously(Keyboard and mouse) and Converts to the USB Interface
- Convert PS2 KVM switch Device to USB KVM switch Devices (PC, iMAC or SUN platforms)
- Support standard PS/2 Mouse and Microsoft Intellimouse
- Eas install
- Bus power, External power Adapter Not Required
- Complies to USB 1.0 and 1.1 Specification
- Support UHCI and OHCI USB Interfaces



BHK-117-16e Illustration

Introduction

Congratulations, you have chosen the efficient BHK-117-16e switch can save your MONEY, TIME, SPACE, EQUIPMENT and POWER.

Controlling multiple PCs from One Keyboard, Mouse and VGA Monitor. BHK-117-16e is loaded with features such as 19" Rack Mount Size, Daisy Chain up to 16 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

- 16 ports BHK-117-16e 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 BHK-117-16e 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

Technical Specifications

Model No.	BHK-117-16e
PC Port	16
Console Port	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
Resolution	1280x1024(17") ; 1024x768(15")
Bandwidth	200MHz
Daisy Chain MAX Level	8 levels
MAX PC Connection	128
Housing	Metal
Power	110/220 AC
Operation Temperature	0~40℃
Storage Temperature	-20 ~ 60℃
Humidity	0~90%, Non-Condensing

System Requirements

Specifications:

Model No.	BHK-117-16e
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

Switching Indication

Hardware Installation

Step 1

Connect the monitor to the BHK-117-16e. 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 2

Connect the keyboard to the BHK-117-16e. If you have an AT type keyboard, you will need an AT to PS/2 adapter.

Step 3

Connect the mouse to the BHK-117-16e.

Step 4

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 BHK-117-16e to the connector labeled VGA. Repeat this for all PCs.

The rear side of PC

Step 5

Connect the first computer's mouse cable to the BHK-117-16e. 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 BHK-117-16e. 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 BHK-117-16e. If you need Serial DB-9 to PS2 Mini Din 6 pin adapter, please contact your supplier.

The rear side of PC

Step 6

Connect the first computer's keyboard cable to the BHK-117-16e. 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 7

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 8

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

Step 9

Attach the power supply to the KVM unit and plug the other end into an electrical receptacle.

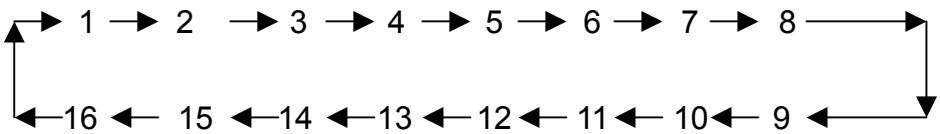
Now you will see the LED for Port 1 light up, and you will hear a beep. Switch on your monitor.

NOTICE:
Please be remind to plug in power adapter. Although the PCs connected to BHK-117-16e are able to support enough power to the stand alone switch, BHK-117-16e 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 BHK-117-16e :
When you power on BHK-117-16e, 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.



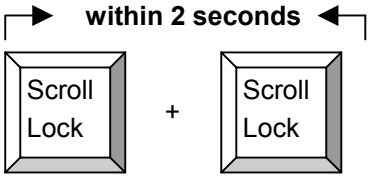
7-Segment LED Indication:
You can press the button in order like mentioned-above diagram.
When you select one of sixteen PC ports and this PC is powered on, the selected port LED is lit.
When you select one of sixteen PC ports and this PC is shut down or disconnected a PC, the selected port LED will flash.

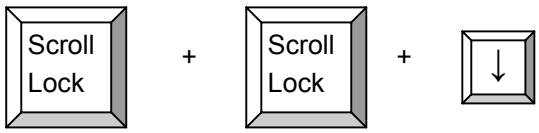
Reset Button ((Bank Select) and (Port Select) **):**
To press both "select" button and "bank" button of master bank simultaneously can reset BHK-117-16e. This reset action will not only return BHK-117-16e back to initial state --- Check the password, but also re-check all of slave banks which connected to mast BHK-117-16e.
If you add a new BHK-117-16e as a slave bank, please use reset button of master BHK-117-16e to automatically assign a new ID to it. You can view this new slave bank go through OSD menu. The PC ports of BHK-117-16e does not be reset by reset command.

Keyboard Hot Key Commands:
You can also conveniently command BHK-117-16e by switching ports through simple key sequences. To send commands to BHK-117-16e, **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

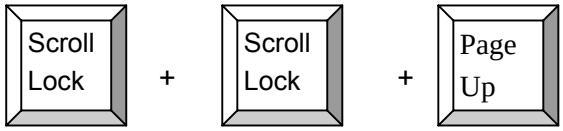
Operation System control state.

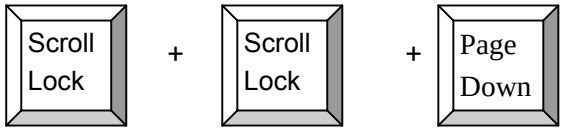
Below are the different hot key commands:



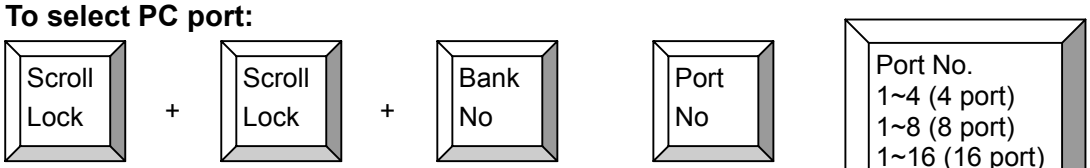


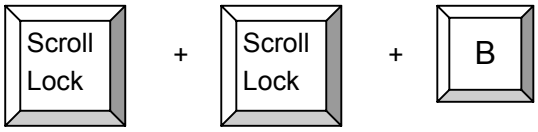
(Note: You also could press “up arrow key” or “down arrow key” longer time to speed up selecting the destination port)



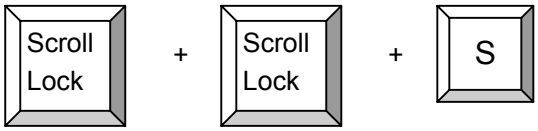


To select PC port:

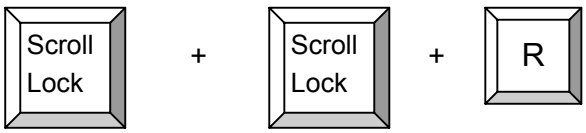




(Note: The default Beeper function is ON and beeper control is only for available for Scan Mode)



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

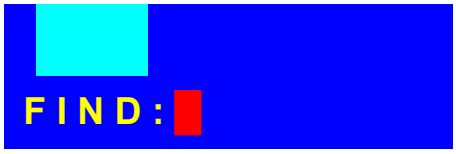


(Note: Not including password)

ROM REFLASH

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

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



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

Notice:

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 BHK-117-16e.

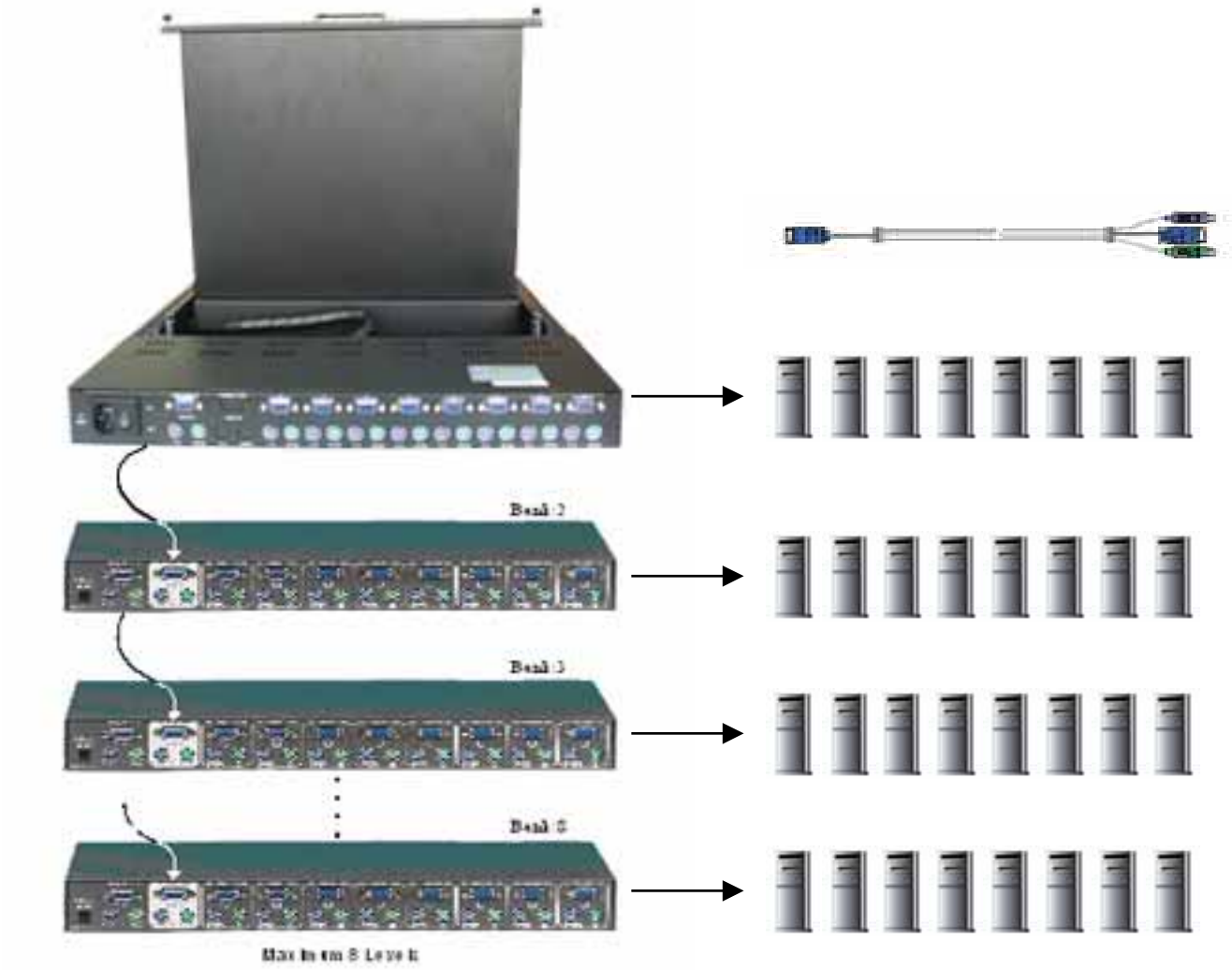
a. Connect Keyboard, Mouse and Monitor to the console port (white color block) of bank 1 BHK-117-16e.

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 BHK-117-16e.

- Please repeat item B to daisy chain more bank as you want. But, the maximum daisy chain

bank is eight levels.

- Before chaining the slave bank up to six banks, you need a VGA extender (Model No. VGA-100, Max. 100 feet) between the fifth bank and the sixth bank to enhance the VGA signal.



Hot Plug

The BHK-117-16e supports “Hot Plug“ function for easy addition or removal of PCs. The user can arrange or maintain PCs as follows:

c. 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.
d. 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.
e. You may unplug the mouse or the keyboard from the console port and plug it back in at any time.

NOTICE:
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.

Troubleshooting

1. Ensure that all cables are well seated. Label all of cables with the number for each respective computer to avoid confusion.

2. The recommended VGA cable distance is 5 meters maximum without ghosting and degradation. Normally, the cable length is based on driver capacity of your VGA card. If you need longer VGA cable, please use VGA extender (Model No. VGA-100, MAX. 100 feet) to accomplish your applications.

3. The recommended PS2 cable distance is 5 meters maximum. Normally, the cable length is based on driver capacity of your motherboard PS2 port. If you need longer PS2 cable, please use PS2 extender (Model No. PS2-100, MAX. 100 feet) to accomplish your applications.

4. The Power Jack polarity is center positive and the power adapter need be DC12V, 1A or DC9V, 1A.

5. 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 PC side.

6. The computer boot up fine, but keyboard doesn't work
- Make sure the keyboard works when directly plugged into the computer.
- Try a different keyboard, but use only 101, 102 or 104-key keyboard.

7. The Mouse is not detected during PC boot up.
- Make sure the mouse works when directly plugged into the computer.
- Make sure the mouse is a true PS/2 mouse. A combo mouse will work just as long as it is set for PS/2 mode with the correct adapter. Try a different mouse.
- Avoiding moving the mouse or pressing the mouse buttons when switching ports.
- Avoiding switching ports during shutting down the PC process.
- When you switch one PC port to another PC port, the best scan time setting need to be set to 5 sec. or more. Normally, the VGA monitor change one resolution mode to another will take one or two seconds. So, the scan time is not recommended to below 5 seconds.

8. The power switch is off, but the switch still works fine or power adapter is unplugged from the switch, but the switch still works fine.
BHK-117-16e unit draws the power source from power adapter and all PC's PS2 port. Some PC's PS2 port can support enough power for the switch, but some PC's PS2 port (like laptop, notebook computer…etc.) is unable to supply enough power for the switch. In order to make sure the system can work steadily, please do not set power switch to off state or remove the power adapter from the switch.

   Although the PCs connected to BHK-117-16e unit are able to support enough power to the stand alone switch, BHK-117-16e unit still needs a power adapter for daisy chain more banks.

9. If forgetting the " password " you typed, please contact your supplier.

Accessories

Ordering information:

1. VGA-100 VGA Extender (DB15 Female to DB15 Female) MAX. 100 feet

- VGA-100 - HDDB 15 pin to HDDB 15 pin,
- All female, Max 100 feet
- PS2-100 - Two PS/2 Mini Din 6 pin to two PS/2 Mini Din 6 pin, all female, Max 100 feet

VGA Extender

2. PS2-100 PC port PS2 Extender (Mini Din 6 Female to Mini Din 6 Female) MAX distance: 100 feet

3. Daisy-100 Daisy Chain PS2 port Extender (Mini Din 6 Female to Mini Din 6 Female) MAX. 100 feet

4. PS2-DB9 PS2 to Serial adapter (Mini Din 6 Female to DB9 Female)

5. PS2KVM-Cable 3-in-one 6 feet VGA and PS2 cable for pc port to BHK-117-16e

6. RMB-2 Rack Mount Brackets

7. USB-PS2 USB to PS2 for converting KVM PS2 port to USB PC, MAC or USB SUN Microsystems.

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- Convert PS2 KVM switch Device to USB KVM switch Devices (PC, iMAC or SUN platforms)
- Support standard PS/2 Mouse and Microsoft Intellimouse
- Eas install
- Bus power, External power Adapter Not Required
- Complies to USB 1.0 and 1.1 Specification
- Support UHCI and OHCI USB Interfaces

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 A

RMA Service

Thank you for purchasing our product again, our warranty is one-year parts & labor. Please refer to our website for further details regarding our warranty policy. If you have any problem about operating, please feel free to contact us via the following ways :

WebSite: www.i-techcompany.comT

Toll Free: 1-888-483-2418