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1U 8-Port KVM Module for 1UCABCONS
1U 16-Port KVM Module for 1UCABCONS

CAB831HDU
CAB1631HDU

*actual product may vary from photos

DE: Bedienungsanleitung - de.startech.com
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Manual Revision: 06/27/2012

FCC Compliance Statement

This equipment has been tested 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 instructions, 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 can 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 the 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/TV technician for help.

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Introduction

The CAB831HDU 8 Port USB KVM Switch Module is designed for use with StarTech.com's 1UCABCONS series (1UCABCONS, 1UCABCONS17, 1UCABCONS19) 1U LCD Rack Console, allowing control of up to 8 USB based PCs or servers from a single console.

Featuring a rugged and durable design, the USB KVM Module fits neatly behind your rack console to provide upgraded functionality while saving space in the rack. The CAB831HDU is also compatible as a replacement KVM module for the RACKCONS1708, RACKCONS1716 and RACKCONS1916 Rack Mount LCD Consoles.

A scalable and versatile KVM solution, the USB module can be cascaded with multiple KVM switches, delivering control of up to 64 computers in total.

Packaging Contents
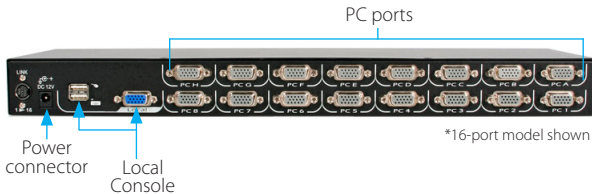• 1 x 1U KVM Module for 1UCABCONS

System Requirements
• 1UCABCONS series Rackmount LCD Console

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Installation

Front View

C-36 Centronics
Connector

Rear View

PC ports

*16-port model shown

Power
connector

Local
Console

Hardware Installation

This section will guide you through the hardware installation of your KVM Module. Please read through this section carefully and complete each step in the order listed.

1. Make sure all computers and devices are powered off.

2. Remove/disconnect any existing KVM Module from the rear of the 1UCABCONS series Rackmount Console.

3. Connect the KVM Module to your 1UCABCONS series Rackmount Console as directed in it's user guide.

4. Attach each of your managed computers to your StarView KVM console's PC ports using StarTech.com KVM cables. Use the cables to connect one of the PC ports on the back of the KVM module to the computer's keyboard/mouse, and video ports.

NOTE: These instructions are for a single KVM switch only. For information on cascading multiple KVMs, see **Cascade Configuration** below.

5. Turn on the 1UCABCONS, followed by the computers.

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NOTE: After the initial power up, you can hot-plug additional computers or slave KVM switches without having to power down your KVM.

NOTE: For any "CABxxxx" series KVM Module, the connectors (keyboard and mouse) for the Local Console port on the rear of the KVM module are not active while the module is connected to the LCD Console by the C-36 connector. When the C-36 connector is no longer connected to the LCD Console, the keyboard/mouse ports become active and the KVM module can act as a rear mounted standalone KVM switch. The Local VGA port can be connected to an external VGA monitor at any time.

Cascade Configuration

You can connect a second level of KVM switches to one or more of your Master KVM switch's PC ports. The KVM switches connected to the Master switch are know as Slaves. Once connected, the KVM switches will automatically configure themselves as either Master or Slaves. You can only connect an equal or "smaller" KVM to the Master KVM. For example, a 16-port Master KVM switch can have both 16-port and 8-port slaves. An 8-port Master KVM switch can only have 8-port KVM slaves or lower.

The 8-port KVM can support 64 PCs, with 8 8-port Slave KVMs, each connected to 8 PCs. The 16-port KVMs can support 136 computers, with 8 16-port Slave KVMs, each connected to 16 computers. **The Slave KVMs must be connected to the 1~8 ports, not the A~H ports on the Master KVM.**

To cascade your KVMs, use a StarTech.com KVM cable to connect one of your Master switch's PC ports to the Slave switch's Console ports.

A slave KVM module may be mounted to the rear vertical poles inside a rack cabinet by the rear brackets with the connectors facing out.

* 16-port model shown

KVM cables
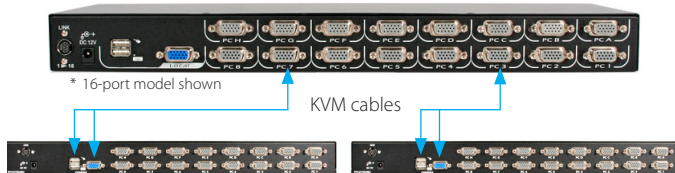
Driver Installation

The KVM Module uses generic keyboard/mouse/monitor drivers that are built into the operating system, so no additional drivers are required.

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Operating Your KVM Switch

To toggle between computers, you can use the hot-key commands, OSD (On-Screen Display) menu or by using the push buttons built into the 1UCABCONS series LCD Rack Console.

Push Buttons

A solid red indicator reflects the port selected. The indicator flashes red when in Auto or Manual Scan mode. You can press any of the corresponding push buttons to select the active computer. On the 16 port models, Port 1 and Port A share the same push button, as do Port 2 and Port B, etc. To select Ports 1 through 8, press the push button once. To select Ports A through H, press and hold the push button for two seconds. Alternatively, if Port 1 is currently selected and you want to select Port A, you can press the push button once to switch to Port A.

The K/M Reset function reconfigures your system without powering down your computers or your KVM switch. To reset the switch, press and hold the front-panel 1 and 2 buttons simultaneously.

The Auto-Scan function automatically scrolls through your connected computers. Press and hold the front panel 7 and 8 buttons simultaneously to enter Auto Scan mode.
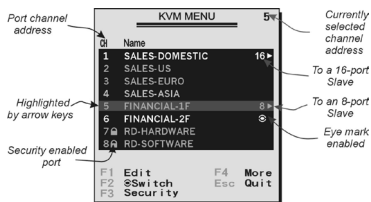
OSD Operations

A computer may be selected by issuing hot-key commands or by activating the OSD window. The Auto-Scan function automatically scrolls through your connected computers.
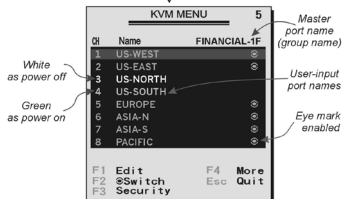
By hitting the left <CTRL> key twice within two seconds, you may see the Hotkey Menu (if it is enabled as an OSD option). Or, by hitting the left <CTRL> key three times within two seconds, you will see a KVM MENU screen (below) showing a list of the computers with corresponding channel addresses, names and status.

The port number of the currently selected computer is displayed in red, 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 if it has no power. The OSD menu updates the color when it is activated.

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Labels around first KVM MENU screen:
- Port channel address
- Highlighted by arrow keys
- Security enabled port
- Currently selected channel address
- To a 16-port Slave
- To an 8-port Slave
- Eye mark enabled

```
            KVM MENU            5▼
Qt  Name
1   SALES-DOMESTIC            16►
2   SALES-US
3   SALES-EURO
4   SALES-ASIA
5   FINANCIAL-1F               8►
6   FINANCIAL-2F                ⊙
7🔒 RD-HARDWARE
8🔒 RD-SOFTWARE
F1  Edit        F4  More
F2  ⊙Switch     Esc Quit
F3  Security
```

Press "Enter" to the slave
FINANCIAL-1F

Labels around second KVM MENU screen:
- White as power off
- Green as power on
- Master port name (group name)
- User-input port names
- Eye mark enabled

```
            KVM MENU            5
Qt  Name           FINANCIAL-1F
1   US-WEST                     ⊙
2   US-EAST                     ⊙
3   US-NORTH                    ⊙
4   US-SOUTH                    ⊙
5   EUROPE                      ⊙
6   ASIA-N                      ⊙
7   ASIA-S                      ⊙
8   PACIFIC                     ⊙
F1  Edit        F4  More
F2  ⊙Switch     Esc Quit
F3  Security
```

Use the up <↑> and down <↓> arrow keys to highlight a computer and the <ENTER> key to select it. Or, you may press <ESC> to exit the 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.

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). The <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 indicates 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 the <ESC> key to exit OSD and to return to the selected computer; the computer name is also shown on the screen.

Editing Computer Name Assignments

Function key <F1> - To edit the name entry of a computer or a Slave, first use the <↑> and <↓> arrow keys to 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 one letter at a time.

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Non-volatile memory stores all name entries until you change, even if the unit is powered down.

Selecting Computers for Autoscan

Function key <F2> - Use this key to switch the eye mark (👁) of a computer on or off. First, use the <↑> and <↓> arrow keys to highlight it, then press <F2> to switch its eye mark on or off. If Scan Type reads 'Ready PC + 👁 ', only the power-on and eye mark selected computers will be displayed sequentially in Scan mode.

Locking Devices (Slave or computer)

Function key <F3> - To lock a device (a computer or a Slave) from unauthorized access, use Security. Security is effective for only one device (a computer or a Slave). To lock a device, use the <↑> and <↓> arrow keys to 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.

If you want to access the locked device temporarily, simply highlight it and press <ENTER>. The OSD will prompt 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 one. During Scan mode, OSD skips the security-enabled device.

Advanced Functions

Function key <F4> - 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 <↑> and <↓> arrow keys, select the functions and press <ENTER>. Available options will be shown in the middle of the screen. Again, using the <↑> and <↓> arrow keys to view options, then press <ENTER> to select it. You can press <ESC> to exit at any time.

Auto Scan

In this mode, the Console automatically switches from one powered 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 until activity stops; it then resumes with the next computer in sequence. To abort 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.

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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 Manual Scan mode.

Audio Stick

An optional multimedia module can be linked to the back of each KVM Module 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 PC: In Scan mode, scan through power-on computers.

☉ only: In Scan mode, scans through any ☉ selected computer regardless of computer power status with an eye mark.

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

The Console offers keyboard typematic settings that override similar settings in the 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.

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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 are 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 nonvolatile memory stores the Position setting. **UL** as Upper Left, **UR** as Upper Right, **LL** as Lower Left, **LR** as Lower Right. **MI** as Middle.

Country Code for Sun

Sun keyboards of different languages have different layouts. The KVM switch is able to emulate a Sun keyboard for a specific language type or country such as Arabic, Belgian, US, Yugoslavia, etc. Select the proper country code that matches all of your Sun computers.
NOTE: The country code must be set prior to powering up the Sun computer. Not performing this step prior to power-up could cause the system to malfunction.

Max. Resolution: It supports widescreen, and you can adjust the monitor resolution under this sub-menu. The following selections are available: 1024x768, 1280x1024, 1600x1200, 1920x1440 Widescreen resolutions: 1920x1200, 1920x1080, 1440x900, 1360x768 and "DDC2B Disable".

Function Key <F5>: To switch the Sun mark of a port on or off indicating the computer is a Sun server. Sun servers have more keys on the keyboard than a PC. When a Sun-marked port is selected, the KVM Switch starts to translate the keys from a PC keyboard to a Sun keyboard. See the section entitled Sun Keyboard Mapping for further detail.

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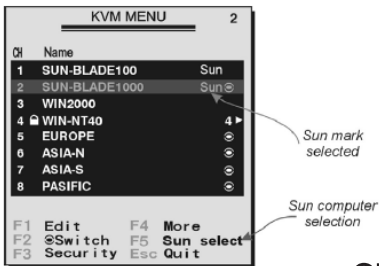
NOTE: It is unnecessary to switch the Sun mark ON or OFF if an authentic Sun keyboard is being used on the console. In other words, you must ensure that the Sun-marked port has not been selected if you are already using a Sun keyboard.

With different types of keyboard and computer, the Sun Mark must be set up in compliance with the following instruction:

Keyboard Type	Computer Type	Sun Mark
USB (non-Sun)	PC/Mac	No
USB (non-Sun)	Sun	Yes
USB (Sun keyboard)	PC/Mac	No
USB (Sun keyboard)	Sun	Yes

ESC: To exit the OSD, press the **<ESCAPE>** key

Hot-key commands

A Hot-key command is a short keyboard sequence used to select a computer, to activate computer scan, etc. The Console constantly interprets keystrokes for hot-keys. A hot-key sequence starts with two left <CTRL> keystrokes followed by one or two more keystrokes. A built-in alarm 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.

> **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 port number, which is determined by the KVM Module connection. For a computer connected to a Master, its port is represented by the PC port label (1~8 or A~H). For a computer connected to a Slave, two characters represent its port. The first character is the port number of the Master unit (1~8) and the second one is the port number 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.

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Left <CTRL> + left <CTRL> + <6> + <C>

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

Auto Scan, automatically scans power-on computers one by one at a fixed interval:

Left <CTRL> + left <CTRL> + <F1>

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: Scan Type determines whether an eye-marked computer is to be displayed 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. Press any other key to abort the Manual Scan.

NOTE: Scan Type determines whether an eye-marked computer is to be displayed during Auto Scan.

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

Left <CTRL> + left <CTRL> + <F3>

The Rack Console 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 Rack Console will generate 1 to 4 beeps corresponding to 10, 15, 20 and 30 characters/sec respectively.

Change Leading Hotkey

The default leading hotkey sequence involves pressing the left <CTRL> twice in succession (e.g. left <CTRL>, left <CTRL>). This can be changed to the right <CTRL> key instead, to avoid accidental activation due to using the left <CTRL> key for functions such as Copy/Paste.

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To change the leading hotkey sequence to Right <CTRL>:

Left <CTRL>, Left <CTRL>, hold <ALT>, press Right <CTRL>

All hotkey commands that previously required pressing the Left <CTRL> will be switched to requiring the right <CTRL> instead.

To change the leading hotkey sequence back to Left <CTRL>:

**Right <CTRL>, Right <CTRL>, hold <ALT>, press Left <CTRL>**

Sun/Mac Keyboard Mapping

The KVM Switch emulates a Sun Keyboard when a computer is marked with a Sun, in the OSD menu by Function Key <F5>. A Sun keyboard has more keys than a standard PC keyboard. These extra keys are simulated by tapping the Right <CTRL> button, which is normally located on the right lower part of the keyboard, followed by one of the function keys on the general keyboard (i.e. combo key). For example, tap the Right <CTRL> key, and then tap the function key F7 to activate Open for a Sun computer.

NOTE: For older Sun Operating Systems, the switch does not support the LowPower option under Power Off Select.

For keystroke emulation of Sun/Mac computers, please refer to the chart below and conduct the following two examples:

Stop A function in Sun: Press right <CTRL> and release, then within two seconds press F1 and A in sequence.

Help function in Sun: Press right <CTRL> and release, then within 2 seconds, press H.

STANDARD KEYBOARD	SUN KEYBOARD	MAC KEYBOARD
Press right <CTRL> and release <1>	⊏⊐	
Press right <CTRL> and release <2>	◑−	
Press right <CTRL> and release <3>	◑+	
Press right <CTRL> and release <4>	⏻ ☾ note	◁ power
Press right <CTRL> and release <F1>	<Stop>	
Press right <CTRL> and release <F2>	<Again>	

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Press right <CTRL> and release <F3>	<Props>	
Press right <CTRL> and release <F4>	<Undo>	
Press right <CTRL> and release <F5>	<Front>	
Press right <CTRL> and release <F6>	<Copy>	
Press right <CTRL> and release <F7>	<Open>	
Press right <CTRL> and release <F8>	<Paste>	
Press right <CTRL> and release <F9>	<Find>	
Press right <CTRL> and release <F10>	<Cut>	
<Print Screen>		<F13>
<Scroll Lock>		<F14>
<Pause Break>		<F15>
Press right <CTRL> and release <H>	<Help>	
right <⊞>	right <♦>	right <🍎>
left <⊞>	left <♦>	left <🍎>
<☰>	<Compose>	
right <ALT>	<Alt Graph>	right <OPTION>
left <ALT>	<ALT>	left <OPTION>

Change Configuration while Running

A device (a computer or a KVM switch) 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 must be turned off before it is connected to the Master.

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Specifications

	CAB831HDU	CAB1631HDU
Number of Ports	8	16
Connectors	8 x DE-15 PC connectors	16 x DE-15 PC connectors
	1 x VGA female output	1 x VGA female output
	1 x DC Power	1 x DC Power
	Inactive: 2 x USB female input (keyboard/mouse)	Inactive: 2 x USB female input (keyboard/mouse)
Maximum Resolution	1920x1440	
On Screen Display	Yes	
Port Switching Control	Hot-keys, OSD, Push Button	
Auto Scan	Yes	
Auto Scan Interval	3, 8, 15, 30	
Power Adapter Included	No (included with 1UCABCONS)	
Operating Temperature	5°C ~ 40°C (41°F ~ 104°F)	
Storage Temperature	-20°C ~ 60°C (-4°F ~ 140°F)	
Humidity	80% RH	
Dimensions	404.0mm x 114.0mm x 45.0mm	
Weight	1380g	1580g

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