



Secure DVI KVM Switch with CAC Port

CK4-D102C	2-Port SH Secure Pro DVI KVM w/audio and CAC, PP 4.0
CK4-D202C	2-Port DH Secure Pro DVI KVM w/audio and CAC, PP 4.0
CK4-D104C	4-Port SH Secure Pro DVI KVM w/audio and CAC, PP 4.0
CK4-D204C	4-Port DH Secure Pro DVI KVM w/audio and CAC, PP 4.0
CK4-D404C	4-Port QH Secure Pro DVI KVM w/audio and CAC, PP 4.0
CK4-D108C	8-Port SH Secure Pro DVI KVM w/audio and CAC, PP 4.0
CK4-D208C	8-Port DH Secure Pro DVI KVM w/audio and CAC, PP 4.0
CK4-D116C	16-Port SH Secure Pro DVI KVM w/audio and CAC, PP 4.0

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TECHNICAL SPECIFICATIONS

VIDEO		
Format	DVI-I Dual Link, DVI 1.0, DVI-D, XVGA	
Host Interface	CK4-D102C	(2) DVI-I 29-pin (female) / DVI-D
	CK4-D202C / CK4-D104C	(4) DVI-I 29-pin (female) / DVI-D
	CK4-D204C / CK4-D108C	(8) DVI-I 29-pin (female) / DVI-D
	CK4-D404C / CK4-D208C / CK4-D116C	(16) DVI-I 29-pin (female) / DVI-D
User Console Interface	CK4-D102C / CK4-D104C / CK4-D108C / CK4-D116C	(1) DisplayPort 20-pin (female)
	CK4-D202C / CK4-D204C / CK4-D208C	(2) DisplayPort 20-pin (female)
	CK4-D404C	(4) DisplayPort 20-pin (female)
Max Resolution	2560 x 1600 @ 60 Hz	
DDC	5 volts p-p (TTL)	
Input Equalization	Automatic	
Input Cable Length	Up to 20 ft.	
Output Cable Length	Up to 20 ft.	
USB		
Signal Type	USB 1.1 and 1.0 Keyboard and Mouse only. USB 2.0 for CAC connection	
Input Interface	CK4-D102C / CK4-D202C	(4) USB Type B
	CK4-D104C / CK4-D204C / CK4-D404C	(8) USB Type B
	CK4-D108C / CK4-D208C	(16) USB Type B
	CK4-P116C	(32) USB Type B
Output Interface	(2) USB Type-A for keyboard and mouse connection only, (1) USB Type-A for CAC connection (-C models only)	
AUDIO		
Input Interface	(2/4/8/16) Connector Stereo 3.5mm Female	
Output Interface	(1) Connector Stereo 3.5mm Female	
POWER		
Power Requirements	12V DC 3A (minimum) power adapter with center-pin positive polarity.	
ENVIRONMENT		
Operating Temp	32° to 104° F (0° to 40° C)	
Storage Temp	-4° to 140° F (-20° to 60° C)	
Humidity	0-80% RH, non-condensing	
CERTIFICATIONS		
Security Accreditation	Common Criteria Validated To NIAP, Protection Profile PSS Ver. 4.0	
OTHER		
Emulation	USB 1.1 and USB 2.0 Compatible	
Control	Front Panel Buttons	

WHAT'S IN THE BOX?

PART NO.	QTY	DESCRIPTION
CK4-DxxxC	1	Secure DVI KVM w/audio and CAC, PP 4.0
	1	Universal power adapter with center-pin positive polarity
	1	Product Documentation

SECURITY FEATURES

ANTI-TAMPER SWITCHES

Each model is equipped with internal Anti-Tamper switches, which sense attempts to open the device enclosure. Once the system identifies such an attempt, all the front panel LED's will flash rapidly, the internal buzzers will beep, and the unit will become useless by shutting off connection with all attached PCs and peripherals disabling any functionality.

TAMPER-EVIDENT SEAL

The enclosure of the unit is protected with a tamper-evident seal to provide visual evidence showing if the unit has been opened.

PROTECTED FIRMWARE

The controller of the unit has a special protection feature that prevents reprogramming or reading the firmware.

HIGH ISOLATION ON USB CHANNELS

Opto-isolators are used in the unit to keep USB data paths electrically isolated from each other, providing high isolation and preventing data leakage between ports.

SECURE EDID EMULATION

The unit prevents unwanted and unsecure data from transmitting through the DDC lines by means of secure EDID learning and emulation.

SELF-TEST

A self-test is performed each times the KVM is powered on as part of its boot-up sequence. If the KVM starts up correctly and is functional, the self-test has passed. However, if all Front Panel LED's are on and not flashing, the power up self-test has failed and all functions are disabled. Check if any of the front panel port selection buttons are jammed. In this case, release the jammed button and recycle the power.



CK4-D104C Rear Panel

INSTALLATION

SYSTEM REQUIREMENTS

1. StarTech.com Secure PSS is compatible with standard personal/portable computers, servers or thin-clients, running operating systems such as Windows or Linux.
2. The peripheral devices that are supported by the KVM are listed in the following table:

CONSOLE PORT	AUTHORIZED DEVICES
Keyboard	Wired keyboard and keypad without internal USB hub or composite device functions, unless the connected device has at least one endpoint which is a keyboard or mouse HID class.
Display	Display device (e.g. monitor, projector) that uses an interface that is physically and logically compatible with the TOE ports (DVI-I).
Audio out	Analog amplified speakers, Analog headphones.
Mouse/Pointing Device	Any wired mouse or trackball without internal USB hub or composite device functions.
User Authentication Device	USB devices identified as user authentication (base class 0Bh, e.g. Smart-card reader, PIV/CAC reader, Token, or Biometric reader).

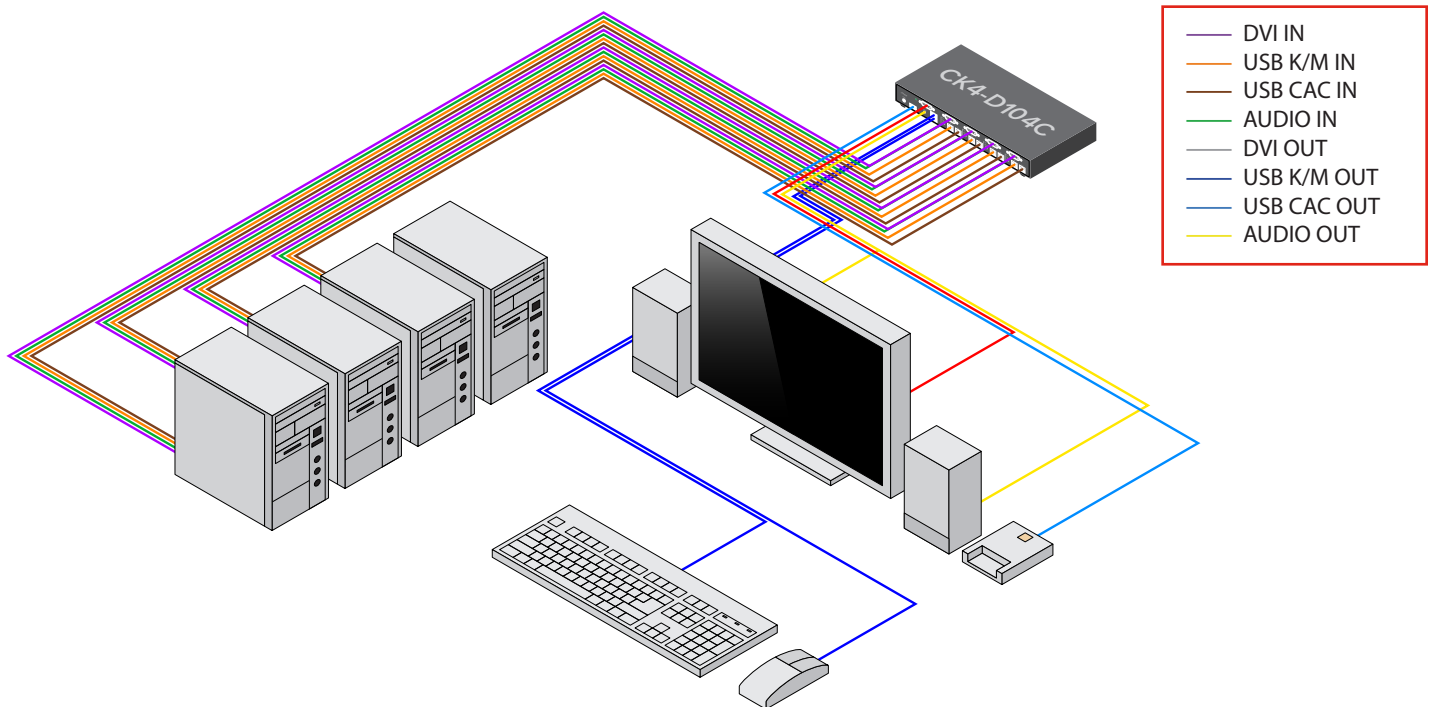
INSTALLATION (Continued)

SINGLE-HEAD UNITS:

1. Ensure that power is turned off or disconnected from the unit and the computers.
2. Use a DVI cable to connect the DVI output port from each computer to the corresponding DVI IN ports of the unit.
3. Use a USB cable (Type-A to Type-B) to connect a USB port on each computer to the respective USB ports of the unit.
4. Optionally connect a stereo audio cable (3.5mm to 3.5mm) to connect the audio output of the computers to the AUDIO IN ports of the unit.
5. Connect a monitor to the DVI OUT console port of the unit using a DVI cable.
6. Connect a USB keyboard and mouse to the two USB console ports.
7. Optionally connect stereo speakers to the AUDIO OUT port of the unit.
8. Optionally connect CAC (COMMON ACCESS CARD, SMART CARD READER) to the CAC port in the user console interface.
9. Finally, power on the KVM by connecting a 12VDC power supply to the power connector, and then turn on all the computers.

Note: The computer connected to port 1 will always be selected by default after power up.

Note: You can connect up to 2 computers to the 2 port KVM, up to 4 computers to the 4 port KVM, up to 8 computers to the 8 port KVM and up to 16 computers to the 16 port KVM.



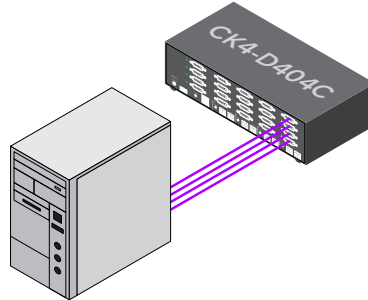
IMPORTANT WARNINGS - For security reasons:

- This product does not support wireless devices. Do not attempt to use a wireless keyboard or a wireless mouse with this product.
- This product does not support keyboards with integrated USB hubs or USB ports. Only use standard (HID) USB keyboards with this device.
- This product does not support microphone audio input or line input. Do not connect any microphones or headsets with microphones to this device.
- Connection of authentication devices (CAC) with external power sources is prohibited.

INSTALLATION (Continued)

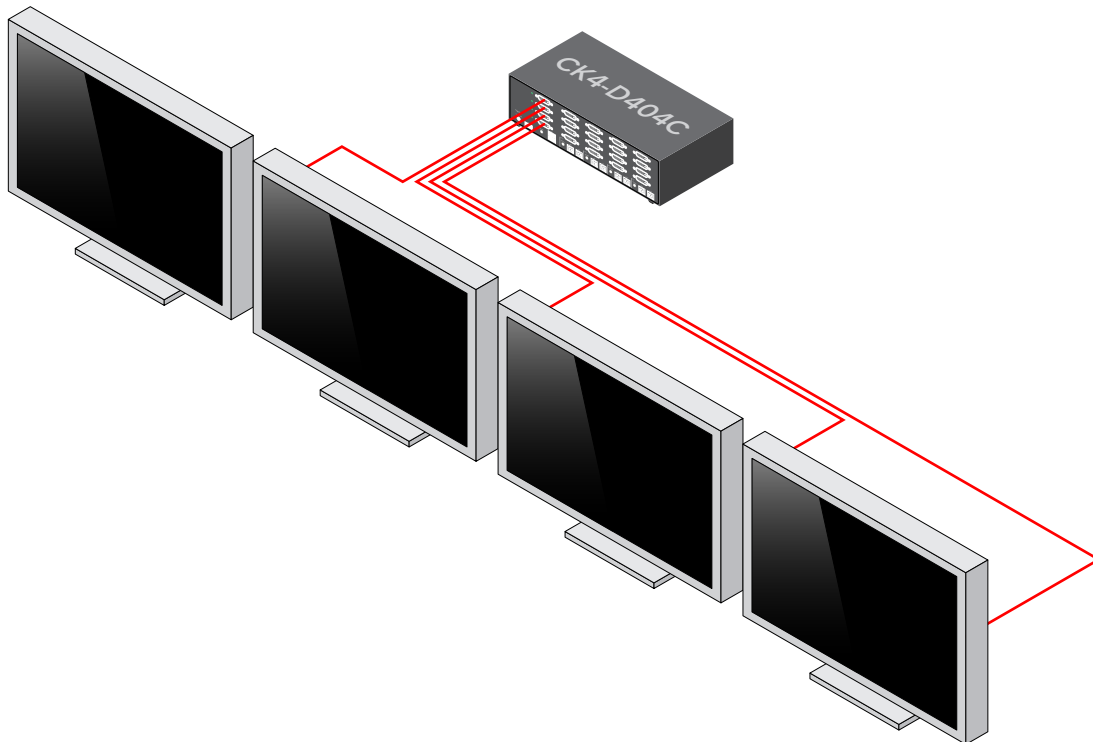
MULTI-HEAD UNITS:

1. Ensure that power is turned off or disconnected from the unit and the computers.
2. Use DVI cables to connect the DVI output ports of each computer to the corresponding DVI IN ports of the unit. For example, if using CK4-D404C, the four DVI ports of one computer must all be connected to one channel.



The DVI IN connectors that belong to the same channel are arranged vertically.

3. Use a USB cable (Type-A to Type-B) to connect a USB port on each computer to the respective USB ports of the unit.
4. Optionally connect a stereo audio cable (3.5mm on both ends) to connect the audio output of the computer to the AUDIO IN ports of the unit.
5. Connect the monitors to the DisplayPort OUT console ports of the unit using DisplayPort cables.

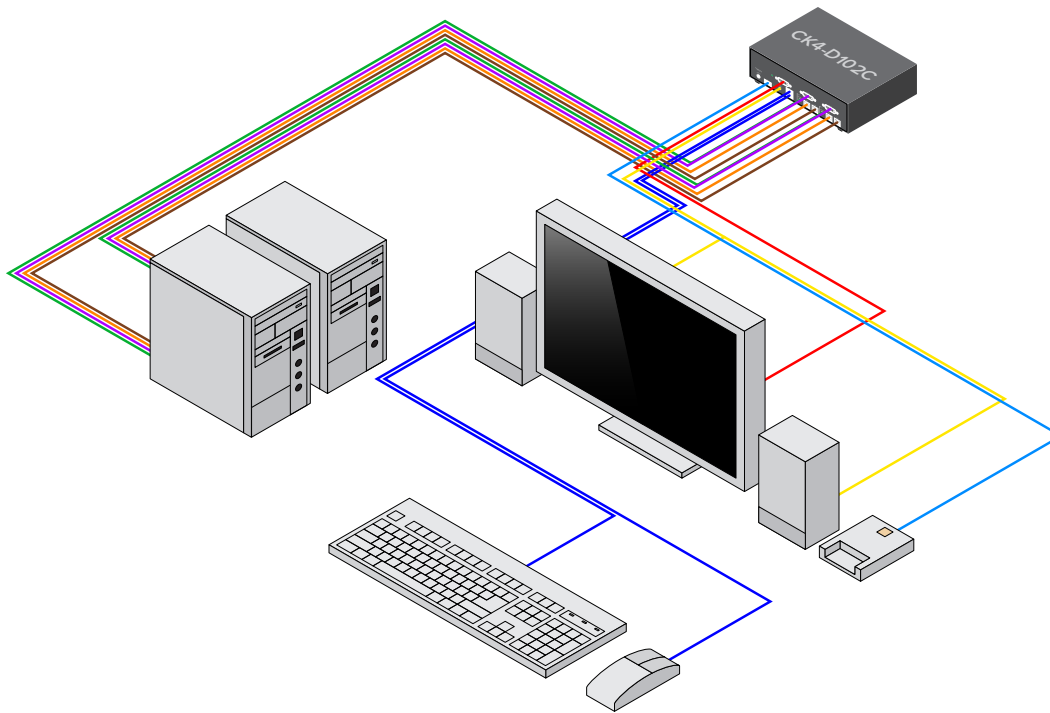


The DVI IN ports on one row will be switched to the DVI OUT of the same row.

6. Connect a USB keyboard and mouse in the two USB console ports.
7. Optionally connect stereo speakers to the AUDIO OUT port of the unit.
8. Optionally connect CAC (smart card reader) to the CAC port in the user console interface.
9. Power on the KVM by connecting a 12VDC power supply to the power connector, and then turn on all the computers.

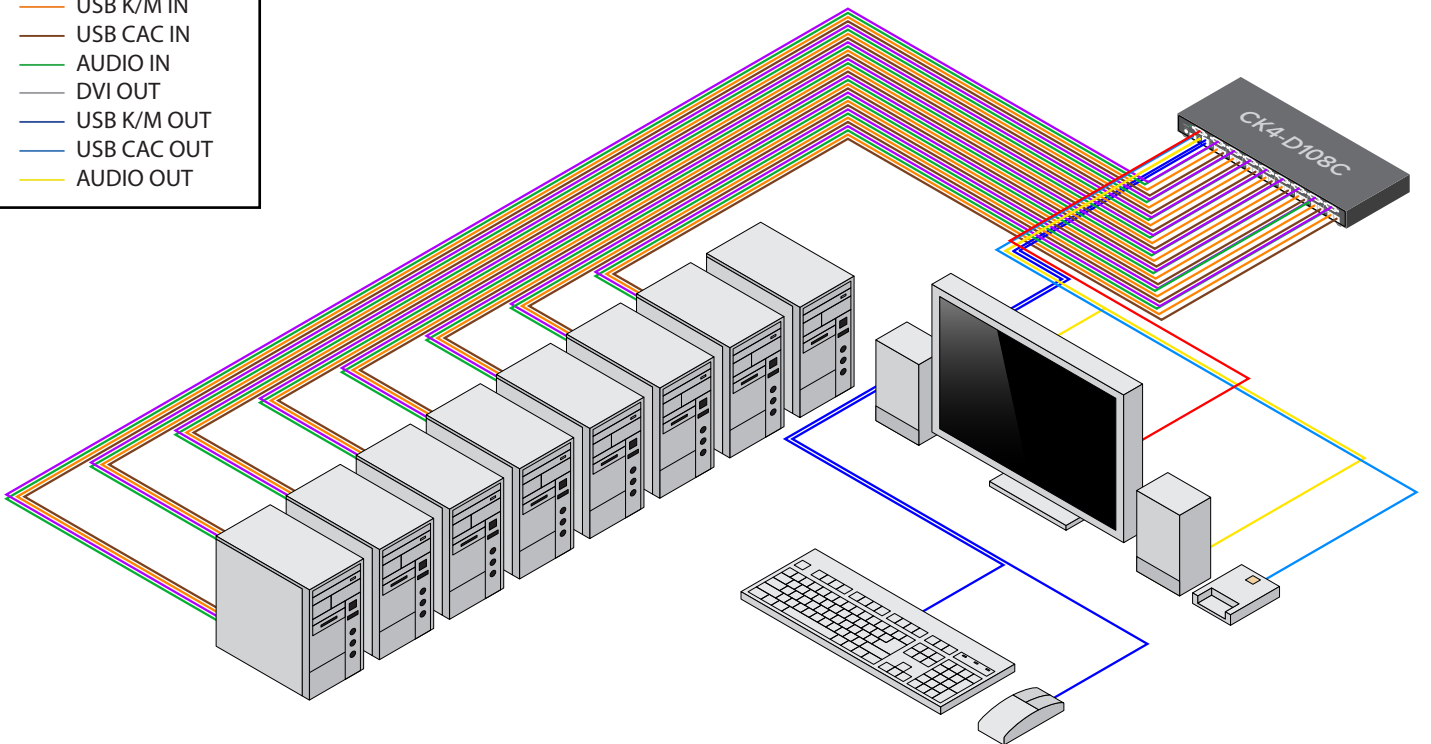
Note: The computer connected to port 1 will always be selected by default after power up.

INSTALLATION (Continued)



- DVI IN
- USB K/M IN
- USB CAC IN
- AUDIO IN
- DVI OUT
- USB K/M OUT
- USB CAC OUT
- AUDIO OUT

- DVI IN
- USB K/M IN
- USB CAC IN
- AUDIO IN
- DVI OUT
- USB K/M OUT
- USB CAC OUT
- AUDIO OUT



INSTALLATION (Continued)

EDID LEARN:

The KVM is designed to learn the connected monitor's EDID upon power up. In the event of connecting a new monitor to the KVM, a power recycle is required.

The KVM will indicate to the user the EDID learn process by flashing the front panel's LEDs. Port one green and push button blue LEDs will both begin to flash for about 10 seconds. When the LEDs stop flashing, the EDID learn process is done.

If the KVM has more than one video board (such as dual-head and quad-head models), then the unit will continue to learn the EDIDs of the connected monitors and indicate the progress of the process by flashing the next port selection green and push button blue LEDs respectively.

The monitor must be connected to the video output connector located in the console space at the back of the KVM during the EDID learn process.

If the read EDID from the connected monitor is identical to the current stored EDID in the KVM then the EDID learn function will be skipped.

CAC (COMMON ACCESS CARD, SMART CARD READER) INSTALLATION

The following steps are intended for the system administrator or IT manager only.

If you have the optional CAC ports there will be 2 ports on a 2 host ports KVM, 4 ports on a 4 host ports KVM, 8 ports on a 8 host ports KVM and 16 ports on a 16 host ports KVM.

CAC connection to the computer requires a USB cable connection separate from the keyboard and mouse. This allows the CAC to be connected independently from the keyboard and mouse. It also allows the user to select whether CAC for a certain computer is supported or not.

1. Ensure that power is turned off or disconnected from the unit and the computer.
2. Use a USB cable (Type-A to Type-B) to connect a USB port on a computer to its respective CAC USB ports on the KVM. Do not connect the USB cable if CAC functionality is not needed for that computer.
3. Connect a CAC (smart card reader) to the CAC port in the user console interface.
4. Power on the KVM by connecting a 12VDC power supply to the power connector, and then turn on all the computers.
5. To disable CAC for any channel (all CAC ports are enabled as default), use the front panel buttons to switch the KVM to the channel whose CAC mode you wish to change. Once the channel is selected, the button LED for this specific channel should be on (CAC port enabled). Press and hold the button for 3 seconds until the button LED turns off. The CAC port is now disabled for this channel.
6. To enable CAC for any channel, use the front panel buttons to switch the KVM to the channel whose CAC mode you wish to change. Once the channel is selected, the button LED for this specific channel should be off (CAC port disabled). Press and hold the button for 3 seconds until the button LED turns on. The CAC port is now enabled for this channel. An active session on a computer is terminated upon removal of the CAC device.

Note: The open session will be immediately terminated upon the removal of the registered CAC device.

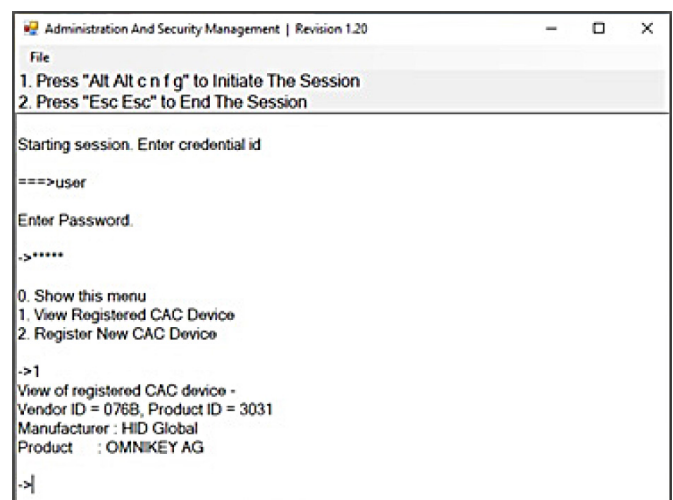
CAC PORT CONFIGURATION

The following steps are intended for the system administrator and operators (users).

Note: Only one computer connected to port 1 is required for this operation CAC port Configuration is an optional feature, allowing registration of any USB peripheral to operate with the KVM. Only one peripheral can be registered and only the registered peripheral will operate with the KVM. By default, when no peripheral is registered, the KVM will operate with any Smart Card Reader.

CONFIGURE THE CAC PORT VIA USER MENU OPTIONS

1. Open the Administration and Security Management Program.
2. Using the keyboard, press the Alt key twice and type "cnfg".
3. At this stage the mouse connected to the KVM will stop functioning.
4. Enter the default username "user" and press Enter.
5. Enter the default password "12345" and press Enter.
6. Select option 2 from the menu on your screen and press Enter.
7. Connect the peripheral device to be registered to the CAC USB port in the console side of the KVM and wait until the KVM is reading the new peripheral information.
8. The KVM will list the information of the connected peripheral on the screen and buzz 3 times when registration is completed.



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Administration And Security Management | Revision 1.20
File
1. Press "Alt Alt c n f g" to Initiate The Session
2. Press "Esc Esc" to End The Session

Starting session. Enter credential id
===>user

Enter Password.
->*****

0. Show this menu
1. View Registered CAC Device
2. Register New CAC Device

->1
View of registered CAC device -
Vendor ID = 076B, Product ID = 3031
Manufacturer : HID Global
Product      : OMNIKEY AG

->|
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AUDITING: Dumping the Event Log via User Menu Options

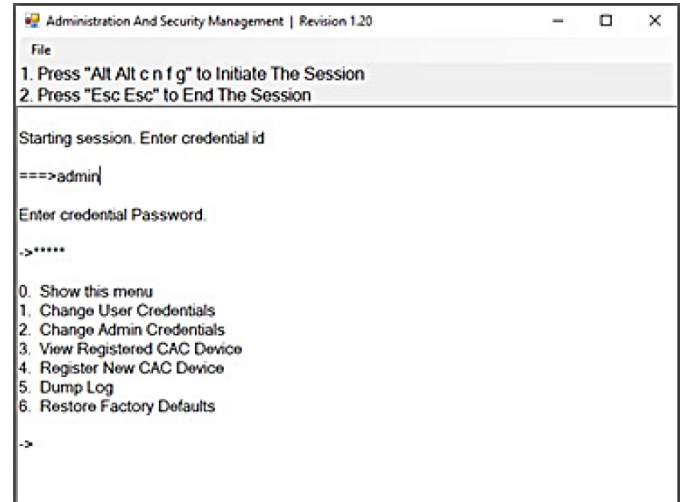
The following steps are intended for the system administrator.

Note: Only one computer connected to port 1 is required for this operation.

The Event Log is a detailed report of critical activities stored in the KVM memory. A comprehensive feature list and guidance for Administration and Security Management Tools can be found in the Administrator's Guide available for download from: www.StarTech.com/support.

To view or dump the Event Log:

1. Open the Administration and Security Management Program.
2. Using the keyboard, press the Alt key twice and type "cnfg".
3. Enter the default admin name "admin" and press Enter.
4. Enter the default password "12345" and press Enter.
5. Request a Log Dump by selecting option 5 in the menu. (Shown in Figure 12-1)



* See Administration and Security Management Tool Guidance for detailed information.

RESET: Restore Factory Defaults

The following steps are intended for the system administrator.

Note: Only one computer connected to port 1 is required for this operation.

Restore Factory Defaults will reset all settings on the KVM to their original state.

- CAC port registration will be removed.
- KVM settings will be reset to factory defaults.

To Restore Factory Defaults via User Menu Options:

1. Open the Administration and Security Management Program.
2. Using the keyboard, press the Alt key twice and type "cnfg".
3. Enter the default admin name "admin" and press Enter.
4. Enter the default password "12345" and press Enter.
5. Select option 7 from the menu on your screen and press enter. (Menu shown in Figure 12-1)

* See Administration and Security Management Tool Guidance for detailed information.

LED's BEHAVIOR

User Console Interface – Display LED:

#	Status	Description
1	OFF	Monitor is not connected
2	ON	Monitor is connected
3	Flashing	EDID problem – Learn EDID to fix the problem

User Console Interface – CAC LED:

#	Status	Description
1	OFF	CAC is not connected
2	ON	Authorized and functional CAC is connected
3	Flashing	Non-CAC peripheral is connected

Front Panel – Port Selection LED's:

#	Status	Description
1	OFF	Non-selected port
2	ON	Selected port
3	Flashing	EDID learn in process

Front Panel – CAC Selection LED's:

#	Status	Description
1	OFF	CAC port is disabled or non-selected port
2	ON	CAC port is enabled
3	Flashing	EDID learn in process

Front Panel - Port and CAC Selection LED's:

#	Status	Description
1	All Flashing	Connected peripheral to keyboard or mouse console ports is rejected

EDID Learn - Front Panel LED's:

All LED's are turned on for 1 second. Then:

- Port 1 LED's will flash until the end of the process.
- Port 2 LED's will flash until the end of the process if a second video board exists (Dual-head KVM).
- Port 3 LED's will flash until the end of the process if a third video board exists (Quad-head KVM).
- Port 4 LED's will flash until the end of the process if a fourth video board exists (Quad-head KVM).

IMPORTANT!

If all the Front Panel LED's are flashing and the buzzer is beeping, the KVM has been TAMPERED with and all functions are permanently disabled. Please contact StarTech.com technical support at www.StarTech.com/Contact.

If all Front Panel LED's are on and not flashing, the POWER UP SELF TEST has failed and all functions are disabled.

Check if any of the front panel port selection buttons are jammed. In this case, release the jammed button and recycle the power. If power up self test is still failing, please contact StarTech.com technical support at www.StarTech.com/Contact.

SYSTEM OPERATION

FRONT PANEL CONTROL

To switch to an input port, simply push the desired input button on the front-panel of the KVM. If an input port is selected, the LED of that port will turn on. An open session is terminated upon switching to a different computer.

TROUBLESHOOTING

NO POWER

- Make sure that the power adapter is securely connected to the power connector of the unit.
- Check the output voltage of the power supply and make sure that the voltage value is around 12VDC.
- Replace the power supply.

NO VIDEO

- Check if all the video cables are connected properly.
- Connect the computer directly to the monitor to verify that your monitor and computer are functioning properly.
- Restart the computers.

KEYBOARD IS NOT WORKING

- Check if the keyboard is properly connected to the unit.
- Check if the USB cables connecting the unit and the computers are properly connected.
- Try connecting the USB on the computer to a different port.
- Make sure that the keyboard works when directly connected to the computer.
- Replace the keyboard.

Note: The NUM, CAPS, and SCROLL Lock LED indicators on the keyboard are not supposed to light up if connected to the KVM.

MOUSE IS NOT WORKING

- Check if the mouse is properly connected to the unit.
- Try connecting the USB on the computer to a different port.
- Make sure that the mouse works when directly connected to the computer.
- Replace the mouse.

NO AUDIO

- Check if all the audio cables are connected properly.
- Connect the speakers directly to the computer to verify that the speakers and the computer audio are functioning properly.
- Check the audio settings of the computer and verify that the audio output is through the speakers.

NO CAC (COMMON ACCESS CARD, SMART CARD READER)

- Check if the USB cables connecting the unit and the computers are properly connected.
- Make sure the CAC port is enabled.

Warranty Information

For information regarding the warranty of this product, please visit: www.StarTech.com/Warranty

Frequently Asked Questions

What Is EDID Learn And How Is It Triggered?

The EDID Learn process is triggered only during the KVM's startup sequence. This behavior aligns with the NIAP 4.0 Protection Profile requirements, which restrict continuous EDID communication. Under this standard, the KVM may only receive EDID data from the monitor during initialization to minimize active data exchange between the monitor and the KVM, thereby enhancing isolation and overall device security. Ultimate fix: KVM reset.

Why Do Different Ports Have Different LED Colors?

The color-coded LEDs serve a security purpose by allowing users to clearly and visually confirm which computer is active before entering sensitive data. This feature reduces the risk of accidental data entry on the wrong system. (First: green, last: red, middle: orange.)

Does The KVM Work With Converters Or Adapters?

No, the use of converters or adapters is not recommended.

What Issues Does A KVM Reset Fix?

A reset can resolve video or EDID issues, CAC reader drops, or detection issues caused by a power outage.

Is The Software Utility Required?

No, but it is recommended to update the username and password during initial setup.

Does The Software Utility Work On Operating Systems Other Than Windows?

No.

How Big Is The Log File Buffer?

FIFO – 100 entries.

Can The Time Zone Be Changed?

No, the default time zone is Pacific Time (USA).

Is There A Battery Internally?

Yes.

Does the KVM Have Anti-Tamper Features?

Yes.

Can The Onboard Buzzer Be Disabled?

No.

Do Special Keys (Media Shortcut Keys) Work?

No, using them may cause unexpected behavior.

NOTICE

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