



## MasterConsole CAT®

### Quick Setup Guide (MCCAT28/216)

Thank you for your purchase of the "two-user" MasterConsole CAT (MCCAT) switch—MCCAT28 or MCCAT216, the most friendly and easy-to-use 1U KVM switch. This Quick Setup Guide explains how to install the product. Follow the instructions carefully to ensure a quick and easy installation.

For additional information on any aspect of the MasterConsole CAT MCCAT28/216, see the MasterConsole CAT MCCAT28/216 User Guide, which can be downloaded from the Firmware and Documentation section of Raritan's website (<http://www.raritan.com/support/firmware-and-documentation/>).

### Package Contents

Based on the package you purchased, your package may or may not contain the MCCAT user station. If you purchase *MCCAT28-UST* or *MCCAT216-UST*, the package surely contains the user station.

- MCCAT switch x 1
- Power cord x 1
- Rackmount kit x 1 (including brackets and associated screws)
- Quick Setup Guide x 1
- Warranty card x 1
- MCCAT user station package (Optional)

If anything is missing or damaged, contact the local dealer or Raritan Technical Support for help.

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Note: For detailed contents of the user station package, see the Quick Installation and Setup Guide that ships with the MCCAT user station.

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### What to Read

MCCAT28 and MCCAT216 share the same features. The only difference is the number of channel ports: MCCAT28 has eight ports, and MCCAT216 has sixteen ports. You can use either product to establish a one-tier MCCAT system, which comprises of one single MCCAT switch, or a two-tier MCCAT system, which comprises of multiple MCCAT switches. Depending on the type of the system you want to establish, the sections that you should read vary.

If you need to install the MCCAT switch in your rack, first read:

- **Rack-Mounting MCCAT Switches** (on page 1)

For a one-tier system, read:

- **Basic Installation** (on page 3)
- **Login** (on page 7)

- **Accessing a Computer or Channel** (on page 7)
- **Logout** (on page 8)

For a two-tier system, read:

- **Establishing a Two-Tier System** (on page 5)
- **Basic Installation** (on page 3)
- **Login** (on page 7)
- **Accessing a Computer or Channel** (on page 7)
- **Logout** (on page 8)

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### Rack-Mounting MCCAT Switches

MCCAT switches can be mounted in 1U (1.75", 4.4cm) of vertical space in a standard 19" equipment rack. To rack-mount an MCCAT switch, use the brackets and screws (Bracket Assy of P2-HUBPAC) that came with the device. You can mount the MCCAT switch facing the front of the rack or the rear.

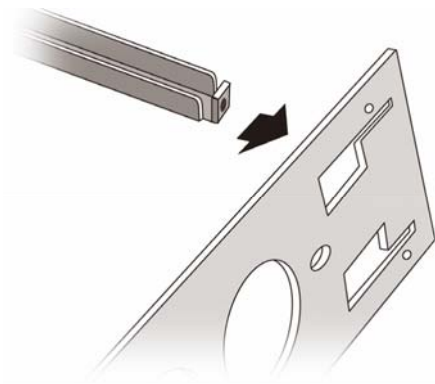
### Attaching the Cable-Support Bar (Optional)

If there are any concerns regarding the cabling weight, you can install the cable-support bar between two rackmount brackets to bear the weight of cables connected to the rear of MCCAT switch. Depending on how you rack-mount the MCCAT switch, the position to attach the cable-support bar varies:

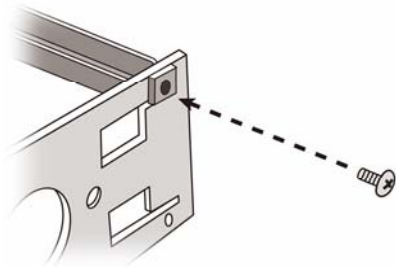
- If the MCCAT switch's front panel will face the front of the rack, fasten the cable-support bar to the L-shaped holes far from the ears of the rackmount brackets.
- If the MCCAT switch's front panel will face the rear of the rack, fasten the cable-support bar to the L-shaped holes close to the ears of the rackmount brackets.

► **To attach the cable-support bar**

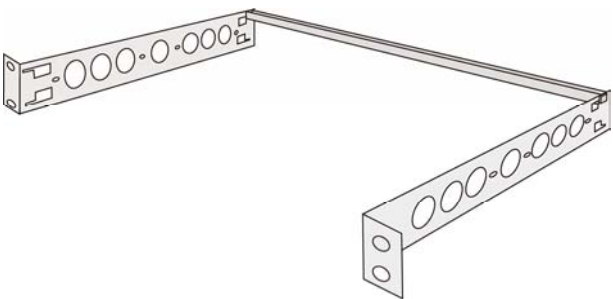
1. Insert one end of the cable-support bar into the L-shaped hole on a rackmount bracket, with the bar's concave slot facing the top of the upper L-shaped hole or the bottom of the lower L-shaped hole.



2. Move the cable-support bar upward or downward to make the concave slot hold the top edge of the upper L-shaped hole or the bottom edge of the lower L-shaped hole.
3. Slide the bar horizontally along the edge of the L-shaped hole until the hole on the end of the bar is aligned with the threaded hole above or below the L-shaped hole.
4. Secure the cable-support bar with one of the included cap screws.



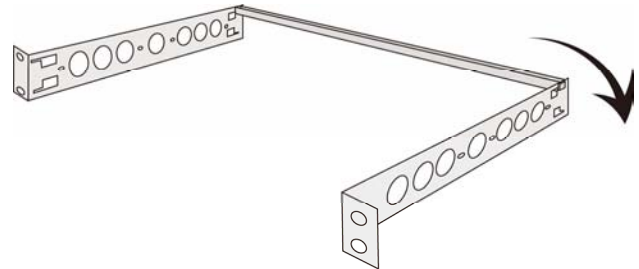
5. Repeat Steps 1 to 4 to secure the other end of the cable-support bar to the other rackmount bracket.



After securing the cable-support bar, you can attach the bracket assembly to the MCCAT switch and mount the device in your rack. See **Forward Mount** (on page 2) or **Rear Mount** (on page 2).

► **Before attaching the bracket assembly to the MCCAT switch**

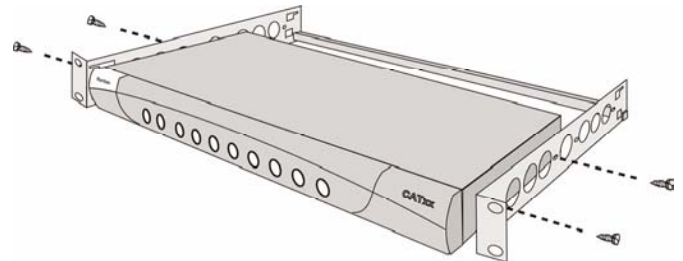
If you attach the cable-support bar to the upper L-shaped holes, turn the bracket assembly upside down.



**Forward Mount**

► **To rack-mount the MCCAT switch with the front panel facing the front of the rack**

1. Let the MCCAT switch's front panel and the bracket's "ear" face toward you.
2. Align two oval-shaped holes close to the ear of the bracket with two threaded holes on one side of the MCCAT switch.
3. Secure the bracket to the MCCAT switch with two of the included screws.
4. Repeat Steps 1 to 3 for securing the other bracket to the other side of the MCCAT switch.
5. Mount the entire assembly in the rack, and secure the brackets' ears to the rack's front rails with your own screws, bolts, cage nuts, and so on.

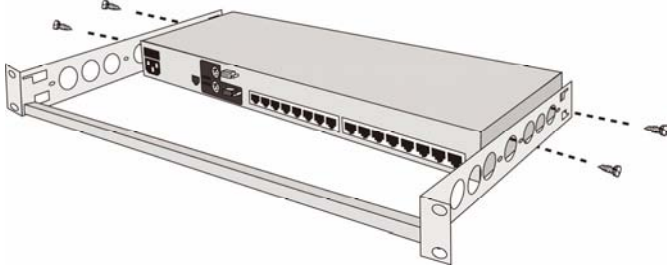


**Rear Mount**

► **To rack-mount the MCCAT switch with the front panel facing the rear of the rack**

1. Let the MCCAT switch's rear panel and the bracket's "ear" face toward you.
2. Align two oval-shaped holes far from the ear of the bracket with two threaded holes on one side of the MCCAT switch.
3. Secure the bracket to the MCCAT switch with two of the included screws.
4. Repeat Steps 1 to 3 for securing the other bracket to the other side of the MCCAT switch.

5. Mount the entire assembly in the rack, and secure the brackets' ears to the rack's front rails with your own screws, bolts, cage nuts, and so on.



## Basic Installation

### Preparing Requisite Items

Collect these components or devices before making the connection.

- MCIMs or MCUTP cables (one per computer)
  - If using MCIMs, Cat5 UTP cables are required

The MCUTP cable is *not* compatible with Windows 98 operating system. Use MCIM for the computer running Windows 98.

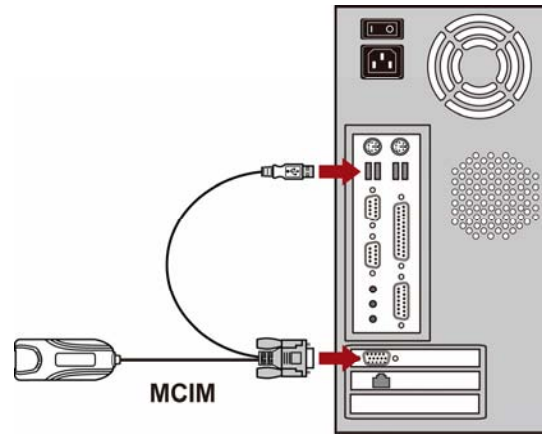
- At least one standard PS/2 or USB keyboard
- At least one standard PS/2 or USB mouse
- At least one standard monitor with HD15 VGA connector

Note: If the computer is a Sun server, you must prepare the Sun USB MCUTP cable or DCIM-USB G2 instead of MCIM.

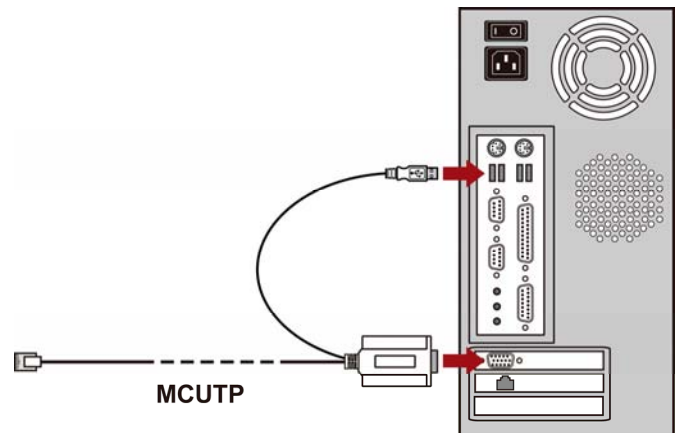
### Making the Connection

1. Turn OFF all devices, including the MCCAT switch and computers.
2. Connect one MCIM or MCUTP cable to the computer.
  - *If using MCIM-USB or USB MCUTP cable:*
    - a. Plug the MCIM or MCUTP's USB connector into one of the computer's available USB ports.

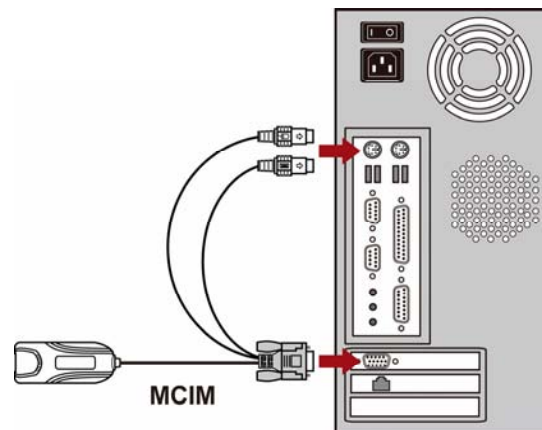
- b. Plug the MCIM or MCUTP's video connector into the computer's VGA port.



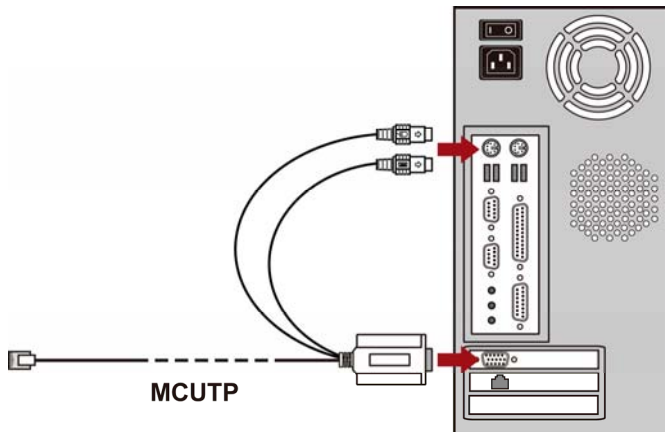
- OR -



- *If using MCIM-PS2 or PS/2 MCUTP cable:*
  - a. Plug the MCIM or MCUTP's PS/2 mouse connector into the computer's PS/2 mouse port.
  - b. Plug the MCIM or MCUTP's PS/2 keyboard connector into the computer's PS/2 keyboard port.
  - c. Plug the MCIM or MCUTP's video connector into the computer's VGA port.



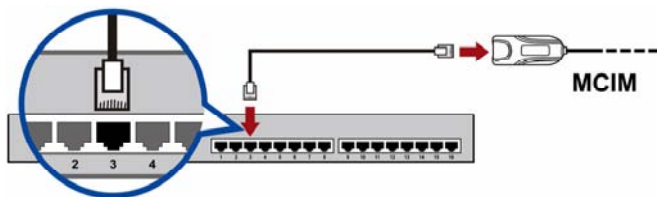
- OR -



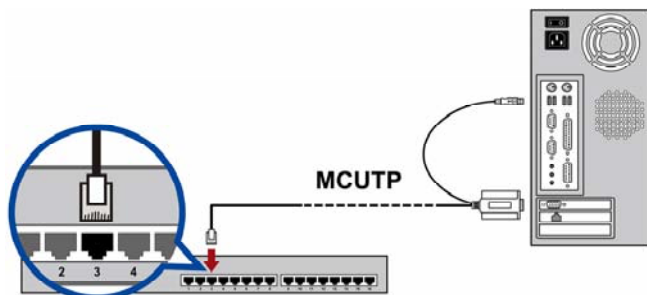
- *If using the Sun USB MCUTP cable:*
  - a. Plug the MCUTP's Sun USB connector into one of the available USB ports on the Sun server.
  - b. Plug the MCUTP's video connector into the VGA port on the Sun server.

Note: See Supporting Sun Servers in the User Guide for more information.

3. Connect the computer to the MCCAT switch.
  - *If using the MCIM:*
    - a. Plug one end of a Cat5 UTP cable into the RJ-45 port of the MCIM being connected with the computer.
    - b. Plug the other end of the Cat5 UTP cable into one of the channel ports on the MCCAT switch.

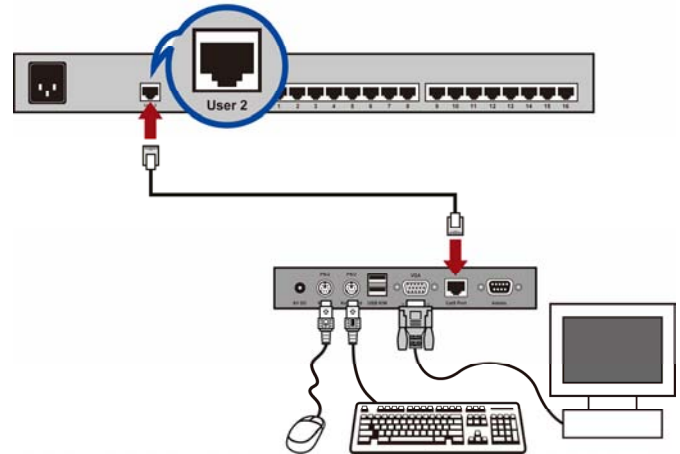


- *If using the MCUTP cable:*
  - Plug the MCUTP cable's RJ-45 connector into one of the channel ports on the MCCAT switch.



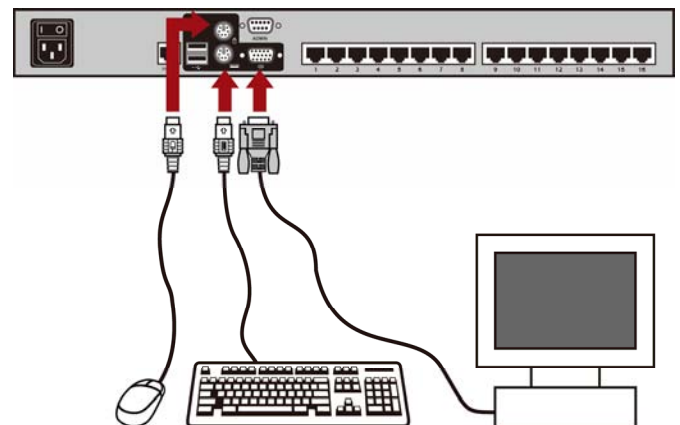
4. Repeat Steps 2 to 3 to connect more computers.
5. (Optional) Connect the MCCAT user station to the **User 2** port on the MCCAT switch via a standard Cat5 UTP cable.

For more information, see the *Quick Setup Guide* shipped with the user station or *Connecting a User Station (Optional)* in the User Guide.



Tip: The MCCAT switch is compatible with the Paragon II enhanced user station, P2-EUST. If you have P2-EUST, you can connect it, instead of the MCCAT user station, to the MCCAT switch.

6. Connect a keyboard, mouse and monitor to the MCCAT switch.
  - a. Plug the mouse's connector into the PS/2 or USB port on the MCCAT switch.
  - b. Plug the keyboard's connector into the PS/2 or USB port on the MCCAT switch.
  - c. Plug the monitor's VGA connector into the VGA port on the MCCAT switch.



Warning: Do NOT connect both PS/2 and USB keyboards or both PS/2 and USB mice simultaneously. If you do so, only the USB keyboard and/or mouse work properly.

7. Connect an appropriate power cord to every device in the MCCAT system.
8. Turn on connected computers and monitors.
9. Turn on the MCCAT switch.

## Establishing a Two-Tier System

Basically, there are five major steps to establish a two-tier system:

- STEP (A): Programme an MCCAT switch as a second-tier device
- STEP (B): Connect the second-tier MCCAT switch to the base switch
- STEP (C): Connect input/output devices to the base switch
- STEP (D): Specify the type of the second-tier device on the OSD
- STEP (E): Connect computers to the MCCAT system

### STEP (A): Programme an MCCAT Switch as a Second-Tier Device

Each MCCAT switch is programmed as a base switch by default. To establish a two-tier system, you must change the default programming of the MCCAT switches that you want to set as the second-tier devices.

#### ► To programme the MCCAT switch as a second-tier device

1. Turn OFF the MCCAT switch.
2. Press and hold down the channel number 2 button on the front panel, and turn ON the MCCAT switch simultaneously.
3. Continue holding down the channel number 2 button until you hear the beep sound.
  - The TIER LED will be lit continuously, indicating that the MCCAT switch has been programmed as a second-tier device.
4. Repeat Steps 1 to 3 to change the programming of more MCCAT switches.

Note: To programme a second-tier device back as the base switch, follow the same procedure in this section but press the channel number 1 button instead. When the TIER LED's light is off, the device is programmed back as a base switch.

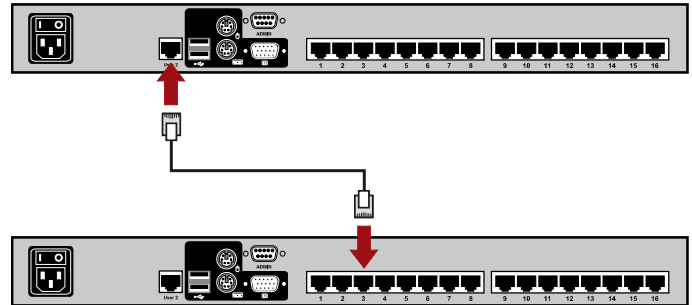
### STEP (B): Connect the Second-Tier MCCAT Switch to the Base Switch

Connect MCCAT switches that have been programmed as second-tier devices to the MCCAT base switch. You can mix different MCCAT models in the system. For example, you may connect the MCCAT28 switch to the MCCAT216 base switch.

#### ► To cascade KVM switches

1. Turn OFF all MCCAT switches and the base switch.
2. Connect the second-tier MCCAT switch to the base switch via a Cat5 UTP cable.
  - a. Plug one end of the Cat5 UTP cable into the **User 2** port on the second-tier MCCAT switch.

- b. Plug the other end of the Cat5 UTP cable into one of the channel ports on the base switch.



Tip: You can also connect "one-user" MCCAT switches to the base switch. See How to Connect MCCAT18/116 Switches to the Base Switch in the User Guide.

3. Repeat previous step(s) to connect other second-tier MCCAT switches to the base switch.
4. Turn ON all second-tier devices.
5. After hearing the beep sound from the second-tier devices, turn ON the base switch.

**Important: Make sure you turn on second-tier devices before turning on the base switch so that the base switch downloads up-to-date channel data from second-tier devices.**

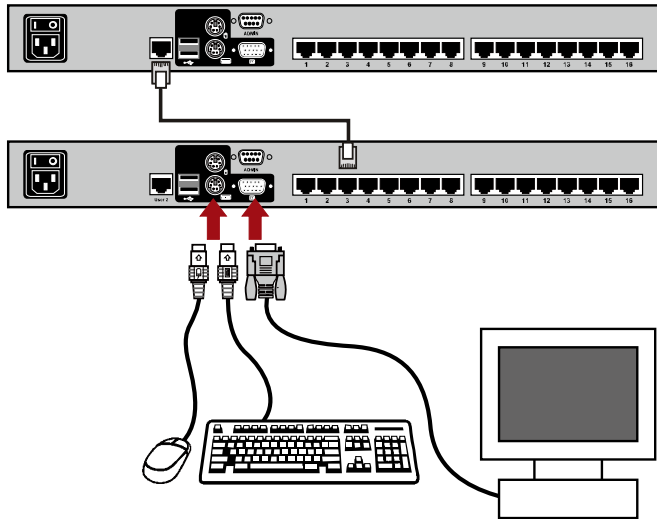
### STEP (C): Connect Input/Output Devices to the Base Switch

There are two ways to connect input/output devices (keyboard, mouse and monitor) to the base switch:

- Directly connect them to the base switch.
- Connect them to the user station, which is connected to the base switch.

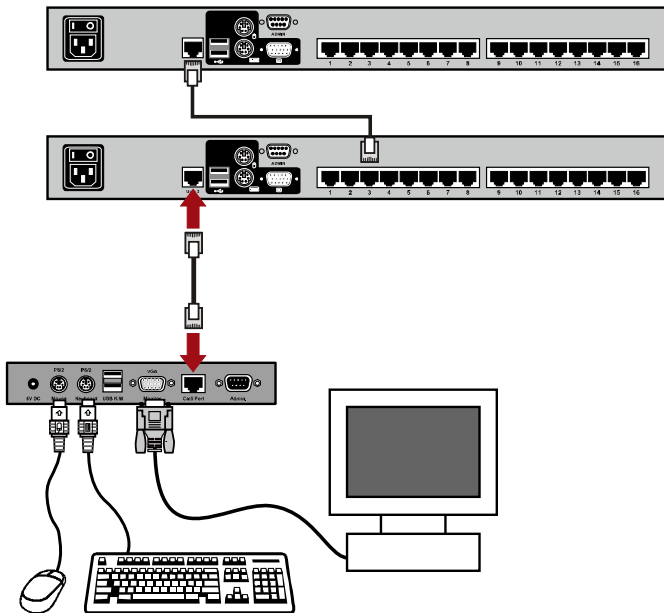
► **To connect input/output devices directly to the base switch**

Connect a PS/2 or USB keyboard, mouse, and a VGA monitor to the base switch. See Step 6 of **Making the Connection** (on page 3) for more information.



► **To connect input/output devices to the base switch via the user station**

1. Connect a PS/2 or USB keyboard, mouse, and a VGA monitor to the MCCAT user station.
2. Connect the MCCAT user station to the base switch. For more information, see the *Quick Setup Guide* shipped with the user station or *Connecting a User Station (Optional)* in the User Guide.



Note: You can also connect input/output devices directly to the "second-tier devices." If you are the "local" user, who operates

the input/output devices connected directly to a second-tier device, you only gain access to that second-tier device's channels.

**STEP (D): Specify the Type of the Second-Tier Device on the OSD**

The MCCAT base switch cannot detect which types of devices are connected to the channel ports. You must specify the types properly on the Channel Configuration submenu. Otherwise, there are problems accessing the channels on the second-tier devices.

The table lists supported devices.

OSD option	Device type
CPU	Computer or any non-KVM-switch device, such as a router
CAT18	MCCAT18 switch
CAT116	MCCAT116 switch
CAT28	MCCAT28 switch
CAT216	MCCAT216 switch

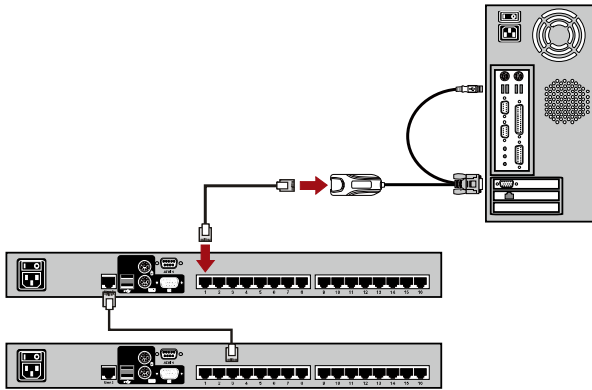
► **To specify the device type**

1. If you do not see the OSD on the screen, press the hot key (default: Scroll Lock) twice QUICKLY to activate it.
2. Press F5. The Administration Menu appears.
3. Select the third submenu, Channel Configuration. To select the submenu, either press 3, or press ↓ to highlight it and then press Enter. The Channel Configuration submenu appears.
4. Press ↓ or ↑ to highlight the channel whose device type you want to change.
5. Press Tab or → to select the field in the Device column, and press Enter. The highlight color turns green.
6. Press any arrow key to switch between available options, and press Enter to confirm your selection. The highlight color turns yellow.
7. Repeat Steps 4 to 6 until you specify correct device types for all second-tier devices.
8. Press S to save the changes or Esc to quit the current menu or submenu.
  - If pressing Esc, the message "Save the changes [Y/N/ESC]" appears on the message bar. Press Y to save the changes, N to abort the changes, or Esc to return to the current menu or submenu.

**STEP (E): Connect Computers to the MCCAT System**

You can connect computers to available channel ports of any KVM switch in the system, including channel ports on the base switch and second-tier devices. See Steps 1 to 4 of **Making the**

**Connection** (on page 3) for instructions on connecting computers.



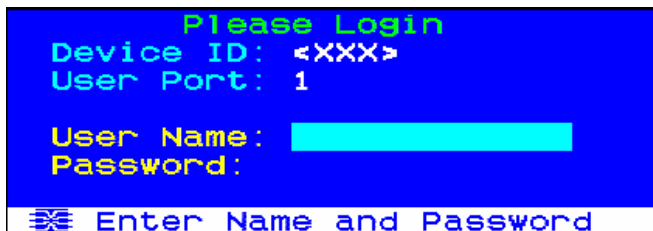
## Login

The login mechanism prevents unauthorized users from accessing the system or changing settings. To access any computer, you may log in with any user account. To configure the system settings on the Administration Menu, you must log in with the administrator account.

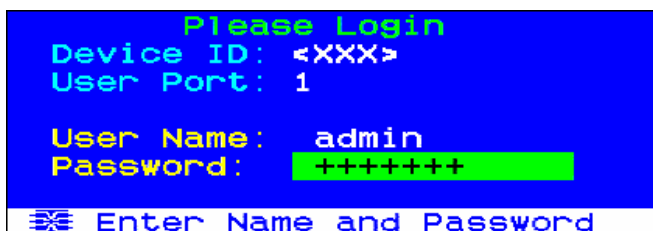
Note: <XXX> shown in the diagrams represents the model name, which varies according to the product you purchased.

### ► To log in to the MCCAT system

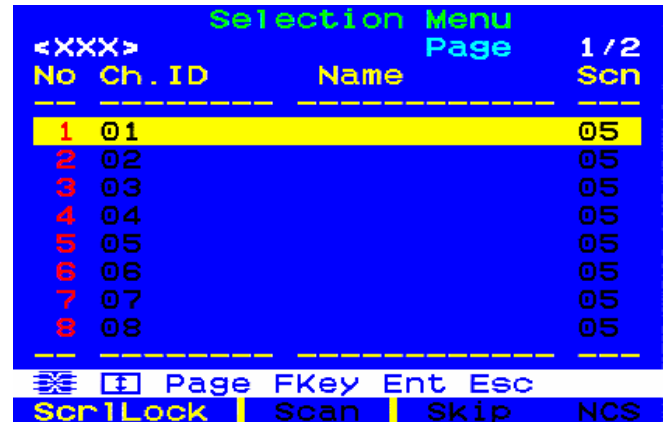
1. The Login box appears on the screen after turning ON the MCCAT system.



2. Type your user name and password. For example, if you are the administrator, the user name is "admin," and the default password is "raritan."
  - a. Type `admin` in the User Name field, and press Enter.
  - b. Type `raritan` in the Password field, and press Enter. The password is case sensitive.



3. The Selection Menu appears, indicating your login is successful.



**Important: It is strongly recommended to change the default password for the security of your MCCAT system. For more information, see Changing Passwords in the User Guide.**

## Accessing a Computer or Channel

After login, you can select any channel to view, and control the computer connected to the channel. Depending on which set of keyboard, mouse and monitor you use, there may be one method or two for channel selection. The keyboard, mouse and monitor are hereafter called "input/output devices."

- If operating the input/output devices connected directly to the MCCAT switch, you can use:
  - **Selection Menu** of the On-Screen Display (OSD), or
  - **Channel buttons** on the front panel

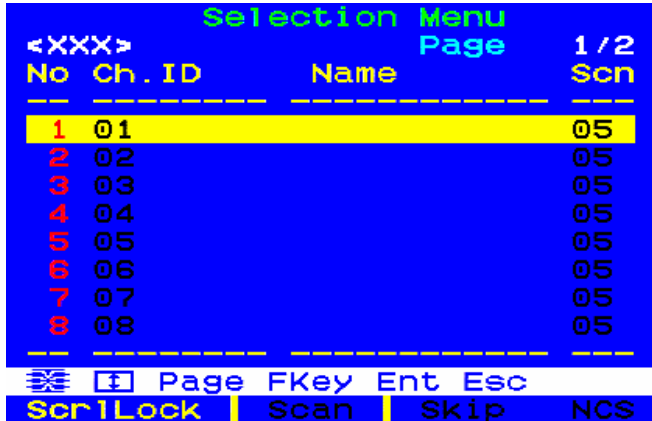
To access any channel for the first time after logging in to the system, you must use the Selection Menu.

Note: In a two-tier system, front panel buttons on the "second-tier" MCCAT switches are all disabled so only OSD is available on the second-tier devices.

- If operating the input/output devices connected to the MCCAT user station, you can use:
  - **Selection Menu** of the OSD

## Using the Selection Menu

The first OSD menu that appears after login is the Selection Menu, which does not show any channel name by default until you assign them.



### To select a channel on the Selection Menu

- (Optional) If you do not find the channel on the current page, press Page Down or Page Up to go to the next or previous page.
- Press  $\downarrow$  or  $\uparrow$  to move the highlight bar to the channel you want to select.

Tip: You may press the corresponding number shown in the "No" column for that channel to quickly highlight it.

- Press Enter.

The Selection Menu disappears. The video of the accessed computer appears on the screen, and you can control the computer with the keyboard and mouse.

MCCAT switches do not support real-time channel detection. Do NOT disconnect current computer and reconnect a different one to the channel you are accessing, or you may have mouse or keyboard input issues with that channel. When this occurs, re-select the channel on the Selection Menu to solve the problem.

### To select a different channel on the Selection Menu

- If you do not see the OSD on the screen, press the hot key (default: Scroll Lock) twice QUICKLY to activate it.
- Highlight another channel and press Enter.

For more information on the Selection Menu, see Selection Menu in the User Guide.

## Using Channel Buttons

Front panel buttons start to function after you access any channel using the Selection Menu. You can use front panel buttons as long as you operate the input/output devices connected directly to the MCCAT switch.

Note: In a two-tier system, front panel buttons on the "second-tier" MCCAT switches are all disabled so only OSD is available on the second-tier devices.

### To select the channel by pressing channel buttons

- If you see the OSD on the screen, press Esc until it disappears.
- Press the button for the channel that you want to access.
  - MCCAT28 channel buttons



- MCCAT216 channel buttons



The video of the accessed computer appears on the screen, and you can control the computer with the keyboard and mouse.

## Logout

After completing your tasks in the MCCAT system, you should log out to prevent unauthorized people from accessing the system.

### To log out of the MCCAT system

- If you do not see the OSD on the screen, press the hot key (default: Scroll Lock) twice QUICKLY to activate it.
- Press F9.

The Login box appears, indicating that you have successfully logged out.

## Additional Information

For more information about the MCCAT and the entire Raritan product line, see Raritan's website ([www.raritan.com](http://www.raritan.com)). For technical issues, contact Raritan Technical Support. See the Contact Support page in the Support section on Raritan's website for technical support contact information worldwide.