



LCM

NetBAY Advanced Connectivity Technology
Local Console Manager

Installer and User Guide

**INSTRUCTIONS**

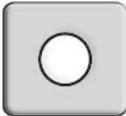
This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

**DANGEROUS VOLTAGE**

This symbol is intended to alert the user to the presence of uninsulated dangerous voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

**POWER ON**

This symbol indicates the principal on/off switch is in the on position.

**POWER OFF**

This symbol indicates the principal on/off switch is in the off position.

**PROTECTIVE GROUNDING TERMINAL**

This symbol indicates a terminal which must be connected to earth ground prior to making any other connections to the equipment.

Safety

Before installing this product, read the Safety Information.

قبل تركيب هذا المنتج، يجب قراءة الملاحظات الأمنية

Antes de instalar este produto, leia as Informações de Segurança.

在安装本产品之前，请仔细阅读 **Safety Information** (安全信息)。

安裝本產品之前，請先閱讀「安全資訊」。

Prije instalacije ovog produkta obavezno pročitajte Sigurnosne Upute.

Před instalací tohoto produktu si přečtěte příručku bezpečnostních instrukcí.

Læs sikkerhedsforskrifterne, før du installerer dette produkt.

Lees voordat u dit product installeert eerst de veiligheidsvoorschriften.

Ennen kuin asennat tämän tuotteen, lue turvaohjeet kohdasta Safety Information.

Avant d'installer ce produit, lisez les consignes de sécurité.

Vor der Installation dieses Produkts die Sicherheitshinweise lesen.

Πριν εγκαταστήσετε το προϊόν αυτό, διαβάστε τις πληροφορίες ασφάλειας (safety information).

לפני שתתקינו מוצר זה, קראו את הוראות הבטיחות.

A termék telepítése előtt olvassa el a Biztonsági előírásokat!

Prima di installare questo prodotto, leggere le Informazioni sulla Sicurezza.

製品の設置の前に、安全情報をお読みください。

본 제품을 설치하기 전에 안전 정보를 읽으십시오.

Пред да се инсталира овој продукт, прочитајте информацијата за безбедност.

Les sikkerhetsinformasjonen (Safety Information) før du installerer dette produktet.

Przed zainstalowaniem tego produktu, należy zapoznać się z książką "Informacje dotyczące bezpieczeństwa" (Safety Information).

Antes de instalar este produto, leia as Informações sobre Segurança.

Перед установкой продукта прочтите инструкции по технике безопасности.

Pred inštaláciou tohto zariadenia si pečítajte Bezpečnostné predpisy.

Pred namestitvijo tega proizvoda preberite Varnostne informacije.

Antes de instalar este producto, lea la información de seguridad.

Läs säkerhetsinformationen innan du installerar den här produkten.

Important:

All caution and danger statements in this documentation begin with a number. This number is used to cross reference an English caution or danger statement with translated versions of the caution or danger statement in the IBM NetBAY Rack Safety Information book.

For example, if a caution statement begins with a number 1, translations for that caution statement appear in the IBM NetBAY Rack Safety Information book under statement 1.

Be sure to read all caution and danger statements in this documentation before performing the instructions. Read any additional safety information that comes with your server or optional device before you install the device.

Statement 4:



DANGER

Electrical current from power, telephone, and communication cables is hazardous.

To avoid a shock hazard:

- **Do not connect or disconnect any cables or perform installation, maintenance, or reconfiguration of this product during an electrical storm.**
- **Connect all power cords to a properly wired and grounded electrical outlet.**
- **Connect to properly wired outlets any equipment that will be attached to this product.**
- **When possible, use one hand only to connect or disconnect signal cables.**
- **Never turn on any equipment when there is evidence of fire, water, or structural damage.**
- **Disconnect the attached power cords, telecommunications systems, networks, and modems before you open the device covers, unless instructed otherwise in the installation and configuration procedures.**
- **Connect and disconnect cables as described in the following table when installing, moving, or opening covers on this product or attached devices.**

To Connect:

1. Turn everything OFF.
2. First, attach all cables to devices.
3. Attach signal cables to connectors.
4. Attach power cords to outlet.
5. Turn device ON.

To Disconnect:

1. Turn everything OFF.
2. First, remove power cords from outlet.
3. Remove signal cables from connectors.
4. Remove all cables from devices.



• **LCM**
Installer and User Guide

• **Table of Contents**

Chapter 1: Product Overview

Features and Benefits 3

Safety Precautions 4

Chapter 2: Installation

Getting Started 9

Installing Your LCM 9

Cabling the LCM 12

Chapter 3: Basic Operations

Controlling Your System 21

Viewing and Selecting Ports and Servers 21

Configuring OSCAR 24

Resetting Your Keyboard and Mouse 32

Displaying Version Information 33

Scanning Your System 34

Broadcasting to Servers 36

Appendices

Appendix A: FLASH Upgrades 41

Appendix B: Technical Specifications 45

Appendix C: Hardware Maintenance Information 46

Appendix D: Notices 47



1

Product Overview

- ***Contents***

Features and Benefits 3

Safety Precautions 4

Safety Precautions

To avoid potential video and/or keyboard problems when using IBM products:

- If the building has 3-phase AC power, ensure that the computer and monitor are on the same phase. For best results, they should be on the same circuit.
- Use only IBM-supplied cable to connect computers and KVM switches. IBM warranties do not apply to damage resulting from user-supplied cable.

To avoid potentially fatal shock hazard and possible damage to equipment, please observe the following precautions:

- Do not use a 2-wire extension cord in any IBM product configuration.
- Test AC outlets at the computer and monitor for proper polarity and grounding.
- Use only with grounded outlets at both the computer and monitor. When using a backup uninterruptible power supply, power the computer, the monitor and the LCM off the supply.

NOTE: The AC inlet is the main disconnect.

Rack mount safety considerations

- **Elevated Ambient Temperature:** If installed in a closed rack assembly, the operation temperature of the rack environment may be greater than room ambient. Use care not to exceed the rated maximum ambient temperature of the unit.
- **Reduced Air Flow:** Installation of the equipment in a rack should be such that the amount of airflow required for safe operation of the equipment is not compromised.
- **Mechanical Loading:** Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.
- **Circuit Overloading:** Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of circuits might have on overcurrent protection and supply wiring. Consider equipment nameplate ratings for maximum current.
- **Reliable Earthing:** Reliable earthing of rack mounted equipment should be maintained. Pay particular attention to supply connections other than direct connections to the branch circuit (for example, use of power strips).

Statement 4:**DANGER**

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- **Connect all power cords to a properly wired and grounded electrical outlet.**
- **Connect to properly wired outlets any equipment that will be attached to this product.**
- **When possible, use one hand only to connect or disconnect signal cables.**
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- **Disconnect the attached power cords, telecommunications systems, networks, and modems before you open the device covers, unless instructed otherwise in the installation and configuration procedures.**
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1. Turn everything OFF.
2. First, attach all cables to devices.
3. Attach signal cables to connectors.
4. Attach power cords to outlet.
5. Turn device ON.

To Disconnect:

1. Turn everything OFF.
2. First, remove power cords from outlet.
3. Remove signal cables from connectors.
4. Remove all cables from devices.



2 **Installation**

- *Contents*

<i>Getting Started</i>	9
<i>Installing Your LCM</i>	9
<i>Cabling the LCM</i>	12

Chapter 2: Installation

Getting Started

Before installing your LCM, refer to the lists below to ensure you have all items that shipped with the unit as well as other items necessary for proper installation.

Supplied with the LCM

- LCM
- Power cord
- One package of four terminators
- One CAT 5 cable, 1.8 meters (6 feet) in length
- Rack mounting kit
- LCM Installer and User Guide on CD
- LCM Quick Installation Guide
- One straight-through serial cable

Additional items needed

- One KCO cable per attached PS/2 server or switch
- One UCO cable per attached USB server or switch
- One CCO cable per attached IBM C2T server

Installing Your LCM

Your LCM ships with rack mounting brackets. Before installing the LCM and other components in the rack, stabilize the rack in a permanent location. Install your equipment starting at the bottom of the rack, then work to the top. Avoid uneven loading or overloading of racks.

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To avoid a shock hazard:

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2. First, attach all cables to devices.
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5. Turn device ON.

To Disconnect:

1. Turn everything OFF.
2. First, remove power cords from outlet.
3. Remove signal cables from connectors.
4. Remove all cables from devices.

Vertical installation in the side of a rack cabinet

1. Line up the small holes of the kit's L-shaped brackets with the screw holes in the switch.
2. With a Phillips screwdriver, fasten the mounting brackets to the switch using two 8/32" x 1/2" pan head screws on each side.
5. Mount the switch assembly to the rack by matching the long slots on each bracket to an appropriate set of holes on your equipment rack. Next, insert a combination hex head screw through the slots in the bracket and the holes in the side brace. Cap the screw with a hex serrated flange nut and tighten.

NOTE: The mounting holes on the upper and lower side braces in a rack side compartment must be between 50.8 cm (20.0 in.) and 57.3 cm (22.6 in.) apart. If your rack cabinet has movable side braces, refer to your rack documentation for information about relocating side braces if they are not already spaced for this installation.

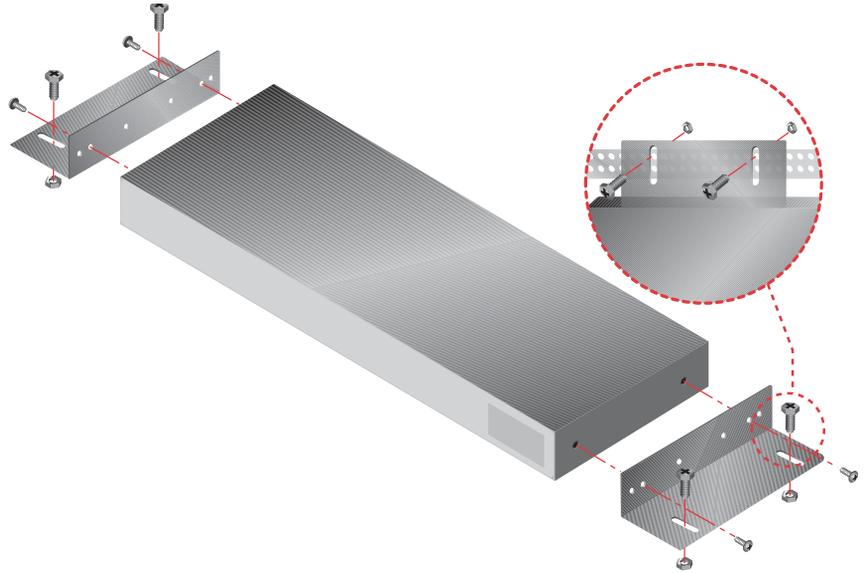


Figure 2.1: LCM Vertical Installation

Horizontal installation in the 1U rack mounting space

1. Line up the holes in the “long side” of the kit’s side brackets with the screw holes in the switch.
2. With a Phillips screwdriver, fasten the mounting brackets to the switch using two 8/32”x1/2” pan head screws on each side.
3. Attach the four cage nuts or clip nuts to the rack mounting flange of the rack cabinet so that the nuts are positioned on the inside of the rack.
4. Mount the switch assembly to the rack cabinet by matching the holes in the “short side” of each bracket to an appropriate set of matching holes on your rack cabinet. Next, insert the combination hex head screws through the slots in the bracket and the holes in the mounting rail, then into the cage nuts or clip nuts.

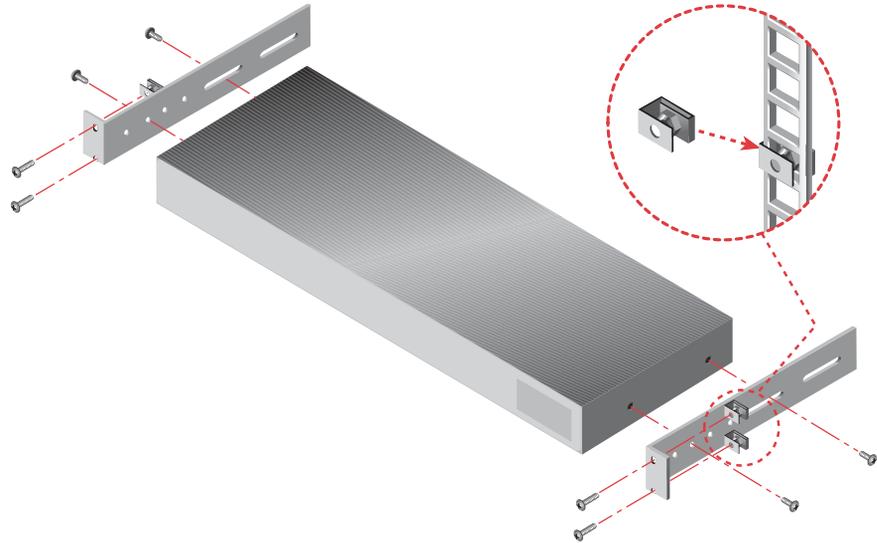


Figure 2.2: LCM Horizontal Installation

Cabling the LCM

Figure 2.3 shows one possible configuration for your LCM. Follow the detailed set of procedures following Figure 2.3 to successfully install your LCM.

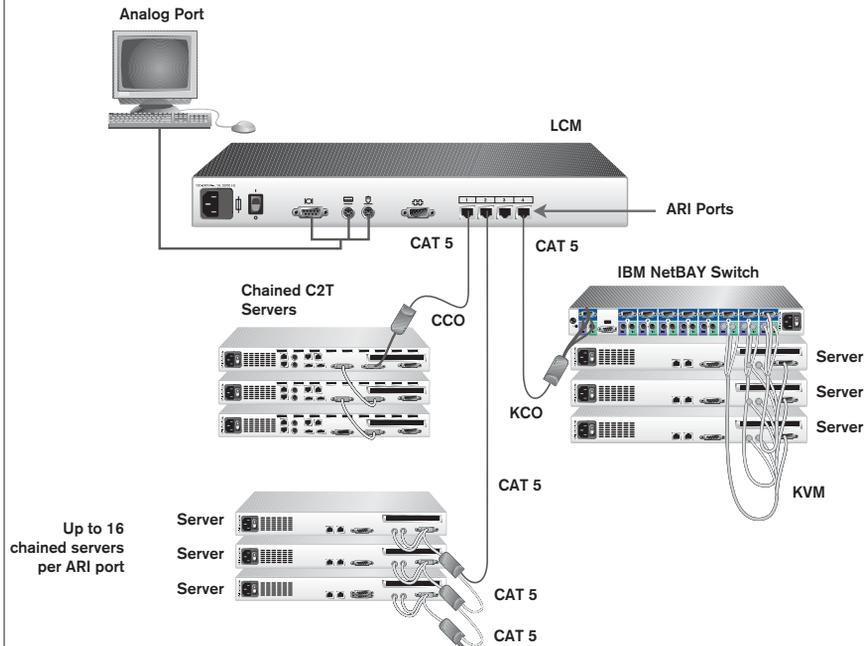


Figure 2.3: Basic LCM Configuration

ATTENTION: To reduce the risk of electric shock or damage to your equipment -

- Do not disable the power cord grounding plug. The grounding plug is an important safety feature.
- Plug the power cord into a grounded (earthed) outlet that is easily accessible at all times.
- Disconnect the power from the unit by unplugging the power cord from either the electrical outlet or the unit.

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5. Turn device ON.

To Disconnect:

1. Turn everything OFF.
2. First, remove power cords from outlet.
3. Remove signal cables from connectors.
4. Remove all cables from devices.

To install the LCM hardware:

1. Plug the supplied power cord into the back of the LCM and then into an appropriate power source.
2. When the power is turned on, the Power indicator on the back of the unit will blink for 30 seconds while performing a self-test. Approximately 10 seconds after it stops blinking, press the **Enter** key to access the main menu.

To adjust the mouse acceleration:

Before a server can be connected to the LCM, an adjustment to mouse acceleration must be made. Use the default Microsoft® Windows® PS/2 mouse driver for all attached Microsoft Windows systems attached to the LCM.

For Windows NT® (using default drivers):

1. From the desktop, select **Start - Settings - Control Panel - Mouse**.
2. Click on the **Motion** tab.
3. Set the pointer speed to **Slow**. Do this for any Windows NT user account that will be accessing the Windows NT system through the LCM.

For Microsoft Windows 2000/Windows XP:

1. From the desktop, select **Start - Settings - Control Panel - Mouse**.
2. Click on the **Motion** tab.
3. Set the Acceleration setting to **None** and the speed setting to the default of **50%**.

To connect a CCO cable to an IBM C2T server:

1. Locate the CCO cables and CAT 5 cabling for your LCM.
2. Connect the CCO cable to the LCM by attaching one end of the CAT 5 cabling to the RJ45 connector on the CCO cable.
3. Connect the other end of the CAT 5 cable to an ARI port on the back of your LCM.
4. Attach the C2T connector from the CCO cable into the appropriate port on the back of your C2T server.

To chain servers together using KCO cables:

1. Locate the KCO cables and CAT 5 cabling for your LCM.
2. Attach one end of the CAT 5 cabling that will run from your KCO cable to the LCM to the RJ45 connector on the KCO cable.
3. Connect the other end of the CAT 5 cable to an ARI port on the LCM.
4. Attach the appropriately color-coded cable ends to the keyboard, monitor and mouse ports on the first server you will be connecting to this LCM.
5. Attach one end of the CAT 5 cabling that will connect the first two servers to the second RJ45 connector on the KCO cable for Server 1.
6. Attach the other end of this cable to the first RJ45 connector on the KCO cable for Server 2.
7. Repeat steps 4-6 for all servers you chain together.
8. When you reach the end of the chain, attach a terminator to the second RJ45 connector on the last KCO cable in the chain.

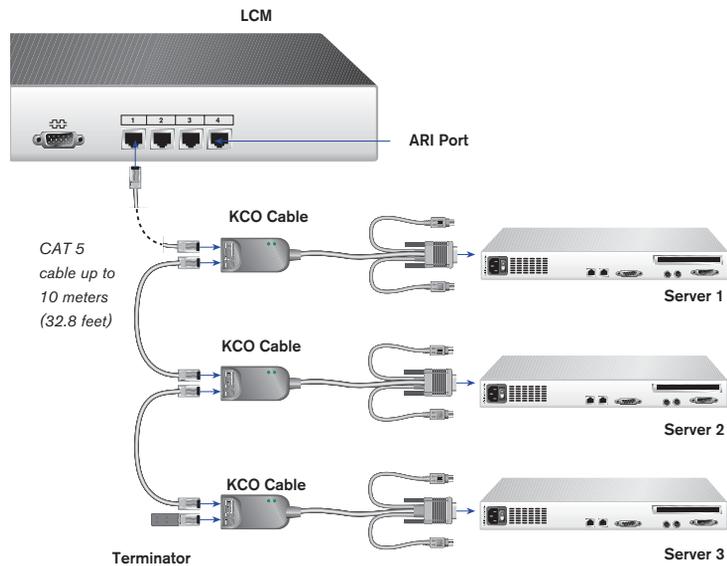


Figure 2.4: Chaining Servers Together with KCO Cables

To chain servers together using UCO cables:

1. Locate the UCO cables and CAT 5 cabling for your LCM.
2. Attach one end of the CAT 5 cabling that will run from your UCO cable to the LCM to the RJ45 connector on the UCO cable.
3. Connect the other end of the CAT 5 cable to an ARI port on the LCM.
4. Attach the appropriately color-coded cable ends to the USB and monitor ports on the first server you will be connecting to this LCM.
5. Attach one end of the CAT 5 cabling that will connect the first two servers to the second RJ45 connector on the UCO cable for Server 1.
6. Attach the other end of this cable to the first RJ45 connector on the UCO cable for Server 2.
7. Repeat steps 4-6 for all servers you chain together.
8. When you reach the end of the chain, attach a terminator to the second RJ45 connector on the last UCO cable in the chain.

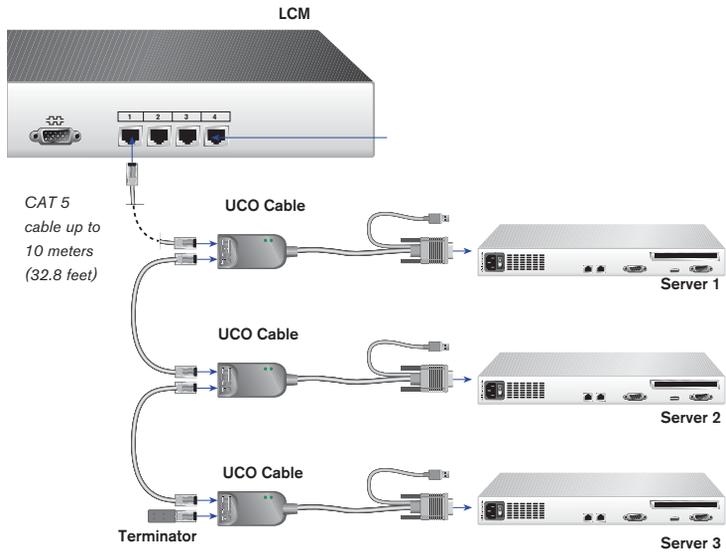


Figure 2.5: Chaining Servers Together with UCO Cables

To add a legacy KVM switch:

You can add your cascade switches to the LCM system. In a cascaded system, each ARI port then accommodates up to 24 servers.

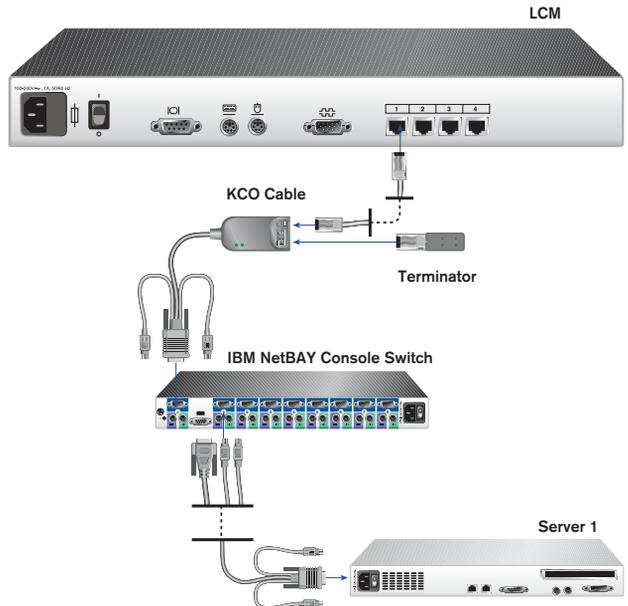


Figure 2.6: LCM Configuration with a Legacy KVM Switch

1. Mount the switch into your rack. Locate a length of CAT 5 cabling to connect your LCM to the CO cable for your switch.
2. Attach one end of the CAT 5 cabling to the RJ45 connector on the CO cable. Attach a terminator to the second RJ45 connector on the CO.
3. Connect the other end of the CAT 5 cable to a port on the back of your LCM.
4. Attach the keyboard, monitor and mouse connectors of the CO cable to a user port on your cascade switch.
5. Connect the servers to your switch according to the cascade switch manufacturer's recommendations.
6. Repeat steps 2-5 for all cascade switches to be attached to your system.

To operate your LCM with a cascaded multi-user legacy switch:

You can cascade a NetBAY 2x8 console switch under your RCM or LCM. In a cascaded configuration, the remote and analog workstations can both access servers attached to the cascaded switch. If both the remote and analog workstations want to access different servers on the switch at the same time, you can attach a KVM Conversion Option (KCO) cable to both user ports to avoid one user blocking the other.

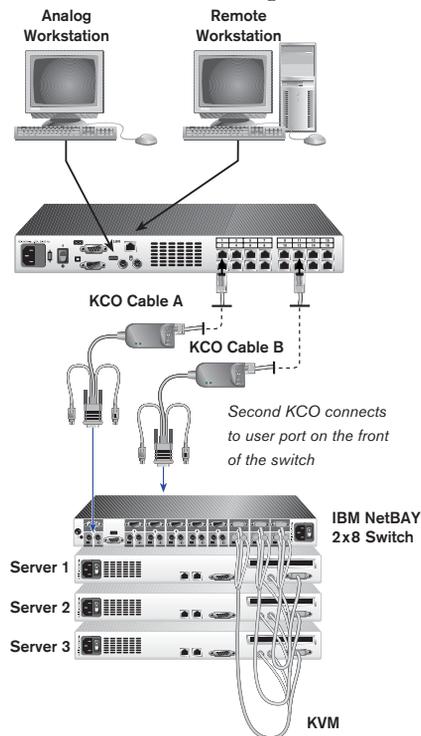


Figure 2.7: Cascaded Multi-user Legacy Switch Configuration

Preemptive behavior

By default, the console switch operates in preemptive mode. This means that one user can disconnect another user from a server connection without warning. For example, if the analog user is accessing server 1 via KCO cable A and the remote user switches to the same server via KCO cable B, the analog user will be preempted and the remote user will take command of the connection. The analog user's screen will go blank and they will receive no disconnect warning.

If you will have users performing sensitive tasks who should not be preempted, you can connect only one CO cable to the switch. This will ensure that no user can preempt another without administrative privileges at the remote console.

To turn on your LCM system:

The components in the LCM system may be turned on in any order. However, since the CO cables are powered by the servers, turn on the servers first and then turn on all attached systems for the most efficient startup.

To use more than one regional language keyboard in a system:

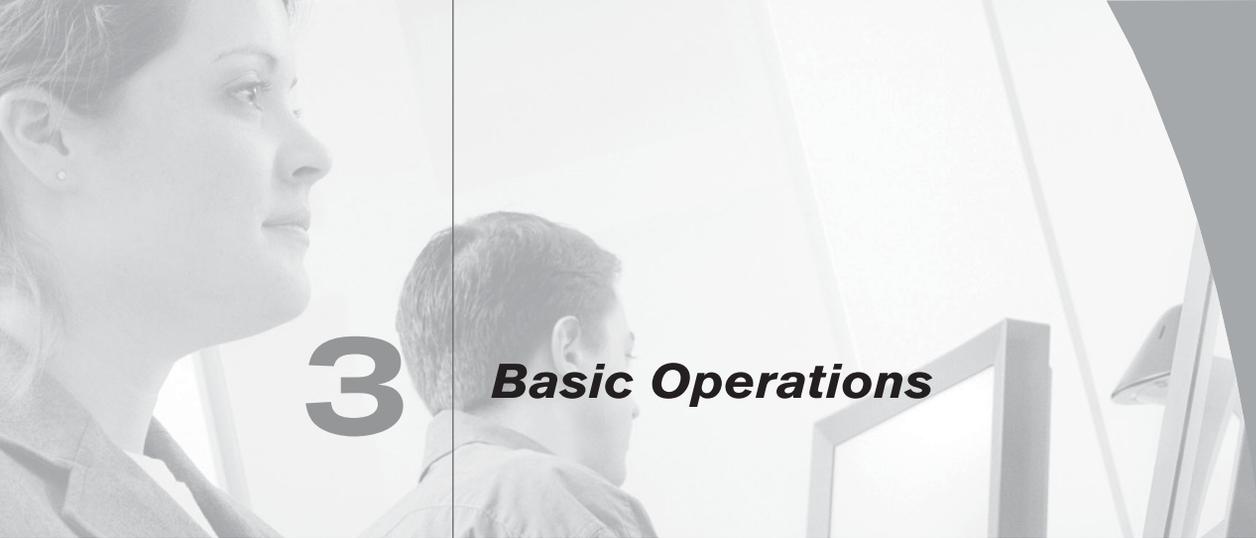
You may need to configure your remote console to synchronize with a target server if the keyboard of that server is set up for a different language than your remote console. For instance, if you are using a French (AZERTY) keyboard on the remote console and you connect to a target server that is using an English (QWERTY) keyboard, you will need to create a second keyboard on the remote workstation (English keyboard).

To verify a target server's keyboard language:

1. Launch the Virtual Console software at the remote workstation.
2. Click the **Devices** tab and then the target server.
3. Click the **Connect Video** task button.
4. On the target server for Microsoft Windows 2000 select **Start - Settings - Control Panel - Regional Options**. For other operating systems, see the user guide that comes with your system.
5. Verify the language.

To synchronize languages with the target server:

1. At the remote station for Microsoft Windows 2000 select **Start - Settings - Control Panel - Regional Options**. Select the language for the target server. For other operating systems, see the user guide that comes with your system.
2. The languages should now be synchronized.



3 **Basic Operations**

- *Contents*

<i>Controlling Your System</i>	21
<i>Viewing and Selecting Ports and Servers</i>	21
<i>Configuring OSCAR</i>	24
<i>Resetting Your Keyboard and Mouse</i>	32
<i>Displaying Version Information</i>	33
<i>Scanning Your System</i>	34
<i>Broadcasting to Servers</i>	36

Chapter 3: Basic Operations

Controlling Your System

The LCM includes an analog port on the back of the unit that allows you to connect a monitor and a PS/2 keyboard and mouse for direct analog access. The LCM uses the On-Screen Configuration and Activity Reporting interface (OSCAR®) for IBM which has intuitive menus to configure your system and select computers.

Viewing and Selecting Ports and Servers

Use the OSCAR Main dialog box to view, configure and control servers in the LCM system. You can view your servers by name, port or by the unique electronic ID number (eID) embedded in each CO cable. You will see an OSCAR-generated Name list by default when you first launch OSCAR.

The port column indicates the ARI port to which a server is connected. If you connect a legacy switch to the LCM, the port numbering displays the ARI port first, then the port to which the server is connected. For example, in Figure 3.1, servers 06-03 and 01-02 are connected to legacy switches.

To access the Main dialog box:

Press **Print Screen** to launch OSCAR. The Main dialog box appears.

-or-

If a password has been assigned, the Password dialog box appears. Type in your password and click **OK**. The Main dialog box appears. For more information, see *Setting console security* in this chapter.



Figure 3.1: Example of Configured Main Dialog Box

NOTE: You can also press the **Control** key twice within one second to launch OSCAR. You can use this key sequence in any place you see **Print Screen** throughout this *Installer and User Guide*.

Viewing the status of your LCM system

The status of servers in your system is indicated in the far right column of the Main dialog box. The following table describes the status symbols.

OSCAR Status Symbols

Symbol	Description
	CO cable is online.
	CO cable is offline or is not operating properly.
	Connected switch is online.
	Connected switch is offline or is not operating properly.
	CO cable is being upgraded.

Selecting servers

Use the Main dialog box to select servers. When you select a server, the LCM reconfigures the keyboard and mouse to the proper settings for that server.

To select servers:

Double-click the server name, eID or port number.

-or-

If the display order of your server list is by port (**Port** button is depressed), type the port number and press **Enter**.

-or-

If the display order of your server list is by name or eID number (**Name** or **eID** button is depressed), type the first few characters of the name of the server or the eID number to establish it as unique and press **Enter**.

To select the previous server:

Press **Print Screen** and then **Backspace**. This key combination toggles you between the previous and current connections.

To disengage the user from a server:

Press **Print Screen** and then **Alt+Ø**. This leaves the user in a free state, with no server selected. The status flag on your desktop displays **Free**.

Soft switching

Soft switching is the ability to switch servers using a hotkey sequence. You can soft switch to a server by pressing **Print Screen** and then typing the first few characters of its name or number. If you have a delay time set and you press the key sequences before that time has elapsed, OSCAR will not display.

To configure servers for soft switching:

1. Press **Print Screen** to launch OSCAR. The Main dialog box appears.
2. Click **Setup - Menu**. The Menu dialog box appears.
3. For delay time, type the number of seconds of delay desired before the Main dialog box is displayed after **Print Screen** is pressed.
4. Click **OK**.

To soft switch to a server:

1. To select a server, press **Print Screen**. If the display order of your server list is by port (**Port** button is depressed), type the port number and press **Enter**.
-or-
If the display order of your server list is by name or eID number (**Name** or **eID** button is depressed), type the first few characters of the name of the server or the eID number to establish it as unique and press **Enter**.
2. To switch back to the previous server, press **Print Screen** then **Backspace**.

OSCAR navigation basics

The following table describes how to use the keyboard and mouse to navigate OSCAR.

This Keystroke	Does This
Print Screen	Opens OSCAR. Press Print Screen twice to send the Print Screen keystroke to the currently selected device.
F1	Opens the Help screen for the current dialog box.
Escape	Closes the current dialog box without saving changes and returns to the previous one. In the Main dialog box, it closes OSCAR and returns to the selected server. In a message box, it closes the pop-up box and returns to the current dialog box.
Alt	Opens dialog boxes, selects options and executes actions when used in combination with underlined or other designated letters.
Alt+X	Closes current dialog box and returns to the previous one.
Alt+O	Selects the OK button, then returns to the previous dialog box.
Enter	Completes the switch operation in the Main dialog box and exits OSCAR.
Single-click, Enter	In a text box, it selects the text for editing and enables the Left and Right Arrow keys to move the cursor. Press Enter again to quit the edit mode.
Print Screen, Alt+Ø	Immediately disengages user from a server; no server is selected. Status flag displays Free . (This only applies to the Ø on the keyboard and not the keypad.)

OSCAR Navigation Basics (continued)

This Keystroke	Does This
Print Screen, Backspace	Toggles back to previous selection if no other keystrokes have been typed.
Print Screen, Pause	Immediately turns on screen saver mode and prevents access to that particular console, if it is password protected.
Up/Down Arrows	Moves the cursor from line to line in lists.
Right/Left Arrows	Moves the cursor between columns. When editing a text box, these keys move the cursor within the column.
Page Up/Page Down	Pages up and down through Name and Port lists.
Home/End	Moves the cursor to the top or bottom of a list.
Backspace	Erases characters in a text box.
Delete	Deletes current selection in the scan list or characters in a text box.
Shift-Del	Deletes from the current selection to the end of the list when editing a scan list.
Numbers	Type from the keyboard or keypad.
Caps Lock	Disabled. Use the Shift key to change case.

Configuring OSCAR

You can configure your LCM system from the Setup menu within OSCAR. Select the **Names** button when initially setting up your LCM system to identify servers by unique names. Select the other setup features to manage routine tasks for your servers from the OSCAR menu.

To access the Setup menu:

1. Press **Print Screen** to launch OSCAR. The Main dialog box appears.
2. Click **Setup**. The Setup dialog box appears.



Figure 3.2: Setup Dialog Box

Setup Features to Manage Routine Tasks for Your Servers

Feature	Purpose
Menu	Change the server listing between numerically by port or eID number and alphabetically by name. Change the delay time before OSCAR displays after pressing Print Screen .
Flag	Change display, timing, color or location of the status flag.
Broadcast	Set up to simultaneously control multiple servers through keyboard and mouse actions.
Scan	Set up a custom scan pattern for up to 16 servers.
Security	Set passwords to restrict server access. Enable the screen saver.
Devices	Identify the appropriate number of ports on an attached cascade switch.
Names	Identify servers by unique names.

Assigning server names

Use the Names dialog box to identify individual servers by name rather than by port number. The Names list is always sorted by port order. Names are stored in the CO cable, so even if you move the cable/server to another ARI port, the name and configuration will be recognized by the LCM.

NOTE: If a server is turned off, its respective CO cable will not appear in the Names list.

To access the Names dialog box:

1. Press **Print Screen**. The Main dialog box will appear.
2. Click **Setup - Names**. The Names dialog box appears.



Figure 3.3: Names Dialog Box

NOTE: If the server list changes, the mouse cursor will turn into an hourglass as the list is automatically updated. No mouse or keyboard input will be accepted until the list update is complete.

To assign names to servers:

1. In the Names dialog box, select a name or port number and click **Modify**. The Name Modify dialog box appears.

**Figure 3.4: Name Modify Dialog Box**

2. Type a name in the New Name box. Names of servers may be up to 15 characters long. Legal characters include: A-Z, a-z, 0-9, space and hyphen, in any combination.
3. Click **OK** to transfer the new name to the Names dialog box. Your selection is not saved until you click **OK** in the Names dialog box.
4. Repeat steps 1-3 for each server in the system.
5. Click **OK** in the Names dialog box to save your changes.
-or-
Click **X** or press **Escape** to exit the dialog box without saving changes.

Assigning device types

While the LCM automatically discovers cascade switches attached to your unit, you will need to specify the number of ports on the cascade switch through the Devices dialog box. You will see an Sw-8 designation appear in the Type category. When you select that switch from the list, the Modify button appears, allowing you to assign the appropriate number of ports to it.

To access the Devices dialog box:

1. Press **Print Screen**. The Main dialog box will appear.
2. Click **Setup - Devices**. The Devices dialog box appears.

NOTE: The **Modify** button will only be available if a configurable switch is selected.



Figure 3.5: Devices Dialog Box

When the LCM discovers a cascade switch, you will notice the port numbering change to accommodate each server under that switch. For example, if the switch is connected to port 2, the switch port would be listed as 02 and each server under it would be numbered sequentially 02-01, 02-02 and so on.

To assign a device type:

1. In the Devices dialog box, select the desired port number.
2. Click **Modify**. The Device Modify dialog box appears.



Figure 3.6: Device Modify Dialog Box

3. Choose the number of ports supported by your switch and click **OK**.
4. Repeat steps 1–3 for each port to which you want to assign a device type.
5. Click **OK** in the Devices dialog box to save settings.

NOTE: Changes made in the Device Modify dialog box are not saved until you click **OK** in the Devices dialog box.

Changing the display behavior

Use the Menu dialog box to change the display order of servers and set a Screen Delay Time for OSCAR.

To access the Menu dialog box:

1. Press **Print Screen** to launch OSCAR. The Main dialog box appears.
2. Click **Setup - Menu** in the Main dialog box. The Menu dialog box appears.

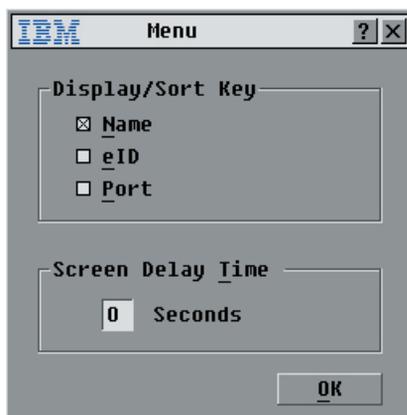


Figure 3.7: Menu Dialog Box

To choose the display order of servers in the Main dialog box:

1. Select **Name** to display servers alphabetically by name.
-or-
Select **eID** to display servers numerically by eID number.
-or-
Select **Port** to display servers numerically by port number.
2. Click **OK**.

To set a Screen Delay Time for OSCAR:

1. Type in the number of seconds (0-9) you want to delay OSCAR display after you press **Print Screen**. Entering **0** will instantly launch OSCAR with no delay.
2. Click **OK**.

Setting a Screen Delay Time allows you to complete a soft switch without OSCAR displaying. To perform a soft switch, see *Soft switching* in this chapter.

Controlling the status flag

The status flag displays on your desktop and shows the name or eID number of the selected server or the status of the selected port. Use the Flag dialog box to configure the flag to display by server name or eID number, or to change the flag color, opacity, display time and location on the desktop.

OSCAR Status Flags

Flag	Description
Darrell	Flag type by name
520255-73F344	Flag type by eID number
Free	Flag indicating that the user has been disconnected from all systems
Darrell →	Flag indicating that Broadcast mode is enabled

To access the Flag dialog box:

1. Press **Print Screen**. The Main dialog box will appear.
2. Click **Setup - Flag**. The Flag dialog box appears.

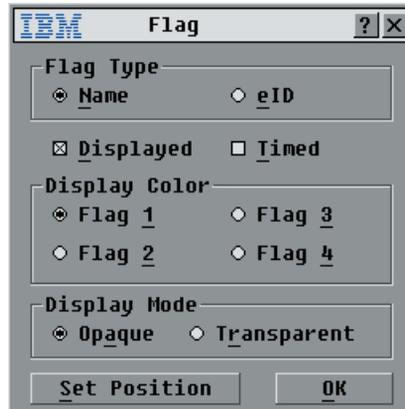


Figure 3.8: Flag Dialog Box

To determine how the status flag is displayed:

1. Select **Name** or **eID** to determine what information will be displayed.
2. Select **Displayed** to show the flag all the time or select **Timed** to display the flag for only five seconds after switching.
3. Select a flag color in Display Color.
4. In Display mode, select **Opaque** for a solid color flag or select **Transparent** to see the desktop through the flag.
5. To position the status flag on the desktop:
 - a. Click **Set Position** to gain access to the Position Flag screen.

- b. Left-click on the title bar and drag to the desired location.
- c. Right-click to return to the Flag dialog box.



Figure 3.9: Set Position Flag

NOTE: Changes made to the flag position are not saved until you click **OK** in the Flag dialog box.

6. Click **OK** to save settings.
-or-
Click **X** to exit without saving changes.

Setting console security

OSCAR enables you to set security on your analog port console. You can establish a screen saver mode that engages after your console remains unused for a specified delay time. Once engaged, your console will remain locked until you press any key or move the mouse. You will then need to type in your password to continue.

Use the Security dialog box to lock your console with password protection, set or change your password and enable the screen saver.

NOTE: If a password has been previously set, you will have to enter the password before being able to access the Security dialog box.

To access the Security dialog box:

1. Press **Print Screen**. The Main dialog box will appear.
2. Click **Setup - Security**. The Security dialog box appears.



Figure 3.10: Security Dialog Box

To set or change the password:

1. Single-click and press **Enter** or double-click in the New text box.
2. Type the new password in the New text box and press **Enter**. Passwords may be up to 12 characters long and are case sensitive. Legal characters are: A-Z, a-z, 0-9, space and hyphen. The password must contain both alpha and numeric characters.
3. In the Repeat box, type the password again and press **Enter**.
4. Click **OK** to change your password, and then close the dialog box.

To password protect your console:

1. Set your password as described in the previous procedure.
2. Select **Enable Screen Saver**.
3. Type the number of minutes for Inactivity Time (from 1 to 99) to delay activation of password protection and the screen saver feature.
4. For Mode, select **Energy** if your monitor is ENERGY STAR compliant; otherwise select **Screen**.

ATTENTION: Monitor damage can result from the use of Energy mode with monitors not compliant with ENERGYSTAR.

5. (Optional) Click **Test** to activate the screen saver test which lasts 10 seconds then returns you to the Security dialog box.
6. Click **OK**.

To log in to your console:

1. Press any key or move the mouse.
2. The Password dialog box appears. Type your password and then click **OK**.
3. The Main dialog box appears if the password was entered properly.

To remove password protection from your console:

1. From the Main dialog box, click **Setup - Security**; the Password dialog box appears. Type your password, then click **OK**.
2. In the Security dialog box, single-click and press **Enter** or double-click in the New box. Leave the box blank. Press **Enter**.
3. Single-click and press **Enter** or double-click in the Repeat box. Leave the box blank. Press **Enter**.
4. Click **OK** to eliminate your password.

To enable the screen saver mode with no password protection:

1. If your console does not require a password to gain access to the Security dialog box, go to step 2.

-or-

If your console is password protected, see the previous procedure, then go to step 2.

2. Select **Enable Screen Saver**.
3. Type the number of minutes for delay time (from 1–99) that you want to delay activation of the screen saver.
4. Choose **Energy** if your monitor is ENERGY STAR compliant; otherwise select **Screen**.

ATTENTION: Monitor damage can result from the use of Energy mode with monitors not compliant with ENERGY STAR.

5. (Optional) Click **Test** to activate the screen saver test which lasts 10 seconds then returns you to the Security dialog box.
6. Click **OK**.

NOTE: Activation of the screen saver mode disconnects the user from a server; no server is selected. The status flag displays **Free**.

To exit the screen saver mode:

Press any key or move your mouse. The Main dialog box appears.

To turn off the screen saver:

1. In the Security dialog box, clear **Enable Screen Saver**.
2. Click **OK**.

To immediately turn on the screen saver:

Press **Print Screen**, then press **Pause**.

Resetting Your Keyboard and Mouse

If your keyboard or mouse stops responding, you may be able to re-establish operation of these peripherals by issuing a reset command. The reset command sends a key sequence to the server which causes the mouse and keyboard settings to be sent to the LCM. With communication re-established between the server and the LCM, functionality is restored to the user.

To reset the mouse and keyboard values:

1. Press **Print Screen**. The Main dialog box will appear.
2. Click **Commands - Reset PS/2**. A message box displays indicating that the mouse and keyboard have been reset.
3. Click **X** to close the message box.

Displaying Version Information

OSCAR enables you to display the CO cable firmware versions. For optimum performance, keep your firmware current. For more information, see *Appendix A*.

To display version information:

1. Press **Print Screen**. The Main dialog box will appear.
2. Click **Commands - Display Versions**. The Version dialog box appears. The top half of the box lists the subsystem versions in the LCM.



Figure 3.11: CO Version Dialog Box

3. Click **CO** to view individual KCO, UCO or CCO version information. The CO Selection dialog box appears.

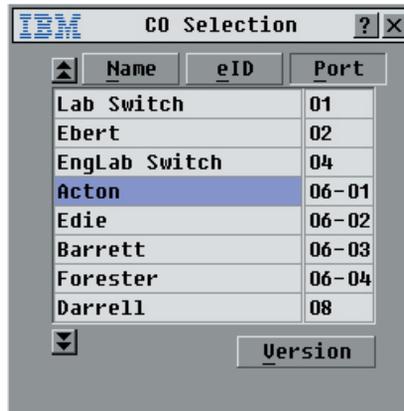


Figure 3.12: CO Selection Dialog Box

4. Select a KCO, UCO or CCO cable and click the **Version** button. The CO Version dialog box appears. For more information on loading firmware, see *Appendix A*.



Figure 3.13: CO Version Dialog Box

5. Click **X** to close the Version dialog box.

Scanning Your System

In scan mode, the LCM automatically scans from port to port (server to server). You can scan up to 16 servers, specifying which servers you want to scan and the number of seconds that each server will display. The scanning order is determined by placement of the server in the list. The list is always shown in scanning order. You can, however, choose to display the server's name or eID number by pressing the appropriate button.

To add servers to the Scan list:

1. Press **Print Screen**. The Main dialog box will appear.
2. Click **Setup - Scan**. The Scan dialog box appears.



Figure 3.14: Scan Dialog Box

3. Select the order within the list where you want to add a server. If no servers have been added to the scan list, your cursor will appear in a blank line at the top of the dialog box.
-or-
To add a server to the end of the list, place your cursor in the last server entry and press the **Down Arrow** key.
-or-
To add a server in the the midst of an existing list, place your cursor in the line below where you want to insert a new server and press **Insert**.
4. Type the first few characters of a server name or port number to scan. The first matching server will appear in the line.
-or-
To move through the server list, press the following keyboard commands in the Name, Port or Sec column to move through the list of servers available to scan.
 - a. Press **Alt+Down Arrow** to move the cursor down through the list of servers.
 - b. Press **Alt+Up Arrow** to move the cursor up through the list of servers.
 - c. Press **Alt+Home** to move the cursor to the first server in the list.
 - d. Press **Alt+End** to move the cursor to the last server in the list.
5. In the Sec column, type the number of seconds (from 3 to 255) of desired delay time before the scan moves to the next server in the sequence.
6. Move the cursor to the next line or press the **Down Arrow** and repeat steps 2-5 for each of the remaining servers to be included in the scan pattern.
7. Click **OK**.

To remove a server from the scan list:

1. In the Scan dialog box, click the server to be removed.
2. Press **Delete**.
-or-
Press **Shift+Delete** to remove the selected server and all entries below it.
3. Click **OK**.

To start the scan mode:

1. Press **Print Screen**. The Main dialog box will appear.
2. Click **Commands**. The Commands dialog box appears.



Figure 3.15: Commands Dialog Box

5. Select **Scan Enable** in the Commands dialog box.

To cancel scan mode:

1. Select a server if OSCAR is open.
-or-
Move the mouse or press any key on the keyboard if OSCAR is not open. Scanning will stop at the currently selected server.
-or-
Press **Print Screen**. The Main dialog box will appear.
2. Click **Commands**. The Commands dialog box appears.
3. Clear **Scan Enable**.

Broadcasting to Servers

The analog user can simultaneously control more than one server in a system, to ensure that all selected servers receive identical input. You can choose to broadcast keystrokes and/or mouse movements independently.

To access the Broadcast dialog box:

1. Press **Print Screen**. The Main dialog box will appear.
2. Click **Setup - Broadcast**. The Broadcast dialog box appears.



Figure 3.16: Broadcast Dialog Box

NOTE: Broadcasting Keystrokes - The keyboard state must be identical for all servers receiving a broadcast to interpret keystrokes identically. Specifically, the **Caps Lock** and **Num Lock** modes must be the same on all keyboards. While the LCM attempts to send keystrokes to the selected servers simultaneously, some servers may inhibit and thereby delay the transmission.

NOTE: Broadcasting Mouse Movements - For the mouse to work accurately, all systems must have identical mouse drivers, desktops (such as identically placed icons) and video resolutions. In addition, the mouse must be in exactly the same place on all screens. Because these conditions are extremely difficult to achieve, broadcasting mouse movements to multiple systems may have unpredictable results.

To broadcast to selected servers:

- From the Broadcast dialog box, select the mouse and keyboard checkboxes for the servers that are to receive the broadcast commands.
-or-
Press the **Up** or **Down Arrow** keys to move the cursor to the target server. Then press **Alt+K** to select the keyboard checkbox and/or **Alt+M** to select the mouse checkbox. Repeat for additional servers.
- Click **OK** to save the settings and return to the Setup dialog box. Click **X** or press **Escape** to return to the Main dialog box.
- Click **Commands**. The Command dialog box appears.
- Click the **Broadcast Enable** checkbox to activate broadcasting.
- From the user station, type the information and/or perform the mouse movements you want to broadcast.

To turn broadcasting off:

From the Command dialog box, clear the **Broadcast Enable** checkbox.



Appendices

- ***Contents***

Appendix A: FLASH Upgrades 41

Appendix B: Technical Specifications 45

Appendix C: Hardware Maintenance Information 46

Appendix D: Notices 47

Appendices

Appendix A: FLASH Upgrades

Upgrading the LCM

The LCM FLASH upgrade feature allows you to upgrade your unit with the latest firmware available. To perform this upgrade, you will need to download the latest FLASH firmware from IBM.

To upgrade your firmware, you need the following items:

- Computer running a Microsoft Windows operating system
- Available serial port (COM port) on the server
- Standard serial cable (DB-male) that connects the switch and the server
- Firmware upgrade

To upgrade firmware:

1. Connect the standard serial cable to a COM port on the server and to the serial connector on the back panel of the LCM. Note which COM port you have chosen, then turn on the switch.
2. Go to <http://www.ibm.com/pc/support> to access the firmware upgrade file. Once the download is complete, navigate to the drive where you have saved the firmware upgrade and unzip the file.
3. Double-click to run WUpDate.exe.
4. In the dialog box that displays, select the desired language and COM port.
5. Click **Load**.

ATTENTION: While downloading, do not use your computer for anything else or switch windows. The download requires constant control of your computer, and switching to another window may cause the download to time-out. If a time-out occurs, run the WUpDate program again.

6. Once the firmware is upgraded, the following message displays:
Download complete. Click **Done** to exit the dialog box.
7. The switch automatically restarts after the upgrade is completed.

Possible error conditions

If the download does not execute correctly, verify the following:

- Verify that the COM port is correct.
- Verify that no other program is currently using that COM port.
- Verify that no other copies of the WUpdate utility are currently running.
- Verify that a straight-through (1-to-1) serial cable is used, not a null modem serial cable.
- Verify in Advanced Port Settings for the selected COM port that it is using FIFO buffers and the receive buffer is set to **high**.

Upgrading the CO cable firmware

The CO cables can be upgraded individually or simultaneously. When an upgrade is initiated, you will see a progress bar. As long as an upgrade is in progress, you cannot initiate another.

To simultaneously upgrade multiple CO cables:

1. Press **Print Screen**. The Main dialog box will appear.
2. Click **Commands - CO Status**. The CO Status dialog box appears.

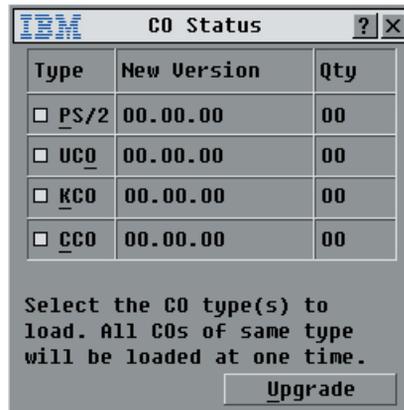


Figure A.1: CO Status Dialog Box

3. Click one or more types of cables to upgrade. Click **Upgrade**.



Figure A.2: CO Upgrade Dialog Box

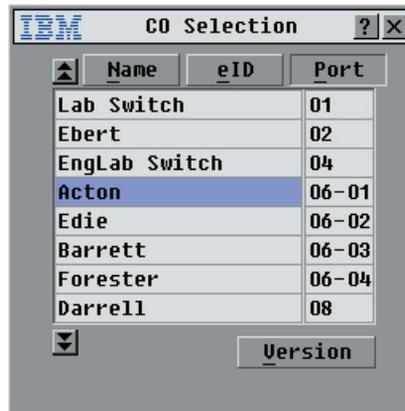
4. The CO Upgrade dialog box appears. Click **OK** to initiate the upgrade and return to the CO Status dialog box.

To upgrade CO cable firmware individually:

1. Press **Print Screen**. The Main dialog box will appear.
2. Click **Commands - Display Versions**. The Version dialog box appears.

**Figure A.3: Version Dialog Box**

5. Click **CO** to view individual cable version information.

**Figure A.4: CO Selection Dialog Box**

4. Select a CO cable to upgrade and click the **Version** button. The CO Version dialog box appears.



Figure A.5: CO Version Dialog Box

5. Click the **Load Firmware** button. The CO Load dialog box appears.

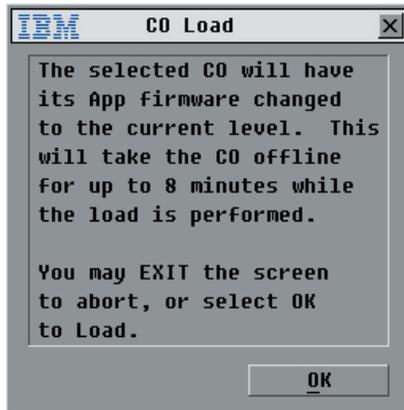


Figure A.6: CO Load Dialog Box

6. Click **OK** to initiate the upgrade and return to the CO Status dialog box.

Appendix B: Technical Specifications

LCM Product Specifications

Server Ports

Number	4
Types	KCO, CCO and UCO intelligent cables
Connectors	RJ45
Sync Types	Separate horizontal and vertical
Plug and Play	DDC2B
Video Resolution	Analog Port Maximum 1600 x 1280 @ 75 Hz

Configuration Port

Number	1
Type	Serial RS232
Connector	DB9 Female

Analog Port

Number	1
Type	PS/2 and VGA
Connectors	PS/2 MiniDIN and 15-pin D

Dimensions

Dimensions (HxWxD)	4.38 x 43.18 x 13.97 cm 1U form factor (1.72 x 17.00 x 5.75 in)
Weight	1.6 kg (3.6 lb) without cables
Heat Dissipation	17 BTU/Hr
Power Consumption	5 W
AC-input power	10 W maximum
AC-input voltage rating	100 to 240 VAC Autosensing
AC-input current rating	.1A
AC-input cable	18 AWG three-wire cable, with a three-lead IEC-320 receptacle on the power supply end and a country or region dependent plug on the power resource end
AC-frequency	50/60 Hz
Temperature	10° to 50° Celsius (50° to 122° Fahrenheit) operating -20° to 60° Celsius (-4° to 140° Fahrenheit) nonoperating
Humidity	20 to 80% noncondensing operating 5 to 95% noncondensing nonoperating

Agency Approvals

EN55022 Class A, EN55024, EN61000-3-3, FCC15 Class A, VCCI Class A, IEC950, EN60950, UL 60950 third edition, CSA C22.2 No. 60950

Appendix C: Hardware Maintenance Information

This appendix contains information about IBM Field Replaceable Unit (FRU) availability for the LCM. Troubleshooting and servicing of complex problems should be performed only by trained service personnel.

Field Replaceable Unit part numbers

IBM FRU part numbers are subject to change without notice. The following table contains a listing of the FRU part numbers available at the time this document was published.

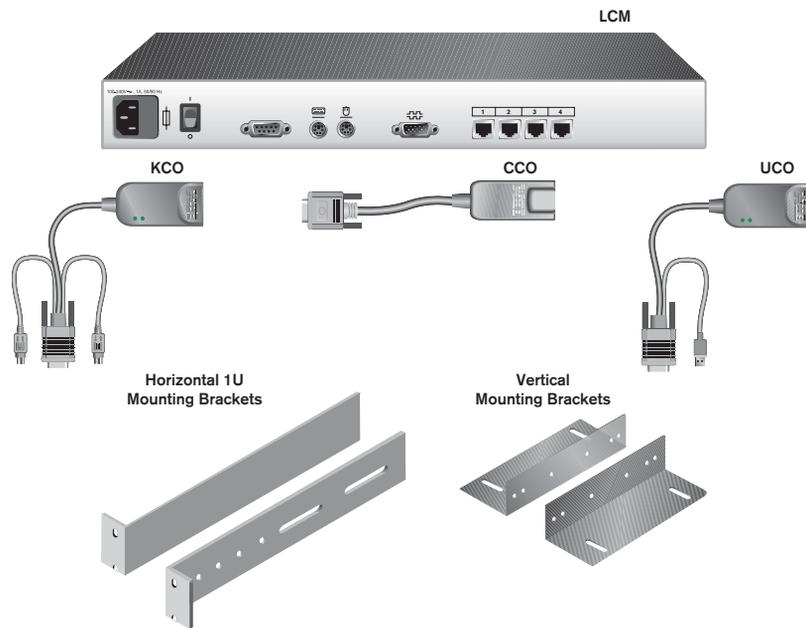


Figure C.1: FRU Parts

FRU Part Numbers

FRU Part #	Description
P/N: 32P1644	NetBAY 4 Port Local Console Manager (LCM) FRU
P/N: 32P1646	C2T Conversion Option (CCO) FRU
P/N: 32P1645	KVM Conversion Option (KCO) (short, 250mm) FRU
P/N: 32P1654	KVM Conversion Option (KCO) (long, 1.5M) FRU
P/N: 73P5835	USB Conversion Option (UCO) FRU
P/N: 32P1711	Miscellaneous FRU Parts Kit
P/N: 32P1713	Terminator FRU Kit

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Important notes

Processor speeds indicate the internal clock speed of the microprocessor; other factors also affect application performance.

CD-ROM drive speeds list the variable read rate. Actual speeds vary and are often less than the maximum possible.

When referring to processor storage, real and virtual storage, or channel volume, KB stands for approximately 1000 bytes, MB stands for approximately 1 000 000 bytes, and GB stands for approximately 1 000 000 000 bytes.

When referring to hard disk drive capacity or communications volume, MB stands for 1 000 000 bytes, and GB stands for 1 000 000 000 bytes. Total user-accessible capacity may vary depending on operating environments.

Maximum internal hard disk drive capacities assume the replacement of any standard hard disk drives and population of all hard disk drive bays with the largest currently supported drives available from IBM.

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Electronic emission notices

Federal Communications Commission (FCC) statement

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

Properly shielded and grounded cables and connectors must be used in order to meet FCC emission limits. Properly shielded and grounded cables and connectors must be used in order to meet FCC emission limits. IBM is not responsible for any radio or television interference caused by using other than recommended cables and connectors or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Industry Canada Class A emission compliance statement

This Class A digital apparatus complies with Canadian ICES-003.

Avis de conformité à la réglementation d'Industrie Canada

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

Australia and New Zealand Class A statement

ATTENTION: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

United Kingdom telecommunications safety requirement

Notice to customers

This apparatus is approved under approval number NS/G/1234/J/100005 for indirect connection to public telecommunication systems in the United Kingdom.

European Union EMC Directive conformance statement

This product is in conformity with the protection requirements of EU Council Directive 89/336/EEC on the approximation of the laws of the Member States relating to electro-magnetic compatibility. IBM cannot accept responsibility for any failure to satisfy the protection requirements resulting from a nonrecommended modification of the product, including the fitting of non-IBM option cards.

This product has been tested and found to comply with the limits for Class A Information Technology Equipment according to CISPR 22/European Standard EN 55022. The limits for Class A equipment were derived for commercial and industrial environments to provide reasonable protection against interference with licensed communication equipment.

ATTENTION: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Taiwan electrical emission statement

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求採取某些適當的對策。

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