Avocent®

AMX™ Series

Installer/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.

AMX™ Series

Installer/User Guide

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USA Notification

Warning: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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.

Canadian Notification

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le Ministère des Communications du Canada.

Japanese Approvals

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Agency Approvals

EN55022 Class A, EN55024, EN61000-3-2, EN61000-3-3, EN60950, FCC 47CFR Part15 Class A, CSA C22.2 No. 60950, IEC 60950, FCC 15 Class A, UL 60950 third edition, VCCI Class A

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1 Product Overview

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Chapter 1: Product Overview

Features and Benefits

The Avocent AMX™ Series of products allows multiple users within the switching system to access and operate PC, USB or Sun servers and serial devices at the same time. A basic AMX system configuration connects users and servers to one or more AMX switches. Any user in the system can access any attached server or serial device by simply switching to it through an AMX switch.

NOTE: References to the AMX unit and AMX switch are used interchangeably in this user guide.

An AMX system consists of one or more rack mountable AMX switches, the Avocent matrix user station and the Avocent matrix intelligent module(s) AMIQ. The AMX switch is equipped with Avocent's patented On-Screen Configuration Activity Reporting (OSCAR®) interface, allowing you to use your keyboard or mouse to select any attached server or serial device. Also supplied with each AMX is AMWorks™, the standalone administration utility used to administer naming and access information for attached users and servers.

Multiplatform

The AMX Series features multiplatform capabilities, enabling your switching system to simultaneously support any combination of PC, USB or Sun servers and serial devices. The AMX switch permits easy access across platforms with a PS/2 or Sun keyboard and mouse. Operated through the AMX system, a PC keyboard and mouse can operate a Sun server as easily as a Sun keyboard and mouse can operate an attached PC.

Advanced video compensation

The AMX user station provides advanced video compensation that maximizes video quality to support long distance communications. The video compensation feature automatically compensates for any losses in video signal to the user station.

Multiuser

The AMX Series allows "matrix switching," enabling multiple users to have simultaneous access to different servers and serial devices in the system. For example, an AMX system with four users accessing four different servers is a 4 x 4 matrix. Eight users accessing 10 different servers would be an 8 x 10 matrix.

Sharing

If two or more users need access to the same server or serial device, they can share access through the AMX Series units. Sharing enables multiple users to switch to the same server at the same time. All connected users can see the server's video, but only one user can enter data at any given moment.

Expansion capability

The expansion capability of your AMX switch depends on the AMX product installed in your system. If your total number of servers is greater than 32 (supported by the AMX5000) or 64 (supported by the AMX5010), you can connect multiple AMX switches together to give dozens of users control of hundreds of servers from one set of peripherals. For additional flexibility, you can attach other Avocent keyboard, video and mouse (KVM) switches to the AMX as well. Refer to Chapter 2 for additional information on tiering an AMX system.

OSCAR graphic user interface

Using the OSCAR interface, you can select any attached system computer through your keyboard or mouse. The OSCAR interface supports multilevel security with password protection, enabling you to control how much access users have to each server in your data center. For additional security, OSCAR can be configured to log out after a user-defined period of inactivity. When the time-out is reached, the current channel is deselected and the screen goes blank. Users must log in again to access system servers.

AMWorks utility

AMWorks is the standalone administration utility supplied with each AMX. This utility is used to assign names to attached servers and administer naming and access information for attached users. You can also use AMWorks to configure AMX installations remotely, eliminating the need to configure each unit separately. In addition, AMWorks enables you to monitor and report on all system and switching events and activities.

Component Overview

An AMX system consists of four main components:

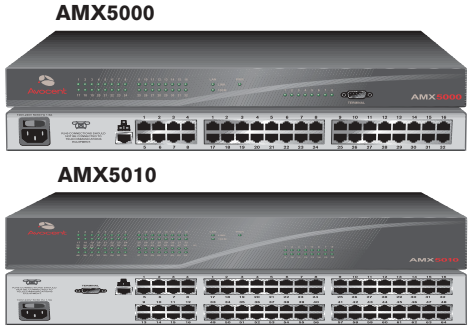
- One or more AMX switches
- Avocent matrix user station(s)

- Avocent matrix intelligent module(s) (AMIQ or AMIQ-SRL)
- UTP cables

The quantity and type of components you receive depends on the specific configuration you order.

The AMX switch

The AMX switch provides the framework for the AMX system. The AMX5000 allows eight users to connect to up to 32 computers and occupies only 1U of rack space. The AMX5010 allows 16 users to connect to up to 64 computers and occupies 2U of rack space. Both units can be tiered to connect larger system configurations. Both units store a full database of user rights and computer names and communicate with the AMWorks system management utility via an IP (Internet Protocol) port.



	Number of users	Number of computers	Rack space
AMX5000	8	up to 32	1U
AMX5010	16	up to 64	2U

Figure 1.1: AMX5000/5010 Model Comparison

The AMX user station

The AMX user station (AMX5100, AMX5110 or AMX5120) is the interface between the AMX switch and system users. It provides the OSCAR interface for server selection and administration, as well as full compensation for video degradation. The AMX user station is housed in a desktop mounting unit that may also act as a monitor stand.

The AMX5100 user station provides one RJ-45 port, enabling the connection of one AMX switch. The AMX5110 and AMX5120 user stations provide two RJ-45 ports, enabling the connection of one AMX switch and one or two AMIQ modules. Connections to two separate switches are not supported on the AMX5110 or the AMX5120 user station. The AMX5120 provides skew compensation that maximizes video quality.

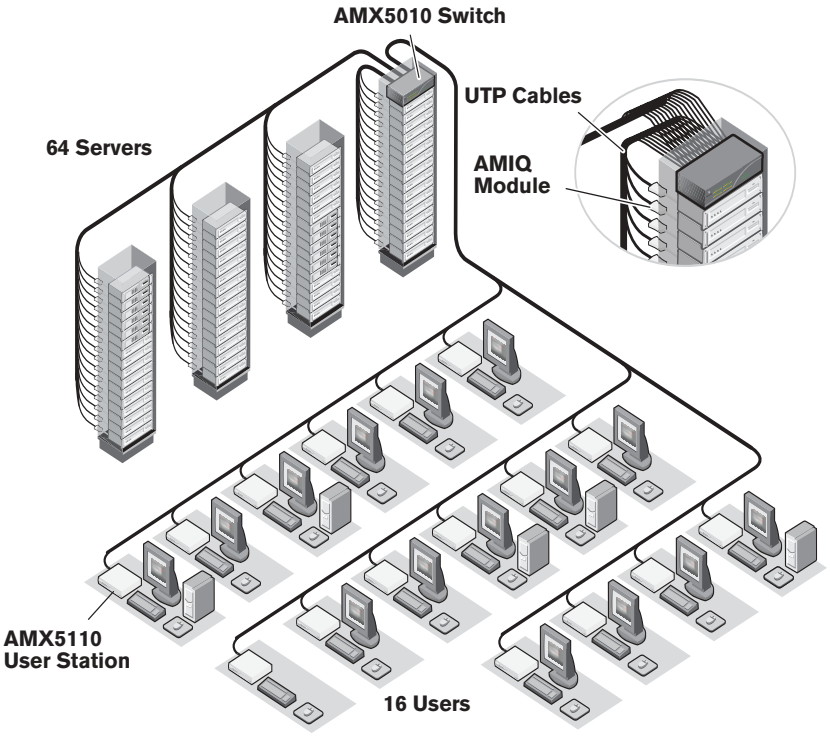


Figure 1.2: Typical AMX Configuration

The AMX intelligent module

The AMIQ provides the primary interface between an attached device (KVM switch or PS/2, Sun or USB server) and the AMX system. It provides all Keep Alive, keyboard emulation, DDC (Digital Data Channel) and AMX support in a server-powered convenient module format.

The AMIQ-SRL (serial) is a DCE (Data Communication Equipment) device that provides the primary interface between a serial device and the AMX system. It provides VT100 terminal emulation, break suppression and port history in a convenient module format. For information on using the AMIQ-SRL, refer to *Appendix B*.

These modules eliminate the need for extra rack spaces or additional cables. For ease of installation, each AMIQ has a factory-assigned unique number that

identifies the attached server within the system. The connection between the AMX system and these modules is through industry standard UTP cabling.

UTP cables

The AMX system uses video technologies that compensate for the losses that occur in all UTP cables. These technologies make the AMX compatible with most UTP cable types and support AMX use in environments where there are combinations of UTP cable types and patch panels. The AMX will function correctly with any combination of CAT5, CAT5e and CAT6 cables.

NOTE: Throughout this manual, the generic term UTP refers to any CAT cable used by the AMX system.

Safety Precautions

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

- If the building has 3-phase AC power, ensure that the server and monitor are on the same phase. For best results, they should be on the same circuit.

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 Avocent product configuration.
- Test AC outlets at the server and monitor for proper polarity and grounding.
- Use only with grounded outlets at both the server and monitor. When using a backup Uninterruptible Power Supply (UPS), power the server, the monitor and the AMX switch off the supply.

NOTE: The AC inlet is the main disconnect.

DC installation safety considerations

As a safety precaution, install this product in an area with limited or controlled access. A readily accessible disconnect device that is suitably approved and rated shall be incorporated in the field wiring. Connect field wiring from the 48 VDC power source to the screw terminals marked plus (+) and minus (-) on the rear panel of the unit. Connect field wiring from earth ground to the screw terminal marked with the ground symbol. Terminals will accommodate wiring from 26 to 12 AWG (up to 2.5 mm^2 maximum cross section). Strip each wire, insert it in the square opening in the terminal block and tighten the screw above it to a maximum of 70 ounce-inches (0.5 Nm) using either a flat or Phillips-head screwdriver.

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).

2 Installation

Contents

Chapter 2: Installation

The AMX system uses standard UTP cables to transmit keyboard, video and mouse information between users and attached servers.

Getting Started

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

Supplied with the AMX switch

The following items are supplied with the AMX switch:

- AMX5000 or AMX5010 unit
- A local country power cord
- Rack mounting brackets
- A null modem cable
- AMX Series Installer/User Guide
- AMWorks software and user guide on CD
- AMX Series Quick Install Guide

Supplied with the AMX user station

The following items are supplied with the AMX user station:

- AMX5100, AMX5110 or AMX5120 user station
- A local country power cord
- AMX Series Quick Install Guide

Supplied with the AMIQ or AMIQ-SRL

The following items are supplied with the AMIQ or the AMIQ-SRL:

- AMIQ or AMIQ-SRL module
- AMIQ or AMIQ-SRL module Quick Install Guide

NOTE: An external power supply must be used to power the AMIQ-SRL.

Needed for installation

You will need the following components to install the AMX switch:

- UTP cables for each server and user station you plan to attach to the AMX system
- One AMX5100, AMX5110 or AMX5120 user station per user
- One AMIQ per server or one AMIQ-SRL per serial device

Optionally you may need:

- AMWorks software available on the included CD and through download from Avocent

Installing an AMX System

Figure 2.1 illustrates one possible configuration for your AMX switch. Follow the detailed set of procedures following Figure 2.1 to install the AMX system.

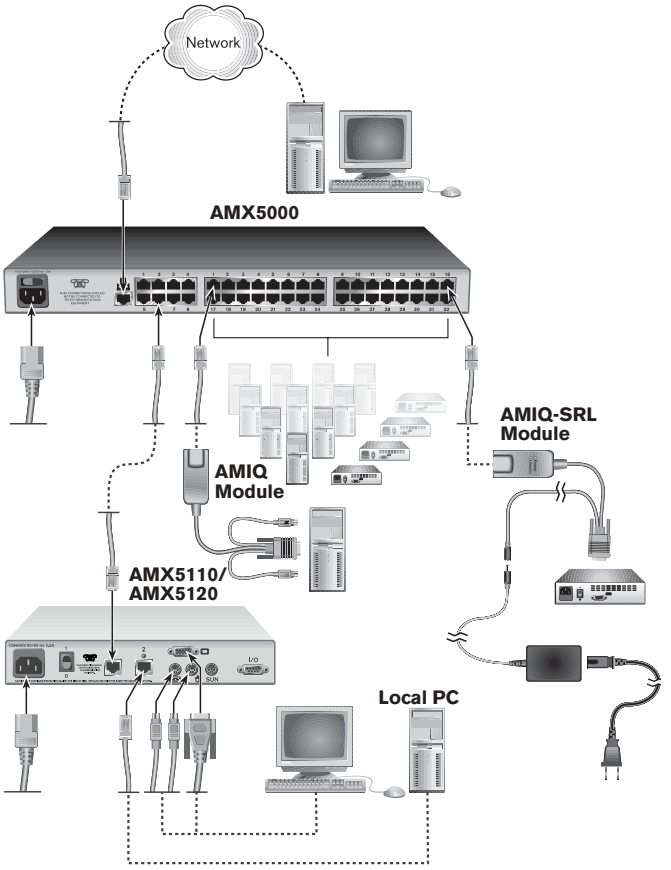


Figure 2.1: Basic AMX Configuration

WARNING: 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.

Installing the AMX switch

The AMX switch is the central hub of your AMX system. All users and computers are connected through it.

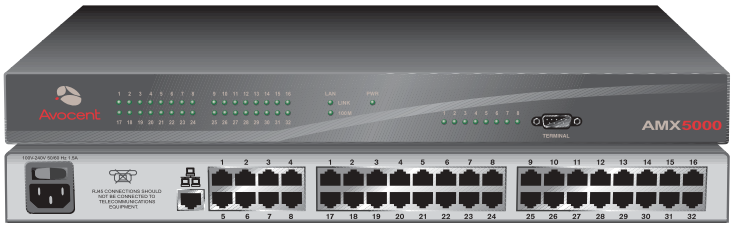


Figure 2.2: AMX5000 Switch

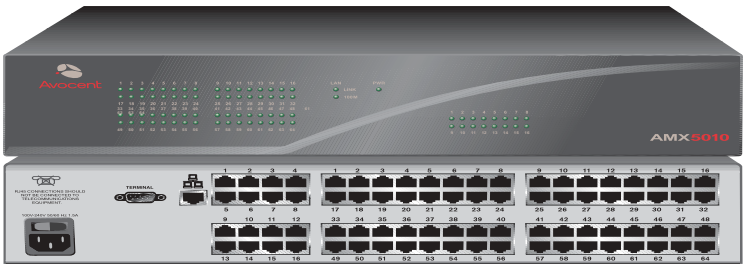


Figure 2.3: AMX5010 Switch

Rack mounting your AMX switch

You can either place your AMX switch on your rack shelf or rack mount your unit into an EIA standard rack.

A rack mounting kit is supplied with each AMX. Before installing the switch and other components in the rack, plan carefully to avoid uneven loading or overloading of the rack.

CAUTION: Rack Loading - Overloading or uneven loading of racks may result in shelf or rack failure, causing damage to equipment and possible personal injury. Stabilize racks in a permanent location before loading begins. Mount components beginning at the bottom of the rack, then work to the top. Do not exceed your rack load rating.

CAUTION: Power Considerations - Connect only to the power source specified on the unit. When multiple electrical components are installed in a rack, ensure that the total component power ratings do not exceed circuit capabilities. Overloaded power sources and extension cords present fire and shock hazards.

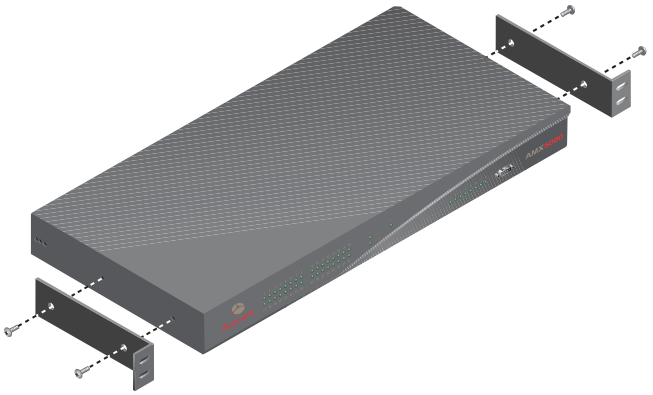


Figure 2.4: AMX5000 Rack Mounting Diagram

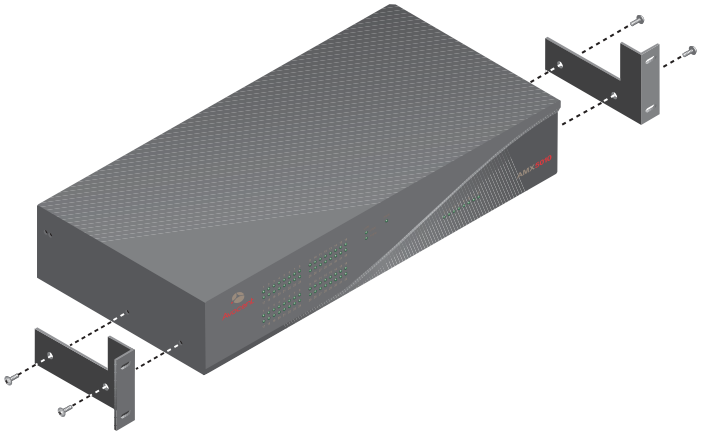


Figure 2.5: AMX5010 Rack Mounting Diagram

To install the rack mounting bracket:

1. Remove the two side screws closest to the front from each side of your AMX switch.
2. Line up the holes in the brackets with the holes on the sides of the AMX switch.
3. Using the screws supplied with the rack mounting bracket, thread one through each of the holes in the sides of the rack mount brackets and into the AMX switch. Tighten them securely.
4. Install the AMX into your rack using the approved method of your rack manufacturer.

To install a new single AMX switch:

1. Plug the supplied power cord into the back of the AMX switch and then into an appropriate power source.
2. Connect a terminal or PC running terminal emulation software (such as HyperTerminal®) to the terminal port of the AMX using the supplied null modem cable. The terminal should be set to 9600 baud, 8 bits, 1 stop bit, no parity and no flow control.
3. When the power is switched on, the Power indicator on the front of the unit will remain orange for approximately 30 seconds while performing a self-test and then change to green. This indicates a healthy condition.
4. Next, follow these instructions to set up the Terminal Applications menu. Refer to Chapter 5 for more details.
   a. You will be prompted to enter a username. The first time you access the switch, enter the username **admin** and press **Enter**. Once you have access to the AMX Console menu, you can configure a password should you wish to do so.
   b. Once you have logged in to the AMX, you will see the AMX Console menu with four options. Select option 1, *Network Configuration*. This will activate the Network Configuration menu.
   c. Within the Network Configuration menu, select option 1 to set the IP address.
   d. Select options 2 and 3 to set your netmask and default gateway respectively.
   e. Once these settings are entered, type **Ø** to return to the AMX Console menu.
   f. If all AMX switches in your installation are part of the same AMX configuration, you may leave the configuration ID set to **Ø**. If you are running more than one AMX configuration within your subnet, you will need to designate the group to which this AMX belongs. To do this, select option 2 to enter the configuration ID for your AMX switch. A configuration ID will designate an AMX switch as part of a unique installation. When change commands are issued through AMWorks, only units with the same configuration ID as the AMWorks software will be affected. Refer to *System Management* in Chapter 5 for more information on setting configuration IDs.
   g. Once you have entered a configuration ID, enter **Ø** to return to the main menu.
   h. Finally, select option 3 and follow the prompts to password protect your AMX terminal settings.
   i. Press **Ø** to exit the AMX Console menu.

To make a LAN connection:

Using a UTP cable, connect the Network port on the back of the AMX to your LAN.

NOTE: Both AMWorks and the AMX must be on the same subnet in class A, B or C to function properly.

Connecting devices to the AMX

Once the AMX switch is installed, you can begin attaching servers or serial devices to it. All are connected to the AMX through the use of AMIQ modules. For information on connecting other Avocent KVM switches to the AMX, see *Installing a Tiered AMX System* later in this chapter.

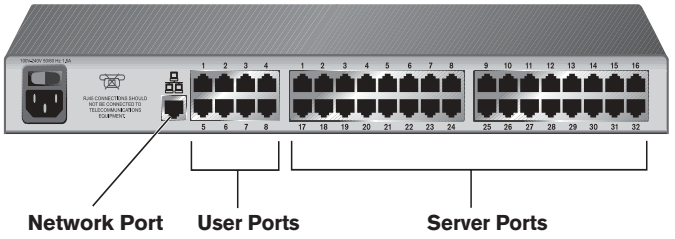


Figure 2.6: AMX5000 Rear Panel

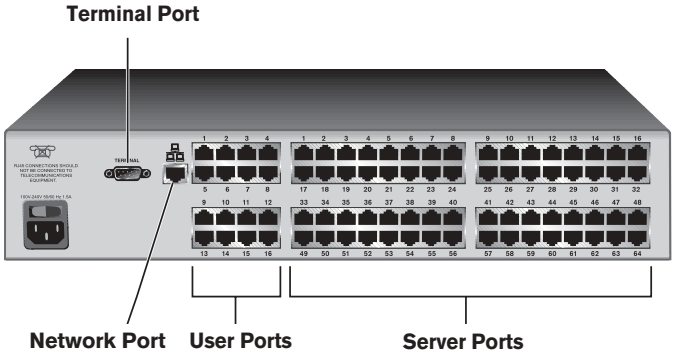


Figure 2.7: AMX5010 Rear Panel

To connect servers to the AMX system:

1. Locate an AMIQ module appropriate to the server you wish to attach.
2. Plug the AMIQ connectors into the appropriate ports on the back of the selected server.

3. Connect one end of a UTP cable into the RJ-45 port on your AMIQ module. Route the cable to your AMX switch and connect the other end to one of the available RJ-45 server ports. When the attached computer is powered and a valid UTP connection is made to an AMX switch, the green light on the AMIQ will illuminate.
4. Check the unique identifier (UID) on the back of the AMIQ. Log the UID and the target to which it is attached and keep this information for future reference.

Repeat this procedure for every server that will be attached to your AMX system.

To connect serial devices to the AMX system:

1. Locate an AMIQ-SRL module.
2. Attach the AMIQ-SRL 9-pin serial connector to the serial port of the device to be connected to your AMX switch.
3. Attach one end of the CAT 5 cable to the RJ-45 connector on the AMIQ-SRL module. Connect the other end of the CAT 5 cable to the desired computer port on the back of your AMX switch.

NOTE: The AMIQ-SRL module is a DCE device and only supports VT100 terminal emulation.

4. Connect the power supply to the power connector on your AMIQ-SRL. The cable expander can be used to power up to four AMIQ-SRL modules from a single power supply.
5. Connect the AMIQ-SRL power supply to an appropriate AC wall outlet to power up your serial device.

Repeat this procedure for every serial device that will be attached to your AMX system.

Connecting users to the AMX

Once all servers are connected, you can begin to connect users. Users are connected to the AMX system through the AMX user station.

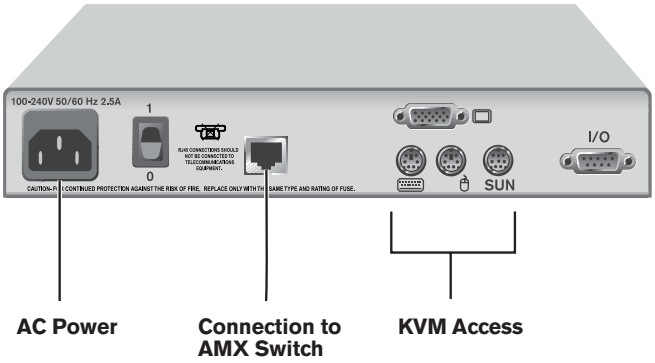


Figure 2.8: AMX5100 User Station Rear Panel

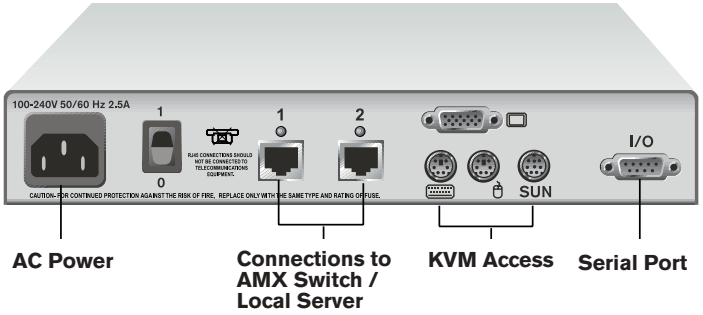


Figure 2.9: AMX5110/AMX5120 User Station Rear Panel

To connect users to the AMX system:

1. Place the AMX user station near the monitor you wish to connect. Each unit is designed to bear the weight of a monitor and can be used as a monitor stand.
2. Plug your keyboard, monitor and mouse cables into the appropriate ports on the back of the user station.
3. Connect one end of a UTP cable into the RJ-45 port on the user station. Route the cable to your AMX5000 or AMX5010 unit and connect the other end to one of the available RJ-45 user ports.

NOTE: Either RJ-45 port on the AMX5110 or AMX5120 user station can be used to connect to the AMX switch. Connections to two separate AMX switches are not supported on the AMX5110 and AMX5120 user stations.

4. Locate the power cord that shipped with the user station. Plug it into the power socket on the rear of the unit. Plug the other end into an appropriate AC wall outlet.

   The two LEDs above the UTP port connectors on the AMX5110 and AMX5120 show the activity status of each port. When a valid connection is made, the green LED illuminates. The yellow LED will blink to indicate data transfer.

   If you wish to connect a local computer to the AMX through an AMX user station, follow the instructions in the next section.

NOTE: Power down the AMX switch before servicing. Always disconnect the power cord from the wall outlet.

Connecting a local computer to the AMX

After all users are connected to the AMX system, you can connect a local computer to the AMX switch through the user station (AMX5110 and AMX5120 only).

To connect a local computer to the AMX switch:

1. Locate an AMIQ module appropriate to the server you wish to attach.
2. Plug the AMIQ keyboard, monitor and mouse connectors into the appropriate ports on the back of the selected server.
3. Connect one end of a UTP cable into the RJ-45 port on your AMIQ module. Route the cable to your AMX user station and connect the other end to the RJ-45 server port. Check the unique identifier (UID) on the back of the AMIQ and log it for future use. When the attached computer is powered and a valid UTP connection is made to an AMX switch, the green light on the AMIQ will illuminate.

Installing a Tiered AMX System

Multiple KVM switches can be connected to provide access to additional servers. Figure 2.10 illustrates one possible configuration for your AMX. Follow the detailed set of procedures following Figure 2.10 to successfully install your tiered AMX system.

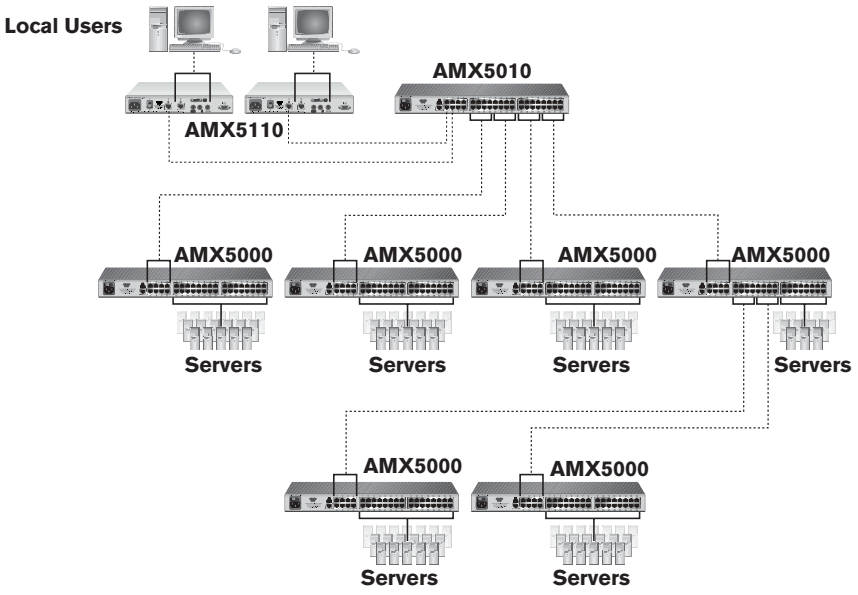


Figure 2.10: Tiered AMX System

To install a tiered AMX system:

1. Position the AMX switches that will be connected and select a switch to be the primary hub.
2. Connect one end of a UTP cable into a server port on the primary hub. Route the cable to another switch you want to incorporate into the tiered system and connect it to an available user port. Continue this process until all user ports on the tiered AMX switches have been connected.
3. You can now connect servers to the tiered AMX switches. You also can use these tiered AMX switches to add another layer of AMX switches. Up to three levels, or tiers, of AMX switches can be connected.

NOTE: If required, additional user stations can be placed on other layers of the AMX system. User rights and user information do not propagate among tiers and can be changed only with AMWorks. The number of users that can access different servers on a tier is limited to the number of links connected to the switch.

To tier other Avocent KVM switches from the AMX switch:

1. Place the switches at the desired location as described in the previous section. Make sure that they are turned off and unplugged.
2. Connect the keyboard, video and mouse connectors of an AMIQ to the corresponding user ports on each tiered switch.
3. Route a UTP cable from the AMIQ to the primary AMX switch and connect it to an available server port.

NOTE: The AMX switch can be used with all Avocent KVM switches. Switching to a port with an attached KVM switch that is not an AMX switch requires the activation of the On-Screen Display (OSD) of that unit to continue the switch.

Configuring the AMX Database

Once all users, servers and switches have been attached and connected to the LAN, configure the AMX database of servers and users. For more information on configuring your AMX database, see the AMWorks Installer/User Guide.

Configuring an AMX Switch

An individual AMX switch can be configured through the OSCAR interface or with the AMWorks software. For information on configuring an individual AMX through OSCAR, see Chapter 4. For more information on configuring your switch with AMWorks, see the AMWorks Installer/User Guide.

FLASH Upgrading the AMX System

FLASH upgrades allow you to update the firmware of your AMX switch and keep current with the latest AMX innovations. Please check the Avocent web site for the appropriate FLASH upgrade files. For more information on FLASH upgrading, including how to verify your firmware version, please see your AMWorks Installer/User Guide.

NOTE: The AMWorks software is the only way to FLASH upgrade the AMX.

3 Basic Operations

Contents

Chapter 3: Basic Operations

Power Up and LEDs

AMX5000 or AMX5010

There are three groups of LEDs on the front panel of your AMX5000 or AMX5010 switch. Each green LED in the left group corresponds to a server port. Each LED illuminates when the system or tiered AMX switch is attached and powered up.

Figure 3.1: AMX5000 Unit

The green and amber LEDs in the center group indicate the status of your LAN connection. When a valid IP connection is made to the network port of the AMX switch, the green *LINK* LED blinks. The amber *100M* LED indicates the speed of the attached LAN. This LED illuminates when a 100M connection is made or remains unlit when a 10M connection is made. The green power (*PWR*) LED in the center group illuminates when the AMX switch is powered and will blink only during a FLASH upgrade.

Additional green LEDs in the right group correspond to each user port and illuminate when the AMX5100, AMX5110, AMX5120 or cascaded (AMX5000 or AMX5010) switch is attached and powered up.

AMX user station

There are two blue LEDs on the front panel of the AMX user station. The top LED is the power status LED and remains constantly lit when power is connected and off when power is absent. The lower LED shows connection and activity status. This LED blinks when the OSD is displayed and remains constant when there is a valid connection between the AMX user station and an AMIQ module or AMX switch.

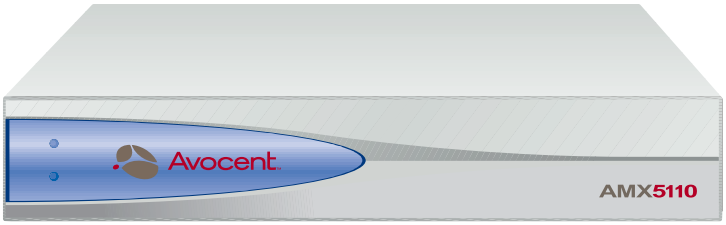


Figure 3.2: AMX5110 User Station

The rear panel of the AMX5110 and AMX5120 provides two LEDs, one green and one yellow, mounted on each UTP port connector. The green LEDs indicate the connection status of each port. The yellow LEDs indicate the activity status of each port. The rear panel UTP port LEDs are described in the following table.

User Station Rear Panel LEDs

Green	Yellow	Activity
On	Blinking	Link Connection Active
Off	Off	Link Connection Inactive
On	Blinking	Data Transfer in Progress

AMIQ module

The AMIQ (PS/2, Sun and USB) module features only one green LED. This indicator shows that the attached computer is powered, and a valid UTP connection has been made to an AMX switch. This LED blinks if a fault has been detected.

AMIQ-SRL module

The AMIQ-SRL module features two green LEDs: *Power* and *Selected*. When illuminated, *Power* indicates that the module has power, and *Selected* indicates that a valid UTP connection has been made to an AMX switch. The serial interface will not generate a serial break to the attached device in the event that the AMIQ-SRL loses power.

User Operation

Controlling your system at the local port

The AMX user station uses Avocent's patented OSCAR interface, featuring intuitive menus to configure your system and select servers. OSCAR is easily accessed and always available at the desktop.

When the AMX user station is powered, you are prompted for your login name and password. Once you have entered your login name and password, OSCAR is displayed. You can change your password at any time.

NOTE: When Force User Login is on, you can access only local computers. You must log in to access remote computers. The default setting of the Force User Login is *Off*.

If you have not logged in successfully, the OSD displays *Matrix System* and the names of locally connected computers in the server list. Double-clicking *Matrix System* switches you to the login dialog box. Since the Matrix System label represents the Matrix System server, it cannot be used to name a local or remote computer, nor can rights be assigned to it.

To access OSCAR:

Launch OSCAR by pressing the left or right **Ctrl** twice. For alternative hotkey sequences, see the *Console Maintenance* section in Chapter 4. Throughout this manual, **Ctrl+Ctrl** is used as the default hotkey sequence.

To change your user password:

1. Press **Ctrl+Ctrl** to launch OSCAR.
2. When the OSCAR dialog box appears, click the *User* tab.
3. Enter your current password.

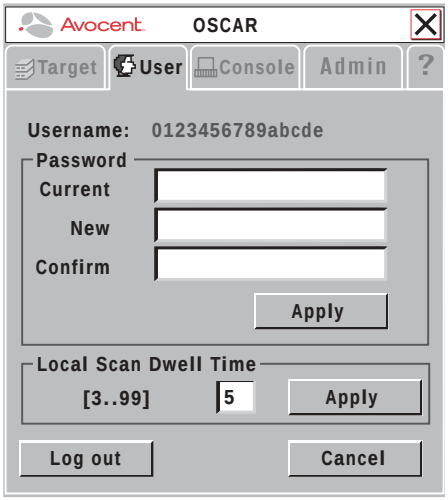


Figure 3.3: OSCAR User Tab

4. Enter your new password and verify it in the fields provided.

NOTE: Should you lose your password, please contact Avocent Technical Support for assistance.

Dual port behavior

After the AMX system is powered up, the connections made to the user station (AMX5110 and AMX5120) display the following OSCAR menus :

- Local connection only: The OSCAR main menu displays the local PC names and/or UIDs.
- Remote connection: The login menu is displayed. After login, the OSCAR main menu displays the server names on the AMX system.
- One local connection and one remote connection: The login menu is displayed. After login, the OSCAR main menu displays the server names and local PC names and/or UIDs.

OSCAR Overview

OSCAR consists of five main tabs: Target, User, Console, Admin and ?.

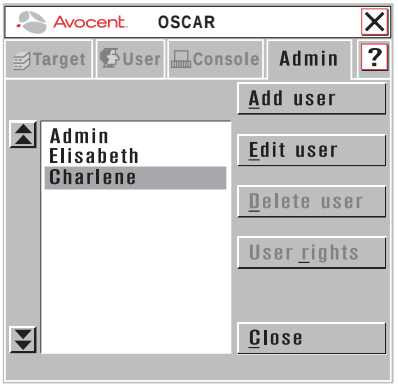


Figure 3.4: OSCAR Admin Tab

Target

The Target tab lists the servers that may be accessed from your AMX user station and the available modes for these servers. Servers may be selected in Shared, Private, Scan or Maintain modes. If you have not logged in successfully to the AMX system, the servers connected to the matrix will not display in the server list. You can access the servers by double-clicking on *Matrix System* in the list and then logging in.

Shared

If two or more users need to access the same server, they can share access to it through the AMX Series switch. Sharing means that multiple consoles can view

a server channel at the same time, but only one can enter data through the keyboard or mouse at any given moment. When the active console stops all keyboard and mouse activity, another console can take control of the server.

Private

When you select your server after clicking the *Private* radio button, no other user station in the system can switch to your selected server. If another user initiates a channel change to your private channel, access will be denied. You may take your channel out of Private mode by switching to another server or reselecting the same server in Shared mode.

Scan

In Scan mode, multiple servers may be monitored in sequence. When keyboard or mouse activity is detected, scanning stops, allowing users to operate an attached device. For more information on scanning, see *Selecting Servers* later in this chapter.

Maintain

Use Maintain mode when you wish to remain connected to a server while rebooting. Once a server is selected in Maintain mode, it will not lose contact with the switch when power is cycled.

NOTE: Servers in Maintain mode cannot be shared.

User

The User tab provides the current user with options to log out, change scan dwell times or change the password. Passwords must be at least six characters long. For more information on passwords and user options, see *User Maintenance* in Chapter 4.

Console

The Console tab is used to set local settings for the AMX user station including country specific keyboard layout, OSD hotkey sequence, Command Line hotkey sequence, quick switch hotkey sequence and inactivity time.

Selecting the logout option and clicking *Apply* will configure your AMX user station to automatically log a user out after a specified amount of keyboard and mouse inactivity.

You may choose to select an alternative OSD hotkey sequence by selecting one of the options listed in the pull-down menu. You can use the default, **Ctrl+Ctrl (L-R)**, as the OSD hotkey sequence and then access OSCAR by pressing either the left or right **Ctrl** key twice. The available OSD line hotkey sequences are:

All
Print Screen
Ctrl+Ctrl (L-R)
Ctrl+Ctrl (L)
Ctrl+Ctrl (R)
Alt+Alt (L-R)
Alt+Alt (L)
Alt+Alt (R)
Shift+Shift (L-R)
Shift+Shift (L)
Shift+Shift (R)
Scroll Lock+Scroll Lock

For more information, see *Console Maintenance* in Chapter 4.

Admin

The Admin tab displays options for editing user and server information. Only users with Administrator rights can access editing screens to configure user and server information for servers connected to the AMX system. Any user can access editing screens for the local computer.

Users Admin

The Users Admin button allows the Administrator to add, edit and delete users, assign rights to each server and force user login. For more information about user administration, see Chapter 4.

Servers Admin

The Servers Admin button allows the Administrator to edit the server name. Changes to the server name are propagated to the AMIQ immediately. For more information on server administration, see Chapter 4.

?

The ? tab provides access to AMX on-line help and provides the software version and name of the AMX switch.

Selecting Servers

Use the Target tab in the OSCAR dialog box to connect to servers. When you connect to a server, the AMX reconfigures the keyboard and mouse to the appropriate settings for the selected server.

To select a server:

1. Press **Ctrl+Ctrl** to launch OSCAR.
2. Click the *Target* tab and select the appropriate access mode: Shared, Private or Maintain.
3. Double-click the server name.
   -or-
   Click the server name and then click the *Connect* button.

To disconnect from a selected server, activate OSCAR and click the *Disconnect* button or switch to another server.

To scan an AMX system:

1. Press **Ctrl+Ctrl** to launch OSCAR.
2. Select the *Target* tab and click the *Scan* radio button.
3. Press and hold the **Ctrl** key while you individually select the servers that you would like to scan. Alternately, if you wish to select a group of servers in sequence, you can click the first server in the list, press and hold the **Shift** key and select the last server to highlight the list.
4. Click the *Start* button to begin scanning.

Once scanning is initiated, the AMX will cycle through the selected servers in alphabetical order. If the user has full access rights to the current server and the AMX user station detects keyboard or mouse activity, scanning is suspended. This allows the user to work with the server. When mouse and keyboard activity stops, scanning resumes with the next channel in sequence. If the user has view only access rights to the current server, scanning will not be suspended if the user types on the keyboard or moves the mouse. The length of time each server channel remains on screen, or dwell time, is configurable and can be changed at any time through the User tab. Default dwell time is three seconds. To halt scanning, press **Ctrl+Ctrl** and click the *Stop* button.

To set the scan dwell time:

1. Press **Ctrl+Ctrl** to launch OSCAR.
2. Click the *User* tab.

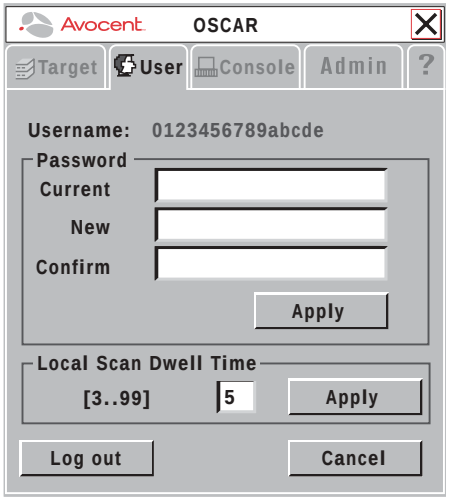


Figure 3.5: User Tab

3. In the box provided, enter the local scan dwell time in seconds.
4. Click *Apply*.

Keyboard Translation

The AMX user station allows you to use PS/2 or Sun keyboards to operate any type of attached computer. However, when crossing platforms, certain keys will need to be remapped in order to provide all of the functions available on the keyboard native to that platform.

For example, if you access a Sun workstation with a PS/2 keyboard, you will notice that the PS/2 keyboard does not have the **Stop** and **Again** keys that are on a true Sun keyboard. But, by turning **Scroll Lock** on, the **F1** and **F2** keys on the PS/2 keyboard function as the Sun **Stop** and **Again** keys. With **Scroll Lock** off, **F1** and **F2** function normally.

The following table shows the translations for a PS/2 keyboard to a Sun computer. All mapped functions will only be valid when **Scroll Lock** is on.

PS/2 Keyboard to Sun Computer

Key	Sun	Key	Sun
F1	Stop	F9	Find
F2	Again	F10	Cut
F3	Props	F11	Power
F4	Undo	F12	Command
F5	Front	keypad *	Compose
F6	Copy	NUMLOCK	Help
F7	Open	keyboard /	Mute
F8	Paste	keyboard -	Vol -
		keyboard +	Vol +

Sun keyboards have a **Power** key used to power the workstation. PS/2 keyboards may have a **Sleep** key to place the computer in a stand-by or power saving mode.

Power/Sleep for USB Computers

Keyboard	Peripheral Key	Scroll Lock	Computer
PS/2	Shift - F11	On	Win 98/2000
	F11	On	Win 98/Mac
	Sleep	On	Win 98/Mac
Sun	Power	On	Win 98/2000
	Power	Off	Win 98/Mac

To issue the Power/Sleep command:

Press **Scroll Lock - F11** (or **Sleep** key) on a PS/2 keyboard.
-or-
For a Sun computer, press the **Power** key.

4 Advanced Operations

Contents

Chapter 4: Advanced Operations

User Maintenance

The AMX system can be configured to support up to 128 users. Each user is identified by a unique name and password and can be assigned full, view only or no rights to servers attached to the AMX. These actions, as well as deleting and editing users once they are configured, are performed through the Admin menu and require that the user be logged in under the Admin user.

NOTE: You also can perform user maintenance through the AMWorks software.

To add a user:

1. Press **Ctrl+Ctrl** to launch OSCAR.
2. Click the *Admin* tab.
3. Click the *Users Admin* button.
4. Click the *Add User* button.

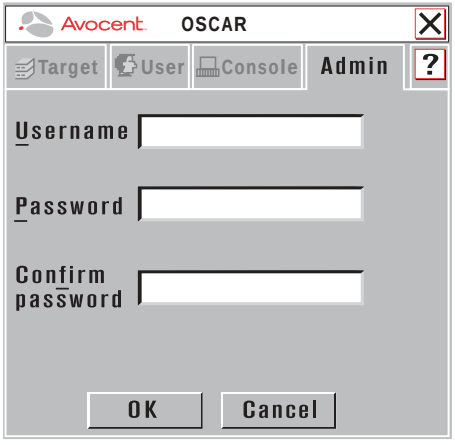


Figure 4.1: Adding a User

5. Enter the name of the user in the Username field.
6. Enter the user's password and confirm it in the provided fields.
7. Click *OK*.

To edit a user:

1. Press **Ctrl+Ctrl** to launch OSCAR.
2. Click the *Admin* tab.
3. Click the *Users Admin* button.

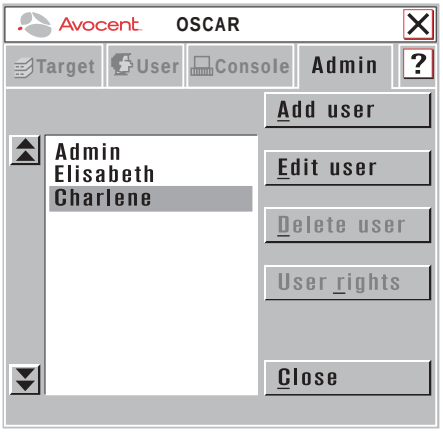


Figure 4.2: Editing a User

4. Click the username that you wish to edit, then click the *Edit User* button. Change the user's name or password as needed.
5. When all changes are complete, click *OK*.

To delete a user:

1. Press **Ctrl+Ctrl** to launch OSCAR.
2. Click the *Admin* tab.
3. Click the *Users Admin* button.
4. Click the user you wish to delete, then click the *Delete User* button.
5. When you are prompted to complete the deletion, click *Yes* or *No*.

To set user access rights:

1. Press **Ctrl+Ctrl** to launch OSCAR.
2. Click the *Admin* tab.
3. Click the *Users Admin* button.
4. Click the user that you wish to assign rights for and click the *User Rights* button.
5. To change a user's access rights to a single server, click the target from the list of available servers. Select the appropriate access level: *none*, *view* or *full*.
   -or-
   To change a user's access rights to multiple servers, press the **Ctrl** key and select the targets from the list of available servers. Select the appropriate access level: *none*, *view* or *full*.

NOTE: The default setting for a user's access rights is *none*.

6. After configuring all servers, click the *OK* button.

To enforce user login:

As a security measure, the AMX can be configured to automatically force users to log in.

1. Press **Ctrl+Ctrl** to launch OSCAR.
2. Select the *Admin* tab and click the *Users Admin* button.
3. Select the *Admin* user from the list.
4. Select the *Edit User* button and enter your password. Click the *Force User Login* box and click *OK*.

Server Maintenance

Through the use of AMIQ modules, the AMX system automatically recognizes attached servers by their unique ID numbers. With OSCAR, you can assign a name to each server for more convenient identification.

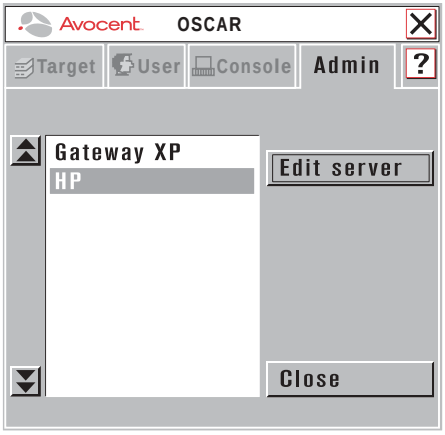


Figure 4.3: Naming a Server

To name a server:

1. Press **Ctrl+Ctrl** to launch OSCAR.
2. Click the *Admin* tab.
3. Click the *Servers Admin* button.
4. A list of available servers will appear. Select the server UID or name that you wish to alter and click *Edit server*.

NOTE: It is only possible to edit servers that are attached to the AMX system and powered.

5. Enter the new name for the server.
6. If the selected AMIQ is attached to a USB computer, select the appropriate keyboard layout. This keyboard layout is stored in the AMIQ and will be reported to the attached Sun server each time the server reboots.
7. Click the *Apply* button.

Available Keyboard Layouts on the AMX User Station

Sun Keyboard Layouts	
US English	Italy
Canada (French)	Spain
UK	Portugal
France	Greece
Germany	Japan
Netherlands	Korea
Belgium	Switzerland (German)
Denmark	Switzerland (French)
Norway	Russia
Sweden	Taiwan
Finland	

Console Maintenance

The AMX has default settings for keyboard, hotkey and Command Line hotkey sequences. These settings ensure that all keys pressed on the attached keyboard display the correct character in the OSD. The AMX can support keyboard types from multiple countries and regions. In most cases, these will not need to be changed.

To adjust keyboard layout:

1. Press **Ctrl+Ctrl** to launch OSCAR.
2. Click the *Console* tab.

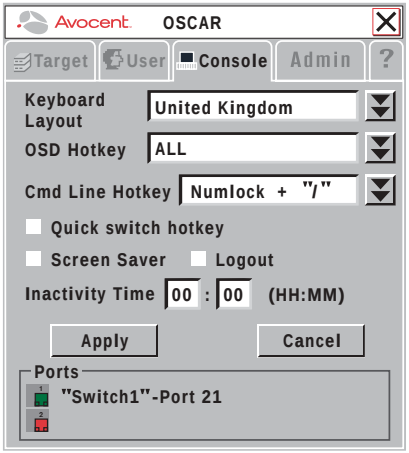


Figure 4.4: The Console Tab

3. The current keyboard layout will be displayed. Click the double arrow to the right of the keyboard layout listing to scroll through available options.
4. Select your new layout and click *Apply*.

Available Keyboard Layouts on the AMX User Station

Keyboard Layouts	
US English	Finland
Canada (French)	Italy
UK	Spain
France	Portugal
Germany	Greece
Netherlands	Japan
Belgium	Korea
Denmark	Switzerland (French)
Norway	Switzerland (German)
Sweden	

To change the OSD hotkey sequence:

1. Press **Ctrl+Ctrl** to launch OSCAR.
2. Click the *Console* tab.
3. The current OSD hotkey sequence will be displayed. Click the double arrow to the right of the OSD hotkey sequence to scroll through available options.

4. Select your new sequence and click *Apply*. The selected sequence changes from blue to black text.

To change the Command Line hotkey sequence:

1. Press **Ctrl+Ctrl** to launch OSCAR.
2. Click the *Console* tab.
3. The current Command Line hotkey sequence will be displayed. Click the double arrow to the right of the Command Line hotkey sequence to scroll through available options.
4. Select your new sequence and click *Apply*.

Command Line hotkey sequences

The OSD Command Line enables you to enter a hotkey sequence that you can use to reset the keyboard and mouse. The default Command Line hotkey sequence is the **NumLock** key pressed and held, followed by the **Minus** (**-**) key. You can set the following hotkey sequences from the list available on the Console tab.

Command Line Hotkey Sequences

Sequence	Keystroke Description
NumLock + "-"	NumLock key, pressed and held, followed by the **Minus** (-) key
NumLock + "/"	NumLock key, pressed and held, followed by the **Slash** (/) key
NumLock + "+"	NumLock key, pressed and held, followed by the **Plus** (+) key
NumLock + "*"	NumLock key, pressed and held, followed by the **Asterisk** (*) key

To use Command Line hotkeys:

1. Press the default Command Line hotkey sequence to display the Command Line.

Figure 4.5: Command Line

2. Type **rk** and press **Enter** to reset the keyboard.
   - or -
   Type **rm** and press **Enter** to reset the mouse.

Quick switch hotkey

The quick switch hotkey enables you to connect to the next server on the list by selecting a quick switch hotkey sequence.

To use the quick switch hotkey:

1. Press **Ctrl+Ctrl** to launch OSCAR.
2. Click the *Console* tab.
3. Click the *Quick switch hotkey* checkbox to activate.
4. Press the **Esc** key to exit OSCAR.
5. Press **Ctrl+Up Arrow** to move one server up on the list.
   -or-
   Press **Ctrl+Down Arrow** to move one server down on the list.

Screen saver, logout and inactivity time

The Screen Saver, Logout and Inactivity Time options interact to control the behavior of your console during periods of inactivity. You can choose to display your screen saver or have your system log out when the time period designated in the Inactivity Time field has expired.

To configure your console for inactivity time:

1. Press **Ctrl+Ctrl** to launch OSCAR.
2. Click the *Console* tab.
3. Click the *Screen Saver* checkbox.
   -or-
   Click the *Logout* checkbox.
4. Enter your new inactivity time and click *Apply*.

5 Terminal Operations

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Chapter 5: Terminal Operations

Accessing the Terminal Menu

Each AMX5000 or AMX5010 can be configured at the unit level through the TERMINAL port. All terminal commands are accessed through a terminal or PC running terminal emulation software.

To access the Terminal Applications menu:

1. Connect a terminal or PC running terminal emulation software (such as HyperTerminal) to the configuration port on the front panel of the AMX5000 or on the back panel of the AMX5010 using the supplied null modem cable. The terminal should be set to 9600 baud, 8 bits, 1 stop bit, no parity and no flow control. The terminal may be connected at any time, even when the unit is powered.
2. The first time you access the switch, you are prompted to enter a username. Enter the username **admin** and press **Enter**. Once you have access to the AMX Console tab, you can configure a password should you wish to do so.

Terminal Applications menu commands

The AMX Terminal Applications menu features four selections: Network Configuration, System Management, Set/Change Password and Exit. The following sections provide more details on each option.

Network Configuration

The AMX is configured for network access through this option. Selecting this option provides you access to the addressing that positions the AMX in your network.

NOTE: Both the AMWorks software and the AMX switch must be on the same subnet in class A, B or C to function properly.

System Management

The AMX uses IP to communicate with the AMWorks software and synchronize all AMX databases. You must provide a unique ID for each configuration so that multiple AMX configurations can be connected to and managed on the same subnet.

NOTE: All AMX5000 or AMX5010 switches that are part of the same AMX configuration must have the same configuration ID.

Set the IDs of all AMX configurations that will be connected to the same subnet as shown in the following table. Continue this numbering system for all other AMX configurations connected to the same subnet.

AMX Configuration ID

System	Configuration ID
system 1	000001
system 2	000002
system 3	000003

Set/Change Password

You can set the AMX to a secure mode so that the Terminal Applications menu cannot be accessed without first entering a password.

To activate security:

1. Select the *Set/Change Password* menu option. You will be prompted to decide if you wish to continue. Enter a **Y**.
2. Type a password for this AMX unit and press **Enter**. This password may be up to eight characters long.
3. You will be prompted to re-type the password. Once you complete this step, security will be active and you will not be able to access AMX terminal operations without the password.

To change the password:

1. Select the *Set/Change Password* menu option.
2. You will be prompted to type the old password and a new one.
3. Re-enter the new password to verify.

CAUTION: This password places your AMX terminal in a secure mode. This password should be guarded like any network password and care should be taken to avoid forgetting or misplacing it. Should you lose your password, please contact Avocent Technical Support for assistance.

Exit

This menu selection will return you to the ready prompt.

Appendices

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Appendices

Appendix A: Technical Specifications

AMX5000 Product Specifications		
Server Ports		
	Number	32
	Connectors	RJ-45 AMX interconnect
User Ports		
	Number	8
	Connectors	RJ-45 AMX interconnect
Network Connection		
	Number	1
	Type	Ethernet, 10BaseT, 100BaseT
	Connector	RJ-45
Terminal Port		
	Number	1
	Type	RS-232 serial
	Connector	DB9 male
Dimensions		
	Dimensions (H x W x D)	4.45 x 43.2 x 28.1 cm 1 U form factor (1.75 x 17 x 11 in)
	Weight	3.7 kg (8 lb)
	Heat Dissipation	270 Kj
	Power Consumption	75 W
	AC-input power	75 W maximum
	AC-input voltage rating	100 to 240 VAC
	AC-frequency	50/60 Hz
	Temperature	Ø° to 50° Celsius (-4° to 140 Farenheit) operating -20° to 60° Celsius (32° to 122° Farenheit) nonoperating
	Humidity	10 to 95% noncondensing operating
Agency Approvals		
	EN55022 Class A, EN55024, EN61000-3-2, EN61000-3-3, EN60950, FCC15 Class A, CSA C22.2 No. 60950, UL60950 third edition, VCCI Class A	

AMX5010 Product Specifications		
Server Ports		
	Number	64
	Connectors	RJ-45 AMX interconnect
User Ports		
	Number	16
	Connectors	RJ-45 AMX interconnect
Network Connection		
	Number	1
	Type	Ethernet, 10BaseT, 100BaseT
	Connector	RJ-45
Terminal Port		
	Number	1
	Type	RS-232 serial
	Connector	DB9 male
Dimensions		
	Dimensions (H x W x D)	4.45 x 43.2 x 28.1 cm 2 U form factor (1.75 x 17 x 11 in)
	Weight	7.27 kg (16 lb)
	Heat Dissipation	610 Kj
	Power Consumption	150 W
	AC-input power	75 W maximum
	AC-input voltage rating	100 to 240 VAC
	AC-frequency	50/60 Hz
	Temperature	Ø° to 50° Celsius (-4° to 140 Farenheit) operating -20° to 60° Celsius (32° to 122° Farenheit) nonoperating
	Humidity	10 to 95% noncondensing operating
Agency Approvals		
	EN55022 Class A, EN55024, EN61000-3-2, EN61000-3-3, EN60950, FCC15 Class A, CSA C22.2 No. 60950, UL60950 third edition, VCCI Class A	

AMX User Station (AMX5100, AMX5110, AMX5120) Product Specifications		
Server Ports		
	Number	1: AMX5100; 2: AMX5110 and AMX5120
	Connectors	RJ-45 AMX interconnect
User Ports		
	Number	3
	Type	PS/2, Sun and VGA video
	Connectors	6-pin miniDIN, PS/2 keyboard and mouse; 8-pin miniDIN, Sun keyboard and mouse; 15HDD female
Dimensions		
	Dimensions (H x W x D)	4.45 x 27.9 x 29.2 cm 1U form factor (1.75 x 10.98 x 11.5 in)
	Weight	2 kg (4.41 lb)
	Heat Dissipation	90 Kj
	Power Consumption	25 W
	AC-input power	25 W maximum
	AC-input current rating	1A
	AC-input voltage rating	100 to 240 VAC
	AC-frequency	50/60 Hz
	Temperature	Ø° to 50° Celsius (-4° to 140 Farenheit) operating -20° to 60° Celsius (32° to 122° Farenheit) nonoperating
	Humidity	10 to 95% noncondensing operating
Supported Hardware		
	Peripherals	PS/2 keyboard and mouse, Sun keyboard and mouse
	Video Resolution	1024 x 768 (1280 x 1024 AMX5120 only) with 1000 feet of UTP from server to user; 1280 x 1024 with 500 feet of UTP from server to user; 1600 x 1200 with 100 feet of UTP from server to user
	Sync Types	Separate horizontal and vertical; sync on green (as used on SGI and HP9000)
Agency Approvals		
	EN55022 Class A, EN55024, EN61000-3-2, EN61000-3-3, EN60950, FCC15 Class A, CSA C22.2 No. 60950, UL60950 third edition, VCCI Class A	

AMIQ Module Product Specifications		
Server Ports		
	Number	AMIQ-PS/2: 4; AMIQ-VSN: 2; AMIQ-WSN: 2 AMIQ-USB: 2
	Type	AMIQ-PS/2, AMIQ-VSN, AMIQ-WSN, AMIQ-USB
	Connectors	AMIQ-PS/2: 6-pin miniDIN, PS/2 keyboard and mouse; 15HDD male, VGA video; RJ-45 AMX interconnect
		AMIQ-VSN: 8-pin miniDIN, Sun keyboard and mouse; 15HDD male, VGA video
		AMIQ-WSN: 8-pin miniDIN, Sun keyboard and mouse; 13W3 male, VGA video
		AMIQ-USB: USB keyboard and mouse (supports Intel, Sun, Macintosh), 15HDD male, VGA video
	Sync Types	Separate horizontal and vertical; sync on green
	Plug and Play	DDC2B
User Ports		
	Number	1
	Connectors	RJ-45 AMX interconnect
Dimensions		
	Dimensions (H x W x D)	2.11 x 6.17 x 10.21 cm (.83 x 2.43 x 4.02 in)
	Weight	.13 kg (.29 lb)
	Power Consumption	130 mA
	AC-input power	5 Vdc
	Temperature	10° to 50° Celsius (-4° to 140 Farenheit) operating -20° to 60° Celsius (32° to 122° Farenheit) nonoperating
	Humidity	10 to 95% noncondensing operating
Agency Approvals		
	EN55022 Class A, FCC15 Class A	

AMIQ-SRL Module Product Specifications	
Server Ports	
Number	1
Type	DCE
Connectors	9-pin D-sub female
User Ports	
Number	1
Connectors	RJ-45 AMX interconnect
Serial Ports	
Type	DCE
Emulation	VT100
Baud Rate	115200, 57600, 38400, 19200, 9600, 2400, 1200, 300 bits per second
Parity	Even, Odd, None
Flow Control	None, CTS/RTS or XOn/XOff
Dimensions	
Dimensions (H x W x D)	2.0 x 4 x 21.5 (with serial connector) cm (.83 x 2.43 x 4.02 in)
Weight	.13 kg (.29 lb)
AC-input current rating	230 mA
AC-input power	6 VDC maximum
Temperature	10° to 40° Celsius (50° to 104 Farenheit) operating -20° to 60° Celsius (-4° to 140° Farenheit) nonoperating
Humidity	10 to 95% noncondensing operating
Agency Approvals	
UL60950 third edition, C22.2 No. 60950, EN60950, IEC60950, FCC 47CFR Part15 Class A, EN55022, EN55024	

Appendix B: Using AMIQ-SRL Modules

The AMIQ-SRL module is a serial-to-VGA converter which permits VT100-capable devices to be viewed from the AMX local port. The actual serial data is not accessed, but is merely displayed. All serial data coming from the target device is displayed in a VT100 window, placed into a video buffer and sent to the AMX unit as though it came from a VGA server. Likewise, keystrokes entered on a keyboard are sent to the attached device as though they were typed on a VT100 terminal.

AMIQ-SRL module modes

The following modes can be accessed from the AMIQ-SRL module:

- On-Line: This mode enables you to send and receive serial data.
- History: This mode enables you to review serial data.
- Configuration: This mode enables you to specify communication parameters, the appearance of the serial data, key combinations for specific actions and macros.

Configuring the AMIQ-SRL

NOTE: The AMIQ-SRL module is a DCE device and only supports VT100 terminal emulation.

Pressing **Ctrl-F8** will activate the Configuration Screen, which contains menu items that allow you to configure your AMIQ-SRL module.

NOTE: When the Configuration Screen is active, pressing **Enter** saves changes and returns you to the previous screen. Pressing **Esc** returns you to the previous screen without saving changes.

Within the Configuration Screen, you can modify the following options:

- Baud Rate: This option allows you to specify the serial port communications speed in bauds per second (BPS). Available options are 300, 1200, 2400, 9600, 19200, 34800, 57600 or 115200. The default value is 9600.
- Parity: This option allows you to specify the serial port communications parity. Available options are EVEN, ODD or NONE. The default value is NONE.
- Flow Control: This option allows you to specify the type of serial flow control. Available options are NONE, XOn/XOff (software) and RTS/CTS (hardware). The default value is NONE. If you select a Baud Rate of 115200, the only available Flow Control is RTS/CTS (hardware).
- AMX/CD Mode: This option allows you to control how the AMX and CD lines operate. Available options are Always on and Toggle. When in Toggle

mode, AMX and CD lines are turned off for one-half second and then turned on each time a module is selected or deselected. The default value is Always on.

- Enter Sends: This option enables you to specify the keys that are transmitted when **Enter** is pressed. Available options are <CR> (Enter) or <CR><LF> (Enter - Linefeed).
- Received: This option enables you to specify how the module translates a received **Enter** character. Available options are <CR> (Enter) or <CR><LF> (Enter - Linefeed).
- Background: This option changes the screen's background color. The currently-selected color displays in the option line as it is changed. Available values are ØØ-3E. The default value is ØØ. This value cannot be identical to the Normal Text or Bold Text value.
- Normal Text: This option changes the screen's normal text color. The currently-selected color displays in the option line as it is changed. Available values are ØØ-3E. The default value is 2A. This value cannot be identical to the Bold Text or Background value.
- Bold Text: This option changes the screen's bold text color. The currently-selected color displays in the option line as it is changed. Available values are ØØ-3E. The default value is 3F. This value cannot be identical to the Normal Text or Background value.
- Screen Size: This option allows you to specify the screen's text width size. Available values are widths of 80 columns or 32 columns. The length for both widths is 26 lines.

The following Configuration Screen options enable you to define the function keys that will perform a selected action. To specify a new function key, press and hold the **Ctrl** key, then press the function key that you want to associate with the action. For example, if you want to change the Configuration (Config) Key Sequences option from <CTRL-F8> to <CTRL-F7>, press and hold the **Ctrl** key and then press **F7**.

- Config Key Sequences: This option allows you to define the key combination that causes the Configuration Screen to appear.
- On-Line Key Sequence: This option allows you to define the key sequence that displays the On-Line mode. The default key sequence is **Ctrl-F10**.
- Help Key Sequence: This option allows you to define the key combination that displays the Help System screen. The default key sequence is **Ctrl-F1**.
- History Key Sequence: This option allows you to define the key combination that enables History mode. The default key sequence is **Ctrl-F9**.

- Clear History Key Sequence: This option allows you to define the key combination that clears the history buffer while in History mode. The default key sequence is **Ctrl-F11**.
- Break Key Sequence: This option allows you to configure the key combination that generates a break condition. The default key sequence is **Alt-B**.

To configure an AMIQ-SRL:

1. Press **Ctrl-F8**. The Configuration Screen will appear.
2. Select a parameter to change. You can navigate the Configuration Screen using the **Up Arrow** and **Down Arrow** keys.
3. Modify the selected value using the **Left Arrow** and **Right Arrow** keys.
4. Repeat steps 2 and 3 to modify additional values.
5. Press **Enter** to save your changes and exit the Configuration Screen.
   -or-
   Press **Esc** to exit the Configuration Screen without saving the changes.

Creating an AMIQ-SRL macro

Pressing the **Page Down** key when the Configuration Screen is displayed will provide access to the Macro Configuration screen. The AMIQ-SRL can be configured with up to 10 macros. Each macro can be up to 128 characters in length.

To create a macro:

1. Select the AMIQ-SRL you wish to configure and press **Ctrl-F8** to activate the Configuration menu.
2. When the Configuration menu appears, press **Page Down** to view the Macro Configuration screen. The Macro Configuration screen shows the 10 available macros and the associated key sequences, if any, for each.
3. Using the **Up Arrow** and **Down Arrow** keys, scroll to an available macro number and highlight the listed keystroke sequence. Type the new macro keystroke sequence over the default. Any combination of **Ctrl** or **Alt** and a single key may be used. When you have finished entering the keystroke sequence that will activate the new macro, press the **Down Arrow** key.
4. On the line below the macro keystroke sequence you just entered, type the keystroke sequence that you wish the macro to perform.
5. Repeat steps 3 and 4 to configure additional macros.
6. When finished, press **Enter** to return to the previous screen.

Using History mode

History mode allows you to examine the contents of the history buffer, which contains the events that have occurred.

The AMIQ-SRL maintains a buffer containing 24 x 18 lines of output. When the history buffer is full, it will add new lines at the bottom of the buffer and delete the oldest lines at the top of the buffer.

NOTE: The Config Key Sequence, On-Line Key Sequence and Clear History Key Sequence used in the following procedure are the default values. These key combinations can be changed using the Configuration Screen.

To use History mode:

1. Press **Ctrl-F9**. The mode will display as History.
2. Press each key to perform the action described in the following table.

History Mode Control Keys

History Mode	Action
Home	Move to the top of the buffer.
End	Move to the bottom of the buffer.
Page Up	Move up one buffer page.
Page Down	Move down one buffer page.
Up Arrow	Move up one buffer line.
Down Arrow	Move down one buffer line.
CTRL-F8	Enters Configuration mode. The Configuration Screen will display. Press **Ctrl-F9** to return to the previous screen with History mode enabled or **Ctrl-F10** to return to the previous screen with On-Line mode enabled.
CTRL-F11	Clears the history buffer. If you choose this option, a warning screen will appear. Press **Enter** to delete the history buffer or **Esc** to cancel the action. The previous screen will redisplay.

3. When finished, press **Ctrl-F10** to exit History mode and return to On-Line mode.

AMIQ-SRL pinouts

The AMIQ-SRL pinouts are provided in the following table.

AMIQ-SRL Pinouts

DB9-F Pin	Host Signal Name/Description	Signal Flow	SRL Signal Name/Description
1	DCD - Data Carrier Detect	Out of SRL	DTR - Data Terminal Ready
2	RXD - Receive Data	Out of SRL	TXD - Transmit Data
3	TXD - Transmit Data	In to SRL	RXD - Receive Data
4	DTR - Data Terminal Ready	In to SRL	DSR - Data Set Ready
5	GND - Signal Ground	N/A	GND - Signal Ground
6	DSR - Data Set Ready	Out of SRL	DTR - Data Terminal Ready
7	RTS - Request to Send	In to SRL	CTS - Clear to Send
8	CTS - Clear to Send	Out of SRL	RTS - Request to Send
9	N/C - Not Connected	N/A	N/C - Not Connected

Language support

The AMIQ-SRL is designed to operate correctly with all of the keyboard layouts that are selectable on the AMX5000 and the AMX5010. Once a keyboard layout in the OSD is selected, the AMIQ-SRL module ensures that the correct character for the key pressed is passed to the serial device. This is done automatically and does not require any intervention from the user.

Appendix C: Technical Support

Our Technical Support staff is ready to assist you with any installation or operating issues you encounter with your Avocent product. If an issue should develop, follow the steps below for the fastest possible service:

1. Check the pertinent section of this manual to see if the issue can be resolved by following the procedures outlined.
2. Check our web site at www.avocent.com/support to search the knowledge base or use the on-line service request.
3. Call Avocent Technical Support for assistance at (888) 793-8763. Visit the Avocent web site at http://www.avocent.com/support and click *Support Phone Numbers* for current phone support hours.

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Huntsville, AL 35805 U.S.A.
Telephone: (256) 430-4000

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4. If damages were due to or caused by equipment or software not provided by Avocent.
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6. If the product is used in contradiction to any instruction provided by any User Guide or Instruction Sheet provided to you or with the product.
7. If the product is damaged due to power surges, water exposure or act of God including lightning.

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