AMX NX-3200

AMX NX-3200 NetLinx NX Integrated Controller User Manual

Model: NX-3200

1. INTRODUCTION

The AMX NX-3200 NetLinx NX Integrated Controller is designed for advanced control and automation in various environments, including large lecture halls, boardrooms, media rooms, and integrated homes. It offers robust security features, such as NX Master Security firmware and Dual NIC, to ensure secure communication over computer networks, meeting IT industry security standards. This manual provides essential information for the proper setup, operation, maintenance, and troubleshooting of your NX-3200 controller.

Figure 1: AMX NX-3200 NetLinx NX Integrated Controller, showing the rear panel and side view.

2. SAFETY INFORMATION

Before operating the AMX NX-3200, read and understand all safety instructions. Retain this manual for future reference.

- Ensure the device is installed in a well-ventilated area to prevent overheating.
- Only use the power supply provided or specified by AMX.
- Do not expose the device to moisture, rain, or extreme temperatures.
- Avoid placing heavy objects on the device.

- Refer all servicing to qualified service personnel. Do not attempt to open or repair the unit yourself.

3. PACKAGE CONTENTS

Verify that all items are present in the package:

- AMX NX-3200 NetLinx NX Integrated Controller
- Power Supply (12VDC)
- Mounting Hardware (if applicable)
- Documentation (this manual, quick start guide)

4. PRODUCT OVERVIEW

4.1 Front Panel

Figure 2: Front Panel of the AMX NX-3200.

The front panel of the NX-3200 provides status indicators and a TO PC port for direct connection. Key components include:

- **TO PC (USB) Port:** For direct connection to a computer for initial configuration and firmware updates.
- **LINK/ACT LED:** Indicates network link status and activity.
- **STATUS LED:** Displays the operational status of the controller.
- **OUTPUT LED:** Indicates output activity.
- **INPUT LED:** Indicates input activity.
- **ICS LAN LED:** Status indicator for the ICS LAN connection.
- **SERIAL (TX/RX) LEDs:** Indicators for transmit and receive activity on serial ports 1-8.
- **RELAYS LEDs:** Status indicators for relay outputs 1-8.
- **IR/SERIAL LEDs:** Indicators for IR/Serial ports 1-8.
- **I/O LEDs:** Status indicators for I/O ports 1-8.

4.2 Rear Panel

Figure 3: Rear Panel of the AMX NX-3200.

The rear panel provides all necessary connections for integrating the NX-3200 into your system. These include:

- **RS-232 Ports (1-8):** For serial communication with various devices.
- **RS-232/422/485 Ports (1-8):** Configurable serial ports for flexible communication.

- **Relay Ports (1-8):** For controlling external devices requiring contact closure.

- **I/O Ports (1-8):** General purpose input/output ports.

- **IR/Serial Ports (1-8):** For infrared control or additional serial communication.

- **ICS LAN Port:** Ethernet port for network connectivity and control.

- **LAN 10/100 Port:** Additional Ethernet port for network connectivity, supporting Dual NIC functionality.

- **USB Ports (Type A and B):** For connecting USB devices or for direct PC connection.

- **PWR (12VDC) Input:** Power input connector.

- **CONFIG Button:** For system configuration and reset functions.

5. SETUP

5.1 Mounting the Controller

The NX-3200 is designed for rack mounting or placement on a flat surface. Ensure adequate ventilation around the unit.

- For rack mounting, secure the controller using appropriate rack ears and screws (sold separately or included in package).

- When placing on a surface, ensure it is stable and free from obstructions to airflow.

5.2 Connecting Power

1. Connect the provided 12VDC power supply to the PWR input on the rear panel.

2. Plug the power supply into a suitable electrical outlet.

3. The controller will power on automatically. Observe the STATUS LED on the front panel.

5.3 Network Connections

The NX-3200 features Dual NIC for enhanced network security and flexibility.

- **ICS LAN:** Connect an Ethernet cable from your network switch or router to the ICS LAN port for control network communication.

- **LAN 10/100:** Connect an Ethernet cable to the LAN 10/100 port for a secondary network connection, if required for specific applications or network segmentation.

5.4 Connecting Control Devices

Connect your AV equipment, HVAC systems, lighting, and other devices to the appropriate ports on the rear panel.

- **Serial Devices:** Use RS-232, RS-422, or RS-485 ports as needed. Refer to the device's documentation for wiring requirements.

- **Relay Devices:** Connect devices requiring contact closure to the Relay ports.

- **I/O Devices:** Connect sensors or other input/output devices to the I/O ports.

- **IR Emitters:** Connect IR emitters to the IR/Serial ports for controlling IR-controlled equipment.

5.5 Initial Configuration

Initial configuration is typically performed using AMX programming software via the TO PC USB port or over the network.

1. Connect a computer to the TO PC USB port on the front panel using a standard USB cable.

2. Install the necessary AMX software (e.g., NetLinx Studio) on your computer.

3. Follow the software instructions to discover the controller and upload your control program.

4. Alternatively, if the controller has a default IP address or is configured for DHCP, it can be accessed over the network.

6. OPERATING THE CONTROLLER

6.1 Understanding LED Indicators

The front panel LEDs provide visual feedback on the controller's status and activity:

- **STATUS LED:**
  - *Solid Green:* Normal operation.
  - *Flashing Green:* Booting up or performing a task.
  - *Solid Red:* Error or fault condition.

- **LINK/ACT LED:**
  - *Solid Green:* Network link established.
  - *Flashing Green:* Network activity.

- Other TX/RX, RELAYS, IR/SERIAL, and I/O LEDs illuminate to indicate data transmission, reception, or active states on their respective ports.

6.2 Basic Operation

Once configured and programmed, the NX-3200 operates autonomously based on the loaded control program. User interaction typically occurs through connected control interfaces (e.g., touch panels, keypads, web interfaces) that communicate with the controller.

- Ensure all controlled devices are powered on and connected correctly.
- Use your programmed control interface to send commands to the NX-3200, which then executes the corresponding actions (e.g., turning on a projector, adjusting volume, closing blinds).

6.3 Secure Communication

The NX-3200 supports NX Master Security firmware for secure communication. Ensure your network infrastructure and programming leverage these features for enhanced data protection, especially in enterprise and government environments.

7. MAINTENANCE

7.1 Cleaning

- Disconnect power before cleaning.
- Use a soft, dry cloth to wipe the exterior of the unit.
- Do not use liquid cleaners or aerosol sprays, as they may damage the unit.
- Ensure ventilation openings remain clear of dust and debris.

7.2 Firmware Updates

Periodically check the AMX website for firmware updates. Keeping your controller's firmware up-to-date ensures optimal performance, security, and access to new features.

1. Download the latest firmware from the official AMX support portal.
2. Follow the instructions provided with the firmware update package for installation, typically using AMX programming software.

8. TROUBLESHOOTING

If you encounter issues with your NX-3200, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
Controller does not power on.	No power, faulty power supply, or loose connection.	- Verify power cable is securely connected to the unit and outlet. - Ensure the outlet is functional. - Test with a known good power supply if available.
STATUS LED is solid red.	System error or fault.	- Perform a power cycle (unplug, wait 10 seconds, plug back in). - If the issue persists, contact AMX technical support.
No network connectivity.	Incorrect cable, network configuration issue, or switch problem.	- Check Ethernet cables for secure connection and damage. - Verify network settings (IP address, subnet mask, gateway) are correct. - Ensure the network switch port is active. - Check LINK/ACT LED on the front panel.
Controlled device not responding.	Incorrect wiring, incorrect programming, or device fault.	- Verify physical connections to the NX-3200 ports. - Confirm the control program is correctly configured for the device. - Test the controlled device independently to ensure it is functional. - Check relevant TX/RX, RELAYS, IR/SERIAL, or I/O LEDs for activity.

8.1 Factory Reset

A factory reset will erase all custom configurations and programming, restoring the controller to its default settings. Use this as a last resort.

1. Disconnect power from the NX-3200.
2. Press and hold the **CONFIG** button on the rear panel.
3. While holding the CONFIG button, reconnect power.
4. Continue holding the CONFIG button until the STATUS LED changes color or flashes in a specific pattern (refer to AMX documentation for exact sequence), then release.
5. The controller will reboot with factory default settings.

9. SPECIFICATIONS

Technical specifications for the AMX NX-3200 NetLinx NX Integrated Controller:

Feature	Detail
Model Number	NX-3200
Product Dimensions	9.1 x 17 x 1.8 inches
Item Weight	6.08 pounds
Power Input	12VDC (via external power supply)
Serial Ports	8x RS-232, 8x RS-232/422/485 (configurable)
Relay Ports	8x (contact closure)
I/O Ports	8x (general purpose)
IR/Serial Ports	8x
Ethernet Ports	1x ICS LAN, 1x LAN 10/100 (Dual NIC)
USB Ports	Type A, Type B (TO PC)
Firmware	NX Master Security firmware
Manufacturer	Harman International Industries, Inc

10. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the official AMX website or contact your authorized AMX dealer.

- **AMX Official Website:** www.amx.com
- **Technical Support:** Contact information can be found on the AMX website's support section.
- Keep your purchase receipt and product serial number handy when contacting support.