

Overview

Epica DGX 16 and 32 Distribution Matrices are available in various configurations in increments of four up to 16x16 and 32x32 respectively. Therefore, illustrations in this guide may differ from the model(s) purchased. The *Instruction Manual – Epica DGX 16 and Epica DGX 32* contains complete documentation (including board specifications and supported resolutions); visit www.amx.com. These products support full Device Discovery through AMX's AutoPatch Duet module (firmware v1.4.0 or higher is required).

General Specifications

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Approvals	CE, FCC Class A, UL, cUL, RoHS
AC Power	100 VAC to 240 VAC single phase, 50 Hz to 60 Hz
Power Consumption	Max: 785 Watts DGX 16: Typical 210 Watts, fully loaded enclosure DGX 32: Typical 445 Watts, fully loaded enclosure
Thermal Dissipation	Max: 2679 BTU/hr. DGX 16: Typical 717 BTU/hr., fully loaded encl. DGX 32: Typical 1518 BTU/hr., fully loaded encl.
Operational Temperature	32° F to 113° F (0° C to 45° C)
Storage Temperature	-22° F to 158° F (-30° C to 70° C)
Humidity	0 to 90% non-condensing
Compatible Fiber Modules	AMX AutoPatch DGX Fiber TX and Fiber RX modules
Epica DGX 16	Epica DGX 32
MTBF: 170,000 hours	MTBF: 102,000 hours
Depth: 15 in. (38.1 cm) 16 in. (40.64 cm) with extractors	Depth: 20.08 in. (51 cm) 21.08 in. (53.54 cm) with extractors
Width: 19.0 in. (48.26 cm) with rack mounting ears	Width: 19.0 in. (48.26 cm) with rack mounting ears
Height: 6.84 in. (17.37 cm) 4 RU	Height: 10.45 in. (26.54 cm) 6 RU
Weight: Approximately 34 lbs. (15.4 kg) per loaded enclosure	Weight: Approximately 60 lbs. (27.2 kg) per loaded enclosure
Shipping Weight: Approximately 40 lbs. (18.1 kg) per loaded enclosure	Shipping Weight: Approximately 70 lbs. (31.8 kg) per loaded enclosure

Installation

Rack Mounting

Caution: To prevent overheating, avoid placing high heat-producing equipment directly above or below the enclosure. The system requires a minimum of one empty rack unit above and below (three empty rack units are recommended). Verify that the openings on the sides and top of the enclosure are not blocked and do not have restricted airflow.

To rack mount an enclosure (Epica DGX 32 requires a minimum of 2 people):

1. Position the enclosure in the rack and secure it with rack mounting screws.
2. Provided / recommended for SC Optical Boards – Install cable management bars: (A) Remove number plate at rear top (Epica DGX 32 only). (B) Fasten bar with two screws on one end of the board and one screw at the other (the long part of the bar is to the right of holes); do not over tighten. (C) Replace the number plate.

Attaching Input and Output Cables

Generally, any input board in an Epica DGX 16 or 32 can route signals to any type of output board; the signal format is automatically converted to match the output board.

DGX SC Optical Input Boards require DGX Fiber TX modules and DGX SC Optical Output Boards require RX modules; see the module's *Quick Start Guide* for details.

For testing purposes, attach just the first two sources and destinations (and any required DGX Fiber modules).

Epica DGX SC Optical Boards – SC Fiber Connectors

Safety Recommendations for Laser Products

Important: No user serviceable parts are inside an AMX AutoPatch product; service should only be done by qualified personnel.

Caution: Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Exercise caution to avoid direct eye exposure to invisible laser radiation. Follow the recommendations below whenever installing or working with DGX fiber products.

- Be sure to apply the power only after all fiber connections are made and no fiber ends are exposed.
- Do not remove dust plugs from SC fiber connectors or the dust caps from the fiber cables until establishing connections; **avoid direct eye exposure.**
- Make sure all cables, including fiber cables, are correctly connected and/or terminated.
- Before you unplug a fiber cable on an input board, disconnect the power on the DGX TX that is connected to the input.
- Before you unplug a fiber cable on an output board, disconnect the switch for that output connector.

Each board has four SC fiber connectors (remove plug to attach cable). These boards are used in conjunction with DGX Fiber TX and RX modules. Signals routed through these boards normally do not require any adjustment, as the DGX Fiber modules automatically scale and adjust the signal as necessary. Set up the modules according to their *Quick Start Guide*, installing a TX between each input board and the source device and an RX between each output board and the destination device (FIG. 1).

Caution: For SC Optical Boards, we recommend using the provided cable management bars or some other type of cable management system to avoid damage to fiber cables.

Caution: Do not severely bend or kink the fiber cable. Irreversible damage can occur. Refer to the physical limitations (bend radius) specified for the cable by manufacturer. The bend radius for AMX AutoPatch SC terminated fiber cables is 2 inches (5 cm).

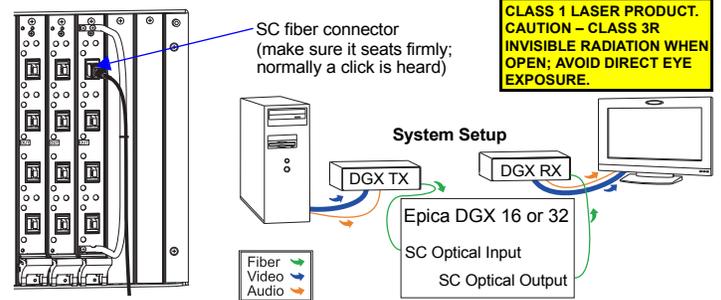


FIG. 1 SC fiber cable attached to input; system setup with DGX TX and RX modules

Epica DGX DVI Boards – DVI-I Connectors

Epica DGX DVI Boards have four DVI-I connectors each. On the DGX DVI Board, DVI output pin 14 (+5 VDC out) supplies 1 A shared total available for all four outputs.

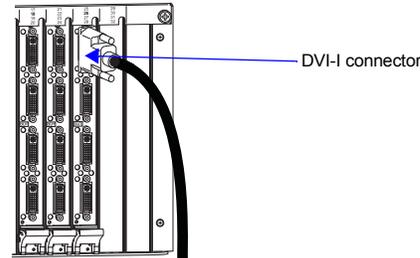


FIG. 2 DVI cable attached to input

Linking to Other Enclosures (if applicable)

Link using the Enc Link (RJ-45) ports (FIG. 6) according to the "Matrix Switchers – Linking Enclosures QSG." Do not use port labeled "TCP/IP" for linking enclosures.

Applying Power and Startup

Caution: Each power supply has a small toggle switch to the left of its LEDs that controls internal power and **must** remain flipped to the right for the system to operate normally. Do not flip this switch to the left.

Note: We recommend using a surge protector and/or an AC line conditioner.

To apply power:

1. Plug power cords into both power receptacles.
2. Plug the other ends of the power cords into a power strip (we recommend using a 20 A circuit breaker on a 110 circuit for fully loaded enclosures).

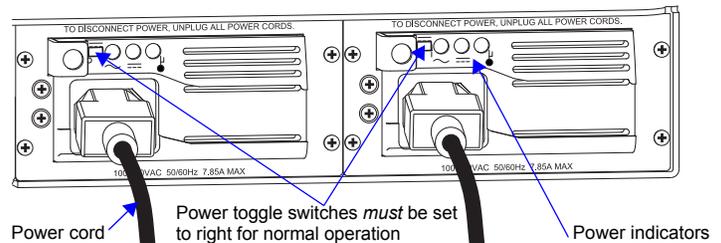


FIG. 3 Power cords plugged into power receptacles

3. Turn on the power strip and wait 30 seconds.
4. Check the Indicator LEDs on front and rear of the enclosure (see the table on the next page for normal display).*
5. For systems with SC Optical Boards – Apply power to the DGX TX and RX Fiber modules.
6. Apply power to the source and destination devices.

* If only one power supply is working, the Power indicator on the front of the enclosure will illuminate red (check the power connections).

If indicator lights do not respond with a normal display as stated in the table below, check power connections and see the troubleshooting information in the manual before contacting technical support.

Indicator LEDs – Normal Display on Power Up		
Front Panel	POWER – power status (when both power supplies are working)	Green
Power Supplies	AC Power	Green
	DC Power	Green
	Temperature	Not illuminated
CPU	STATUS	Green during boot up (approx. 10 to 30 seconds, depending on load) Blinking green when ready

Executing a Test Switch with the Control Panel

The Epica DGX 16 and 32 Control Panel (standard on all enclosures) is used for controlling the system's switches and system attributes.

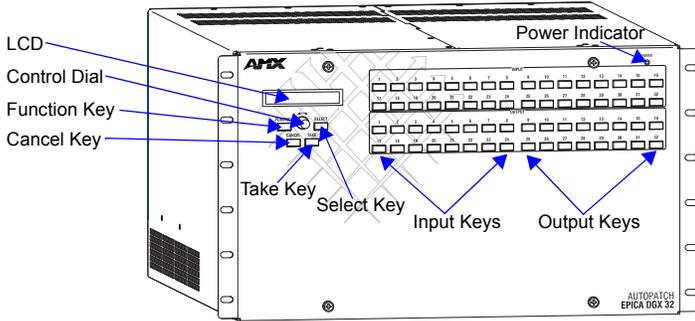


FIG. 4 Front view with control panel (Epica DGX 32 shown)

Control Panel Keys and Dial

- **Function Key** – Press for start of the Function menu anytime during operation.
- **Select Key** – Press to enter selections.
- **Cancel Key** – Press to cancel an incomplete operation.
- **Take Key** – Press to complete an operation.
- **Control Dial** – Turn to scroll through the Function menu (starts with Change for switching). Menu loops back to the first item after scrolling past the last item.

To execute a test switch:

1. Press the Function Key.
2. From the Function menu, press the Select Key to select Change. The available Input and Output Keys turn blue.
3. Press Input Key 1. Input Key 1 flashes white.
4. Press Output Key 1. Output Key 1 illuminates white.
5. Press the Take Key to execute the switch. Both keys turn blue.

After the test switch, attach the remaining source and destination devices. For SC Optical Boards, install DGX Fiber modules between the enclosure and devices.

Establishing Serial Control (if applicable)

An Epica DGX 16 or 32 can be controlled by attaching an external control device/system to the serial port (DB-9 connector pinout in FIG. 5; attaching null modem serial cable in FIG. 6). External serial control options are listed below. The USB port can also be used, but requires creation of a virtual COM port (see *Instruction Manual*).

PC Requirements for APControl 3.0:

- Windows XP Professional® or Windows 2000®
- Java Runtime Environment (JRE) – v1.4.2 or latest version
- Hardware (minimum) – 166 MHz, 128 MB RAM, 20 MB free disk space, 600x800 display
- Hardware (recommended) – 2.0 GHz, 512 MB RAM, 20 MB free disk space, 1280x1024 display
- Serial port or USB port

PC Requirements for BCS* via terminal emulation program:

- Windows XP Professional® or Windows 2000®
- Serial port or USB port

* BCS (Basic Control Structure) information can be found at www.amx.com.

External Control Options – Test Switch

- **AMX Control Devices** – for control programming information, see the product's *Instruction Manual* for the specific interface.
- **APControl 3.0** (PC based) – install and open the program. Follow the setup wizard. You will need to manually create the VM, specify the number of inputs and outputs, and open the APControl Launchbar. From the Launchbar menu, select Views / CrossBar and click on the crosspoint for Input 1 / Output 2.
- **BCS Commands** (terminal emulation program) – when power is applied, a short splash screen appears. Enter C1102T into the terminal emulation program (routes Input 1 to Output 2 on default level). When C1102T appears, the switch is successful.

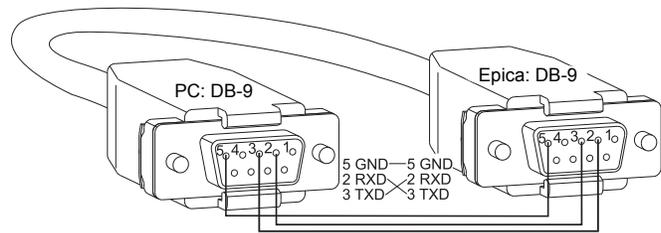


FIG. 5 RS-232 null modem cable pin diagram

To establish external control from RS-232 serial port:

1. Apply power to the Epica DGX 16 or 32 according to the directions on the previous page (mid-column on the right).
2. Plug the null modem serial cable into the serial port on the enclosure (FIG. 6).
3. Plug the other cable end into the serial port on the serial controller/device (PC).
4. Open the serial communication software and set the port settings on the PC to match the Epica DGX 16 or 32 default settings (baud rate = 9600, data bits = 8, stop bit = 1, parity = none, and flow control = none).

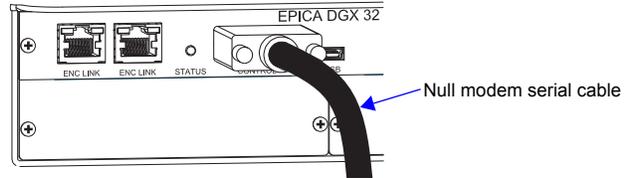


FIG. 6 Null modem serial cable connected to Control (DB-9) serial port

Establishing TCP/IP Connection (if applicable)

Cable Requirements for TCP/IP Connection

- Connect the TCP/IP port on the Epica DGX 16 or 32 directly to a LAN (network) with an RJ-45 cable (crossover or straight-through; port automatically adjusts).

Important: Connecting the TCP/IP port on the Epica DGX 16 or 32 directly to a PC will not work.

To connect an Epica DGX 16 or 32 to a LAN:

1. If the system is not already powered, apply power according to the directions on the previous page (middle of right column).
2. Insert one end of an RJ-45 link cable into the TCP/IP port on the enclosure.
3. Connect the other end of the RJ-45 link cable to a LAN hub or switch. The network will automatically assign a DHCP IP address.

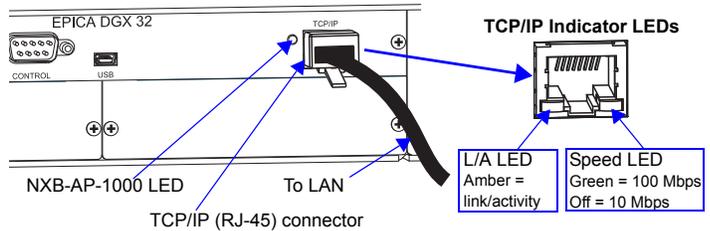


FIG. 7 TCP/IP (RJ-45) port and Indicator LEDs

4. Check indicator LEDs for the TCP/IP connector (FIG. 7).

For additional details, see the *Instruction Manual*.

Additional Information Covered in Instruction Manual – Epica DGX 16 and Epica DGX 32

See the *Instruction Manual* at www.amx.com for information on the following:

- Complete control panel operation
- APDiagnostics software (monitors and displays advanced diagnostic data)
- Programmer's interface for system diagnostics
- EDID Programmer software (read, save, and write EDID data)
- Managing configuration files with XNConnect
- Adding or replacing boards
- Setup for complete power redundancy with redundant power supplies

Reference Documentation

For complete information (including specifications) on the DGX TX and RX modules, see the *Instruction Manual – DGX Transmitters & Receivers*.

For information on BCS, a programming language used for programming control operations and for diagnostic purposes, see the *Installation Manual – BCS Basic Control Structure Protocol*.

For warranty information, see www.amx.com.

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