

### Overview

The Epica DGX 144 Distribution Matrix is available in custom configurations (the illustrations in this guide may differ from the model purchased). The *Instruction Manual – Epica DGX 144* contains complete documentation (including board specifications and supported resolutions); visit [www.amx.com](http://www.amx.com).

### General Specifications

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Approvals	CE, FCC Class A, UL, cUL, RoHS
AC Power per Supply	100 VAC to 240 VAC single phase, 50 Hz to 60 Hz
Power Consumption	Max: 1563 Watts Typical: 850 Watts, fully loaded enclosure
Thermal Dissipation	Max: 5333 BTU/hr. Typical: 2900 BTU/hr., fully loaded enclosure
Operational Temperature	32° to 110° F (0° to 43° C)
Humidity	0 to 90% non-condensing
Depth	20.8 in. (51 cm); 21.08 in. (53.54 cm) with extractors
Width	19.0 in. (48.26 cm) with rack mounting ears 17.6 in. (44.70 cm) behind rack mounting ears
Height	28.0 in. (71.1 cm) 16 RU
Weight	Approximately 160 lbs. (72.6 kg) per loaded enclosure
Shipping Weight	Approximately 205 lbs. (93 kg) per loaded enclosure
Noise Level	<62 dBA @ 1 m (typical @ 25° C)
Compatible Fiber Modules	AMX AutoPatch DGX TX and DGX RX modules and other DGX SC Fiber signal management products

### Installation

**Warning:** Per UL requirements – This product **must** be installed within a restricted access location where access is through the use of a tool, lock and key, or other means of security, and is controlled by the authority responsible for the location. (This is due to access to hazardous energy levels from power supplies if boards are removed.) This product **must** be installed and maintained only by qualified technicians.

### 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 top and sides of the enclosure are not blocked and do not have restricted airflow.

To rack mount the enclosure (requires a minimum of 3 people):

1. While the shipping box containing the enclosure is still on the pallet, cut loose and remove the outer straps.
2. Remove the cardboard tray from the top of the reusable shipping box.

**Note:** The shipping box is mounted on wheels.

3. Lift the shipping box off of the pallet and unlock the 4 latches on the box's sides.
4. Lift the top of the shipping box straight up and over the enclosure and set aside.
5. Using the bottom of the shipping box, roll the enclosure into position.

**Important:** Do **not** use board extractor handles (FIG. 3) to lift or maneuver enclosure.

6. Using the hand-hold insets on the sides of the enclosure, lift and push the enclosure into the rack. Screw in the top 3 rack ear screws on each side.
7. Supporting the enclosure as needed, screw in the remaining rack ear screws.

### Attaching Input and Output Cables

Epica DGX 144 input boards route signals to the DGX output boards; the signal format is automatically converted to match the output board. DGX SC Fiber input boards require DGX Fiber TX modules and DGX SC Fiber 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 SC Fiber modules).

### Epica DGX 144 DVI Input & Output Boards – DVI-I & DMS-59 Connectors

The DVI boards have 8 DVI-I and 4 DMS-59 connectors each. DMS-59 connectors break out to allow 2 DVI connections each for a total of 16 inputs or outputs per board.

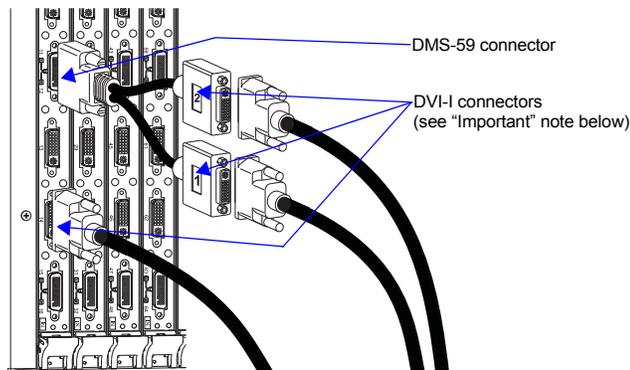


FIG. 1 Fasten DVI and DMS-59 cables to input or output receptacles

**Important:** DVI connectors on DMS-59 cable are labeled 1 (bottom) and 2 (top). Connect 1 to the DMS-59 receptacle numbered with a lower numerical value; connect 2 to receptacle with the higher value (e.g., connect DVI connector 1 to 11 and 2 to 12).

### Epica DGX 144 SC Fiber Input and Output Boards – SC Fiber Connectors

#### Safety Recommendations for Laser Products

**Important:** There are no user serviceable parts 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 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.

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

Each DGX SC Fiber board has 16 SC fiber connectors (remove plug to attach cable). These boards are used in conjunction with DGX SC Fiber TX and RX modules (FIG. 2). Signals routed through these boards normally do not require any adjustment, as the DGX SC Fiber modules automatically scale and adjust the signal as needed.

Set up the modules according to the directions in 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. 2).

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

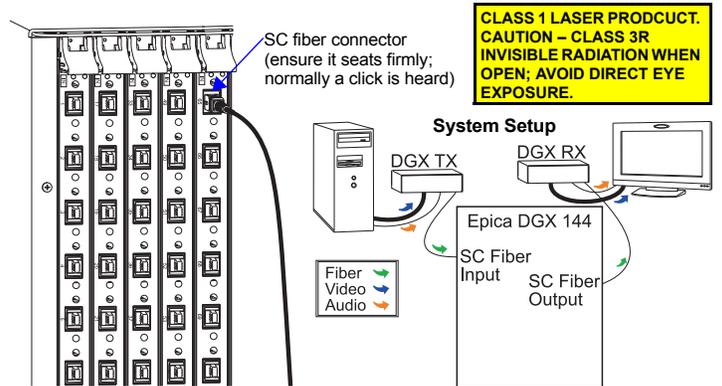


FIG. 2 SC fiber cable attached to Input; system setup with DGX TX and RX modules

### Epica DGX 144 RGBHV/HD-15 Input Boards – HD-15 Connectors

Each board has 16 HD-15 connectors (FIG. 3). EDID Programmer software is provided to assist with in-field re-programming. For information, see the *Instruction Manual*. Board configuration software, the “DG\_HD15 Wizard,” is also provided and can be used to adjust the source signal. For directions and tips, see the Wizard and its Help file.

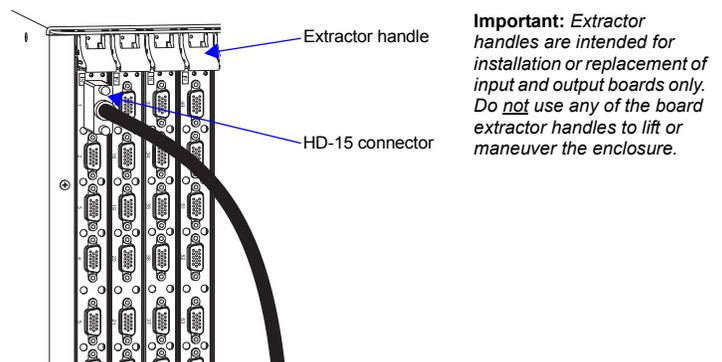


FIG. 3 Fasten HD-15 cables to input receptacles

### Linking to Other Types of Enclosures (if applicable)

Link using the ENC LINK (RJ-45) port according to the *Quick Start Guide – Linking Enclosures* (available at [www.amx.com](http://www.amx.com)).

## Applying Power and Control Startup

**Important:** For proper functionality, apply power simultaneously to at least two power supplies on the Epica DGX 144 before applying power to the system's source and destination devices. We recommend attaching all power cords to a surge protector (20 A) and/or an AC line conditioner.

**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.

### To apply power simultaneously to power supplies:

1. Plug in power cords to at least two power receptacles and then plug the other ends of the cords into a power strip that is turned off (we recommend using a 20 A power strip on a 110 circuit).
2. Turn on the power strip. Check the Indicator LEDs on the front and rear of the enclosure (see table below). The indicator LEDs may take some time before they illuminate while the system runs its self-diagnosis.
3. Apply power to the external control device/system (see instructions below).
4. For systems with SC Optical boards – Apply power to the DGX TX and DGX RX Fiber modules.
5. Apply power to the source and destination devices.

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

Indicator LEDs – Normal Display		
Front Panel	POWER – power status	Green
	RPS – redundant power supplies	Green
	COMM – Ethernet communication link status	Blinking green – indicates activity
Power Supplies	AC Power	Green
	DC Power	Green
	Temperature	Not illuminated
CPU	COMM – Ethernet communication link status	Blinking green – indicates activity
	STATUS	Green during boot up (approx. 10 to 30 seconds, depending on load) Blinking green when ready

## Establishing Serial Control

The Epica DGX 144 can be controlled by attaching an external control device/system to the serial port (DB-9 connector) or to the USB port\* (USB Mini-B connector).

\* Controlling the Epica DGX 144 using a USB connection requires the creation of a virtual COM port, which acts as a serial port.

### 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 Emulator:

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

\* For information on BCS (Basic Control Structure), a programming language used for programming control operations and for diagnostic purposes, see the *Instruction Manual – BCS Protocol* at [www.amx.com](http://www.amx.com).

### Serial Port – Serial Control (PCs, AMX control devices, & third-party controllers)

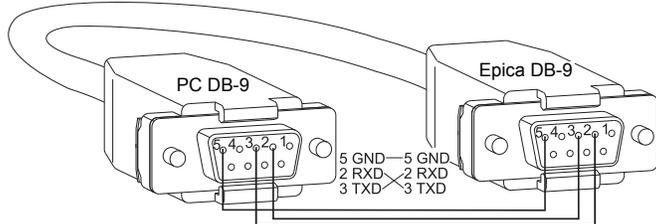


FIG. 4 RS-232 null modem cable pin diagram

### To establish external serial control from serial port for RS-232:

1. Apply power to the Epica DGX 144 (see the top of this column).
2. Plug the null modem cable into the serial port on the enclosure (FIG. 4 and 5).
3. Plug the other end of the cable into the serial port on the serial controller/device.
4. Open the serial communication software and set port settings to match the Epica DGX 144 default settings: baud rate = 9600, data bits = 8, stop bit = 1, parity = none, and flow control = none.

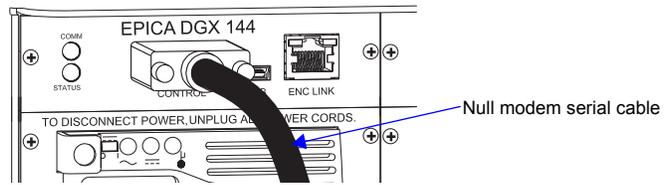


FIG. 5 Attach null modem serial cable to DB-9 serial port

### To establish external serial control from USB (Mini-B) port:

**Important:** You must have adequate rights for the PC to install a USB driver. Check with your System Administrator to be sure you have the required access.

1. Download the APBridge.inf hardware device driver file from [www.amx.com](http://www.amx.com).
2. Apply power to the Epica DGX 144 (see instructions at top of column to left).
3. Plug one end of the USB cable into the USB (Mini-B) port on the enclosure and the other to the USB port on the PC.

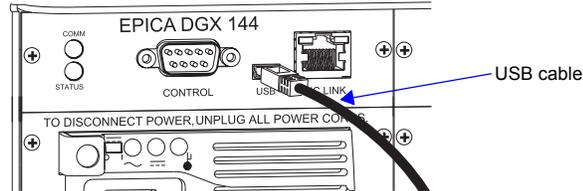


FIG. 6 Attach USB cable to USB (Mini-B) port

**Important:** You must identify the virtual COM port assigned to the USB connector to enable communication between the control application on the PC and the enclosure.

4. Open the Device Manager window (Start/Control Panel/ Device Manager), open Other devices and right-click on the Unknown device icon. Select Properties from the menu items. The Unknown device Properties window opens.

**Note:** The Device Manager may have a different location depending on the operating system and theme selected.

5. In the driver tab, select the Update Driver button.
6. Browse for the APBridge.inf file and select the Next button. Another Update Driver Software window appears. Click Close.
7. Make note of the AutoPatch USB Bridge COM port number in the Device Manager window.

**Tip:** This port number will remain the same unless a different USB port is used on the PC or a different device is attached to the PC through this USB port.

8. Open the control application.

When establishing communication between the control application on the PC and the Epica DGX 144, be sure to check application's serial port settings and select correct virtual COM port for AutoPatch USB Bridge. Epica DGX 144 default settings are: baud rate = 9600, data bits = 8, stop bit = 1, parity = none, and flow control = none.

## Completing the Installation

We recommend completing the installation by executing a test switch routing Input 1 to Output 2. The method of executing the switch will depend on the control option used. Control options and switching information are provided below.

- **AMX Control Devices** – The Epica DGX 144 is compatible with a number of AMX control devices. For control programming information, see the *Instruction Manual* for the specific device.
- **APControl 3.0.1** (PC based) – Install and open the program. Follow the setup wizard, which will discover the system's configuration information and open the APControl Launchbar. From the Launchbar menu, select Views / CrossBar and click on the crosspoint for Input 1 / Output 2.
- **APWeb** – Connect the APWeb Server Module to enclosure (see the *APWeb Server Module Quick Start Guide*). For instructions on executing switches, see the *Instruction Manual – APWeb Interface* at [www.amx.com](http://www.amx.com).
- **BCS Commands** (via terminal emulator\*) – When power is applied, a short splash screen appears. Enter `CI102T` into the terminal emulation program (routes Input 1 to Output 2 on the default level). When `CI102T` appears, the switch is successful.

\* e.g., TeraTerm, PuTTY, or HyperTerminal.

The system is now ready to attach the remaining source and destination devices and any applicable DGX SC Fiber TX and RX modules.

## Additional Information in the "Instruction Manual – Epica DGX 144"

See the *Instruction Manual* at [www.amx.com](http://www.amx.com) for information on the following:

- APDiagnostics software (monitors/displays advanced diagnostic data)
- EDID Programmer software
- BoardConfig software: DG\_HD15 Wizard
- Managing configuration files
- Redundant power supplies
- Adding or replacing boards

For full warranty information, see [www.amx.com](http://www.amx.com).

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