

Overview

The Epica DG Distribution Matrix is available in various configurations; therefore, the illustrations in this guide may differ from the model(s) purchased. The *Epica DG Instruction Manual* contains complete documentation (including board specifications and supported resolutions); see the *AMX AutoPatch CD* or visit www.amx.com.

General Specifications

Specifications	
Approvals	UL
AC Power	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° F to 110° F (0° C to 43° C)
Humidity	0 to 90% non-condensing
Depth	21.1 in. (53.6 cm)
Width	19.0 in. (48.26 cm) with mounting ears 17.6 in. (44.70 cm) without mounting ears
Height	28.0 in. (71.1 cm) 16 RU
Weight	Approx. 160 lbs. (72.6 kg) per loaded enclosure

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 an Epica DG enclosure (requires a minimum of 3 people):

1. While the enclosure is still on the pallet, cut loose and remove the outer straps.
2. Remove the tray (contains cables, etc.) from the top of the cardboard sleeve.
3. Remove the cardboard sleeve.
4. Cut loose & remove inner straps. Carefully remove shrink-wrap & corner cushions.
5. Use a pallet jack to move the enclosure into position.

Important: Do not use board extractor handles to lift enclosure; use inset hand-holds.

6. Lift and push the enclosure into rack. Screw in top 3 rack ear screws on each side.
7. Move jack out of way. Support enclosure; screw in remaining rack ear screws.

Attaching Input & Output Cables

Generally, any Epica DG input board can route signals to any type of Epica DG output board; the signal format is automatically converted to match the output board.

For testing purposes, attach just the first two sources and destinations according to the **AutoPatch Connector Guide** that shipped with your order. Follow the guide exactly; each system is custom-built and programmed to operate based on the guide.

Some of the Epica DG boards can be used in conjunction with signal conversion modules; see the specific module's Quick Start Guide for details.

Caution: To avoid damage to connectors, we recommend using the provided cable management bars or some other type of cable management system for any MTP® fiber boards in the system.

Epica DG DVI Boards – DVI-I & DMS-59 Connectors

DG DVI boards have 8 DVI-I and 4 DMS-59 connectors each. DMS-59 connectors

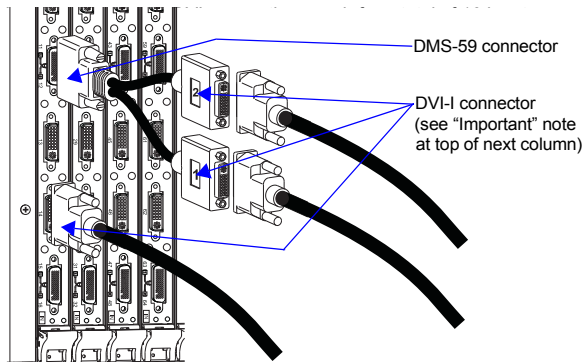


FIG. 1 Fasten cables onto input & output receptacles

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).

DVI (Board) Connector Pinout



1. Data 2-	9. Data 1-	17. Data 0-	C1. No connect
2. Data 2+	10. Data 1+	18. Data 0+	C2. No connect
3. Ground	11. Ground	19. Ground	C3. No connect
4. No connect	12. No connect	20. No connect	C4. No connect
5. No connect	13. No connect	21. No connect	C5. No connect
6. DDC-CLK	14. +5 V	22. Ground	
7. DDC-Data	15. Ground	23. CLK+	
8. No connect	16. Hot-Detect	24. CLK-	

FIG. 2 DVI (board) connector pinout

Note: On the input connector, pin 14 is a +5 V sink. On the output connector, pin 14 is a +5 V source with a maximum current limitation of 55 mA.

Epica DG MTP® Fiber Boards – 5 MTP®/MPO Fiber Connectors & 1 DVI-I

Warning: Laser Radiation. Do not view directly with optical instruments. Class 1M laser product.

Each board has 5 MTP/MPO fiber connectors and 1 DVI-I connector (DVI-D format); see FIG. 3. The fiber connectors each support three I/O channels.

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.

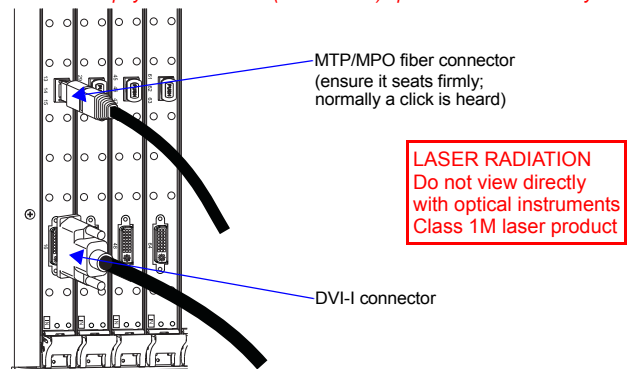


FIG. 3 Fasten cables onto input & output receptacles (see above for DVI-I pinout)

Epica DG RGBHV/HD-15 Boards – HD-15 Connectors

Each board has 16 HD-15 connectors (FIG. 4). EDID Programmer software is provided to assist with in-field programming. For information, see the instruction manual. Board configuration software, the “DG HD-15 Wizard,” is also provided and is used to adjust the source signal. For directions and tips, see the Wizard and its Help file.

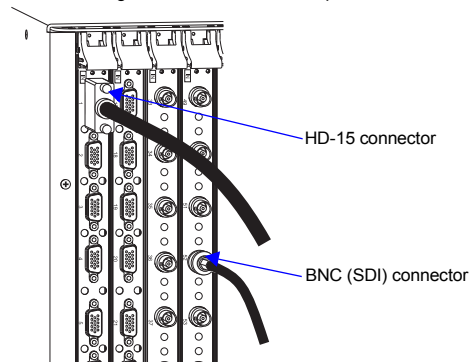


FIG. 4 Fasten cables onto input & output receptacles

HD-15 (Board) Connector Pinout



Input (VESA DDC Compliant)		
1. Red	6. Red GND	11. ID Bit
2. Green	7. Green GND	12. DDC SDA
3. Blue	8. Blue GND	13. Horizontal Sync
4. ID Bit	9. +5 V in DDC	14. Vertical Sync
5. GND	10. GND	15. DDC SCL

Output		
1. Red	6. Red GND	11. ID Bit
2. Green	7. Green GND	12. ID Bit
3. Blue	8. Blue GND	13. Horizontal Sync
4. ID Bit	9. +5 V out DDC	14. Vertical Sync
5. GND	10. GND	15. ID Bit

FIG. 5 HD-15 (board) connector pinout

Note: 55 mA supplied on output pin 9; power draw not to exceed 50 mA per port.

Epica DG SDI Boards – BNC Connectors

Each board has 16 BNC connectors (FIG. 4). EDID Programmer software is provided to assist with in-field programming (see the *Epica DG Instruction Manual*).

Linking to Other Types of Enclosures (if applicable)

Link according to the *AutoPatch – Linking Enclosures Quick Start Guide*.

Establishing Serial Control

The Epica DG 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).

PC Requirements for APControl 3.0.1:

- 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 (terminal emulation program):

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

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

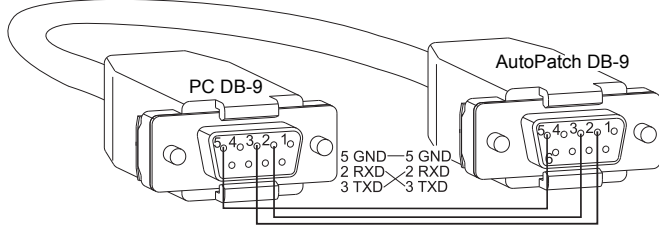


FIG. 6 RS-232 null modem cable pin diagram

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

1. Apply power to the Epica DG (see the top of the column to the right).
2. Plug the null modem cable into the serial port on the enclosure (FIG. 6 and 7).
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 DG default settings (baud rate = 9600, data bits = 8, stop bit = 1, parity and flow control = none).

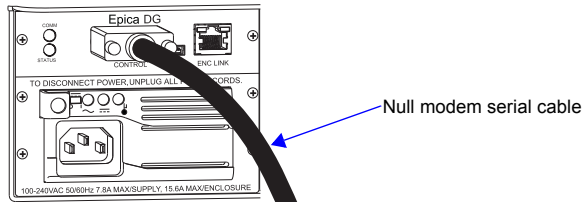


FIG. 7 Attach null modem serial cable to DB-9 serial port

USB Port – Serial Control (Control Application on PC)

Controlling the Epica DG using a USB connection requires the creation of a virtual COM port, which acts as a serial 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.

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

1. Apply power to the Epica DG (see the top of the column to the right).
2. Plug one end of the USB cable into the USB (Mini-B) port on Epica DG and the other to the USB port on the PC.
3. Follow the instructions in the Found New Hardware Wizard. Be sure to select: "Search for a suitable driver" and "CD-ROM drives." Locate the XnBridge.inf on the *AMX AutoPatch CD* (Configuration\APConfig\USB). When prompted, select "Continue Anyway" to install the software.

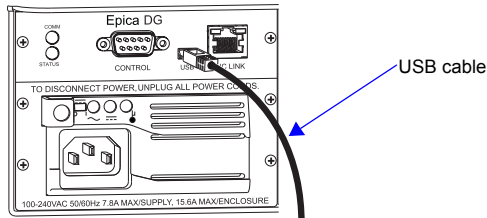


FIG. 8 Attach USB cable to USB (Mini-B) port

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 Epica DG.

To identify the virtual COM port:

1. Open the Windows Device Manager (Start/Settings/Control Panel/System/System Properties/Hardware tab/Device Manager button) and expand Ports by clicking the "+".
2. Make note of the port assigned to AutoPatch USB Bridge.

For full warranty information, refer to the AMX AutoPatch Instruction Manual(s) associated with your Product(s).

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

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

Applying Power & Control Startup

Important: For proper functionality, apply power simultaneously to at least two power supplies on the Epica DG 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.

To apply power simultaneously to power supplies:

1. Attach power cords to at least two power receptacles and then plug 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 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) and then to the source and destination devices.

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. Do not flip this switch to the left.

If the indicator lights do not respond with a normal display as stated in the table below, contact 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

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 DG is compatible with a number of AMX control devices. For control programming information, see the instruction manual for the specific interface.
- **APControl 3.0.1** (PC based) – install and open the latest version of 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 (see the *APWeb Server Module Quick Start Guide*). For instructions on executing switches, see the *APWeb* (Interface) documentation on the *AMX AutoPatch CD*.
- **BCS Commands** (HyperTerminal) – when power is applied, a short splash screen appears. Enter C1102T into terminal emulation program (routes Input 1 to Output 2 on default level). When C1102T appears, the switch is successful.

The system is now ready to attach the remaining source and destination devices and any applicable signal conversion modules.

Additional Information Covered in the "Epica DG Instruction Manual"

For information on the following, see the instruction manual on the *AMX AutoPatch CD* or at www.amx.com:

- APDiagnostics software (monitors and displays advanced diagnostic data)
- EDID Programmer software
- BoardConfig software (DG HD-15 Wizard)
- Managing configuration files
- Redundant power supplies
- Adding or replacing boards

Reference Document for Epica DG

The *BCS Protocol Instruction Manual* is on the *AMX AutoPatch CD* and at www.amx.com.