Installing a GX97028 Replacement Power Supply

This guide describes how to install a GX97028 replacement power supply into MTS GX7000/10, GX7100/10, GX7200/10, GX7300/10 revision C or higher, GX7600/10 and GX7800 chassis. The replacement power supply utilizes a 24-Pin ATX plug connector while the MTS backplane for certain models utilize a 20-Pin ATX socket connector.

Relevant Information

The ATX power supply provided will have a 24-pin connector that will be plugged into the backplane of the chassis models listed above. The ATX Power Supply Connector (labeled CN1) depicted in Figure 1 will have pins one through three marked with raised bars on the connector housing: one bar for pin 1, two bars for pin 2 and three bars for pin 3. On the reverse side of this connector, you will see the latch and a green control line.
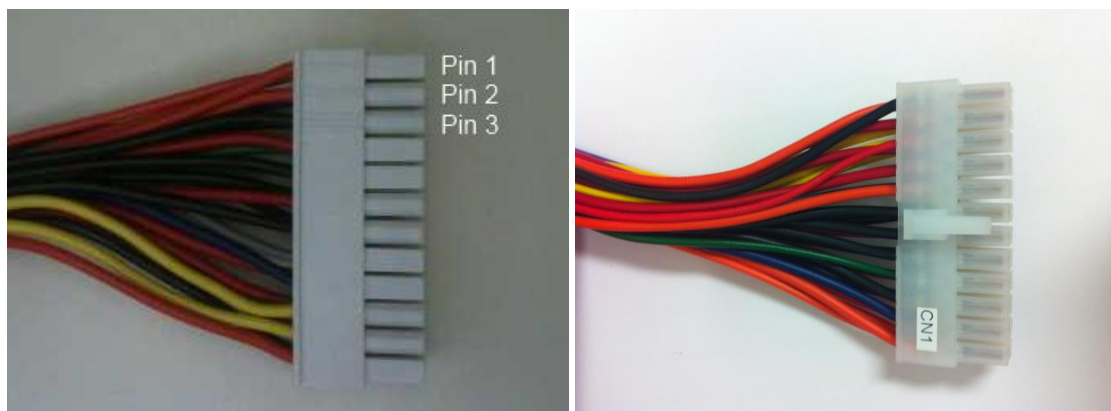

Figure 1: 24 Pin ATX Power Supply Connector (CN1 Front & Back)

Required Equipment

A Phillips and Torx-10 screw driver will be necessary for opening the chassis.

RTV silicone adhesive (DOW 3145 or equivalent) and nylon tie wraps will be necessary to secure connectors and cables within the chassis.

It may be necessary to obtain a 2-way Internal Power Y splitter cable depending on the chassis configuration. See step 4 of Installation Process for more details.

It is advised to have the proper ESD equipment during the entire process.

Opening the Chassis

1. Turn-off and remove power from the chassis.
2. Remove the bumpers from the back of the chassis using the Torx-10 screw driver. Note Figure 2 below. Also note that the bumpers are keyed and their locations should be noted and retained for reinstallation.
3. Remove all screws from the two sides of the chassis using the Phillips screw driver. Retain all removed hardware for reassembly. Note Figure 3 below.
4. Lift and remove the top shell from the chassis. The bottom shell can be left on as the power supplies can be accessed from top.
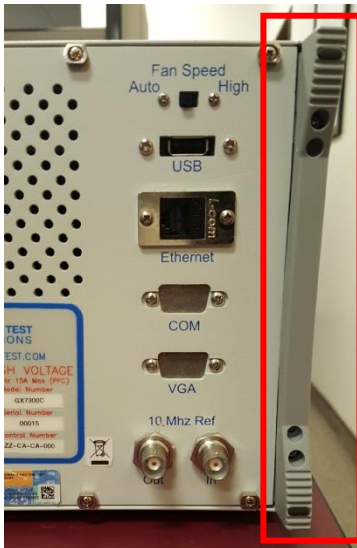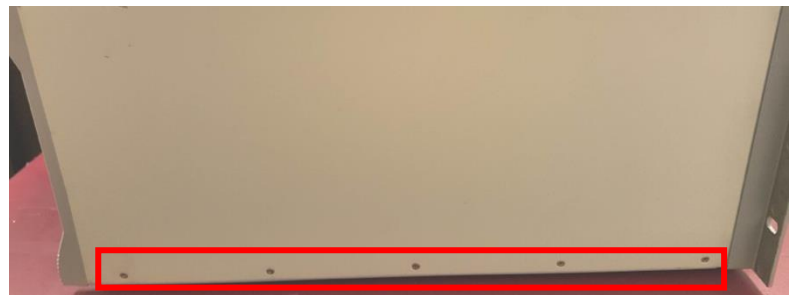

Figure 2: Chassis Bumpers

Figure 3: Chassis Side Panel

On the backplane of your chassis, you will find two 20 or 24-pin backplane power connectors. One such connector is depicted in Figure 4, below.

Figure 4: GX73xx Backplane Power Connector

Removing the Power Supply

1. Disconnect the ATX plug connector(s) from the backplane. Note Figure 4 above.
2. Disconnect the PPC power supply connector(s) from bridge board(s). Note Figure 5 below.
3. Disconnect the power supply from all peripherals and remove any nylon tie wraps that are used to secure the cables to the bottom panel of the chassis.
4. Remove the screws holding the power supply to the panel. Keep the screws and any standoffs for later use.

Figure 5: GX7070 Backplane Bridge Connector

Chassis	Power Supply Connectors			
	CN1	CN2	CN3	CN4
Gx700x	ATX Connector on Backplane	NC	Both Bridges	DVD/CD Drive, HDD
Gx701x	ATX Connector on Backplane	NC	Both Bridges	NC
Gx710x	ATX Connector on Backplane	NC	DVD/CD Drive	HDD
Gx711x	ATX Connector on Backplane	NC	NC	NC
Gx720x	ATX Connector on Backplane	ATX Connector on Backplane	DVD/CD Drive	HDD
Gx721x	ATX Connector on Backplane	ATX Connector on Backplane	NC	NC
Gx7300 C or higher	ATX Connector on Backplane	ATX Connector on Backplane	Both Bridges	DVD/CD Drive, HDD, RTM
Gx7310 C or higher	ATX Connector on Backplane	ATX Connector on Backplane	Both Bridges	NC
Gx7600	ATX Connector on Backplane	NC	Bridge	DVD/CD Drive, HDD
Gx7610	ATX Connector on Backplane	NC	Bridge	NC
GX7800	ATX Connector on Backplane	NC	NC	NC

Table 1: Chassis and connectors with Power Supply Connectors

Installation process

1. Plug the ATX Power Supply Connector (CN1) into the Chassis Backplane Power Connector (J1). There should be two connections on the backplane for each appropriate power supply. Pin 1 of the Power Supply Connector CN1 should plug into Pin 1 of the Backplane Power Connector. The two connector's pins are keyed so if you are having trouble making the connection, check to see if you have the pins lined up correctly.
2. Above in Table 1 identify the chassis model to which the power supply is being replaced and check if CN2 needs to be connected. If so follow similar steps to connect CN2 to the backplane except CN2 will be connected to J2.
3. If the connectors have a different number of pins, the latches will be offset and the connector could vibrate loose. See Figure 4 below. It is necessary to apply RTV on the seam where the two connectors attach to secure the connection.

4. Connect CN3 of the Power Supply to P6 Connector on the bridge or to the connector specified in Table 1 above. The P6 connector on the backplane is shown in Figure 3 above. It is necessary to apply RTV adhesive on the seam where the two connectors attach to secure the connection.
5. With a Master configuration as in a GX7x0x not a GX7x1x, CN4 must be connected to a splitter to power peripherals as defined by Table 1. (Note: A GX7x1x chassis does not have any peripherals so it will not need a splitter)
    a. If the configuration includes a GX7935/36/37 controller then there are 3 powered peripherals. They are the Rear Transition Module (RTM), the DVD/CD drive and the hard drive. One power supply needs to power one peripheral and the other power supply needs to power the other two peripherals. It is not necessary to have any one power supply powering any specific peripheral.
    b. If another master configuration, i.e. GX7927/30/32/34, exists there will be only 2 powered peripherals. They are the DVD/CD drive and the hard drive. The peripherals can be split between the two power supplies and a splitter will not be needed.
6. Tie down the cables with nylon tie wraps to the chassis lower frame. Make sure to organize the cables such that the cables are not loose within the chassis or does not obstruct the fans.
7. Mount the power supply to side wall with the screws that were removed from the previous power supply, using any existing spacers as necessary.

Figure 6: Latch is offset; RTV must be applied to secure the connector

Closing the Chassis

1. Place the top shell onto the chassis. Slide the lip under the front making sure to keep alignment with the side panel and bumper screw holes.
2. Screw in the 10 side panel screws onto the chassis (5 on each side) using the Phillips screw driver. Note Figure 3 above.
3. Screw in the 2 bumpers on the back of the chassis using the Torx-10 screw driver. Note Figure 2 above. Observe the bumper keying to align the bumper correctly.

Testing the Chassis

1. With the chassis switch in the off position, install the AC power cord.
2. Apply power to the chassis and verify proper POST and OS booting. If the GX7xxx chassis is a slave configuration, power must be applied to the chassis before powering up the host PC.
3. Launch the GxChassis Panel and initialize it. Go to the "Advance" tab and verify that the backplane voltages are within specification.