



Installing the Power Board in the Cisco Ethernet Switch Network Modules

This chapter explains how to install the power board on the Ethernet switch network module. This optional power board can be added to provide inline power for IP telephones. The power board is connected to an external power supply using a power connection cable. The front of the 16-port network module is shown in [Figure 4-1](#) and the front of the 36-port network module is shown in [Figure 4-2](#).

Figure 4-1 16-Port Cisco Ethernet Switch Network Module

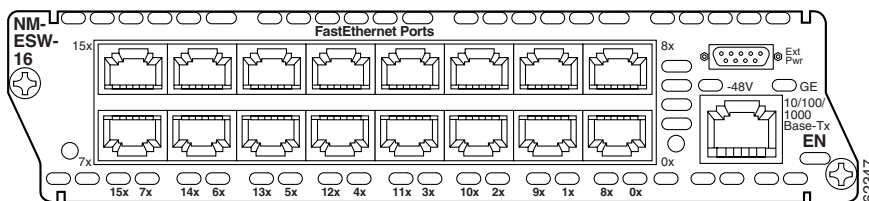
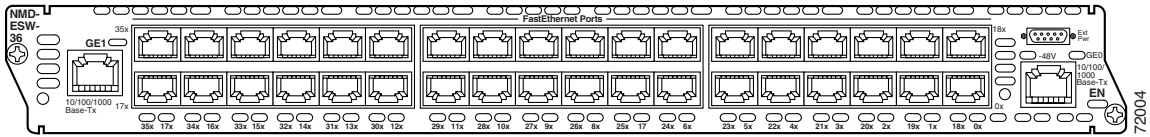


Figure 4-2 36-Port Cisco Ethernet Switch Network Module



Power Considerations

The Cisco Ethernet switch network module supports inline powering of IP telephones with -48V power. This allows IP phones to be plugged into the standard RJ-45 jack and be powered from this source rather than having a separate plug into an AC wall outlet. -48V must be delivered to the Cisco Ethernet switch network module in order to meet this requirement.

Cisco 3700 series routers supply -48V power internally to the Cisco Ethernet switch network module. To support Cisco 2600 series and Cisco 3600 series router that do not supply -48V internal power, the network module also has an external connector to connect to an external -48V power supply.

The Cisco Ethernet switch network module distributes the -48V power to each of the Ethernet ports which are configured for line power. Each port can be independently configured for line power.

Internal Power Supplies for Cisco 3700 Series Routers

Cisco 3700 series routers contain internal -48V power supplies to supply power to the Cisco Ethernet switch network module.

For the Cisco 3745 router, the following specifications apply:

- The Cisco 3745 router can have 1 or 2 internal -48V power supplies. The internal supplies of Cisco 3745 router are configured to be redundant by default.
- With a single power supply, the Cisco 3745 router can provide up to 360W. This is enough power for up to 36 10W IP phones. With two non-redundant power supplies, 640W can be provided, supporting up to 64 10W IP phones.

- The Cisco 3745 router main board has 4 independent signals to indicate status on both internal power supplies. Changes on the state of any of these 4 signals interrupts the main processor on the Cisco 3745 router so software can take the appropriate action.

Cisco 3725 routers have a single, -48V supply. Cisco 3725 routers do not report any power supply status. Software's only indication of -48V status will be the -48V status bit provided on the 16-port Cisco Ethernet switch network module board.

External Power Supplies for Cisco 2600 Series and Cisco 3600 Series Routers

Cisco 2600 series and Cisco 3600 series routers do not supply -48V power so an external -48V supply is required to support inline power for IP phones. This external power supply connects to the Cisco Ethernet switch network module faceplate with a cable.

An external power supply plugged into a Cisco Ethernet switch network module provides power only for that specific network module. To supply redundant power, a Y cable can be used so that two external power supplies are connected to the same card.

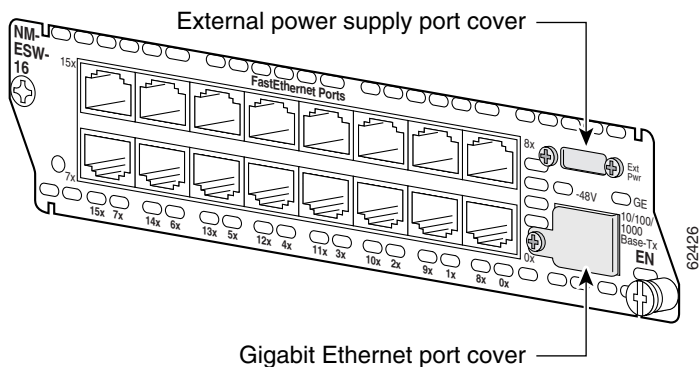
Adding a Power Board

An optional power board should be installed if the Cisco Ethernet switch network module requires external -48V power for IP telephones.

Follow this procedure to install a power board:

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- Step 1** Use a Philips screwdriver to remove the cover on the external power board port, as shown in [Figure 4-3](#).

Figure 4-3 Power Board Port Cover on the Cisco Ethernet Switch Network Module



- Step 2** On the power board, remove the thumb screws on either side of the power board port. Put these in a safe place as they will be replaced once the power board is installed.
- Step 3** Guide the external connector through the power board port opening on the card faceplate.
- Step 4** Insert the connector on the power board into the connector on the network module. (See [Figure 4-4](#) for 16-port Cisco Ethernet switch network modules and [Figure 4-5](#) for 36-port Cisco Ethernet switch network modules.)



Note Be sure to press firmly on the power board until the board seats onto the connector.

- Step 5** Insert the screws from the hardware kit through the power board into the standoffs on the network module.
- Step 6** Replace the thumb screws on either side of the power board port. Make sure the thumb screws are tightened firmly.



Warning

Do not connect the external power supply cable to the power connector on the front of the network module until the network module has been inserted into the router chassis.

- Step 7** After installing the network module into the chassis, connect the power cable to the power module connector on the front of the network module.

Figure 4-4 Installing a Power Board in a 16-Port Cisco Ethernet Switch Network Module

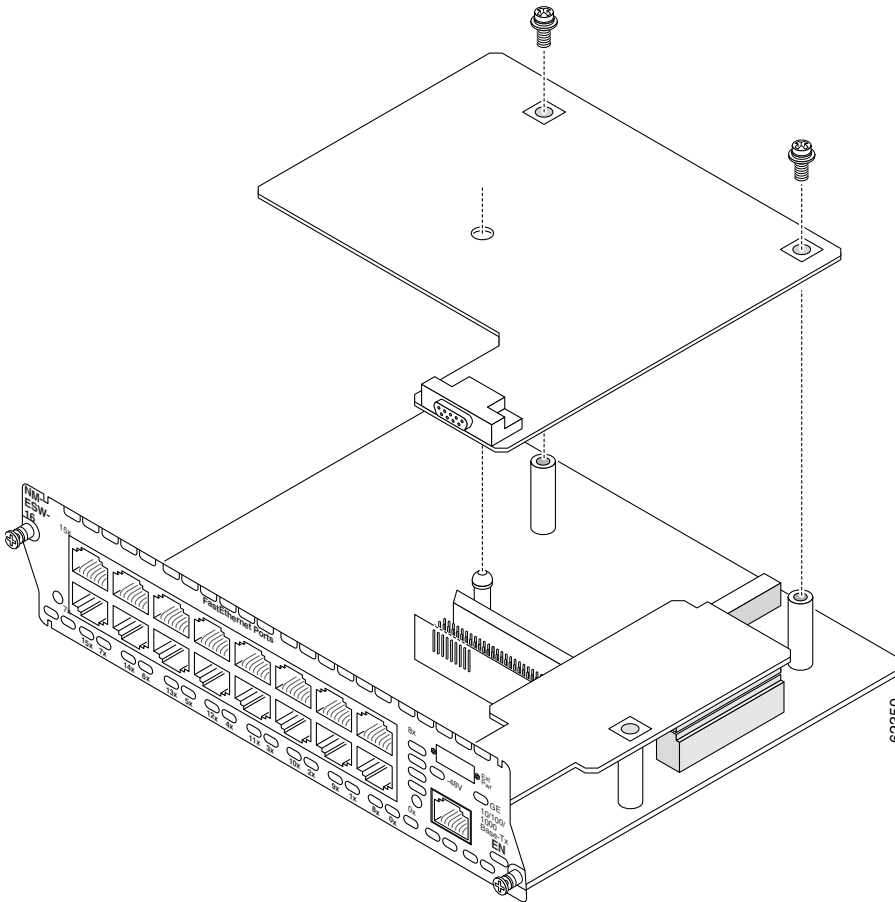
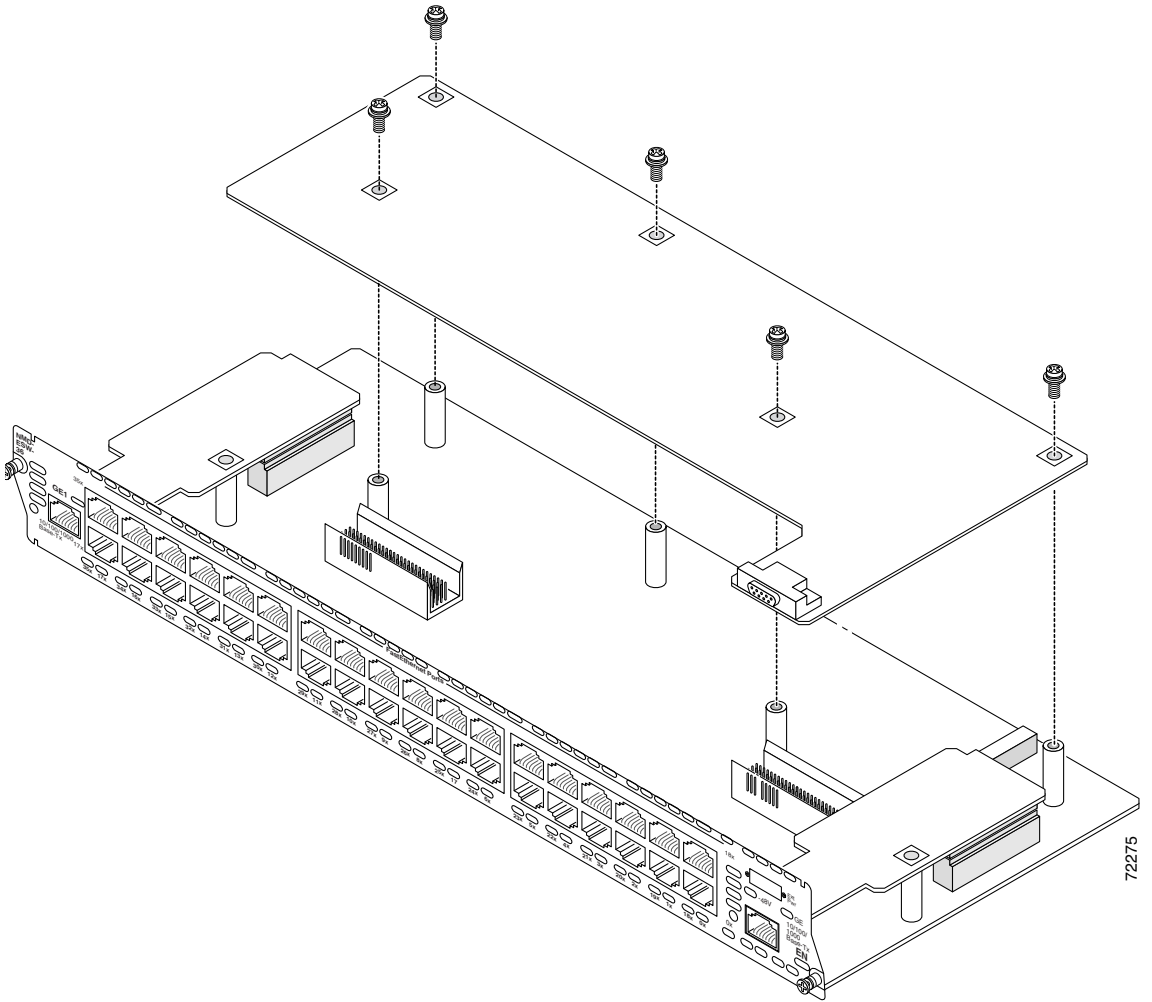


Figure 4-5 Installing a Power Board in a 36-Port Cisco Ethernet Switch Network Module



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