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Direct Connect NEBS Compliance Kit Release Notes

July 30, 1999

These release notes present information for assuring that your Cisco 6100 system is Network Equipment Building Systems (NEBS) compliant.

For more detailed information about the information in these release notes, refer to the "Related Documentation" section on page 15. Information about electronic documentation can be found in the "Cisco Connection Online" section on page 15, and in the "Documentation CD-ROM" section on page 16.



Caution Proper electrostatic discharge (ESD) protection is required whenever you handle Cisco DSLAM equipment. Installation and maintenance personnel should be properly grounded using ground straps to eliminate the risk of ESD damage to the equipment. Modules are subject to ESD damage whenever they are removed from the chassis.

1. Contents

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2. Ferrites for DS3 System I/O Card, DS3 Subtending Card, and Power Connections Cables

For NEBS compliance, it is necessary to add ferrites to the cables used to connect

- DS3 system I/O card
- DS3 subtending card
- Power connection (P13) from the multiplexer chassis (MC) to the fuse and alarm panel of the central office (CO)



Caution If fuses are already installed in the fuse and alarm panel, remove them. You can replace the fuses after the system is cabled. The system should not be powered while adding the ferrites to the DS3 system I/O card, DS3 subtending card, and power connection cables.

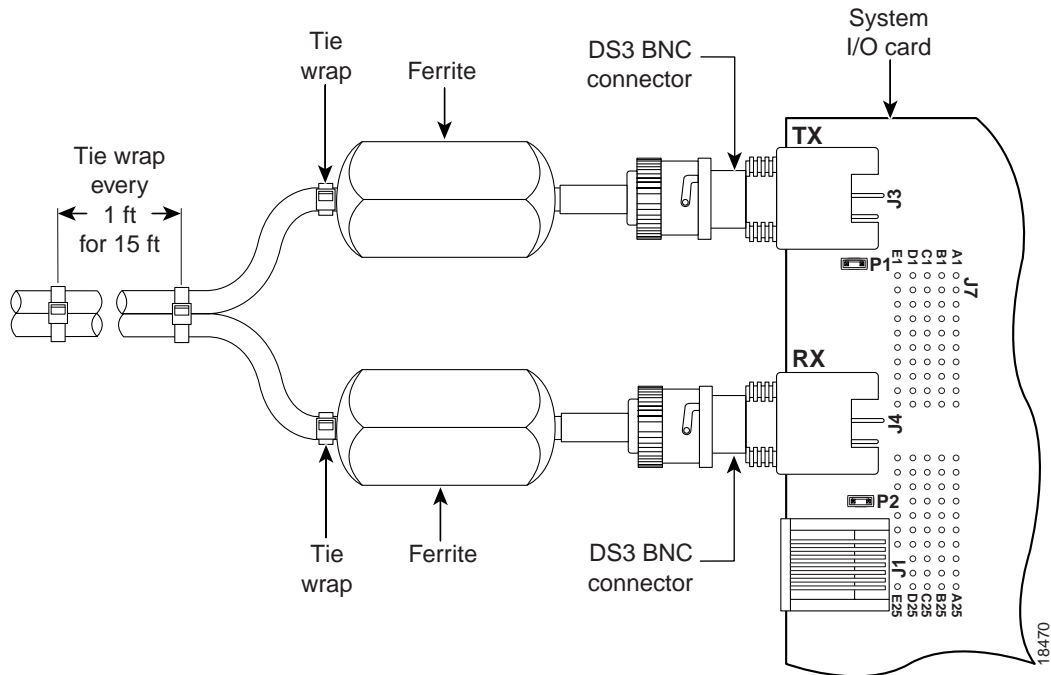
2.1 Add Ferrites to the DS3 System I/O Card Cables

Use the following procedures to add ferrites to the DS3 system I/O card on the backplane of the MC. Figure 1 shows the attachment of the ferrites.

- Step 1** Remove the fuses from the fuse and alarm panel. By removing the fuses from the fuse and alarm panel, the system will not be powered.
- Step 2** Attach coax cables to the two DS3 BNC connectors (J3 and J4) on the left side of the DS3 system I/O card.
- Step 3** Attach one ferrite (36-0087-01, quantity 2) to each of the cables as close to the DS3 BNC connectors as possible.
- Step 4** Place one tie wrap (51-202060, quantity 18) directly behind each ferrite.
- Step 5** Place another tie wrap around both cables where the cables meet after coming from the ferrite, and every 1 foot thereafter for a total of 15 feet.

- Step 6** Reinsert the fuses in the fuse and alarm panel. By reinserting the fuses, the system will become powered.

Figure 1 DS3 System I/O Card Ferrite Installation



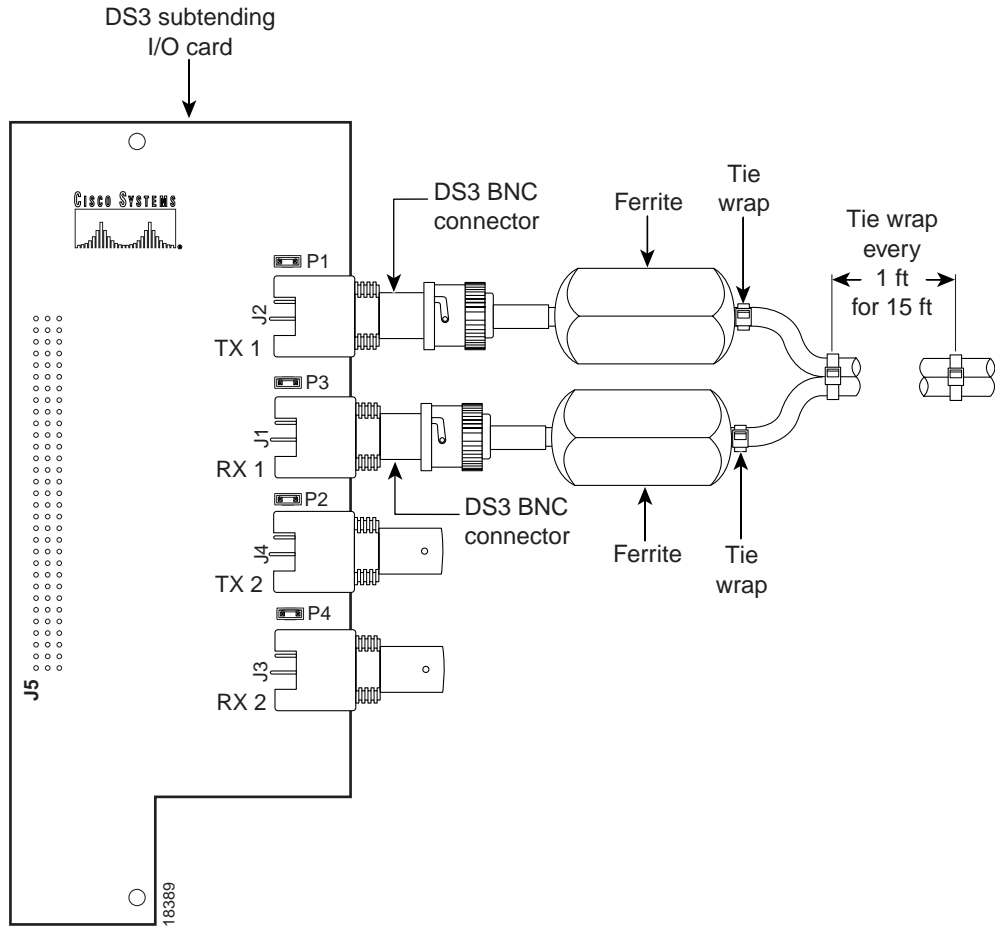
2.2 Add Ferrites to the DS3 Subtending Card Cables

If you have a subtended network, use the following procedures to add ferrites to the DS3 subtending card on the backplane of the MC. Figure 2 shows the attachment of the ferrites.

- Step 1** Remove the fuses from the fuse and alarm panel. By removing the fuses from the fuse and alarm panel, the system will not be powered.
- Step 2** Attach coax cables to the four DS3 BNC connectors (J1 through J4) on the right side of the DS3 subtending card.
- Step 3** Attach one ferrite (36-0087-01, quantity 4) to each of the cables as close to the DS3 BNC connectors as possible.
- Step 4** Place one tie wrap (51-202060, quantity 36) directly behind each ferrite.
- Step 5** Place another tie wrap around both cables where the cables meet after coming from the ferrite, and every 1 foot thereafter for a total of 15 feet.

Step 6 Reinsert the fuses in the fuse and alarm panel. By reinserting the fuses, the system will become powered.

Figure 2 DS3 Subtending Card Ferrite Installation

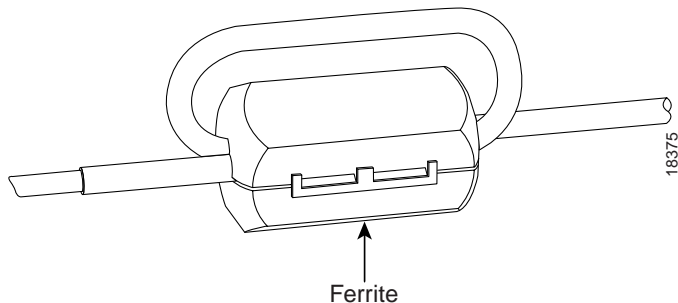


2.3 Add Ferrites to the Power Connections Cables

The power connections from the MC to the fuse and alarm panel can be wired for dual- or single-power feed.

The ferrites included in the NEBS compliance kit must be installed on the cables used to connect the fuse and alarm panel and the power connections on the MC. The cables used to connect the fuse and alarm panel and the power connections should be looped through the ferrite as shown in Figure 3.

Figure 3 Cable Looped through Ferrite



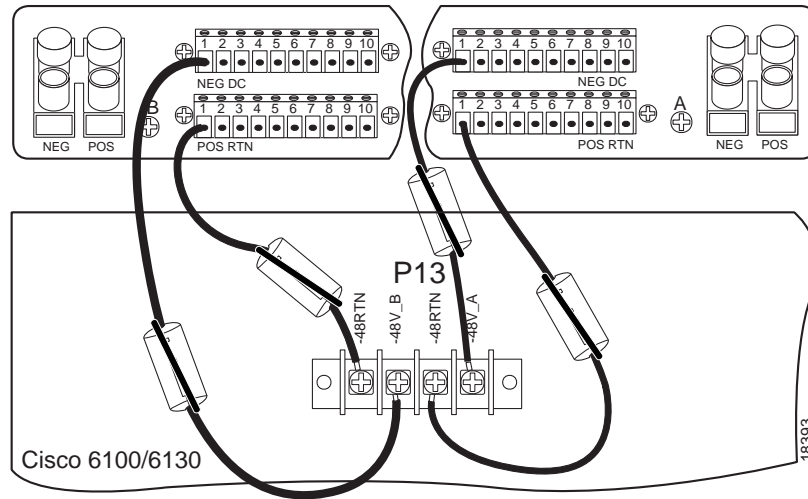
2.3.1 Dual-Power Feed

Use the following procedures to add ferrites to the cables connecting the power connections on the backplane of the MC to the fuse and alarm panel for dual-power feed. Figure 4 shows the dual-power feed connections from the MC to the fuse and alarm panel and the attachment of the ferrites to the power connection cables.

- Step 1** Remove the fuses from the fuse and alarm panel. By removing the fuses from the fuse and alarm panel, the system will not be powered.
- Step 2** Wire the -48V_A and -48V_B power connections from the MC (P13) to the fuse and alarm panel NEG DC connectors.
- Step 3** Wire both -48RTN power connections from the MC (P13) to the fuse and alarm panel POS RTN connectors.
- Step 4** Attach one ferrite (36-0087-01, quantity 4) close to the connectors on each of the cables going to the fuse and alarm panel.

- Step 5** Reinsert the fuses in the fuse and alarm panel. By reinserting the fuses, the system will become powered.

Figure 4 Dual-Power Feed Ferrite and Cable Installation



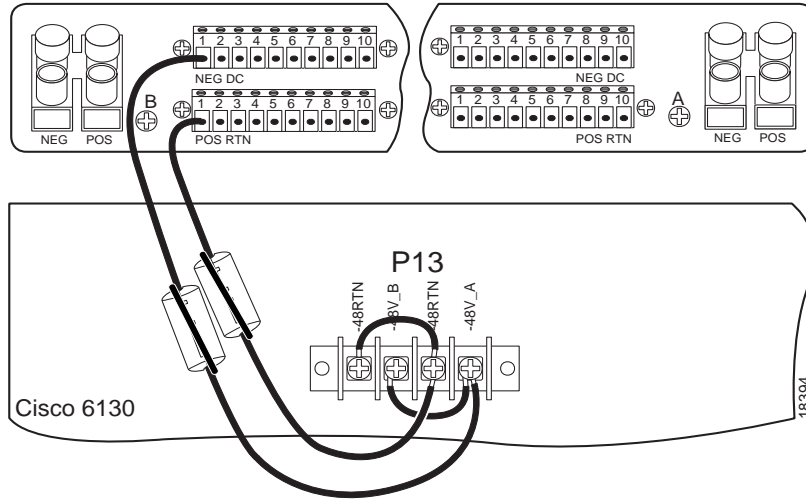
2.3.2 Single-Power Feed

Use the following procedures to add ferrites to the cables connecting the power connections on the backplane of the MC to the fuse and alarm panel for single-power feed. Figure 5 shows the dual-power feed connections from the MC to the fuse and alarm panel and the attachment of the ferrites to the power connection cables.

- Step 1** Remove the fuses from the fuse and alarm panel. By removing the fuses from the fuse and alarm panel, the system will not be powered.
- Step 2** Wire the -48V_B power connection from the MC (P13) to the fuse and alarm panel NEG DC connector.
- Step 3** Wire a -48RTN power connection from the MC (P13) to the fuse and alarm panel POS RTN connector. See Figure 5 for correct placement.
- Step 4** Wire the -48RTNs to each other.
- Step 5** Wire the -48V_A and -48V_B to each other.
- Step 6** Attach one ferrite (36-0087-01, quantity 4) close to the connectors on each of the cables going to the fuse and alarm panel.

Step 7 Reinsert the fuses in the fuse and alarm panel. By reinserting the fuses, the system will become powered.

Figure 5 Single-Power Feed Ferrite and Cable Installation



3. MC and PSC Ground Lugs

In the upper left corners of the MC and POTS splitter chassis (PSC) are ground lugs used to ground the chassis to the rack. The one hole lugs should be replaced by two hole lugs and a longer bracket. Figure 6 shows the original ground lugs.



Caution If fuses are already installed in the fuse and alarm panel, remove them. You can replace the fuses after you have replaced the ground lugs. The system should not be powered while replacing the ground lugs.

Figure 6 Original Ground Lugs

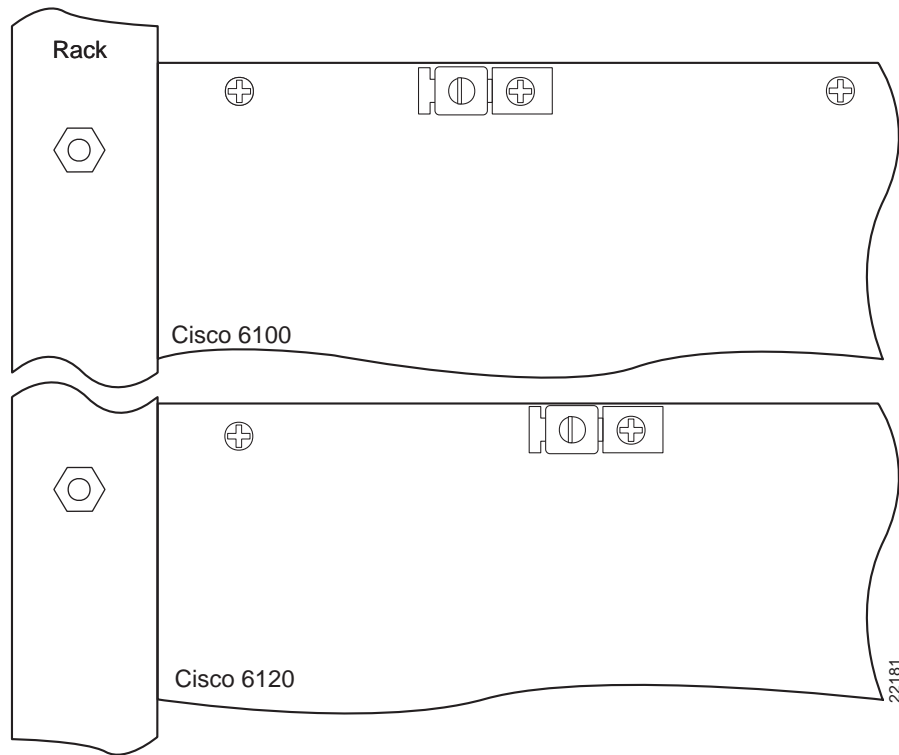
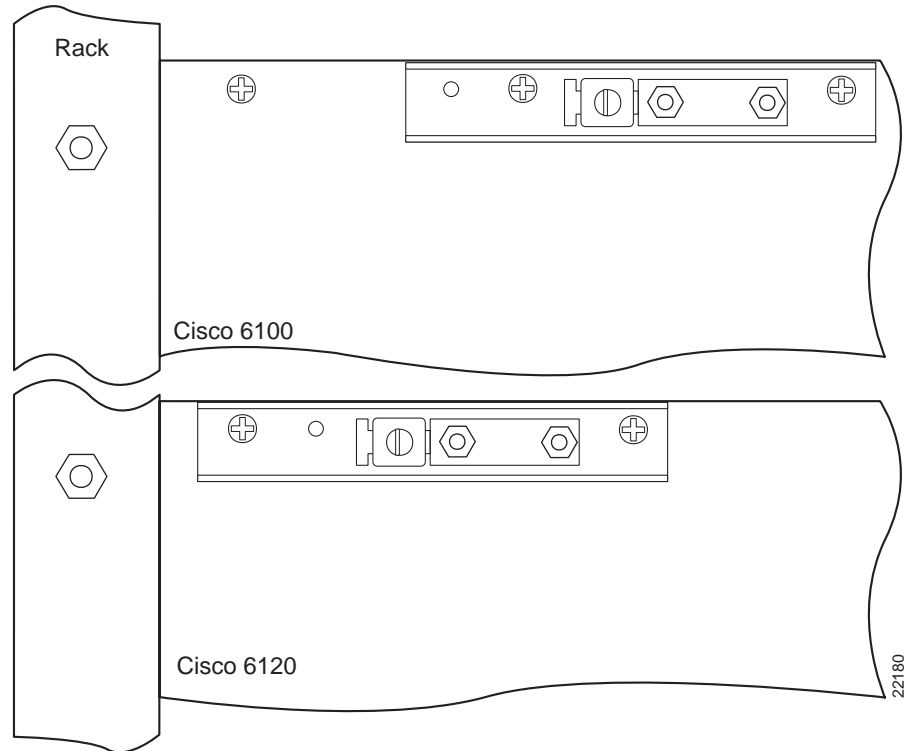


Figure 7 shows the replacement ground lugs on both chassis

Figure 7 Replacement Ground Lugs (22180) Installation



3.1 Add or Replace the MC Ground Lugs

Use the following procedures to replace the ground lugs on the MC.

- Step 1** Remove the fuses from the fuse and alarm panel. By removing the fuses from the fuse and alarm panel, the system will not be powered.
- Step 2** Remove the original ground lug by removing the one screw and lug.
- Step 3** Attach the new, longer bracket (700-04424-01) using both original screws. These screws should be in the second and third holes from the upper left corner of the MC.
- Step 4** Attach the two hole lug (32-0621-01) to the adapter bracket using the two nuts (49-0401-01).
- Step 5** Reinsert the fuses in the fuse and alarm panel. By reinserting the fuses, the system will become powered.

3.2 Add or Replace the PSC Ground Lugs

Use the following procedures to replace the ground lugs on the PSC.

- Step 1** Remove the fuses from the fuse and alarm panel. By removing the fuses from the fuse and alarm panel, the system will not be powered.
- Step 2** Remove the original ground lug by removing the one screw and lug.
- Step 3** Attach the new, longer bracket (700-04424-01) using both original screws. These screws should be in the first and second holes from the upper left corner of the PSC.
- Step 4** Attach the two hole lug (32-0621-01) to the adapter bracket using the two nuts (49-0401-01).
- Step 5** Reinsert the fuses in the fuse and alarm panel. By reinserting the fuses, the system will become powered.

4. ESD Shield for DS3 System I/O Card

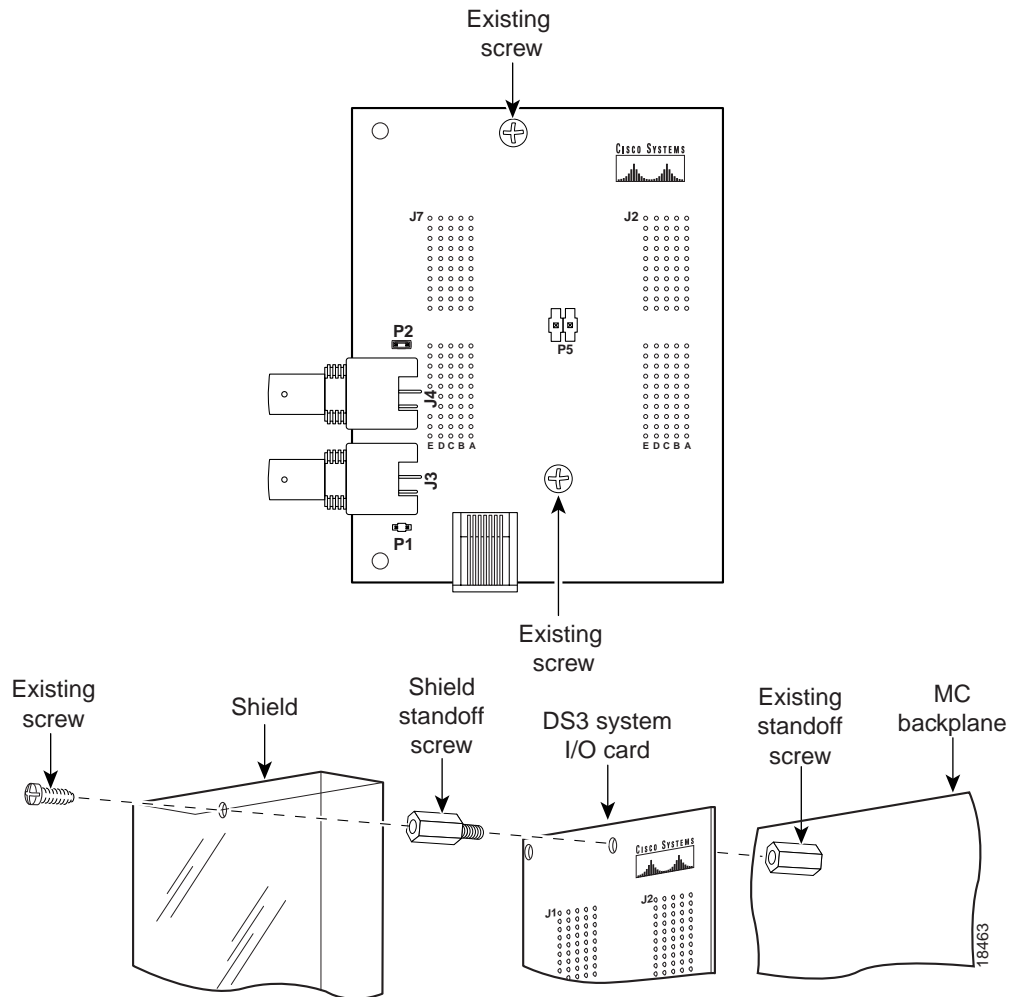
A plastic ESD shield should be mounted over the DS3 system I/O card. Use the following procedures to add the ESD shield. Figure 8 shows the addition of the ESD shield.



Caution If fuses are already installed in the fuse and alarm panel, remove them. You can replace the fuses after you have mounted the ESD shield over the DS3 system I/O card. The system should not be powered while mounting the ESD shield.

- Step 1** Remove the fuses from the fuse and alarm panel. By removing the fuses from the fuse and alarm panel, the system will not be powered.
- Step 2** Remove the two screws holding the DS3 system I/O card to the two existing standoff screws attached to the backplane of the MC. Be careful that the card does not fall away from the connectors.
- Step 3** Add additional standoff screws (50-0767-01) by screwing them through each of the screw holes in the DS3 system I/O card and into the original standoff screws.
- Step 4** Position the holes in the plastic ESD shield (700-04921-01) over the new standoff screws and use the original screws from Step 1 to attach the shield to the new standoff screws.
- Step 5** Reinsert the fuses in the fuse and alarm panel. By reinserting the fuses, the system will become powered.

Figure 8 DS3 System I/O Card ESD Shield Installation



5. Thermal Shield

A thermal shield is required between the two shelves of the MC to meet NEBS compliance. Use the following procedures to place the thermal shield between the shelves. Figure 9 shows the placement of the thermal shield in the MC.

- Step 1** Make sure that provisioning is such that subscribers will not lose service when you remove all the modules from either quadrant on the lower shelf of the MC.
- Step 2** Remove all the modules from the lower shelf on the left side of the MC.
- Step 3** Insert the thermal shield (700-04630-01) in the space between the upper and lower shelves. The shield orientation should be with the notch in the back and offset to the right, knife edge toward the rear of the chassis, rounded edges away from the rear of the chassis, and the arrow on the shield up.

Step 4 Insert the right rear corner of the thermal shield first to create a gap. Continue to push the shield into the guide plates as far as possible.

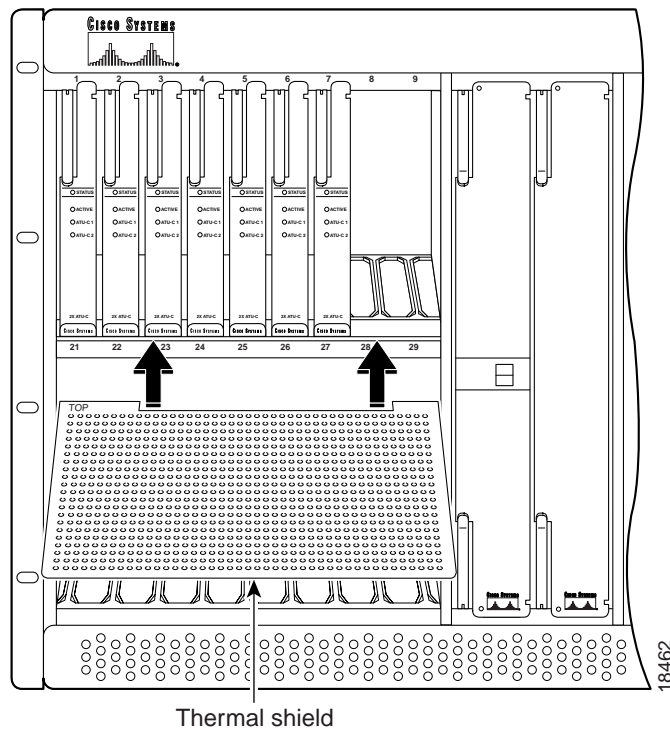
Note Some force is required to separate the guide plates during insertion.

Step 5 Use the second shield or a flat head screw driver to push the thermal shield in until it drops onto the lower module guides.

Step 6 Replace the modules in the lower shelf and reposition.

Step 7 Repeat the steps above for the right side of the MC.

Figure 9 MC Thermal Shield Installation

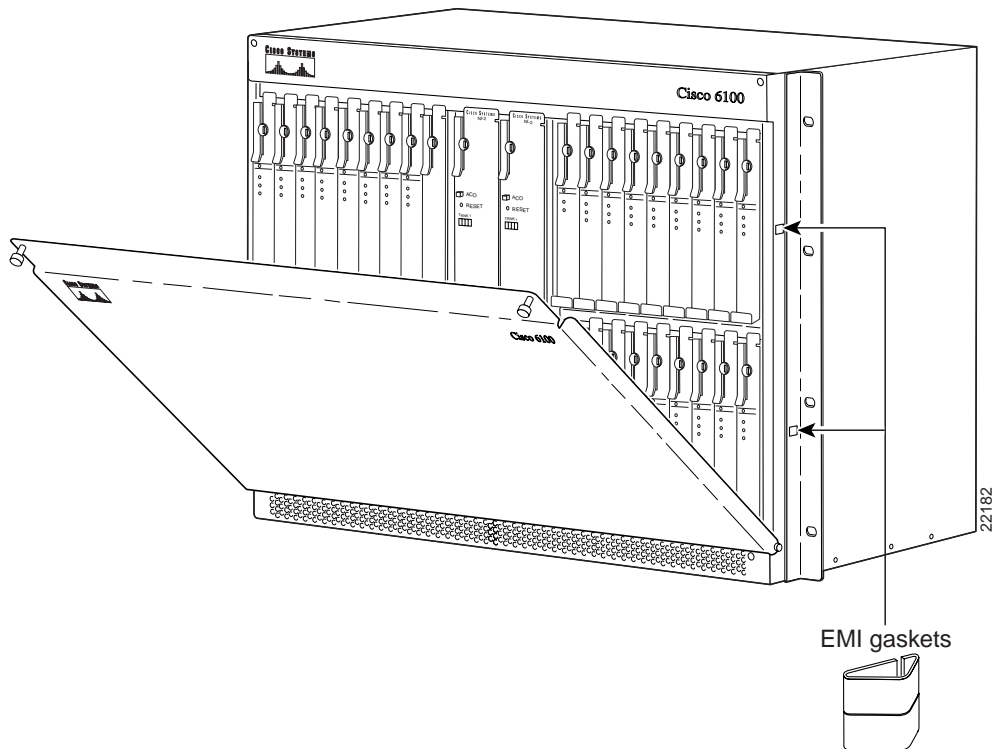


6. Front Door and Gaskets

Use the following procedures to replace the front door of the MC chassis with a new stiffened door and EMI gaskets on the chassis. Figure 10 shows the replacement of the front door and the addition of the gaskets.

- Step 1** Remove the original door from the MC.
- Step 2** Attach the new stiffened front door (700-03491-02) at the base of the lower shelf of the MC.
- Step 3** Add two gaskets to either side of the chassis frame in the positions shown in the figure below.
- Step 4** Use the screws in the upper corners of the door to close it firmly over the front of the chassis.

Figure 10 Front Door Replacement with Gaskets



7. Labels and CLEI Codes

The grounding symbols, CLEI codes, and PSC 800 number labels should replace the current labels on the chassis. Figure 11 shows the positions of the labels being replaced.

7.1 Replace the CLEI, 800 Level, and Ground Symbol Labels on the MC

Use the following steps to replace the proper labels on the MC.

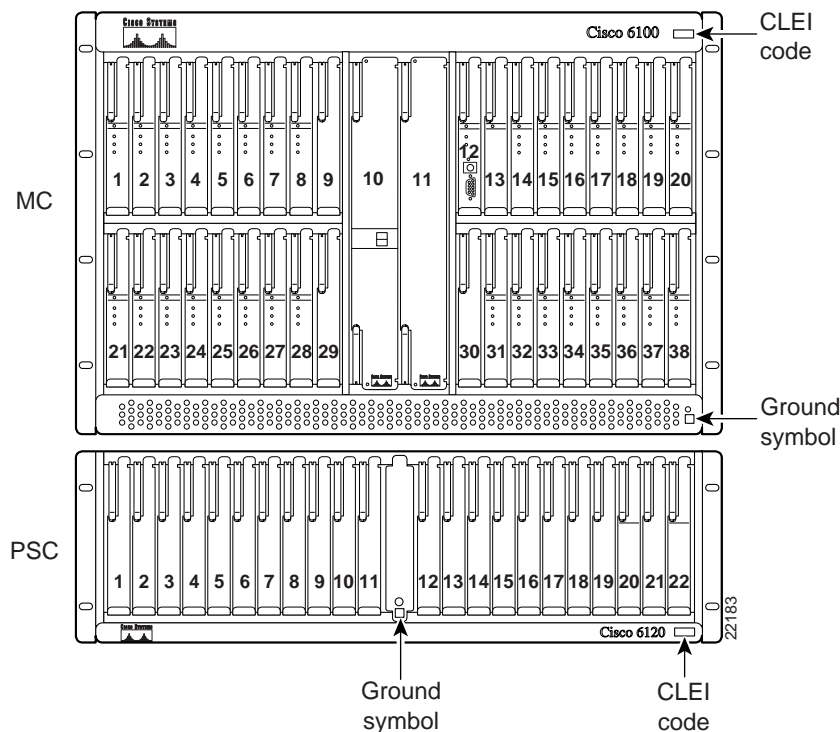
- Step 1** Replace the original CLEI code label in the upper right corner of the MC with the new CLEI code label SLMT7H0BRA.
- Step 2** Replace the 800-04390-02 label on the right side of the chassis with the new 800-04390-03 label.
- Step 3** Replace the original ground symbol label in the lower right corner of the MC with the new one.

7.2 Replace the CLEI, 800 Level, and Ground Symbol Labels on the PSC

Use the following steps to replace the proper labels on the PSC.

- Step 1** Replace the original CLEI code label in the lower right corner of the PSC with the new CLEI code label SLMT9K0BRA.
- Step 2** Replace the 800-04325-03 label on the right side of the chassis with the new 800-04325-04 label.
- Step 3** Replace the original ground symbol label in the lower center of the PSC with the new one.

Figure 11 Label Replacements



8. Related Documentation

Use these release notes in conjunction with the following documents:

- *Cisco 6100 Setup and Installation Manual*
- *ViewRunner for Windows Installation and Administration Guide*
- *ViewRunner for HP OpenView Installation and Administration Guide*

Note You can find these documents on CCO as described below.

9. Cisco Connection Online

Cisco Connection Online (CCO) is Cisco Systems' primary, real-time support channel. Maintenance customers and partners can self-register on CCO to obtain additional information and services.

Available 24 hours a day, 7 days a week, CCO provides a wealth of standard and value-added services to Cisco's customers and business partners. CCO services include product information, product documentation, software updates, release notes, technical tips, the Bug Navigator, configuration notes, brochures, descriptions of service offerings, and download access to public and authorized files.

CCO serves a wide variety of users through two interfaces that are updated and enhanced simultaneously: a character-based version and a multimedia version that resides on the World Wide Web (WWW). The character-based CCO supports Zmodem, Kermit, Xmodem, FTP, and Internet e-mail, and it is excellent for quick access to information over lower bandwidths. The WWW version of CCO provides richly formatted documents with photographs, figures, graphics, and video, as well as hyperlinks to related information.

You can access CCO in the following ways:

- WWW: <http://www.cisco.com>
- WWW: <http://www-europe.cisco.com>
- WWW: <http://www-china.cisco.com>
- Telnet: [cco.cisco.com](telnet://cco.cisco.com)
- Modem: From North America, 408 526-8070; from Europe, 33 1 64 46 40 82. Use the following terminal settings: VT100 emulation; databits: 8; parity: none; stop bits: 1; and connection rates up to 28.8 kbps.

For a copy of CCO's Frequently Asked Questions (FAQ), contact cco-help@cisco.com. For additional information, contact cco-team@cisco.com.

Note If you are a network administrator and need personal technical assistance with a Cisco product that is under warranty or covered by a maintenance contract, contact Cisco's Technical Assistance Center (TAC) at 800 553-2447, 408 526-7209, or tac@cisco.com. To obtain general information about Cisco Systems, Cisco products, or upgrades, contact 800 553-6387, 408 526-7208, or cs-rep@cisco.com.

10. Documentation CD-ROM

Cisco documentation and additional literature are available in a CD-ROM package, which ships with your product. The Documentation CD-ROM, a member of the Cisco Connection Family, is updated monthly. Therefore, it might be more current than printed documentation. To order additional copies of the Documentation CD-ROM, contact your local sales representative or call customer service. The CD-ROM package is available as a single package or as an annual subscription. You can also access Cisco documentation on the World Wide Web at <http://www.cisco.com>, <http://www-china.cisco.com>, or <http://www-europe.cisco.com>.

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