



Upgrading the Memory on the OSM

This appendix provides procedures for upgrading the memory on the Optical Services Modules (OSMs).

This appendix contains these sections:

- [Safety, page C-1](#)
- [Required Tools, page C-3](#)
- [Upgrading the OSM Memory, page C-3](#)

Safety

Safety warnings appear throughout this section in procedures that may harm you if performed incorrectly. A warning symbol precedes each warning statement.



Warning

This warning symbol means danger. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents. To see translations of the warnings that appear in this publication, refer to the *Regulatory Compliance and Safety Information* document that accompanied this device.

Wrist Strap Warning



Warning

During this procedure, wear grounding wrist straps to avoid ESD damage to the card. Do not directly touch the backplane with your hand or any metal tool, or you could shock yourself. Statement 94

Waarschuwing

Draag tijdens deze procedure aardingspolsbanden om te vermijden dat de kaart beschadigd wordt door elektrostatische ontlading. Raak het achterbord niet rechtstreeks aan met uw hand of met een metalen werktuig, omdat u anders een elektrische schok zou kunnen oplopen.

Varoitus Käytä tämän toimenpiteen aikana maadoitettuja rannesuojia estääksesi kortin vaurioitumisen sähköstaattisen purkauksen vuoksi. Älä kosketa taustalevyä suoraan kädelläsi tai metallisella työkalulla sähköiskuvaaran takia.

Attention Lors de cette procédure, toujours porter des bracelets antistatiques pour éviter que des décharges électriques n'endommagent la carte. Pour éviter l'électrocution, ne pas toucher le fond de panier directement avec la main ni avec un outil métallique.

Warnung Zur Vermeidung einer Beschädigung der Karte durch elektrostatische Entladung während dieses Verfahrens ein Erdungsband am Handgelenk tragen. Bei Berührung der Rückwand mit der Hand oder einem metallenen Werkzeug besteht Elektroschockgefahr.

Avvertenza Durante questa procedura, indossare bracciali antistatici per evitare danni alla scheda causati da un'eventuale scarica elettrostatica. Non toccare direttamente il pannello delle connessioni, né con le mani né con un qualsiasi utensile metallico, perché esiste il pericolo di folgorazione.

Advarsel Bruk jordingsarmbånd under prosedyren for å unngå ESD-skader på kortet. Unngå direkte berøring av bakplanet med hånden eller metallverktøy, slik at di ikke får elektrisk støt.

Aviso Durante este procedimento e para evitar danos ESD causados à placa, use fitas de ligação à terra para os pulsos. Para evitar o risco de choque eléctrico, não toque directamente na parte posterior com a mão ou com qualquer ferramenta metálica.

¡Advertencia! Usartiras conectadas a tierra en las muñecas durante este procedimiento para evitar daños en la tarjeta causados por descargas electrostáticas. No tocar el plano posterior con las manos ni con ninguna herramienta metálica, ya que podría producir un choque eléctrico.

Varning! Använd jordade armbandsremmar under denna procedur för att förhindra elektrostatisk skada på kortet. Rör inte vid baksidan med handen eller metallverktyg då detta kan orsaka elektrisk stöt.

Az elektromos kisülés okozta meghibásodás elkerülése érdekében az eljárás során viseljen földelő csuklópántot. Se kézzel, se fém eszközzel ne érjen hozzá a kártya hátlapjához, mert különben áramütést szenvedhet.

Предупреждение При выполнении данной процедуры наденьте заземленные браслеты, чтобы избежать повреждения платы электростатическим разрядом. Не дотрагивайтесь до задней панели рукой или металлическим предметом, поскольку это может привести к поражению электрическим током.

警告 请佩戴接地腕带以避免ESD 损坏插卡。请勿用手或任何金属工具直接接触后面板，否则您可能受到电

警告 この手順を行う際には、ESD によるカードの損傷を防ぐため、静電気防止用リストストラップを着用してください。電気ショックを防ぐために、装置の背面を直接手や金属で触らないようにします。



Only trained and qualified personnel should be allowed to install, replace, or service this equipment.



Hazardous voltage or energy is present on the backplane when the system is operating. Use caution when servicing.

Required Tools

These tools are required to upgrade the memory on the OSM:

- Antistatic mat or foam pad
- Number 1 Phillips screwdriver
- 3/16-inch flat-blade screwdriver
- Your own ESD-prevention equipment or the disposable grounding wrist strap included with all upgrade kits, field-replaceable units (FRUs), and spares

Whenever you handle a module or supervisor engine, always use a wrist strap or other grounding device to prevent electrostatic discharge (ESD). For information on preventing ESD, see the “Preventing ESD” section of the *Site Preparation and Safety Guide*.

Upgrading the OSM Memory

This section provides the procedures for removing and replacing the memory on the OSM.

The synchronous dynamic random-access memory (SDRAM) on the OSM is contained in one small outline dual in-line memory module (SODIMM). (See [Figure C-1](#).)

The OSM has a default memory configuration of 64 MB with Error Checking and Correction (ECC) (single-bit error detection and correction; 2-bit error detection) and is upgradable to 128 MB, 256 MB, or 512 MB.



Note

You should use only 100-MHz SDRAM SODIMMs. A Cisco part number appears on the SODIMMs.



Caution

To prevent ESD damage, handle the SODIMM by the card edges only. (See [Figure C-3](#) on [page C-6](#).) Place the removed SODIMM on an antistatic mat or store it in an antistatic container.

Removing the SODIMM

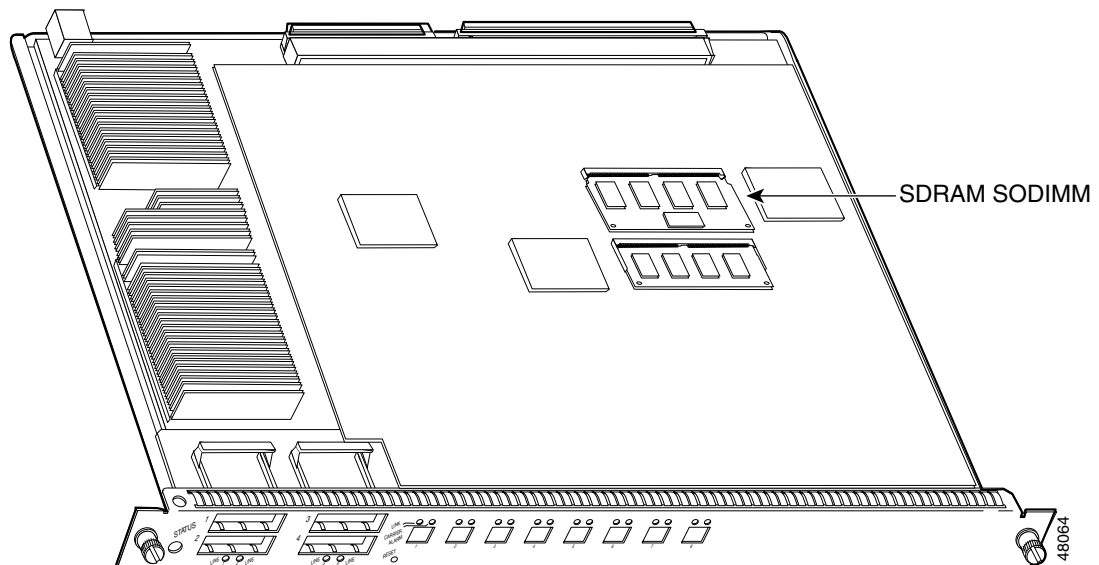
**Warning**

Hazardous voltage or energy is present on the backplane when the system is operating. Use caution when servicing.

To remove the existing SODIMM, follow these steps:

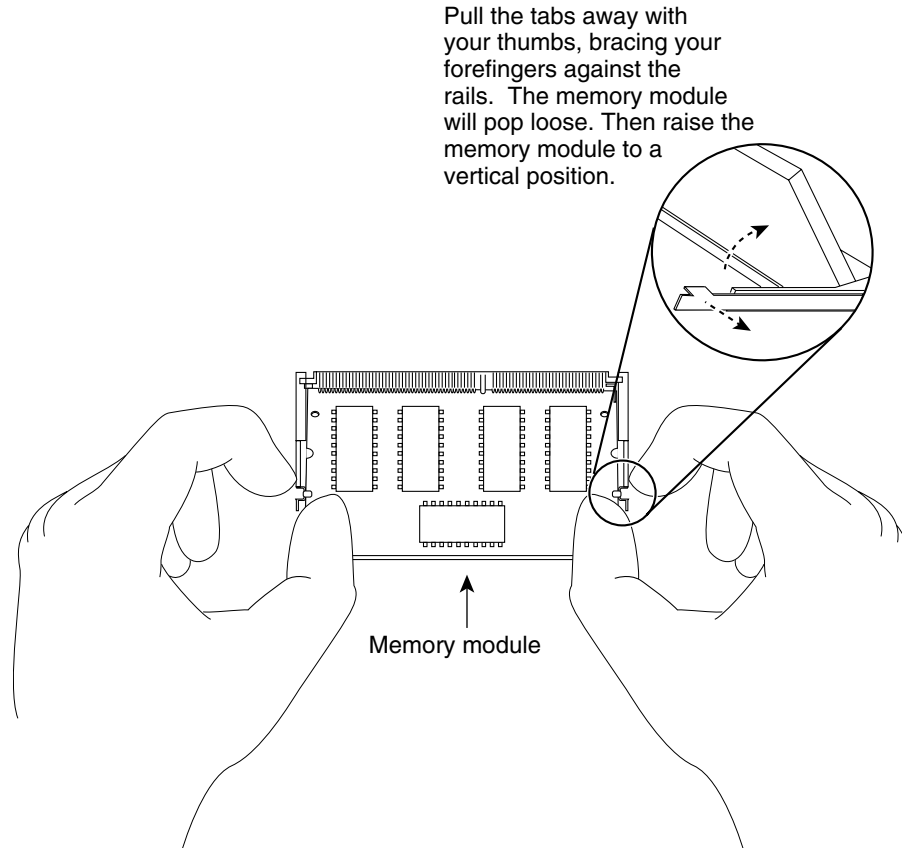
- Step 1** Make sure you take the necessary precautions to prevent ESD damage.
- Step 2** Remove the OSM from the system. (See the [“Removing the Supervisor Engine or a Module”](#) section on page 3-13 for removal instructions.)
- Step 3** Place the OSM on an antistatic mat or pad.
- Step 4** Locate the SODIMM. (See [Figure C-1](#).)

Figure C-1 Location of SDRAM SODIMM on an OSM



- Step 5** Release the spring clips from the SODIMM that you want to remove, and release the SODIMM from the socket. (See [Figure C-2](#).)

Figure C-2 Releasing the SODIMM Spring Clips



- Step 6** When both ends of the SODIMM are released from the socket, grasp the ends of the SODIMM with your thumb and forefinger and pull the SODIMM completely out of the socket. Handle the edges of the SODIMM only; avoid touching the memory modules, pins, or traces (the metal *fingers* along the connector edge of the SODIMM) along the connector edge.
- Step 7** Place the SODIMM in an antistatic container to protect it from ESD damage.

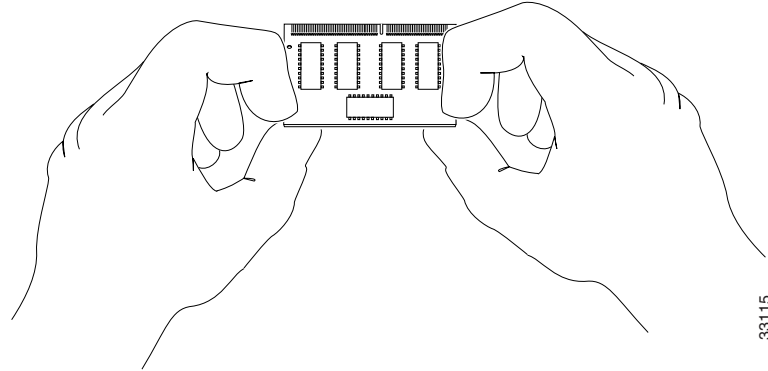
This completes the SODIMM removal procedure. Proceed to the next section to install the new SODIMM.

Installing the New SODIMM



Caution

SODIMMs are sensitive components that are susceptible to ESD damage. Handle SODIMMs by the edges only; avoid touching the memory modules, pins, or traces (the metal *fingers* along the connector edge of the SODIMM). (See [Figure C-3](#).)

Figure C-3 Handling a SODIMM

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To install the new SODIMM, follow these steps:

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- Step 1** Remove a new SODIMM from the antistatic container.
 - Step 2** Hold the SODIMM component-side-up, with the connector edge (the metal *fingers*) away from you.
 - Step 3** Hold the sides of the SODIMM between your thumbs and forefingers. (See [Figure C-3](#).)
 - Step 4** Tilt the SODIMM to approximately the same angle as the socket, and insert the connector edge into the socket.

**Caution**

When inserting SODIMMs, use firm but not excessive pressure. If you damage a socket, you will have to return the OSM to the factory for repair.

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- Step 5** Press the SODIMM down until it is secured by the spring clips.
 - Step 6** When the SODIMM is installed, check the two alignment holes and ensure that the spring retainer is visible. If it is not, the SODIMM is not seated properly. If any SODIMM appears misaligned, carefully remove it and reseal it in the socket. Push the SODIMM firmly back into the socket until the spring clips snap into place.
 - Step 7** Reinstall the OSM in the system. (See the [“Installing a Supervisor Engine or a Module”](#) section on [page 3-2](#) for installation instructions.)
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