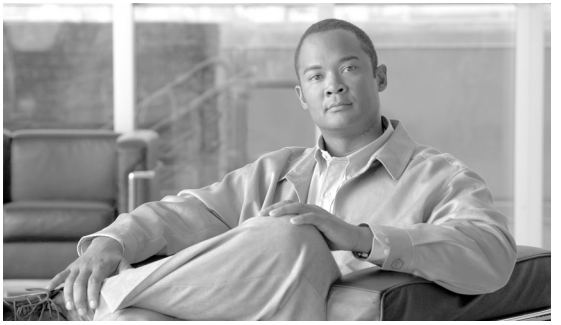

Read Me First: DDIM Upgrade Procedure

Product Number: 9K-4GMEM-UPG-KIT=

Document Order Number: 78-19276-01

This hardware installation and configuration note describes how to upgrade the DIMM SDRAM in the line cards used in Cisco ASR 9000 Series Routers.

Document Contents

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Ethernet Line Card Product Numbers

Table 1 lists the Cisco product numbers to which this publication applies.

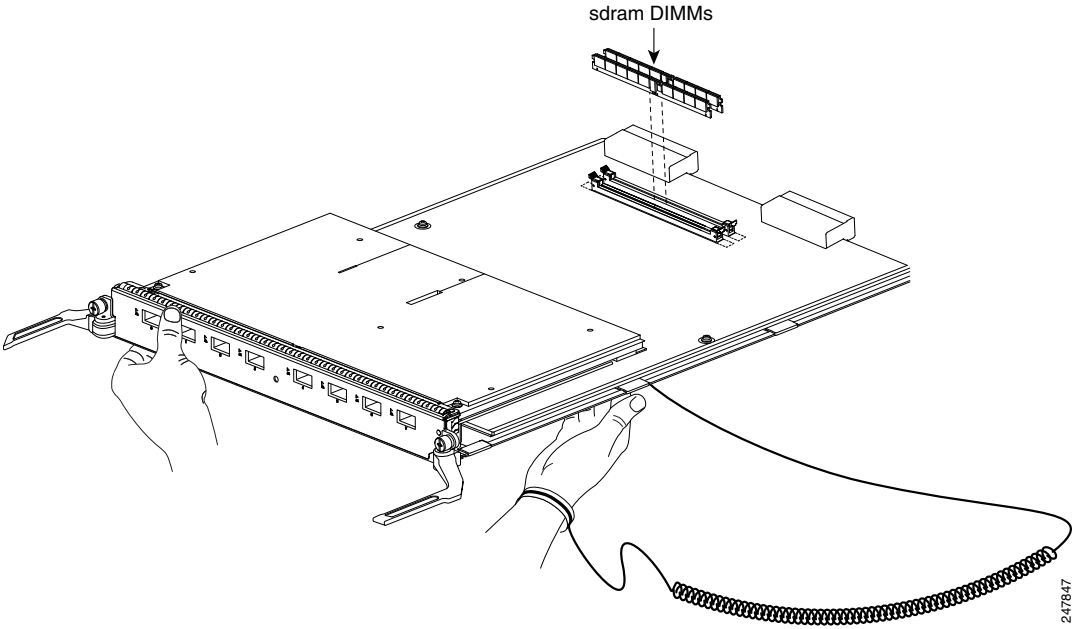
Americas Headquarters:
Cisco Systems, Inc., 170 West Tasman Drive, San Jose, CA 95134-1706 USA

Table 1 Product Numbers for Line Cards

Ethernet Line Card	Cisco Product Number
40-Port GE Line Card, Requires SFPs	A9K-40GE-B
40-Port GE Extended Line Card, Requires SFPs	A9K-40GE-E
8-Port 10GE DX Line Card, Requires XFPs	A9K-8T/4-B
8-Port 10GE DX Extended Line Card, Requires XFPs	A9K-8T/4-E
4-Port 10GE Line Card, Requires XFPs	A9K-4T-B
4-Port 10GE Extended Line Card, Requires XFPs	A9K-4T-E

Note Figure 1 shows a generic representation of the SDRAM DIMMs for your ASR 9000 line card.

Figure 1 Location of ASR 9000 Line Card SDRAM DIMMs



Note Before proceeding with the removal of the DIMM, inspect the line card for the current memory configuration. If the line card contains 2 DIMMs, the card already contains the desired memory, and no upgrade is required.

Before proceeding, ensure that you have the proper tools and ESD-prevention equipment available. To upgrade SDRAM, you will install DIMMs in one or two banks. To upgrade the SDRAM, you will remove the existing DIMM, and then insert the two new DIMs (refer to Figure 1). The two new DIMs should both the same manufacturer part number.

Caution Only memory approved by Cisco is supported. Both the DIMMs must be of the same size. Do not attempt to install other devices or DIMMs not approved by Cisco in the DIMM sockets.

Removing a DIMM

To remove a DIMM from a line card, follow these steps:

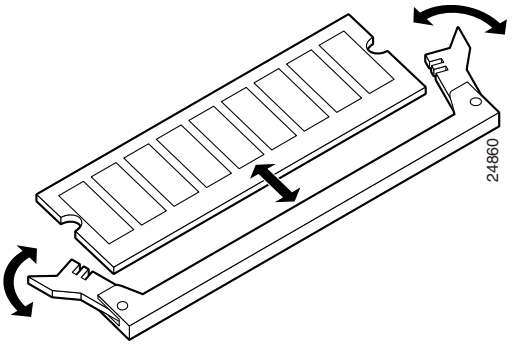
Step 1 Attach an ESD-preventive wrist or ankle strap and follow its instructions for use.

Step 2 Place the line card on an antistatic mat so that the faceplate is nearest to you.

Step 3 Locate the DIMM sockets on the line card.

Note Cisco ASR 9000 Series Router line cards use DIMM sockets equipped with dual release levers, as shown in Figure 2.

Figure 2 DIMM Socket with Dual Release Levers



Step 4 Use the socket release levers to eject the DIMM. For a socket with dual release levers (see Figure 2), pull down both levers at the same time to eject the DIMM.

Caution Handle the edges of the DIMM only. Do not touch the integrated circuit devices on the DIMM, the metal traces, or fingers, along the edge of the DIMM, or the pins in the DIMM socket.

Step 5 As one end of the DIMM is released, grasp the top corners of the DIMM with the thumb and forefinger of each hand and pull the DIMM completely out of its socket.

Step 6 Immediately place the DIMM in an antistatic bag to protect it from ESD damage.

Installing the DIMMs

This section contains instructions for installing DIMM memory into a line card.

To install DIMMs in a line card, follow these steps:

Step 1 Attach an ESD-preventive wrist or ankle strap and follow its instructions for use.

Step 2 Place the line card on an antistatic mat so that the faceplate is nearest to you.

Caution To prevent router and memory problems, all DIMMs installed in the line card must be 3.3V devices.

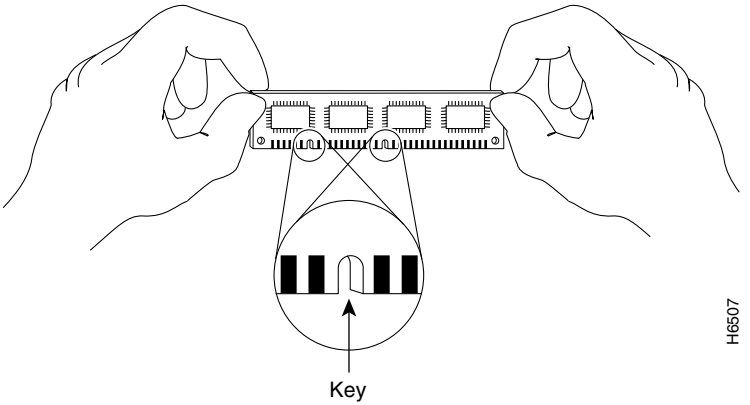
Step 3 Remove the new DIMM from its protective antistatic bag.

Step 4 Grasp the edges of the DIMM only. Do not touch the integrated circuit devices on the DIMM, the metal traces, or fingers, along the edge of the DIMM, or the pins in the DIMM socket. (See Figure 3.)

Step 5 To position the DIMM for insertion, orient it at the same angle as the DIMM socket. The two notches (keys) on the bottom edge of the module ensure that the DIMM edge connector is registered properly in the socket. (See Figure 3.)

If necessary, rock the DIMM back and forth gently to align it in the socket.

Figure 3 Handling a DIMM



Caution When inserting DIMMs into a socket, apply firm, but not excessive, pressure. If you damage a DIMM socket, you must return the line card for repair.

Step 6 Gently insert the DIMM into the socket and push until the DIMM snaps into place and the release lever is flush against the side of the socket.

Step 7 Verify that the release lever is flush against the side of the socket. If it is not, the DIMM might not be seated properly. On a socket with dual release levers, both levers should be flush against the sides of the DIMM.

If the module appears misaligned, carefully remove it and reseat it, ensuring that the release lever is flush against the side of the DIMM socket.

Step 8 Repeat Step 3 through Step 7 to install the second DIMM.

Checking the DIMM Installation

After you install new DIMMs and replace the line card in the router, the router reinitializes the line card and detects the memory change as part of the reinitialization cycle. The time required for the router to initialize can vary with different router configurations and memory configurations.

If the line card or the system does not reinitialize properly after you upgrade memory, or if the console terminal displays a checksum or memory error, verify the following:

Step 1 Ensure that the DIMMs are installed correctly on the line card. Check the alignment of the DIMMs by looking at them across the horizontal plane of the card. The DIMMs should be aligned at the same angle and be fully inserted into their respective sockets. If a DIMM is not correctly aligned, remove it and reinsert it.

Step 2 Reinstall the line card and perform another installation check.

If the router or line card fails to restart properly after several attempts and you are unable to resolve the problem, access Cisco.com or contact your Cisco service representative for assistance. Before calling, however, make note of any console error messages, unusual LED states, or other router indications or behaviors that might help to resolve the problem.

After installing the DIMMs and confirming that the line card is operational, you can refer to the *Release Notes for Cisco 9000 Series Aggregation Services Routers* for the appropriate Cisco IOS XR software release version for software upgrade instructions.

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