

J-series Services Router DRAM Module Installation Instructions

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This document describes how to remove and replace the dual inline memory modules (DIMMs) that contain the DRAM on Juniper Networks J-series Services Routers. For hardware installation and basic troubleshooting procedures for J-series Services Routers, see the *J-series Services Router Getting Started Guide*.

Contents

Tools and Parts Required	2
Removing and Installing DRAM Modules	2
Removing a DRAM Module	3
Installing a DRAM Module	4
Related Juniper Networks Documentation	5
Requesting Support	7
Revision History	7

Tools and Parts Required

To replace a component, you need the following tools and parts:

- Electrostatic bag or antistatic mat
- Electrostatic discharge (ESD) grounding wrist strap
- Phillips (+) screwdriver, number 2

Removing and Installing DRAM Modules

The DRAM installed on the Routing Engine provides storage for the routing and forwarding tables and for other Routing Engine processes. The design of the Routing Engine allows you to modify the DRAM configuration by adding dual inline memory modules (DIMMs) to the Routing Engine board, or removing DIMMs from the board. The Routing Engine contains one or two 168-pin DIMMs.

The DRAM modules are located on the top of the Routing Engine, as shown in Figure 1 and Figure 2.



CAUTION: DRAM modules are not transferable across J-series platforms. Do not install a J2300 DIMM in a J4300 chassis, for example.

Figure 1: J2300 DRAM Location

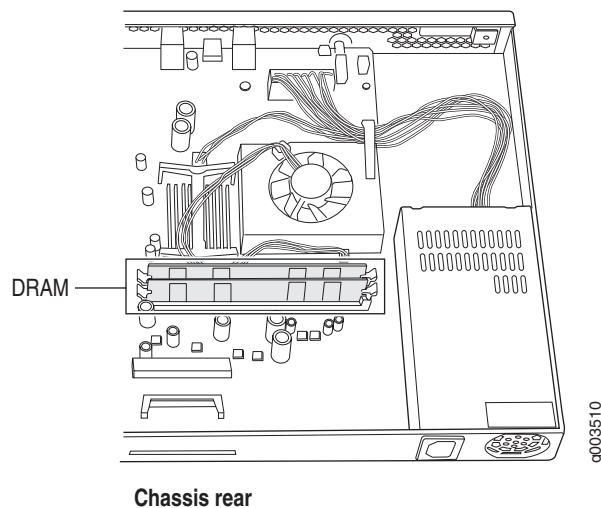
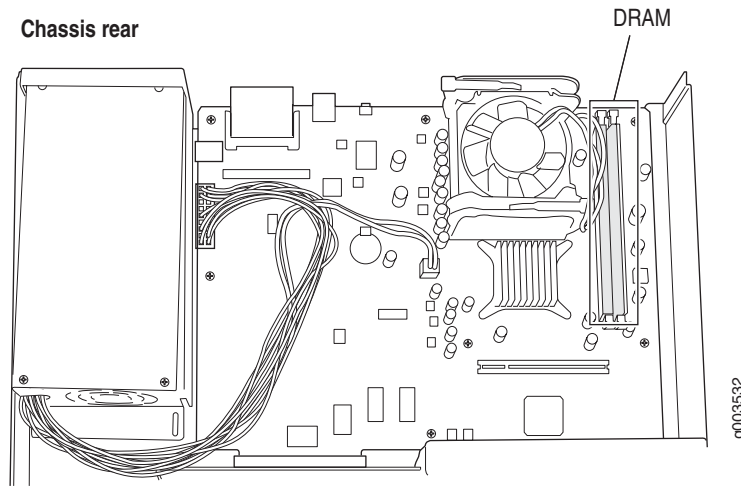


Figure 2: J4300 and J6300 DRAM Location



To modify the DRAM configuration, use the following procedures:

Removing a DRAM Module



NOTE: Depending on your configuration, the Services Router might have an empty DRAM slot. If you are adding a single DIMM to the DRAM configuration, proceed directly to the next section, “Installing a DRAM Module” on page 4 .

To remove a DRAM module:

1. Place an electrostatic bag or antistatic mat on a flat, stable surface.
2. Attach an electrostatic discharge (ESD) grounding strap to your bare wrist and connect the strap to the ESD point on the chassis, or to an outside ESD point if the router is disconnected from earth ground. For more information about ESD, see the *J-series Services Router Getting Started Guide*.
3. Press and release the power button to power off the router. Wait for the **POWER ON LED** to turn off.
4. Loosen the thumbscrews at the rear of the chassis that secure the cover to the chassis.
5. Slide the cover off the chassis.
6. To release the DRAM module, press the plastic ejectors on both sides of the module (see Figure 3 or Figure 4).
7. Grasp the DRAM module, being careful not to touch any electrical components on the module, and firmly pull it out of the slot on the Routing Engine.

8. Place the DRAM module on the antistatic mat or in the electrostatic bag.

Figure 3: Adding or Replacing a DRAM Module in a J2300 Chassis

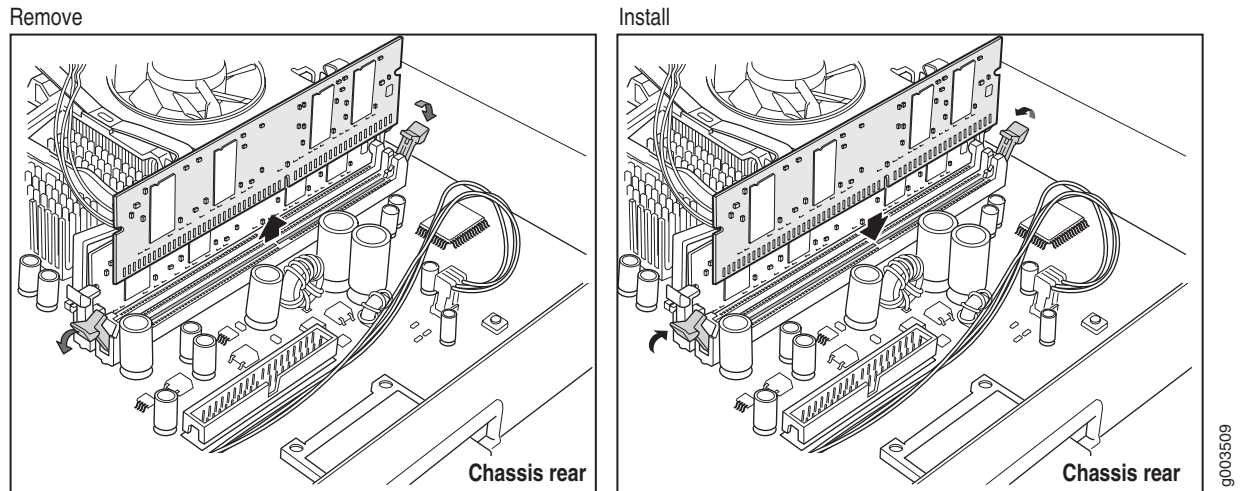
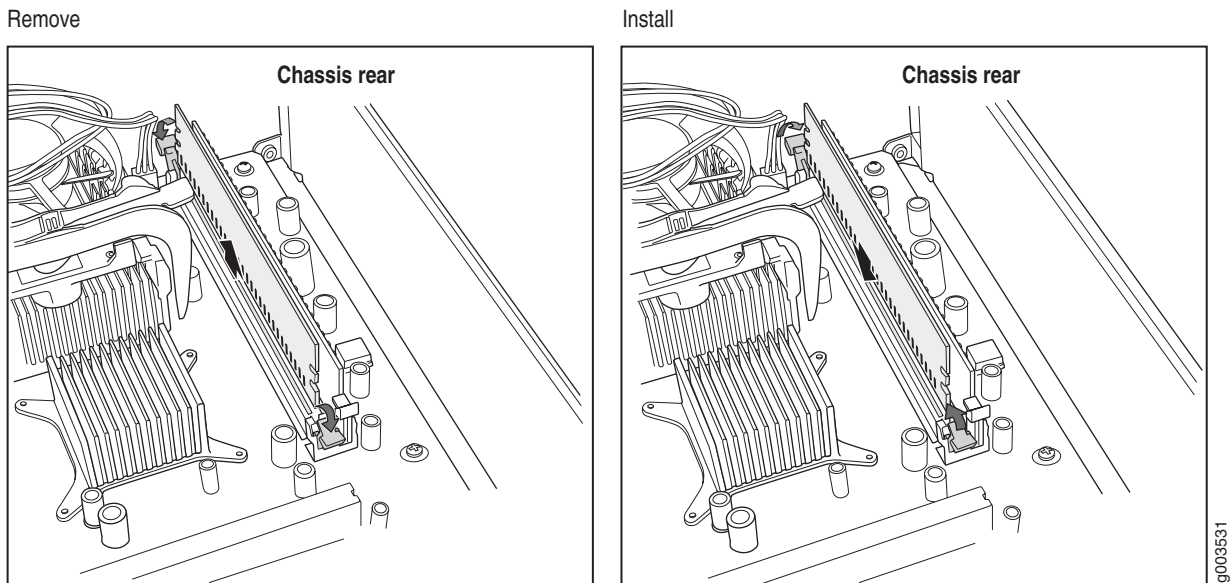


Figure 4: Adding or Replacing a DRAM Module in a J4300 or J6300 Chassis



Installing a DRAM Module

To install a DRAM module onto the Routing Engine:

1. Attach an electrostatic discharge (ESD) grounding strap to your bare wrist and connect the strap to the ESD point on the chassis, or to an outside ESD point if the router is disconnected from earth ground. For more information about ESD, see the *J-series Services Router Getting Started Guide*.
2. Press and release the power button to power off the router. Wait for the POWER ON LED to turn off.
3. Loosen the thumbscrews at the rear of the chassis that secure the cover to the chassis.
4. Slide the cover off the chassis.
5. Remove the DRAM module from its electrostatic bag.
6. To open the empty DRAM slot, press the plastic ejectors on both sides (see Figure 3 or Figure 4).
7. Grasp the DRAM module by the edges, being careful not to touch any electrical components.
8. Pressing firmly on both ends, push the module into the slot until the ejectors return completely to the closed position (see Figure 3 or Figure 4).
9. Slide the cover onto the chassis.
10. Tighten the thumbscrews at the rear of the chassis that secure the cover to the chassis.
11. Press and release the power button to power on the router. Verify that the POWER ON LED lights steadily after you press the power button.

You can view the DRAM configuration and verify that it was installed correctly by issuing the `show chassis routing-engine` command, described in the *JUNOS Protocols, Class of Service, and System Basics Command Reference*.

Related Juniper Networks Documentation

Table 1 lists and describes the publications for the J-series Services Routers, the JUNOS CLI, the JUNOScript application programming interface (API), and the JUNOScope network management software.

Table 1: Juniper Networks Technical Documentation

Title	Description
J-series Guides	
<i>J-series Services Router Getting Started Guide</i>	Provides an overview, basic instructions, and specifications for J-series Services Routers. The guide explains how to prepare your site for installation, unpack and install the router and its components, install licenses, and establish basic connectivity.

Title	Description
<i>J-series Services Router Configuration Guide</i>	Explains how to configure the interfaces on J-series Services Routers for basic IP routing with standard routing protocols. The guide also shows how to configure virtual private networks (VPNs), configure and manage multicast networks, and apply routing techniques such as policies, firewall filters, IP Security (IPSec) tunnels, and service classification for safer, more efficient routing.
<i>J-series Services Router Administration Guide</i>	Shows how to manage users and operations, monitor network performance, upgrade software, and diagnose common problems on J-series Services Routers.
JUNOS Configuration Guides	
<i>JUNOS Feature Guide</i>	Provides a detailed explanation and configuration examples for several of the most complex features in the JUNOS software.
<i>JUNOS System Basics Configuration Guide</i>	Provides an overview of the JUNOS software and describes how to install and upgrade the software. This manual also describes how to configure system management functions and how to configure the chassis, including user accounts, passwords, and redundancy.
<i>JUNOS Network Interfaces and Class of Service Configuration Guide</i>	Provides an overview of the network interface and class-of-service functions of the JUNOS Internet software and describes how to configure the network interfaces on the router.
<i>JUNOS Multicast Protocols Configuration Guide</i>	Provides an overview of multicast concepts and describes how to configure multicast routing protocols.
<i>JUNOS Network Management Configuration Guide</i>	Provides an overview of network management concepts and describes how to configure various network management features, such as SNMP and accounting options.
<i>JUNOS Policy Framework Configuration Guide</i>	Provides an overview of policy concepts and describes how to configure routing policy, firewall filters, and forwarding options.
<i>JUNOS Routing Protocols Configuration Guide</i>	Provides an overview of routing concepts and describes how to configure routing, routing instances, and unicast routing protocols.
<i>JUNOS Services Interfaces Configuration Guide</i>	Provides an overview of the services interfaces functions of the JUNOS software and describes how to configure the services interfaces on the router.
JUNOS References	
<i>JUNOS Network and Services Interfaces Command Reference</i>	Describes the JUNOS software operational mode commands you use to monitor and troubleshoot network and services interfaces on Juniper Networks routers.
<i>JUNOS Protocols, Class of Service, and System Basics Command Reference</i>	Describes the JUNOS Internet software operational mode commands you use to monitor and troubleshoot most aspects of Juniper Networks routers.
<i>JUNOS System Log Messages Reference</i>	Describes how to access and interpret system log messages generated by JUNOS software modules and provides a reference page for each message.
JUNOScript API Documentation	
<i>JUNOScript API Guide</i>	Describes how to use the JUNOScript application programming interface (API) to monitor and configure Juniper Networks routers.
<i>JUNOScript API Configuration Reference</i>	Provides a reference page for the configuration tags in the JUNOScript API.

Title	Description
<i>JUNOScript API Operational Reference</i>	Provides a reference page for the operational tags in the JUNOScript API
JUNOS Comprehensive Index and Glossary	
<i>JUNOS Comprehensive Index and Glossary</i>	Provides a complete index of all JUNOS Internet software books and the <i>JUNOScript API Guide</i> . Also provides a comprehensive glossary.
JUNOScope Software Documentation	
<i>JUNOScope Software User Guide</i>	Describes the JUNOScope software graphical user interface (GUI), how to install and administer the software, and how to use the software to manage router configuration files and monitor router operations.
Release Notes	
<i>J-series Services Router Release Notes</i>	Summarize new features, identify hardware problems, provide information omitted from the manual, and contain upgrade and downgrade instructions.
<i>JUNOS Internet Software Release Notes</i>	Provide a summary of new features for a particular software release. Software release notes also contain corrections and updates to published JUNOS and JUNOScript manuals, provide information that might have been omitted from the manuals, and describe upgrade and downgrade procedures.
<i>JUNOScope Software Release Notes</i>	Contain corrections and updates to the published JUNOScope manual, provide information that might have been omitted from the manual, and describe upgrade and downgrade procedures.

Requesting Support

For technical support, open a support case using the Case Manager link at <http://www.juniper.net/support/> or call 1-888-314-JTAC (within the United States) or 1-408-745-9500 (outside the United States).

For documentation issues, fill out the bug report form located at <http://www.juniper.net/techpubs/docbug/docbugreport.html>.

Revision History

13 April 2005—530-013372-01 Revision 1. Updated book cross-references.

19 November 2004—530-011513-01 Revision 1.

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