

# J-series Services Router Crypto Accelerator Module Installation Instructions

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This document describes how to remove and install a Crypto Accelerator module on Juniper Networks J4350 and J6350 Services Routers. For hardware installation and basic troubleshooting procedures for J-series Services Routers, see the *J4350 and J6350 Services Router Getting Started Guide*.

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## Tools and Parts Required

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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

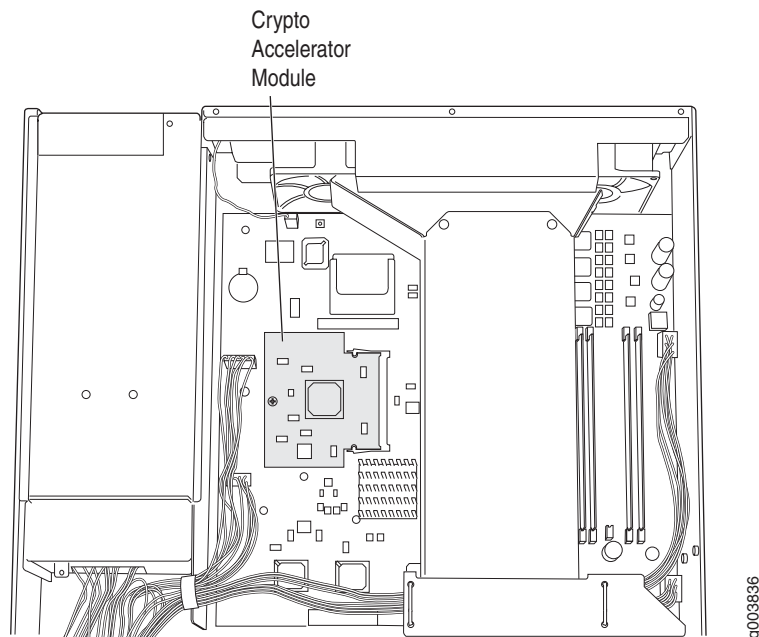
## Removing and Installing a Crypto Accelerator Module

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The Crypto Accelerator Module is a processor card that enhances performance of cryptographic algorithms used in IP security (IPSec) services. The Crypto Module is a standard feature on J6350 Services Routers and an optional feature on J4350 Services Routers.

Figure 1 shows the location of the Crypto Accelerator Module.

**Figure 1: Crypto Accelerator Module Location**



To modify a Crypto Accelerator Module configuration, use the following procedures:

- Removing the Crypto Accelerator Module on page 3

- Installing a Crypto Accelerator Module on page 5

## Removing the Crypto Accelerator Module

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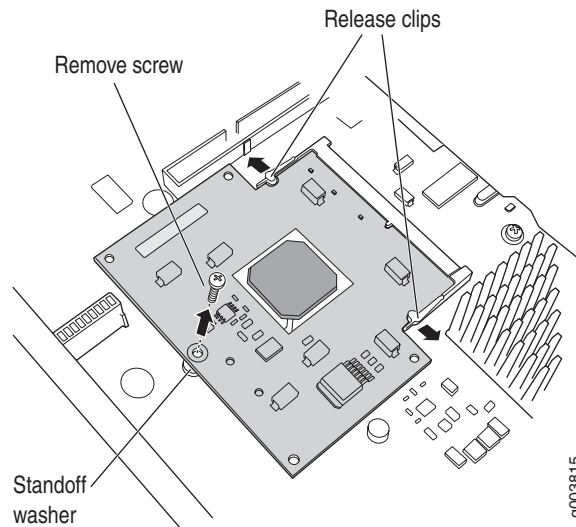
**NOTE:** If you are installing a Crypto Accelerator Module into a J4350 Services Router for the first time, proceed directly to “Installing a Crypto Accelerator Module” on page 5 .

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To remove the Crypto Accelerator Module:

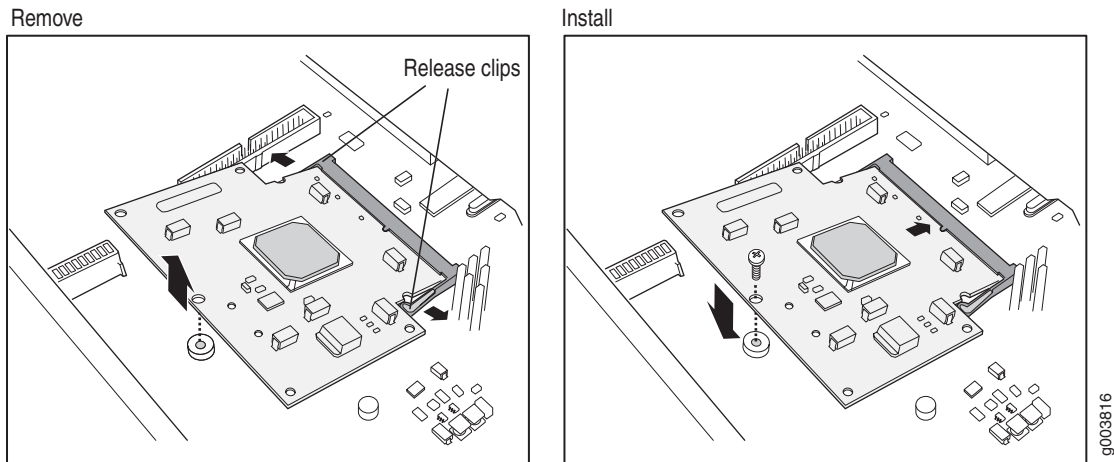
1. Place an electrostatic bag or antistatic mat on a flat stable surface to receive the Crypto Module.
2. Attach an electrostatic discharge (ESD) grounding strap to your bare wrist and connect the strap to the ESD point on the chassis, or to an outside ESD point if the router is disconnected from earth 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 Services Router. Wait for the POWER LED to turn off.
4. Unplug the power cord or cable from the power source receptacle.
5. Remove the screws from the sides and the top of the chassis, and slide the cover off the chassis.
6. Locate the Crypto Module on the system board (see Figure 1).
7. Remove the screw, as shown in Figure 2.

**Figure 2: Removing the Crypto Module Screw**



8. Pull the white release clips on either side of the Crypto Module out to either side, as shown in Figure 3, to tilt the Crypto Module upward.

**Figure 3: Removing and Installing a Crypto Accelerator Module**



9. Slide the Crypto Module out of its socket.
10. Remove the standoff washer that was under the Crypto Module.
11. Place the Crypto Module on the antistatic mat or in the electrostatic bag.

## Installing a Crypto Accelerator Module

To install a Crypto Accelerator Module:

1. Take the following steps if you have not already done so:
  - a. 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*.
  - b. Press and release the power button to power off the Services Router. Wait for the POWER LED to turn off.
  - c. Unplug the power cord or cable from the power source receptacle.
  - d. Remove the screws from the sides and the top of the chassis, and slide the cover off the chassis.
2. Locate the Crypto Module socket on the system board (see Figure 1). The socket is tipped up at an angle when empty.
3. If a screw and standoff washer are already in place (see Figure 2), remove them.
4. Remove the Crypto Module from its electrostatic bag and insert it into the socket.
5. Push the Crypto Module down flat against the main board until the release clips click into place, as shown in Figure 3.
6. Insert the standoff washer under the Crypto Module.
7. Insert the screw and tighten it until snug. Do not overtighten.
8. Slide the cover onto the router, and replace and tighten the cover screws.
9. Replace the power cord or cable.
10. Press and release the power button to power on the router. Verify that the POWER LED lights steadily after you press the power button.
11. Verify that the Crypto Module is correctly installed by issuing the `show chassis hardware` command, as shown in the following example:

```
user@host> show chassis hardware
Hardware inventory:
Item           Version  Part number  Serial number  Description
Chassis                REV 00   710-014594   JN1086A34ADA  J4350
Midplane              REV 00   710-012315
System IO             REV 00   710-012149   JX350 System IO
Routing Engine        REV 00   710-012149   RE-J4350-2540
Crypto Module
FPC 0                FPC
  PIC 0              4x GE Base PIC
```

If **Crypto Module** appears in the output, the Crypto Accelerator Module is installed correctly.

## Related Juniper Networks Documentation

Table 1 lists and describes the publications for 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**

<b>Title</b>	<b>Description</b>
<b>J-series Guides</b>	
<i>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. Use the Getting Started Guide for your router model.
<i>J-series Services Router Basic LAN and WAN Access Configuration Guide</i>	Explains how to configure the interfaces on J-series Services Routers for basic IP routing with standard routing protocols, ISDN backup, and digital subscriber line (DSL) connections.
<i>J-series Services Router Advanced WAN Access Configuration Guide</i>	Explains how to configure J-series Services Routers in virtual private networks (VPNs) and multicast networks, configure data link switching (DSLw) services, and apply routing techniques such as policies, stateless and stateful firewall filters, IP Security (IPSec) tunnels, and class-of-service (CoS) 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.
<b>JUNOS Configuration Guides</b>	
<i>JUNOS Class of Service Configuration Guide</i>	Provides an overview of the class-of-service (CoS) functions of the JUNOS software and describes how to configure CoS features, including configuring multiple forwarding classes for transmitting packets, defining which packets are placed into each output queue, scheduling the transmission service level for each queue, and managing congestion through the random early detection (RED) algorithm.
<i>JUNOS CLI User Guide</i>	Describes how to use the JUNOS command-line interface (CLI) to configure, monitor, and manage Juniper Networks routing platforms. This material was formerly covered in the <i>JUNOS System Basics Configuration Guide</i> .
<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 High Availability Configuration Guide</i>	Provides an overview of hardware and software resources that ensure a high level of continuous routing platform operation and describes how to configure high availability (HA) features such as nonstop routing (NSR) and graceful Routing Engine switchover (GRES).
<i>JUNOS MPLS Applications Configuration Guide</i>	Provides an overview of traffic engineering concepts and describes how to configure traffic engineering protocols.
<i>JUNOS Multicast Protocols Configuration Guide</i>	Provides an overview of multicast concepts and describes how to configure multicast routing protocols.

<b>Title</b>	<b>Description</b>
<i>JUNOS Network Interfaces Configuration Guide</i>	Provides an overview of the network interface functions of the JUNOS Internet software and describes how to configure the network interfaces on the routing platform.
<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>Secure Configuration Guide for Common Criteria and JUNOS-FIPS</i>	Provides an overview of secure Common Criteria and JUNOS-FIPS protocols for the JUNOS Internet software and describes how to install and configure secure Common Criteria and JUNOS-FIPS on a routing platform.
<i>JUNOS Software Installation and Upgrade Guide</i>	Provides a description of JUNOS software components and packaging, and includes detailed information about how to initially configure, reinstall, and upgrade the JUNOS system software. This material was formerly covered in the <i>JUNOS System Basics Configuration Guide</i> .
<i>JUNOS Policy Framework Configuration Guide</i>	Provides an overview of policy concepts and describes how to configure routing policy, firewall filters, forwarding options, and cflowd.
<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.
<i>JUNOS System Basics Configuration Guide</i>	Describes Juniper Networks routing platforms, and provides information about how to configure basic system parameters, supported protocols and software processes, authentication, and a variety of utilities for managing your router on the network.
<i>JUNOS VPNs Configuration Guide</i>	Provides an overview and describes how to configure Layer 2 and Layer 3 virtual private networks (VPNs), virtual private LAN service (VPLS), and Layer 2 circuits. Provides configuration examples.
<b>JUNOS References</b>	
<i>JUNOS Hierarchy and RFC Reference</i>	Describes the JUNOS <i>configuration mode</i> commands. Provides a hierarchy reference that displays each level of a configuration hierarchy and includes all possible configuration statements that can be used at that level. This material was formerly covered in the <i>JUNOS System Basics Configuration Guide</i> .
<i>JUNOS System Basics and Services Command Reference</i>	Describes the JUNOS software <i>operational mode</i> commands you use to monitor and troubleshoot system basics, including commands for real-time monitoring and route (or path) tracing, system software management, and chassis management. This guide also describes commands for monitoring and troubleshooting services such as class of service (CoS), IP Security (IPSec), stateful firewalls, flow collection, and flow monitoring.
<i>JUNOS Interfaces Command Reference</i>	Describes the JUNOS software <i>operational mode</i> commands you use to monitor and troubleshoot interfaces.
<i>JUNOS Routing Protocols and Policies Command Reference</i>	Describes the JUNOS software <i>operational mode</i> commands you use to monitor and troubleshoot routing policies and protocols, including firewall filters.
<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.
<b>JUNOS API and Scripting Documentation</b>	
<i>JUNOScript API Guide</i>	Describes how to use the JUNOScript application programming interface (API) to monitor and configure Juniper Networks routers.
<i>JUNOS XML API Configuration Reference</i>	Provides reference pages for the configuration tags in the JUNOScript API.

<b>Title</b>	<b>Description</b>
<i>JUNOS XML API Operational Reference</i>	Provides reference pages for the operational tags in the JUNOScript API.
<i>JUNOS Configuration and Diagnostic Automation Guide</i>	Describes how to use the commit script and self-diagnosis features of the JUNOS software. This guide explains how to enforce custom configuration rules defined in scripts, how to use commit script macros to provide simplified aliases for frequently used configuration statements, and how to configure diagnostic event policies.
<i>NETCONF API Guide</i>	Describes how to use the NETCONF API to monitor and configure Juniper Networks routing platforms.
<b>JUNOS Comprehensive Index and Glossary</b>	
<i>JUNOS Internet Software 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.
<b>JUNOScope Software Documentation</b>	
<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.
<b>Release Notes</b>	
<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 Release Notes</i>	Summarize new features for a particular software release, provide 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 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 with the Case Manager link at <http://www.juniper.net/support/> or call 1-888-314-JTAC (from the United States, Canada, or Mexico) or 1-408-745-9500 (from elsewhere).

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

## Revision History

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