



Preparing for Installation

This chapter describes the general equipment, safety, and site preparation requirements for installing the VPN Acceleration Module 2+ (VAM2+). This chapter contains the following sections:

- [Required Tools and Equipment, page 2-1](#)
- [Hardware and Software Requirements, page 2-1](#)
- [Safety Guidelines, page 2-3](#)
- [Compliance with U.S. Export Laws and Regulations Regarding Encryption, page 2-4](#)

Required Tools and Equipment

You need the following tools and parts to install a VAM2+. If you need additional equipment, contact a service representative for ordering information.

- VAM2+
- Number 2 Phillips screwdriver
- Your own electrostatic discharge (ESD)-prevention equipment or the disposable grounding wrist strap included with all upgrade kits, field-replaceable units (FRUs), and spares
- Antistatic mat
- Antistatic container

Hardware and Software Requirements

This section describes the minimum software and hardware requirements for the VAM2+:

- [Software Requirements, page 2-1](#)
- [Hardware Requirements, page 2-2](#)
- [Restrictions, page 2-2](#)

Software Requirements

[Table 2-1](#) lists the recommended minimum Cisco IOS software release required to use the VAM2+ in supported router or switch platforms. Use the **show version** command to display the system software version that is currently loaded and running.

Table 2-1 VAM2+ Software Requirements

Platform	Recommended Minimum Cisco IOS Release
Cisco 7204VXR	Cisco IOS Release 12.3(12)M or later release of 12.3M
Cisco 7206VXR	Cisco IOS Release 12.3(11)T or later release of 12.3T
Cisco 7301 router	

To check the minimum software requirements of Cisco IOS software with the hardware installed on your router, Cisco maintains the Software Advisor tool on Cisco.com. Registered Cisco Direct users can access the Software Advisor at: <http://www.cisco.com/cgi-bin/Support/CompNav/Index.pl>. This tool does not verify whether modules within a system are compatible, but it does provide the minimum Cisco IOS software requirements for individual hardware modules or components.

**Note**

Access to this tool is limited to users with Cisco.com login accounts.

Hardware Requirements

Specific hardware prerequisites that ensure proper operation of the VAM2+ follow:

- The VAM2+ is compatible with the NPE-225, NPE-400, or NPE-G1 processor on the Cisco 7200VXR routers.
- The VAM2+ utilizes a specific number of bandwidth points in functioning, which affect performance. For more information on bandwidth requirements, see the [Cisco 7200 Series Port Adapter Hardware Configuration Guidelines](#).

Restrictions

The VAM2+ has the following restrictions:

- VAM2+ does not interoperate with other crypto cards, such as ISA, VAM, or VAM2, in a single Cisco 7204VXR, Cisco 7206VXR, or Cisco 7301 router.
- Dual VAM2+ cards are only supported on the Cisco 7200VXR routers with the NPE-G1 processor.
- For routers using VAM2+, we recommend a minimum configuration of 256 MB of memory; for more efficient performance, we recommend 512 MB of memory.

Safety Guidelines

This section provides safety guidelines that you should follow when working with any equipment that connects to electrical power or telephone wiring. This section includes the following topics:

- [Safety Warnings, page 2-3](#)
- [Electrical Equipment Guidelines, page 2-3](#)
- [Preventing Electrostatic Discharge Damage, page 2-3](#)

Safety Warnings

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



Warning

Ultimate disposal of this product should be handled according to all national laws and regulations.



Warning

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



Warning

Blank faceplates and cover panels serve three important functions: they prevent exposure to hazardous voltages and currents inside the chassis; they contain electromagnetic interference (EMI) that might disrupt other equipment; and they direct the flow of cooling air through the chassis. Do not operate the system unless all cards, faceplates, front covers, and rear covers are in place.

Electrical Equipment Guidelines

Follow these basic guidelines when working with any electrical equipment:

- Before beginning any procedures requiring access to the chassis interior, locate the emergency power-off switch for the room in which you are working.
- Disconnect all power and external cables before moving a chassis; do not work alone when potentially hazardous conditions exist.
- Never assume that power has been disconnected from a circuit; always check.
- Do not perform any action that creates a potential hazard to people or makes the equipment unsafe; carefully examine your work area for possible hazards such as moist floors, ungrounded power extension cables, and missing safety grounds.

Preventing Electrostatic Discharge Damage

Electrostatic discharge (ESD) damage, which can occur when electronic cards or components are improperly handled, results in complete or intermittent failures. Port adapters and processor modules comprise printed circuit boards that are fixed in metal carriers. Electromagnetic interference (EMI) shielding and connectors are integral components of the carrier. Although the metal carrier helps to protect the board from ESD, use a preventive antistatic strap during handling.

Following are guidelines for preventing ESD damage:

- Always use an ESD wrist or ankle strap and ensure that it makes good skin contact.
- Connect the equipment end of the strap to an unfinished chassis surface.
- When installing a component, use any available ejector levers or captive installation screws to properly seat the bus connectors in the backplane or midplane. These devices prevent accidental removal, provide proper grounding for the system, and help to ensure that bus connectors are properly seated.
- When removing a component, use any available ejector levers or captive installation screws to release the bus connectors from the backplane or midplane.
- Handle carriers by available handles or edges only; avoid touching the printed circuit boards or connectors.
- Place a removed board component-side-up on an antistatic surface or in a static shielding container. If you plan to return the component to the factory, immediately place it in a static shielding container.
- Avoid contact between the printed circuit boards and clothing. The wrist strap only protects components from ESD voltages on the body; ESD voltages on clothing can still cause damage.
- Never attempt to remove the printed circuit board from the metal carrier.
- For safety, periodically check the resistance value of the antistatic strap. The measurement should be between 1 and 10 Mohm.

Compliance with U.S. Export Laws and Regulations Regarding Encryption

This product performs encryption and is regulated for export by the U.S. government. Persons exporting any item out of the United States by either physical or electronic means must comply with the Export Administration Regulations as administered by the U.S. Department of Commerce, Bureau of Export Administration. See <http://www.bxa.doc.gov/> for more information.

Certain “strong” encryption items can be exported outside the United States depending upon the destination, end user, and end use. See <http://www.cisco.com/wwl/export/encrypt.html> for more information about Cisco-eligible products, destinations, end users, and end uses.

Check local country laws prior to export to determine import and usage requirements as necessary. See <http://cwis.kub.nl/~frw/people/koops/lawsurvey.htm> as one possible, unofficial source of international encryption laws.