

Preparing Your Site

D

This chapter provides information about preparing your site before installing the ERX system. We recommend that you consider all requirements and specifications indicated in this appendix before installing the system.

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Your Preinstallation Responsibilities

Complete the following tasks before installing the system:

- Verify that the electrical supply meets all AC and DC power requirements. See *Appendix A, System Specifications*.
- Verify that the site meets all environment specifications. See *Environmental Requirements* later in this chapter and *Appendix A, System Specifications*.
- Verify that the cables you plan to use meet the specifications, and review the cabling recommendations. See *Cabling Recommendations* later in this appendix.
- Verify the operation of all telephone circuits, digital services, and T1 facilities required for installation.

- Ensure that all IP environment requirements are met, such as Autonomous System (AS) number, port IP address and mask, management Ethernet port IP address and mask, and broadcast address.

Environmental Requirements

Choose a location for the system that is dry, relatively dust free, well ventilated, and air conditioned. If you install equipment in a rack, be sure that the floor is capable of supporting the combined weight of the rack and the installed equipment. Place the system in a location with sufficient access to power and network cables.

Like other network devices, the system generates a significant amount of heat. It is important to provide a balanced environment so that the system performs properly and safely. See *Appendix A, System Specifications* for acceptable ranges of temperature and humidity.

Be sure to allow enough space around the system for adequate ventilation. Inadequate ventilation can cause the system to overheat. See *Appendix A, System Specifications* and *Chapter 2, Installing the ERX System* for details about space requirements.



Caution: Do not block the air vents on the ERX system. Otherwise, the system may overheat.

Safety Guidelines

For your safety, before installing the system, review all safety warnings specified in this section.



Temperature Warning: The recommended maximum ambient temperature is 50° C (122° F). The internal temperature of the rack should be considered for safe operation.



Rack Installation Warning: Install equipment in the rack from the bottom upward. This will maintain the stability of the rack and reduce the chance of the rack's tipping over.



Heavy Equipment Warning: Two people are required to lift an ERX system. Three people are required to install an ERX system in a rack. The equipment is extremely heavy.



Ground (Earth) Warning: Connect the ERX system or rack to ground (earth), and ensure that a reliable grounding path is maintained in the rack.



Lightning Activity Warning: Do not work on the system or connect or disconnect cables during lightning activity.



DC Power Disconnection Warning: Before powering on the ERX system, remove power from the DC circuit by deactivating the circuit breaker on the panel board that services the DC circuit.



Power Connection Warning: Before servicing the ERX system, turn off the power.



Jewelry Removal Warning: Remove jewelry (including rings, necklaces, and watches) before working on equipment that is connected to power lines. Metal objects heat up when connected to power and ground and can cause serious burns or become welded to the terminals.



Metal Objects Warning: Do not insert any metal object, such as a screwdriver, into an open slot or the backplane. Doing so may cause electric shock and serious burns.



Branch Circuit Caution: Evaluate the overall loading of the branch circuit before you install any equipment into a rack.

Rack Requirements

Your distribution rack should meet some basic mechanical and space requirements. Your rack should comply with conventional standards. In the U.S., use EIA Standard RS-310-C: *Racks, Panels, and Associated Equipment*.

Mechanical Requirements

Follow these mechanical requirements for your rack:

- Select from the following rack options:
 - > Two-post rack – a freestanding enclosed cabinet with two mounting posts in the front
 - > Telco-type rack – two adjacent mounting posts that you must secure to the floor or an overhead structure
 - > Four-post rack – a freestanding open rack, either open or closed
- The rack must have at least two mounting posts.

- The distance between the mounting holes in the two posts must be 18.31 inches .063 inch, as specified in the EIA 310-C.
- Do not use an enclosed rack for the ERX-700 series. It does not provide adequate ventilation.
- A fully loaded rack with three ERX-1400 series systems must structurally support 300 pounds (136 kilograms).
- The system fits in a 19-inch rack. You can install a system in a 23-inch rack if you use the *23-inch ears* available from Juniper Networks. Contact your Juniper Networks sales representative for more information.

Space Requirements

If you use an enclosed rack for an ERX-1400 series system, ensure that there is a minimum of 3 inches of clearance between the inner side wall and the system. This clearance space will allow adequate air flow.

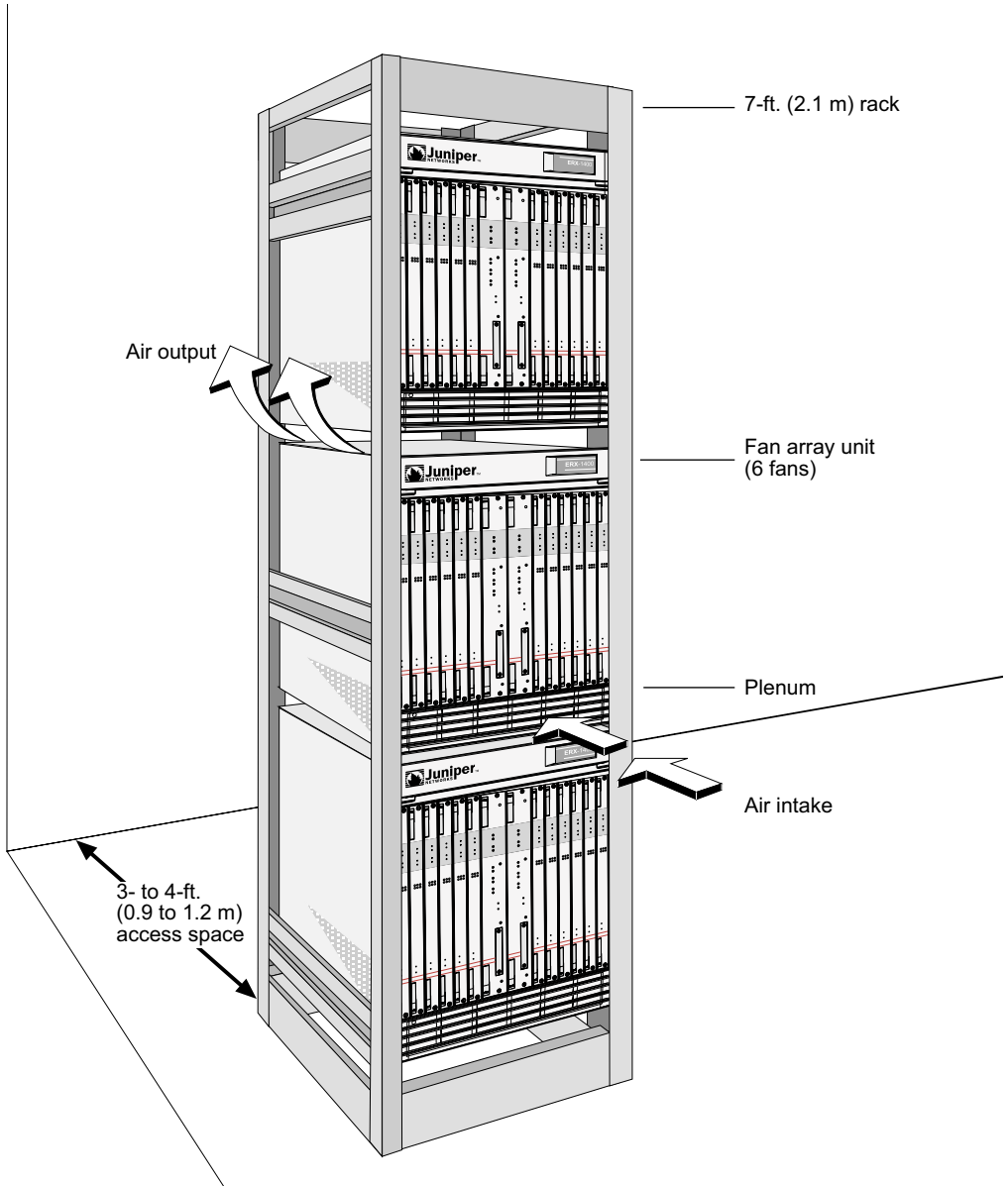


Figure D-1 Fully loaded 84-inch rack

Figure D-2 ERX-700 series and ERX-1400 series systems installed in 84-inch rack

Cabling Recommendations

You may want to consult the document *GR-63 (LSSGR, FD-15): Network Equipment Building System (NEBS) Requirements: Physical Protection, Issue 1, October 1995* for additional cable recommendations.

Comply with the following recommendations:

- Use only shielded cables.
- Ensure that cable distance and rate limits meet IEEE-recommended maximum speeds and distances for signaling purposes. For information about attenuation and power loss in optical fiber cables see:
 - > ANSI T1.646a-1997: Telecommunications – Broadband ISDN - Physical Layer Specification for User-Network Interfaces Including DS1/ATM (1997)
 - > ANSI T1.646-1995: Telecommunications – Broadband ISDN - Physical Layer Specification for User-Network Interfaces Including DS1/ATM (1995)
 - > AT&T (Lucent) Technical Note Power Margin Analysis (November 1995)
- Ensure that power cables deliver sufficient power to the system.
- In accordance with IEC 825-1, Safety of Laser Products - Part 1, laser fiber connectors are for connection only to Class 1 laser devices.
- Route cables so that they do not restrict ventilation or airflow.
- Route cables so that modules and field-replaceable units are easily accessible.
- Route cables in a logical direction to prevent loss of connectivity to other equipment in the rack, associated equipment in adjacent racks, or to the backbone network.
- Consider using cable-management brackets to keep network cables untangled and orderly and to prevent cables from hindering access to other slots.
- For specifications on cables for line modules, see *Appendix B, Module Specifications*.

