Installation Reference

This chapter contains reference information that you should read carefully before proceeding with installation of the ONS 15216 EDFA3.

This chapter contains the following sections:

3.1 Standard Precautions

The following standard precautions should be taken when installing the ONS 15216 EDFA3:

- Basic electrical precautions should be followed when installing and powering up the ONS 15216 EDFA3.
- The use of standard fiber handling and cleaning procedures is critical when installing optical networking equipment.
- Eye safety precautions must be employed when handling fiber optic patch cords.

Refer to Appendix A, “Regulatory Compliance and Safety Information” for complete safety information.

3.2 Unit Placement and Power Connections

The following potential hazards should be considered when installing the ONS 15216 EDFA3 within a rack:

- Elevated operating ambient temperature—If the ONS 15216 EDFA3 is installed in a closed or multimodule rack assembly, the operating ambient temperature of the rack environment might be greater than the room ambient temperature. Consideration should be given to installing the equipment in an environment compatible with the manufacturer's maximum rated ambient temperature of 50 degrees Celsius (122 degrees Fahrenheit).

- Reduced air flow—Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised. Do not block ventilation holes beyond what is allowed with the supplied mounting brackets. he unit be rack mounted and should have a space at least equal to the height of the ONS 15216 EDFA3 (1 RU) both above and below it.
- Mechanical loading—Mount the equipment in the rack to prevent uneven mechanical loading.
- Circuit overloading—Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of circuits might have on overcurrent protection and supply wiring. Use appropriate consideration of equipment nameplate ratings.
- Reliable grounding—Reliable grounding of rack mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (that is, use of power strip, etc.).

Warning **The ONS 15216 EDFA3 is intended for installation in a restricted access area. A restricted access area is where access can only be gained by service personnel through the use of a special tool, lock, key, or other means of security. A restricted access area is controlled by the authority responsible for the location.**

3.3 Grounding Precaution

Electrostatic discharge (ESD) is a discharge of stored static electricity that can damage equipment and impair electrical circuitry. It occurs when electronic components are improperly handled and can result in complete or intermittent failures.

Following are guidelines for preventing ESD damage:

- Before you open a chassis, ensure that power to the unit is off, but that the power cord is connected to the wall receptacle. Having the power cord connected ensures a ground path for any ESD voltages.
- Always use an ESD-preventive wrist or ankle strap and ensure that it makes good skin contact.
- Connect the equipment end of the strap to an unpainted surface of the chassis frame or another proper grounding point or surface. Attach it to the inside bottom of the chassis or to the rear panel (inside or outside) without making contact with any connectors or appliques.
- Avoid contact between equipment and clothing. The wrist or ankle strap only protects the equipment from ESD voltages on the body; ESD voltages on clothing can still cause damage.
- Handle printed circuit cards and appliques by the edges only; avoid touching the components, traces, or any connector pins.
- Place a removed card component side up on an antistatic surface or in a static shielding bag. If the component is being returned to the factory, immediately place it in a static shielding bag.
- Do not remove the wrist or ankle strap until the installation is complete.

Caution To avoid damaging the equipment, periodically check the resistance value of the antistatic strap. The measurement should be between 1 and 10 megohms.

3.4 ESD Wrist Strap Instructions

Warning **Before accessing the chassis interior, turn off power to the chassis and unplug the power cord. Use extreme caution around the chassis because potentially harmful voltages are present.**

ESD is the release of stored static electricity that can damage electrical circuitry. Static electricity is often stored in your body, and discharged when you come in contact with an object with a different potential. The ESD wrist strap safely channels this electricity from your body to a proper ground (the chassis).

Use an ESD wrist strap whenever you open a chassis, particularly when you will be handling circuit cards and appliques. In order to work properly, the wrist strap must make good contact at both ends (with your skin at one end, and with the chassis at the other).

Warning **The wrist strap is intended for static control only. It will not reduce or increase your risk of receiving an electric shock from electrical equipment. Follow the same precautions you would use without a wrist strap.**

Ensure that equipment is properly grounded. Turn the chassis power switch off, but leave the power cord plugged in so it is still grounded by the plug.

Do not use the wrist strap while working on equipment with operating voltages greater than 250 V (all Cisco Systems chassis operate at less than 250 V).

3.4.1 Attaching the ESD Wrist Strap

The following steps describe using the wrist strap correctly.

Step 1 Remove the wrist strap from its envelope. One end terminates with a patch of copper foil (this is the equipment end), and the other end has an area with the black metal strip exposed (this is the wrist end).

Step 2 Unwrap the wrist end to expose the adhesive. Place the exposed metal strip (wrist end) against your skin, and wrap the strip firmly around your wrist for a snug fit.

Step 3 Unroll the rest of the strap, and peel the liner from the copper foil patch at the opposite end (equipment end).

Step 4 Attach the copper foil patch to a flat, unpainted surface on the chassis by pressing it firmly onto the surface. We recommend you attach it to the inside bottom of the chassis, the rear panel (inside or outside), or the chassis bottom. Do not make contact with any connectors or appliques.

Step 5 When you are finished working in the chassis, remove the wrist strap and replace the chassis covers.