



Cisco Metro 1500 Series Spares Installation Note

This installation note describes how to install and configure the spares for the Cisco Metro 1500 series metropolitan area network (MAN) dense wavelength division multiplexing (DWDM) system.

For a complete description of the commands to configure and maintain the Cisco Metro 1500 series system, refer to the *Cisco Metro 1500 Series Management Guide*. For complete Cisco Metro 1500 series installation information, refer to the *Cisco Metro 1500 Series Operations Guide*. The documents are available on the Documentation CD-ROM, the World Wide Web, or in print.

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Installing, Removing, and Cabling Modules

This section describes installing, removing, and cabling modules in the chassis. The following modules are covered:

- Wavelength channel modules (WCMS)
- MUX and DMX modules
- Remote switch modules (RSMs)
- Band splitter modules (BSMs)
- Network element management interface module (NEMI)
- Device element management interface modules (DEMI)

Refer to Figure 1, Figure 2, Figure 3, and Figure 4 for specific module slot locations.



Figure 1 Primary Chassis, Front View

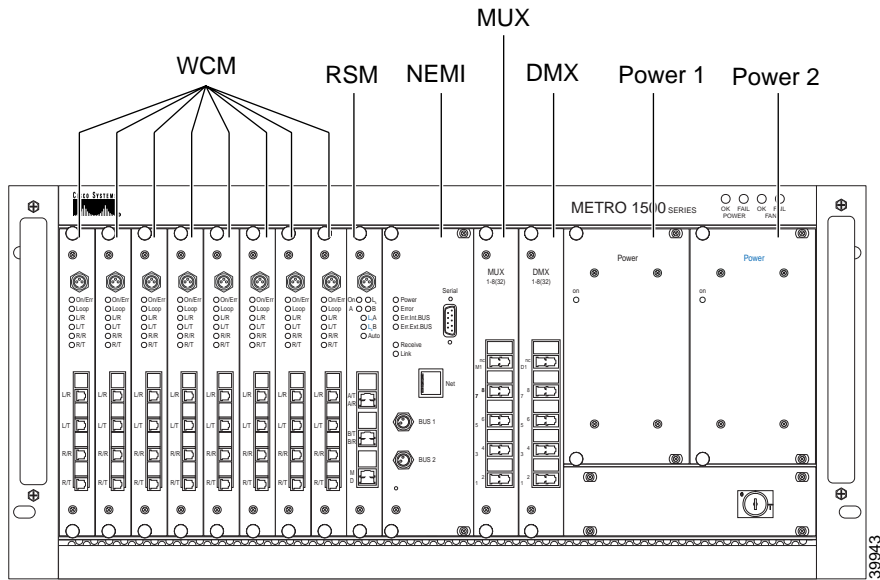
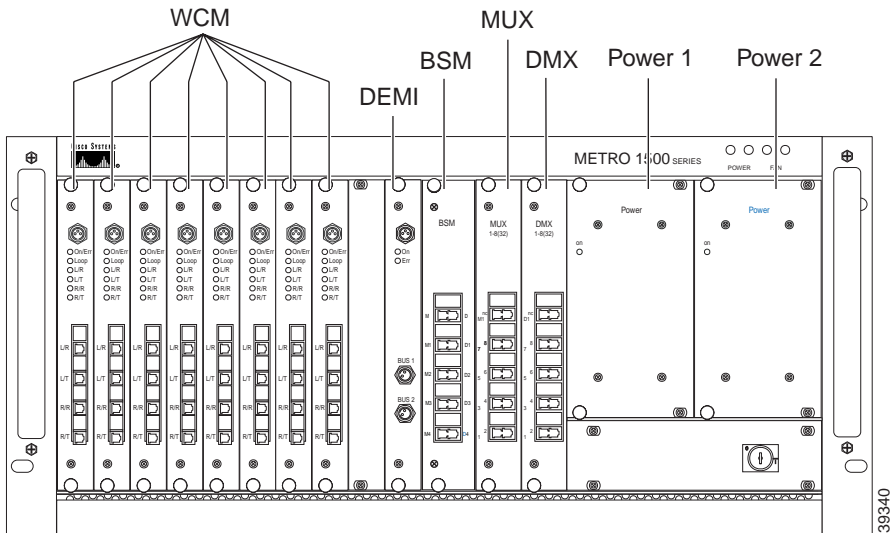


Figure 2 Extension Chassis A, Front View



**Warning**

Before you install, operate, or service the system, read the *Site Preparation and Safety Guide*. This guide contains important safety information you should know before working with the system.

Installing a Module

You can add a module to your system without interrupting unit operation.

**Note**

WCMs are used in pairs. Adding a channel to a communication link requires adding WCMs of the same type at both ends of the link.

**Warning**

Only trained and qualified personnel should be allowed to install, replace, or service this equipment.

To install a module, complete these steps:

- Step 1** Remove the acrylic cover on the front of the frame of the unit.
- Step 2** Remove two screws from the protective front panel with a Phillips screwdriver.
- Step 3** Lift the new module from the shipping container. Use canned, dry, oil-free, compressed air to blow off dust particles.
- Step 4** Carefully insert the module into the chassis slot while guiding the upper and lower edges of the module in the tracks until its connectors contact the backplane connectors. A force of up to 1 lb (4.5 newton) is required to push the module completely into the chassis.

**Caution**

It is critical to insert the module gently. If a force greater than 1 lb (4.5 newton) is needed to push in the module, stop immediately.

- Step 5** Inspect the electrical connector. If the connector is not damaged, repeat the insertion procedure.
- Step 6** After achieving full contact, secure the module in the chassis using the two screws on the front panel of the module while holding the module in position.

Removing a Module

To remove a module from the Cisco Metro 1500 series unit without interrupting unit operation, complete these steps:



Warning

Only trained and qualified personnel should be allowed to install, replace, or service this equipment. Remove the acrylic cover on the front of the chassis with a screwdriver.

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- Step 1** Using a screwdriver, remove the acrylic cover on the front of the chassis.
 - Step 2** Remove any cables and jumpers from the desired module, and install appropriate dust covers on the fiber cable connectors and the blind plugs that go into the module connectors.
 - Step 3** Remove the two screws from the protective front panel of the desired module with a screwdriver.
 - Step 4** Carefully remove the module.
 - Step 5** Install the protective front panel.
 - Step 6** Place the removed module in an appropriate container for shipping and storage.
 - Step 7** Mount the acrylic cover on the front of the frame of the unit and secure it with the four screws.
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Cabling a Module

After you have installed the module, you are ready to cable it. Refer to the *Cisco Metro 1500 Series Operations Guide* for instructions on cabling the different types of modules.

Cleaning Optical Connectors

The ferrules and end-face surfaces of fiber components must be kept clean and free of contaminants. To clean the connectors and loop plugs, complete these steps:

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- Step 1** Gently wipe the ferrules and end-face surfaces of the connector with an alcohol pad from the cleaning kit. Be sure the pad makes full contact with the end-face surfaces. Wait 5 seconds for the surfaces to dry, and then wipe the surfaces one more time.
 - Step 2** Blow dry with canned, dry, oil-free, compressed air.
 - Step 3** Inspect the ferrule.
-

If the surface is not clean or does not have a uniform shine, repeat the process using a fresh surface of the alcohol pad.



Caution

Do not clean the inside of the connector adapters.

Removing and Installing the Power Supply Module

This section covers the removal and replacement of the power supply module (PSM).

**Warning**

Only trained and qualified personnel should be allowed to install, replace, or service this equipment.

The Cisco Metro 1500 series system has two identical, fully redundant PSMs. Each PSM can take over the power needs of the entire system. These PSMs provide 5V and 30A to the system, as well as full input-to-output, input-to-case, and output-to-output isolation.

Powering On and Off

**Caution**

If powered down, please wait at least 10 seconds before you switch the unit on again.

Turn the power on or off using the key switch (refer to Figure 5). This switch supplies power to the redundant power supplies. You can only move the switch to on or off. Two keys are shipped with each unit and all units use the same key. The key can be removed in either the 1 or 0 position.

The status of power on and off is indicated on the display panel in front of the chassis and can be observed using network management at the NEMI. Refer to the *Cisco Metro 1500 Series Management Guide* for more information about power supply observation using network management and the NEMI.

Replacing a Power Supply Module

If the green LED on a power supply is off while the unit is powered on, and the power cable is plugged in the corresponding power socket, either the cable is faulty or the power supply itself has failed. First, check the power cable to make sure that it is securely plugged into the unit. If the cable is correctly attached, replace the power supply. During this procedure, the system will keep running with its remaining power supply. The redundant power supply continues to provide uninterrupted service but you should check and replace the failed unit as soon as possible.

**Note**

The power socket labeled “Power 1” supplies current to the left power supply. The power socket labeled “Power 2” supplies current to the right power supply. See Figure 6.

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- Step 1 Remove the power cord associated with the failed power supply and loosen the four panel screws.
 - Step 2 Pull out the malfunctioning module.
 - Step 3 Slide in the spare module.
 - Step 4 Reconnect the power cord.
 - Step 5 Note that the green LED is on.
 - Step 6 Tighten the four panel screws.
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Translated Warnings

This section repeats in multiple languages the warnings in this note. These translated warnings can be used with other documents related to this note.

Installation Warning



Warning

Only trained and qualified personnel should be allowed to install, replace, or service this equipment.

Waarschuwing

Deze apparatuur mag alleen worden geïnstalleerd, vervangen of hersteld door bevoegd geschoold personeel.

Varoitus

Tämän laitteen saa asentaa, vaihtaa tai huoltaa ainoastaan koulutettu ja laitteen tunteva henkilökunta.

Attention

Il est vivement recommandé de confier l'installation, le remplacement et la maintenance de ces équipements à des personnels qualifiés et expérimentés.

Warnung

Das Installieren, Ersetzen oder Bedienen dieser Ausrüstung sollte nur geschultem, qualifiziertem Personal gestattet werden.

Avvertenza

Questo apparato può essere installato, sostituito o mantenuto unicamente da un personale competente.

Advarsel

Bare opplært og kvalifisert personell skal foreta installasjoner, utskiftninger eller service på dette utstyret.

Aviso

Apenas pessoal treinado e qualificado deve ser autorizado a instalar, substituir ou fazer a revisão deste equipamento.

- ¡Advertencia! Solamente el personal calificado debe instalar, reemplazar o utilizar este equipo.
- Varning! Endast utbildad och kvalificerad personal bör få tillåtelse att installera, byta ut eller reparera denna utrustning.

Safety Information Referral Warning



Warning

Before you install, operate, or service the system, read the *Site Preparation and Safety Guide*. This guide contains important safety information you should know before working with the system.

Waarschuwing

Lees de handleiding *Vorbereitung en veiligheid van de locatie Handleiding* voordat u het systeem installeert of gebruikt of voordat u onderhoud aan het systeem uitvoert. Deze handleiding bevat belangrijke beveiligingsvoorschriften waarvan u op de hoogte moet zijn voordat u met het systeem gaat werken.

Varoitus

Ennen kuin asennat järjestelmän tai käytät tai huollat sitä, lue *Asennuspaikan valmistelu-jaturvaopas* -opasta. Tässä oppaassa on tärkeitä turvallisuustietoja, jotka tulisi tietää ennen järjestelmän käyttämistä.

Attention

Avant d'installer le système, de l'utiliser ou d'assurer son entretien, veuillez lire le *Guide de sécurité et de préparation du site*. Celui-ci présente des informations importantes relatives à la sécurité, dont vous devriez prendre connaissance.

Warnung

Warnhinweis Bevor Sie das System installieren, in Betrieb setzen oder warten, lesen Sie die *Anleitung zur Standortvorbereitung und Sicherheitshinweise*. Dieses Handbuch enthält wichtige Informationen zur Sicherheit, mit denen Sie sich vor dem Verwenden des Systems vertraut machen sollten.

Avvertenza

Prima di installare, mettere in funzione o effettuare interventi di manutenzione sul sistema, leggere le informazioni contenute nella documentazione sulla *Guida alla sicurezza*. Tale guida contiene importanti informazioni che è necessario acquisire prima di iniziare qualsiasi intervento sul sistema.

Advarsel

Før du installerer, tar i bruk eller utfører vedlikehold på systemet, må du lese *Veiledning for stedsklargjøring og sikkerhet*. Denne håndboken inneholder viktig informasjon om sikkerhet som du bør være kjent med før du begynner å arbeide med systemet.

Aviso

Antes de instalar, funcionar com, ou prestar assistência ao sistema, leia o *Guia de Preparação e Segurança do Local*. Este guia contém informações de segurança importantes que deve conhecer antes de trabalhar com o sistema.

¡Advertencia! Antes de instalar, manejar o arreglar el sistema, le aconsejamos que consulte la *Guía de prevención y preparación de una instalación*. Esta guía contiene importante información para su seguridad que debe saber antes de comenzar a trabajar con el sistema.

Varning! Innan du installerar, använder eller utför service på systemet ska du läsa *Förberedelser och säkerhet Handbok*. Denna handbok innehåller viktig säkerhetsinformation som du bör känna till innan du arbetar med systemet.

Obtaining Documentation

World Wide Web

You can access the most current Cisco documentation on the World Wide Web at <http://www.cisco.com>, <http://www-china.cisco.com>, or <http://www-europe.cisco.com>.

Documentation CD-ROM

Cisco documentation and additional literature are available in a CD-ROM package, which ships with your product. The Documentation CD-ROM is updated monthly. Therefore, it is probably more current than printed documentation. The CD-ROM package is available as a single unit or as an annual subscription.

Ordering Documentation

Registered CCO users can order the Documentation CD-ROM and other Cisco Product documentation through our online Subscription Services at <http://www.cisco.com/cgi-bin/subcat/kaojump.cgi>.

Nonregistered CCO users can order documentation through a local account representative by calling Cisco's corporate headquarters (California, USA) at 408 526-4000 or, in North America, call 800 553-NETS (6387).

Obtaining Technical Assistance

Cisco provides Cisco Connection Online (CCO) as a starting point for all technical assistance. Warranty or maintenance contract customers can use the Technical Assistance Center. All customers can submit technical feedback on Cisco documentation using the web, e-mail, a self-addressed stamped response card included in many printed docs, or by sending mail to Cisco.

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You can access CCO in the following ways:

- WWW: www.cisco.com
- Telnet: [cco.cisco.com](telnet://cco.cisco.com)
- Modem using standard connection rates and the following terminal settings: VT100 emulation; 8 data bits; no parity; and 1 stop bit.
 - From North America, call 408 526-8070
 - From Europe, call 33 1 64 46 40 82

You can e-mail questions about using CCO to cco-team@cisco.com.

Technical Assistance Center

The Cisco Technical Assistance Center (TAC) is available to warranty or maintenance contract customers who need technical assistance with a Cisco product that is under warranty or covered by a maintenance contract.

To display the TAC web site that includes links to technical support information and software upgrades and for requesting TAC support, use www.cisco.com/techsupport.

To contact by e-mail, use one of the following:

Language	E-mail Address
English	tac@cisco.com
Hanzi (Chinese)	chinese-tac@cisco.com
Kanji (Japanese)	japan-tac@cisco.com
Hangul (Korean)	korea-tac@cisco.com
Spanish	tac@cisco.com
Thai	thai-tac@cisco.com

In North America, TAC can be reached at 800 553-2447 or 408 526-7209. For other telephone numbers and TAC e-mail addresses worldwide, consult the following web site:
<http://www.cisco.com/warp/public/687/Directory/DirTAC.shtml>.

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To submit your comments by mail, for your convenience many documents contain a response card behind the front cover. Otherwise, you can mail your comments to the following address:

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We appreciate and value your comments

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