WJ Broadband Fixed Wireless System Transceiver Installation and Replacement Instructions

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Revision Date: July 21, 2000

To be used with all of the following Standard Power Transceivers:

SX1121 MMDS Standard Power Point-to-Multipoint Transceiver

SX1121A MMDS Standard Power Point-to-Multipoint Transceiver with Integrated Antenna

SX1123 MDS/MMDS Standard Power Point-to-Multipoint Transceiver

SX1123A MDS/MMDS Standard Power Point-to-Multipoint Transceiver with Integrated Antenna

SX1126A UNII Standard Power Point-to-Multipoint CPE Transceiver with Integrated Antenna

SX1127 UNII Standard Power Point-to-Multipoint Head End Transceiver

WJ Broadband Fixed Wireless System Transceiver Installation and Replacement Instructions

Product Numbers: SX1121, SX1121A, SX1123, SX1123A, SX1126A, SX1127.

This document explains how to install, remove, or replace the standard power wireless transceiver component of a broadband fixed wireless system. It includes instructions for powering down the system, removing an installed transceiver, and installing a new transceiver.

NOTE: Use this document in conjunction with the *Cisco uBR7200 Series Universal Broadband Router Installation and Configuration Guide* and *Regulatory Compliance and Safety Information for the Cisco uBR7200 Series Universal Broadband Router* that shipped with your Cisco uBR7200 series router, and the *Cisco uBR7200 Series Universal Broadband Router Wireless Modem Card and Subsystem Installation and Configuration* document that shipped with your broadband fixed wireless modem card and subsystem.

This document includes the following sections:

If You Need More Information

To obtain general information about documentation, refer to the "Cisco Connection Online" section on page 23, or call customer service at 800 553-6387 or 408 526-7208. Customer service hours are 5:00 a.m. to 6:00 p.m. Pacific time, Monday through Friday (excluding Cisco-observed holidays). You can also send e-mail to cs-rep@cisco.com, or you can refer to the *Cisco Information Packet* that shipped with your router.

Wireless Transceiver Overview

The wireless transceiver (often referred to as the outdoor unit or ODU) is the control and data interface to the indoor router subsystems. It provides up/down conversion for IF to RF frequencies and power amplification.

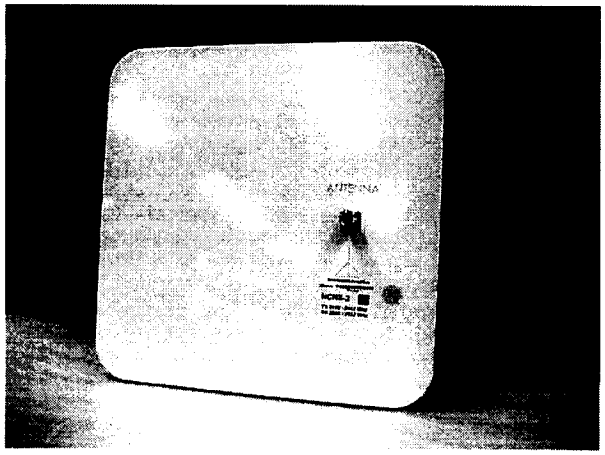
The wireless transceiver consists of the following components:

- RF head
- Connector port for IF input/output, control, and power
- Connector port for antenna

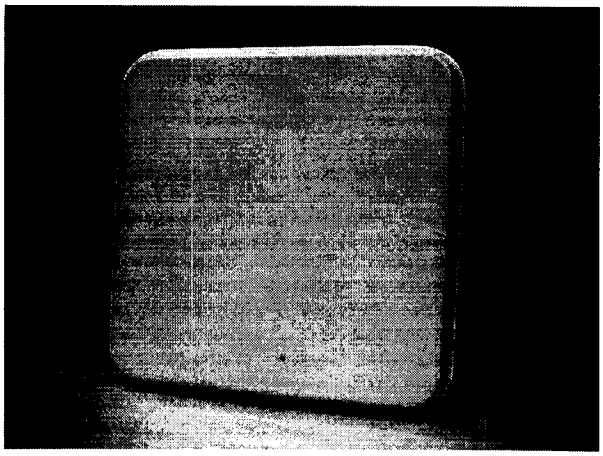
Figure 1 shows three views of the common chassis used for the standard power Wireless Transceiver. A description of the connectors shown here is listed in Table 1.

Figure 1. Wireless Transceiver

Front View



Front View with Integrated Antenna



Rear View

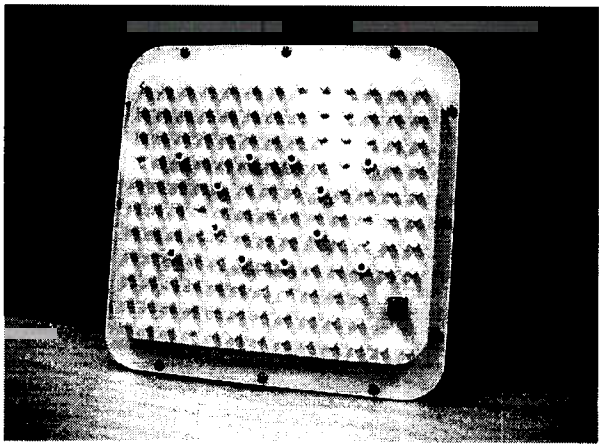


Table 1. Wireless Transceiver Connectors

Connector	Type	Input/Output	Function
Antenna connector	N-type weatherized (female)	Input and Output	Antenna connection
IF Input/ Control/Power	N-type weatherized (female)	Input and Output	Carries receive and transmit IF signals, power, IF reference frequency, and RF subsystem control interface

Installation Prerequisites

This section provides a list of parts and tools you need to install, remove, or replace a wireless transceiver at the antenna site. This section also includes safety and ESD-prevention guidelines to help you avoid injury to yourself and damage to the equipment.

Parts and Tools

You need the following tools and parts to install, remove, or replace the transceiver. If you need additional equipment, contact a service representative for ordering information.

NOTE: Some N-type connectors require specific tools. Obtain this information from your cable supplier.

- Wireless transceiver: SX1121, SX1121A, SX1123, SX1123A, SX1126A or SX1127.
- Number 2 Phillips screwdriver
- Soldering iron/gun
- 9/16-inch open-end wrench
- Open-end adjustable wrench
- Cable wrap
- Antenna tools (refer to the antenna manufacturer's instructions)
- Mounting kit (provided with the new transceiver)
- Ground lug (provided in mounting kit)
- 50 ohm coaxial cable with N-type (male) connectors to cable the wireless transceiver to the antenna
- Your own ESD-prevention equipment.

Safety Guidelines

Following are safety guidelines that you should follow when working with any equipment that connects to electrical power or telephone wiring.

Place picture of unit mounted to post and connected to antenna with RF cables

Place picture of unit mounted to wall and connected to antenna with RF cables

Place picture of unit with integrated antenna mounted to post and connected to RF cables

Place picture of unit with integrated antenna mounted to wall and connected to RF cables

Warning This warning symbol means *danger*. You are in a situation that could cause bodily injury. Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents. To see translations of the warnings that appear in this publication, refer to the "Regulatory Compliance and Safety Information" section in this document.

Waarschuwing Dit waarschuwingssymbool betekent gevaar. U verkeert in een situatie die lichamelijk letsel kan veroorzaken. Voordat u aan enige apparatuur gaat werken, dient u zich bewust te zijn van de bij elektrische schakelingen betrokken risico's en dient u op de hoogte te zijn van standaard maatregelen om ongelukken te voorkomen. Voor vertalingen van de waarschuwingen die in deze publicatie verschijnen, kunt u het document *Regulatory Compliance and Safety Information* (Informatie over naleving van veiligheids- en andere voorschriften) raadplegen dat bij dit toestel is ingesloten.

Varoitus Tämä varoitusmerkki merkitsee vaaraa. Olet tilanteessa, joka voi johtaa ruumiinvammaan. Ennen kuin työskentelet minkään laitteiston parissa, ota selvää sähkökytkentöihin liittyvistä vaaroista ja tavanomaisista onnettomuuksien ehkäisykeinoista. Tässä julkaisussa esiintyvien varoitusten käännökset löydät laitteen mukana olevasta *Regulatory Compliance and Safety Information* -kirjasesta (määräysten noudattaminen ja tietoa turvallisuudesta).

Attention Ce symbole d'avertissement indique un danger. Vous vous trouvez dans une situation pouvant causer des blessures ou des dommages corporels. Avant de travailler sur un équipement, soyez conscient des dangers posés par les circuits électriques et familiarisez-vous avec les procédures couramment utilisées pour éviter les accidents. Pour prendre connaissance des traductions d'avertissements figurant dans cette publication, consultez le document *Regulatory Compliance and Safety Information* (Conformité aux règlements et consignes de sécurité) qui accompagne cet appareil.

Warnung Dieses Warnsymbol bedeutet Gefahr. Sie befinden sich in einer Situation, die zu einer Körperverletzung führen könnte. Bevor Sie mit der Arbeit an irgendeinem Gerät beginnen, seien Sie sich der mit elektrischen Stromkreisen verbundenen Gefahren und der Standardpraktiken zur Vermeidung von Unfällen bewußt. Übersetzungen der in dieser Veröffentlichung enthaltenen Warnhinweise finden Sie im Dokument *Regulatory Compliance and Safety Information* (Informationen zu behördlichen Vorschriften und Sicherheit), das zusammen mit diesem Gerät geliefert wurde.

Avvertenza Questo simbolo di avvertenza indica un pericolo. La situazione potrebbe causare infortuni alle persone. Prima di lavorare su qualsiasi apparecchiatura, occorre conoscere i pericoli relativi ai circuiti elettrici ed essere al corrente delle pratiche standard per la prevenzione di incidenti. La traduzione delle avvertenze riportate in questa pubblicazione si trova nel documento *Regulatory Compliance and Safety Information* (Conformità alle norme e informazioni sulla sicurezza) che accompagna questo dispositivo.

Advarsel Dette varselsymbolet betyr fare. Du befinner deg i en situasjon som kan føre til personskade. Før du utfører arbeid på utstyr, må du vare oppmerksom på de faremomentene som elektriske kretser innebærer, samt gjøre deg kjent med vanlig praksis når det gjelder å unngå ulykker. Hvis du vil se oversettelser av de advarslene som finnes i denne publikasjonen, kan du se i dokumentet *Regulatory Compliance and Safety Information* (Overholdelse av forskrifter og sikkerhetsinformasjon) som ble levert med denne enheten.

Aviso Este símbolo de aviso indica perigo. Encontra-se numa situação que lhe poderá causar danos físicos. Antes de começar a trabalhar com qualquer equipamento, familiarize-se com os perigos relacionados com circuitos eléctricos, e com quaisquer práticas comuns que possam prevenir possíveis acidentes. Para ver as traduções dos avisos que constam desta publicação, consulte o documento *Regulatory Compliance and Safety Information* (Informação de Segurança e Disposições Reguladoras) que acompanha este dispositivo.

¡Advertencia! Este símbolo de aviso significa peligro. Existe riesgo para su integridad física. Antes de manipular cualquier equipo, considerar los riesgos que entraña la corriente eléctrica y familiarizarse con los

procedimientos estándar de prevención de accidentes. Para ver una traducción de las advertencias que aparecen en esta publicación, consultar el documento titulado *Regulatory Compliance and Safety Information* (Información sobre seguridad y conformidad con las disposiciones reglamentarias) que se acompaña con este dispositivo.

Varning! Denna varningssymbol signalerar fara. Du befinner dig i en situation som kan leda till personskada. Innan du utför arbete på någon utrustning måste du vara medveten om farorna med elkretsar och känna till vanligt förfarande för att förebygga skador. Se förklaringar av de varningar som förkommer i denna publikation i dokumentet *Regulatory Compliance and Safety Information* (Efterrättelse av föreskrifter och säkerhetsinformation), vilket medföljer denna anordning.

Electrical Equipment Guidelines

Follow these basic guidelines when working with any electrical equipment:

- Disconnect all power and external cables before moving a chassis.
- Do not work alone if 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.

Warning Do not locate the transceiver near overhead power lines or other electric light or power circuits, or where it can come into contact with such circuits.

Warning Never defeat the ground conductor or operate the equipment in the absence of a suitably installed ground conductor. Contact the appropriate electrical inspection authority or an electrician if you are uncertain that suitable grounding is available.

Warning This equipment contains an energy hazard. Disconnect the system before servicing.

Warning Do not work on the system or connect or disconnect cables during periods of lightning activity.

Warning Antenna Installation Instructions: FCC RF Exposure Limits

The WJ SX1121 and SX1123 transceivers, used in conjunction with 18 and 24 dBi gain antennas, are to be employed in point -to- multipoint applications only. The transceivers are either provided with an integral antenna, or provided without an integral antenna. If the transceiver is provided without an integral antenna, then antennas used for these transmitters shall be professionally installed on permanent structures for outdoor operations. The installer is responsible for ensuring that the systems using high-gain, directional antennas are used exclusively for fixed, point-to-multipoint operations.

The installer shall mount all transmit antennas so as to comply with the limits for human exposure to radio frequency (RF) fields per paragraph 1.1307 of the Federal Communications Commission (FCC) Regulations. The FCC requirements incorporate limits for Maximum Permissible Exposure (MPE) in terms of electric field strength, magnetic field strength, and power density.

The WJ SX1121 and SX1123 transceivers are intended to be installed in customer premises areas. Table 2 below specifies the **minimum** distance that must be maintained between the antenna and any areas where persons may have access, including rooftop walkways, sidewalks, as well as through windows and other RF-transparent areas behind which persons may be located.

Table 2. Antenna Radiation Hazard

Power output, dBm	Antenna gain, dBi	MPE Distance, cm
26.0	18.0	44.7
26.0	24.0	89.2
24.0	18.0	35.5
24.0	24.0	70.9
22.0	18.0	28.2
22.0	24.0	56.3

In addition, the following label wording is required to be placed on the subscriber unit antenna

CAUTION: To comply with FCC RF exposure requirements, antennas used for this device must be installed to provide a separation distance of at least 90 cm from all persons to satisfy RF exposure compliance.

This label will be placed on the antenna or on the device so that it is easily visible at a distance of 1 meter.

Antenna manufacturer-supplied installation instructions for specific models generally contain information regarding antenna mounting, aiming, lightning protection, and other relevant factors. In addition to meeting these requirements, the antenna system installer is responsible for installing antennas so that they comply with FCC RF exposure requirements. The FCC RF exposure requirements at a given location are based on the sum total of contributions from all radio sources. For WJ system antennas placed in close proximity to other transmitters (e.g., on a shared rooftop or tower installation), installers shall take steps to insure that MPE guidelines in 1.1307 of the Rules continue to be met with the inclusion of the contribution from the new antenna. Further information and guidance can be found in FCC Bulletin OET 65, available for download at http://www.fcc.gov/oet/rfsafety/.

Warning Antenna Installation Instructions RF Exposure Limits SX1126 only.

The SX1126 transverter with its integral antenna is to be used in **point-to-point** applications only. The SX1126 shall be professionally installed on a permanent structure for outdoor operation.

The installer shall mount the SX1126 so as to comply with the limits for human exposure to radio frequency (RF) fields per paragraph 1.1307 of the Federal Communications Commission (FCC) Regulations. The FCC requirements incorporate limits for Maximum Permissible Exposure (MPE) in terms of electric field strength, magnetic field strength, and power density.

The MPE distance for the SX1126 is **1.5 meters (5 ft).** This is the **minimum** distance that must be under all conditions of operation between the antenna and any area where persons may have access, including rooftop walkways, sidewalks, as well as through windows and other RF -transparent areas behind which persons may be located

Antenna manufacturer-supplied installation instructions for specific models generally contain information regarding antenna mounting, aiming, lightning protection, and other relevant factors. In addition to meeting these requirements, the antenna system installer is responsible for installing antennas so that they comply with FCC RF exposure requirements. The FCC RF exposure requirements at a given location are based on the sum total of contributions from all radio sources. For WJ system antennas placed in close proximity to other transmitters (e.g., on a shared rooftop or tower installation), installers shall take steps to ensure that MPE guidelines in 1.1307 of the Rules continue to be met with the inclusion of the contribution from the new antenna. Further information and guidance can be found in FCC Bulletin OET 65, available for download at http://www.fcc.gov/oet/rfsafety/.

Warning Antenna Installation Instructions: FCC RF Exposure Limits, SX1127 only.

The SX1127 transverter, used in conjunction with its respective antenna is to be used in point-to-multipoint applications only. The antenna used for the SX1127 shall be professionally installed on a permanent structure for outdoor operations.

The installer shall mount all transmit antennas so as to comply with the limits for human exposure to radio frequency (RF) fields per paragraph 1.1307 of the Federal Communications Commission (FCC) Regulations. The FCC requirements incorporate limits for Maximum Permissible Exposure (MPE) in terms of electric field strength, magnetic field strength, and power density.

The MPE distance for the SX1127 is **1.5 meters (5 ft).** This is the **minimum** distance that must be under all conditions of operation between the antenna and any area where persons may have access, including rooftop walkways, sidewalks, as well as through windows and other RF -transparent areas behind which persons may be located.

Antenna manufacturer-supplied installation instructions for specific models generally contain information regarding antenna mounting, aiming, lightning protection, and other relevant factors. In addition to meeting these requirements, the antenna system installer is responsible for installing antennas so that they comply with FCC RF exposure requirements. The FCC RF exposure requirements at a given location are based on the sum total of contributions from all radio sources. For WJ system antennas placed in close proximity to other transmitters (e.g., on a shared rooftop or tower installation), installers shall take steps to ensure that MPE guidelines in 1.1307 of the Rules continue to be met with the inclusion of the contribution from the new antenna. Further information and guidance can be found in FCC Bulletin OET 65, available for download at http://www.fcc.gov/oet/rfsafety/.

In addition to MPE, FCC Rules limit power delivered to the antenna based on maximum permissible EIRP, for both in-band and out-of -band emissions. The professional system installer is responsible for complying with the settings in Table 3 below.

Table 3 RF Output Power Limits (per FCC Rule Part 15.407)

Bandwidth (MHz)	Antenna Gain (dBi)	Maximum Allowed Peak Transmit Power (dBm)
6.0	17.5	13.3
6.0	8.0	15.0
3.0	17.5	10.3
3.0	8.0	15.0
1.5	17.5	7.3
1.5	8.0	15.0

Installing the Wireless Transceiver

This section provides instructions for installing the transceiver on the desired platform.

NOTE: These instructions apply to the transceiver manufactured and supplied by Watkins-Johnson Communications Inc.

Transmit and Receive Frequencies

The standard power transceivers are provided with the transmit frequency and the receive frequency set at the factory. Each model can be supplied with transmit on the high frequency band or transmit on the low frequency band. When installing the transceiver, ensure that the proper transmit and receive frequencies are used.

NOTE: The orientation of one end of a point-to-point link must be opposite to that of the other end of the link. In addition, the choice of Tx Hi or Rx Hi must match the frequencies configured for the wireless modem card in the router.

Mounting the Wireless Transceiver

There are different mounting procedures depending on the exact transceiver that you have and the location that it will be mounted.

For transceivers without integrated antennas:

- Follow procedure 1 for wall mount
- Follow procedure 2 for pole mount

For transceivers with integrated antennas

- Follow procedure 3 for gray mounting arm

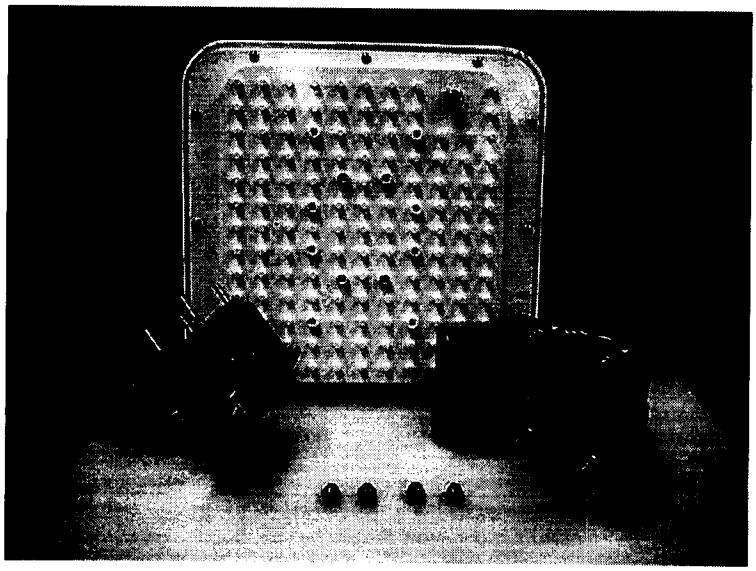
PROCEDURE 1

(For wall mounted transceiver without integrated antenna)

Step 1 Fasten bracket to wall.

- Use bracket as a drill template to mark hole locations on wall.
- Drill holes with appropriate bit size and type depending on the wall material
- Mount bracket on wall with supplied mounting kit bolts. See Figure 2.

Figure 2. Rear view of chassis with mounting hardware in foreground. To the left is the gray mounting arm and to the right is the bracket used for wall and pole mounting. For wall mounting, U-bolts are not used.



Step 2 Connect cables to transceiver.

- Install right angle N-type adapter to IF / control / DC port and if necessary antenna port.
- Suggested vendors for N-type connector

Delta Electronics Mfg. Corp. 978-927-1060	Amphenol Corp. 800-627-7100	Huber Suhner Inc. 802-878-0555
UG-27DU	82-64	53N-50-0-4

- Connect RF cable to IF / control / DC port via right angle N-type connector. See Figure 3.
- Connect RF cable to antenna port via right angle N-type connector. See Figure 4.

Figure 3. RF cable mounted to IF / control / DC port via right angle N-type connector.

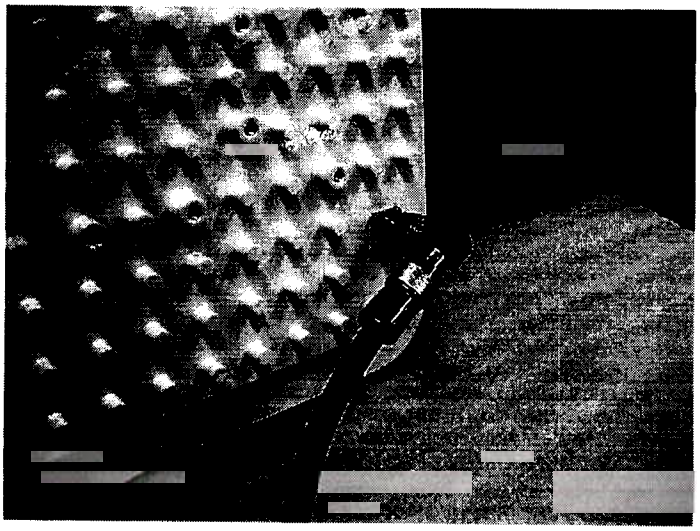
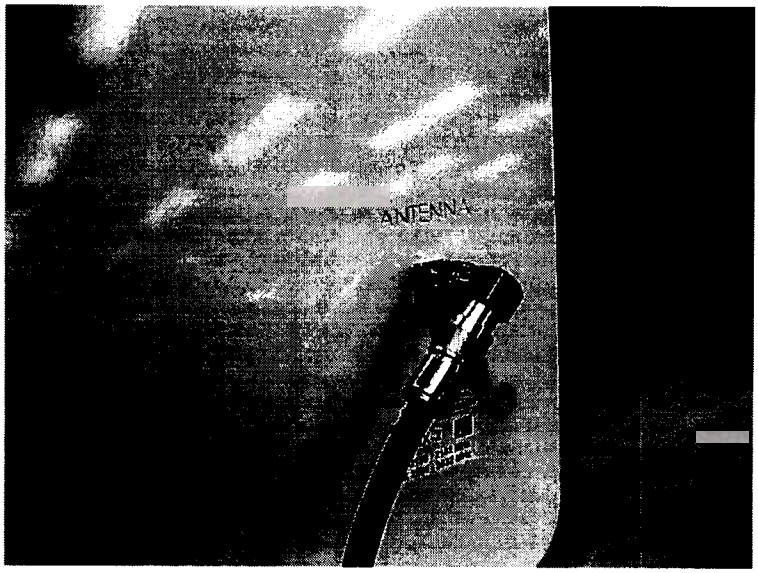


Figure 4. RF cable mounted to antenna port via right angle N-type connector.



Step 3 Connect ground wire to transceiver.

- Attach ground lug supplied in mounting kit to an approved ground wire. Then attach ground lug to chassis. See Figure 3.

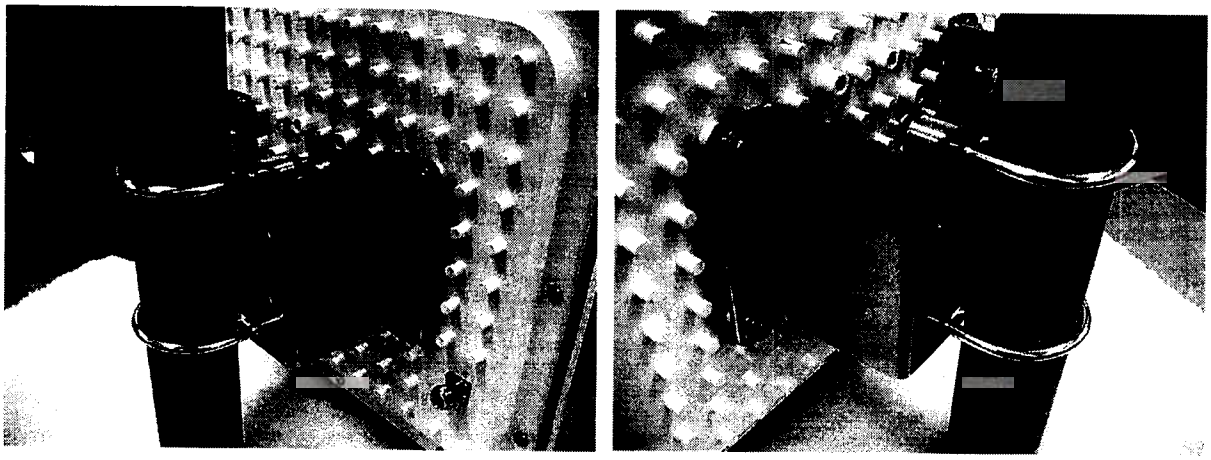
Figure 5. Location to attach ground lug on transceiver

ADD PICTURE HERE OF SX1121, 3, 6 OR 7 WITH NEW GROUND LUG MOUNTING LOCATION SHOWN

Step 4 Attach transceiver to bracket.

- Use the mounting hardware included in the mounting kit to bolt the transceiver to the bracket. Always use one lock washer and one flat washer for each mounting bolt. Place the lock washer on the bolt first against the bolt head. Next, place the flat washer on the bolt to prevent the lock washer from digging into the bracket or chassis. See Figure 6.

Figure 6. Bracket used for wall and pole mount. For wall mount, U-bolts are not used.



PROCEDURE 2

(For pole mounted transceiver without integrated antenna)

Step 1 Fasten bracket to transceiver.

- Mount bracket on transceiver with supplied mounting kit bolts. See Figure 6.

Step 2 Connect cables to transceiver. Same as Procedure 1.

- Install right angle N-type adapter to IF / control / DC port and if necessary antenna port.
- Connect RF cable to IF / control / DC port via right angle N-type connector. See Figure 3.
- Connect RF cable to antenna port via right angle N-type connector. See Figure 4.

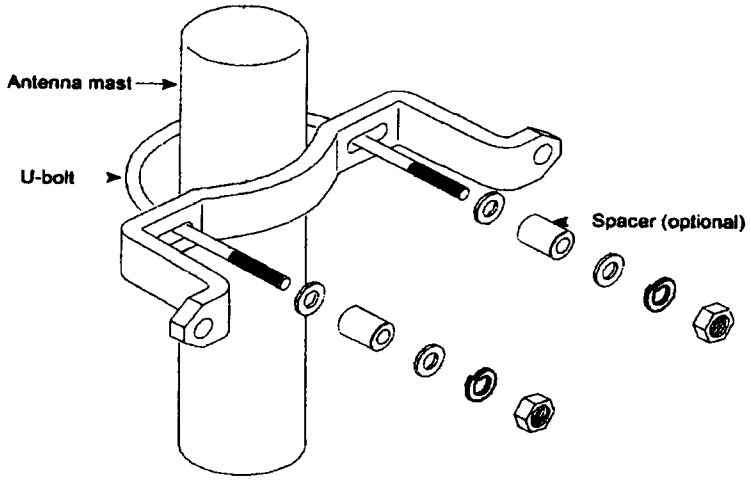
Step 3 Connect ground wire to transceiver. Same as Procedure 1.

- Attach ground lug supplied in mounting kit to an approved ground wire. Then attach ground lug to chassis. See Figure 5.

Step 4 Attach U-bolts around pole and to bracket.

- Place U-bolts around pole and position them through holes in bracket. Then add washers, spacers, washers, lock washers and nuts. See Figure 6 and 7.

Figure 7. Attaching the mounting bracket to the pole. Note, partial section of bracket is shown.



PROCEDURE 3

(Gray mounting arm for transceiver with integrated antenna)

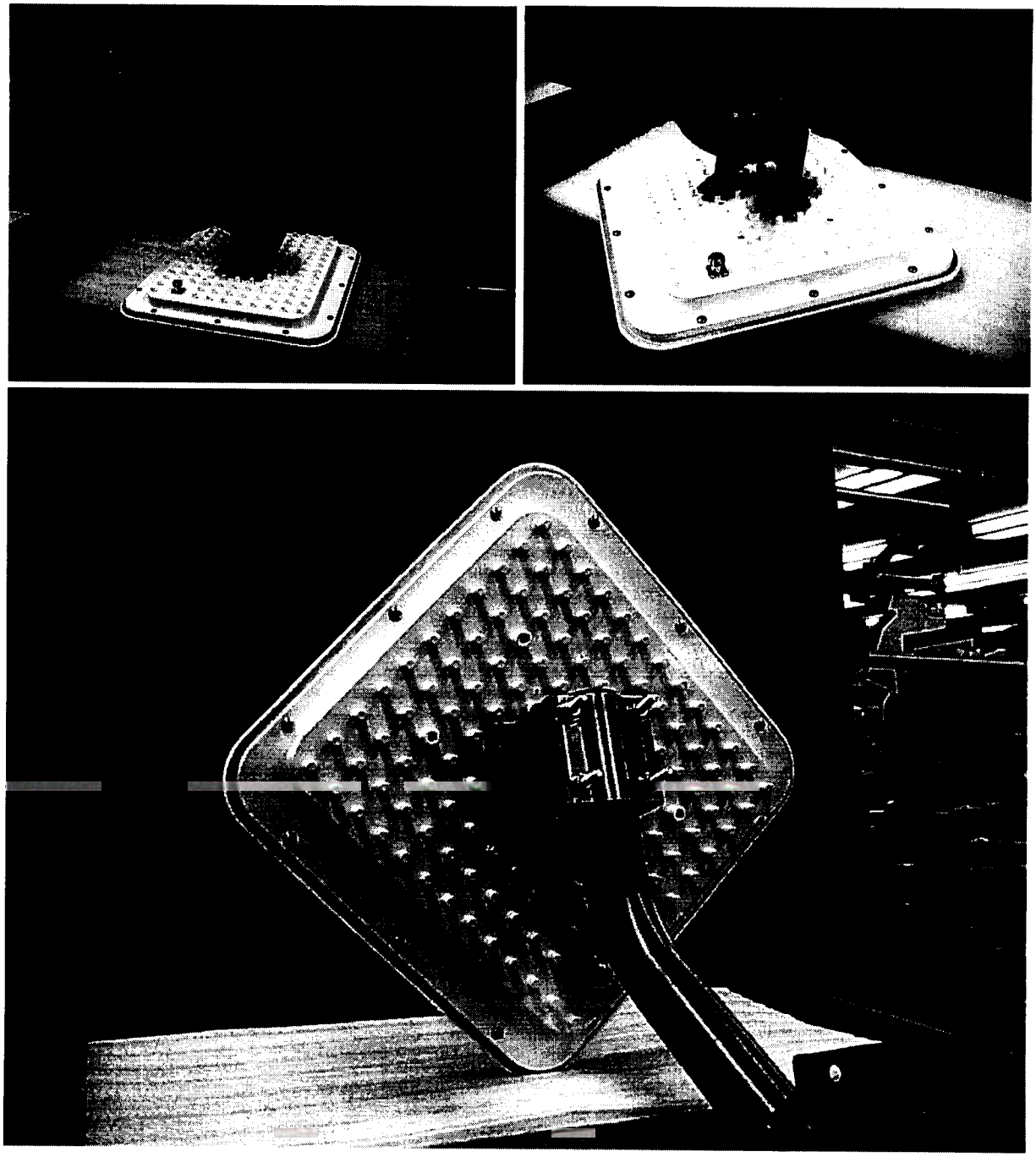
Step 1 Attach angled mounting bracket to gray mounting arm as shown in Figure 2 and 8.

Figure 8. Attaching the gray mounting arm to the angled mounting bracket, and the angled mounting bracket to the chassis.

Step 2 Attach angled mounting bracket to chassis. See Figure 8 and 9.

Step 3 Attach IF / control / DC cable as in Procedure 1 and 2. Mount gray mounting arm to wall.

Figure 9. Attaching the angled mounting bracket to the chassis.



Cabling the Wireless Transceiver

Warning Ensure that the power/breaker switches (on the power feed panel) for both the Main and Diversity transceiver are in the OFF position.

Warning Cisco and WJ strongly recommend that you use some type of cable-connection weatherproofing on all outdoor RF and IF cable connections to protect them against long-term degradation from weather effects. This is typically done by applying a suitable seal to the N-type connectors after they have been connected and verified. Do not use common electrical tape or similar types of tape because the resulting seal is not adequate, these types of tape do not withstand sunlight well, and they leave a gummy residue when removal becomes necessary.

There are several available products for this purpose. Some of the manufacturers/suppliers of these products are listed in Table 3.

N-type connector cable weatherproofing suppliers.

3M Cold Shrink Weatherproofing Kit Andrew Corporation www.andrew.com
Coax-Seal Universal Electronics, Inc. 4555/13 Groves Rd., Columbus OH 43232. (800) 241-8171

Connecting the IF/DC Cable

Connect the IF cable to the transceiver connector marked **IF/DC CONTROL INPUT**. Tighten the connection with an adjustable wrench or pliers. See Figure 3.

Connecting the Antenna Cable for Units without Integrated Antenna

Connect the Antenna cable to the transceiver connector marked **ANTENNA**. Tighten the connection with an adjustable wrench or pliers. See Figure 4. Consult the instructions provided by your antenna manufacturer for additional instructions on installing antennas. Tables 2 and 3 provide safe, minimum distances an operator should be from an antenna when it is transmitting.

Warning After cabling, reinstate power.

This completes the procedure for installing and cabling a wireless transceiver.

Removing and Replacing the Wireless Transceiver

Follow these instructions to remove and replace the wireless transceiver.

Removing the Wireless Transceiver

Removing an installed wireless transceiver involves the following tasks:

- Shutting Down the Wireless Link
- Disconnecting the Power
- Removing the Cables
- Removing the Wireless Transceiver from the Antenna Mast

Shutting Down the Wireless Link

The wireless transceiver is a required component of the broadband fixed wireless system, and can only be removed when the wireless link is down. Shut down the wireless link.

Disconnecting the Power

Use these steps to disconnect the DC power from the wireless transceiver.

Warning Before performing any of the following procedures, ensure that power is removed from the DC circuit. To ensure that all power is OFF, locate the circuit breaker on the panel board that services the DC circuit in the power feed panel, switch the circuit breaker to the OFF position, and tape the switch handle of the circuit breaker in the OFF position.

Step 1 Ensure that the DC power source is disconnected. (See warning above.)
Step 2 Switch the wireless transceiver power/breaker switches on the power feed panel to the OFF position.

Removing the Cables

Use these steps to remove the cables from the wireless transceiver.

Warning when installing or replacing the unit, the ground connection must always be made first and disconnected last.

Timesaver To make replacement easier, be sure all cables are labeled.

Step 1 Remove the RF cable leading to the antenna.
Step 2 Remove the IF/DC/Control cable.

Removing the Wireless Transceiver from the Antenna Mast

Follow these steps to remove the wireless transceiver from the antenna mast:

Step 1 Remove the hardware securing the U-bolts to the mast (see Figure 7), and remove the U-bolts from the mast.
Step 2 Carefully remove the wireless transceiver from the mast and move it to a work area.

Replacing the Wireless Transceiver

Replacing the wireless transceiver involves the following tasks:

Step 1 Mounting the Wireless Transceiver on the Antenna Mast

Step 2 Attaching the Cables

Step 3 Reinstating the Power

Remounting the Wireless Transceiver on the Antenna Mast

Mount the replacement transceiver on the mast using the instructions in the section of this document called **Installing the Wireless Transceiver**.

Attaching the Cables

Use these steps to attach the cables to the new wireless transceiver:

Step 1 Connect the IF/DC/Control cable to the IF/DC/Control input connector.

Step 2 Connect the RF cable leading to the antenna to the port labeled "ANTENNA" on the chassis.

Reinstating the Power

Use these steps to reinstate the power.

Step 1 Reconnect the DC power source.

Warning After wiring the DC power supply, remove the tape from the circuit breaker switch handle and reinstate power by moving the handle of the circuit breaker to the ON position.

Step 2 Switch the wireless transceiver power/breaker switches to the ON position.

This completes the procedure for removing or replacing the wireless transceiver in a Cisco broadband fixed wireless system.

Regulatory Compliance and Safety Information

This section provides international agency compliance, safety, and statutory information regarding the removal and replacement of the WJ broadband fixed wireless system transceiver.

FCC Registration and Requirements

The following paragraphs describe requirements and information based on FCC rules.

This WJ product has been tested and complies with the requirements in Part 2 and Part 21 of the FCC Rules for a transmitter of this type.

This product also complies with the Class B emissions limits in Part 15 for digital circuitry emissions, when installed with shielded cables.

Translated Safety Warnings

This section repeats in multiple languages the warnings found in this document.

Energy Hazard Warning

Warning Only trained and qualified personnel should be allowed to install, replace, or service this equipment. This equipment contains an energy hazard. Disconnect the system before servicing.

WaarschuwingAlleen getraind en gekwalificeerd personeel mag deze uitrusting installeren, vervangen of onderhouden. Deze uitrusting bevat energierisico's. Ontkoppel het systeem voordat u het onderhoudt.

VaroitusTämän laitteen asennuksen, vaihdon tai huollon saa suorittaa ainoastaan koulutettu ja pätevä henkilökunta. Laitteessa on sähköiskuvaara. Irrota järjestelmä ennen huoltoa.

AttentionCet équipement ne doit être installé, remplacé ou entretenu que par du personnel d'entretien qualifié et formé. Cet équipement contient de l'énergie électrique potentiellement dangereuse. Débrancher le système avant tout entretien/révision.

WarnungGerät nur von geschultem, qualifiziertem Personal installieren, auswechseln oder warten lassen. Im Gerät liegt gefährliche Spannung an. Vor allen Wartungsarbeiten Gerät vom Netz trennen.

AvvertenzaQuesto apparato può essere installato, sostituito o revisionato solo da personale qualificato e competente. Questo apparecchio presenta pericolo di scosse elettriche. Scollegare il sistema prima di procedere alla revisione.

AdvarselDette utstyret skal bare monteres, skiftes ut eller vedlikeholdes av kvalifisert personell som har gjennomgått opplæring. Det kan være fare for elektrisk støt forbundet med dette utstyret. Kople fra systemet før igangsetting av vedlikeholdsarbeid.

AvisoApenas pessoal treinado e qualificado deve ser autorizado a instalar, substituir ou fazer a revisão deste equipamento. Este equipamento constitui risco de choque eléctrico. Desligar o sistema antes de efectuar qualquer serviço de revisão.

¡Advertencia!Solamente el personal calificado debe instalar, reemplazar o reparar este equipo, ya que existe riesgo de descarga eléctrica. Desenchufe el sistema antes de proceder al mantenimiento del mismo.

Varning!Endast utbildad och behörig personal får utföra installation, utbyte eller service av denna utrustning. Denna utrustning kan medföra fara för elstöt. Koppla ifrån systemet innan service utförs.

Lightning Activity Warning

Warning Do not work on the system or connect or disconnect cables during periods of lightning activity.

Waarschuwing Tijdens onweer dat gepaard gaat met bliksem, dient u niet aan het systeem te werken of kabels aan te sluiten of te ontkoppelen.

Varoitus Älä työskentele järjestelmän parissa äläkä yhdistä tai irrota kaapeleita ukkosilmalla.

Attention Ne pas travailler sur le système ni brancher ou débrancher les câbles pendant un orage.

Warnung Arbeiten Sie nicht am System und schließen Sie keine Kabel an bzw. trennen Sie keine ab, wenn es gewittert.

Avvertenza Non lavorare sul sistema o collegare oppure scollegare i cavi durante un temporale con fulmini.

Advarsel Utfør aldri arbeid på systemet, eller koble kabler til eller fra systemet når det tordner eller lyner.

Aviso Não trabalhe no sistema ou ligue e desligue cabos durante períodos de mau tempo (trovoada).

¡Advertencia! No operar el sistema ni conectar o desconectar cables durante el transcurso de descargas eléctricas en la atmósfera.

Varning! Vid åska skall du aldrig utföra arbete på systemet eller ansluta eller koppla loss kablar.

DC Power Disconnection Warning

Warning Before performing any of the following procedures, ensure that power is removed from the DC circuit. To ensure that all power is OFF, locate the circuit breaker on the panel board that services the DC circuit, switch the circuit breaker to the OFF position, and tape the switch handle of the circuit breaker in the OFF position.

Waarschuwing Voordat u een van de onderstaande procedures uitvoert, dient u te controleren of de stroom naar het gelijkstroom circuit uitgeschakeld is. Om u ervan te verzekeren dat alle stroom UIT is geschakeld, kiest u op het schakelbord de stroomverbreker die het gelijkstroom circuit bedient, draait de stroomverbreker naar de UIT positie en plakt de schakelaarhendel van de stroomverbreker met plakband in de UIT positie vast.

Varoitus Varmista, että tasavirtapiirissä ei ole virtaa ennen seuraavien toimenpiteiden suorittamista. Varmistaaksesi, että virta on KATKAISTU täysin, paikanna tasavirrasta huolehtivassa kojetaulussa sijaitseva suojakytkin, käännä suojakytkin KATKAISTU-asentoon ja teippaa suojakytkimen varsi niin, että se pysyy KATKAISTU-asennossa.

Attention Avant de pratiquer l'une quelconque des procédures ci-dessous, vérifier que le circuit en courant continu n'est plus sous tension. Pour en être sûr, localiser le disjoncteur situé sur le panneau de service du circuit en courant continu, placer le disjoncteur en position fermée (OFF) et, à l'aide d'un ruban adhésif, bloquer la poignée du disjoncteur en position OFF.

Warnung Vor Ausführung der folgenden Vorgänge ist sicherzustellen, daß die Gleichstromschaltung keinen Strom erhält. Um sicherzustellen, daß sämtlicher Strom abgestellt ist, machen Sie auf der Schalttafel den Unterbrecher für die Gleichstromschaltung ausfindig, stellen Sie den Unterbrecher auf AUS, und kleben Sie den Schaltergriff des Unterbrechers mit Klebeband in der AUS-Stellung fest.

Avvertenza Prima di svolgere una qualsiasi delle procedure seguenti, verificare che il circuito CC non sia alimentato. Per verificare che tutta l'alimentazione sia scollegata (OFF), individuare l'interruttore automatico sul quadro strumenti che alimenta il circuito CC, mettere l'interruttore in posizione OFF e fissarlo con nastro adesivo in tale posizione.

Advarsel Før noen av disse prosedyrene utføres, kontroller at strømmen er frakoblet likestrømkretsen. Sørg for at all strøm er slått AV. Dette gjøres ved å lokalisere strømbryteren på brytertavlen som betjener likestrømkretsen, slå strømbryteren AV og teipe bryterhåndtaket på strømbryteren i AV-stilling.

Aviso Antes de executar um dos seguintes procedimentos, certifique-se que desligou a fonte de alimentação de energia do circuito de corrente contínua. Para se assegurar que toda a corrente foi DESLIGADA, localize o disjuntor no painel que serve o circuito de corrente contínua e coloque-o na posição OFF (Desligado), segurando nessa posição a manivela do interruptor do disjuntor com fita isoladora.

¡Advertencia! Antes de proceder con los siguientes pasos, comprobar que la alimentación del circuito de corriente continua (CC) esté cortada (OFF). Para asegurarse de que toda la alimentación esté cortada (OFF), localizar el interruptor automático en el panel que alimenta al circuito de corriente continua, cambiar el interruptor automático a la posición de Apagado (OFF), y sujetar con cinta la palanca del interruptor automático en posición de Apagado (OFF).

Varning! Innan du utför någon av följande procedurer måste du kontrollera att strömförsörjningen till likströmskretsen är bruten. Kontrollera att all strömförsörjning är BRUTEN genom att slå AV det överspänningsskydd som skyddar likströmskretsen och tejpa fast överspänningsskyddets omkopplare i FRÅN-läget.

DC Power Connection Warning

Warning After wiring the DC power supply, remove the tape from the circuit breaker switch handle and reinstate power by moving the handle of the circuit breaker to the ON position.

Waarschuwing Nadat de bedrading van de gelijkstroom voeding aangebracht is, verwijdert u het plakband van de schakelaarhendel van de stroomverbreker en schakelt de stroom weer in door de hendel van de stroomverbreker naar de AAN positie te draaien.

Varoitus Yhdistettyäsi tasavirtalähteen johdon avulla poista teippi suojakytkimen varresta ja kytke virta uudestaan kääntämällä suojakytkimen varsi KYTKETTY-asentoon.

Attention Une fois l'alimentation connectée, retirer le ruban adhésif servant à bloquer la poignée du disjoncteur et rétablir l'alimentation en plaçant cette poignée en position de marche (ON).

Warnung Nach Verdrahtung des Gleichstrom-Netzgeräts entfernen Sie das Klebeband vom Schaltergriff des Unterbrechers und schalten den Strom erneut ein, indem Sie den Griff des Unterbrechers auf EIN stellen.

Avvertenza Dopo aver eseguito il cablaggio dell'alimentatore CC, togliere il nastro adesivo dall'interruttore automatico e ristabilire l'alimentazione spostando all'interruttore automatico in posizione ON.

Advarsel Etter at likestrømsenheten er tilkoblet, fjernes teipen fra håndtaket på strømbryteren, og deretter aktiveres strømmen ved å dreie håndtaket på strømbryteren til PÅ-stilling.
Aviso Depois de ligar o sistema de fornecimento de corrente contínua, retire a fita isoladora da manivela do disjuntor, e volte a ligar a corrente ao deslocar a manivela para a posição ON (Ligado).

¡Advertencia! Después de cablear la fuente de alimentación de corriente continua, retirar la cinta de la palanca del interruptor automático, y restablecer la alimentación cambiando la palanca a la posición de Encendido (ON).

Varning! När du har kopplat ledningarna till strömförsörjningsenheten för inmatad likström tar du bort tejpen från överspänningsskyddets omkopplare och slår på strömmen igen genom att ställa överspänningsskyddets omkopplare i TILL-läget.

Ground Connection Warning

Warning When installing or replacing the unit, the ground connection must always be made first and disconnected last.

Waarschuwing Bij de installatie van het toestel moet de aardverbinding altijd het eerste worden gemaakt en het laatste worden losgemaakt.

Varoitus Laitetta asennettaessa on maahan yhdistäminen aina tehtävä ensiksi ja maadoituksen irti kytkeminen viimeiseksi.

Attention Lors de l'installation de l'appareil, la mise à la terre doit toujours être connectée en premier et déconnectée en dernier.

Warnung Der Erdanschluß muß bei der Installation der Einheit immer zuerst hergestellt und zuletzt abgetrennt werden.

Avvertenza In fase di installazione dell'unità, eseguire sempre per primo il collegamento a massa e disconnetterlo per ultimo.

Advarsel Når enheten installeres, må jordledningen alltid tilkobles først og frakobles sist.

Aviso Ao instalar a unidade, a ligação à terra deverá ser sempre a primeira a ser ligada, e a última a ser desligada.

¡Advertencia! Al instalar el equipo, conectar la tierra la primera y desconectarla la última.

Varning! Vid installation av enheten måste jordledningen alltid anslutas först och kopplas bort sist.

Cisco Connection Online

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- Modem: From North America, 408 526-8070; from Europe, 33 1 64 46 40 82. Use the following terminal settings: VT100 emulation; databits: 8; parity: none; stop bits: 1; and connection rates up to 28.8 kbps.

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