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Subscriber Unit Quick Install Guide

Tsunami Multipoint Version 2.0

Proxim WIRELESS NETWORKS

Take your network further

Part Number 67318r1

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Second Edition, December 2003

IMPORTANT SAFETY INSTRUCTIONS

Review the *Tsunami Multipoint Installation Manual* and *Reference Manual* for important installation instructions BEFORE you attempt to install this product.

This product is to be installed, used, and maintained by experienced telecommunications personnel only.

This product has been evaluated to the U.S. and Canadian (Bi-National) Standard for Safety of Information Technology Equipment, Including Electrical Business Equipment, CAN/CSA C22.2, No. 950-985 * UL 1950, Third Edition, including revisions through revision date March 1, 1998, which are based on the Fourth Amendment to IEC 950, Second Edition. In addition, this product was also evaluated to the applicable requirements in UL 1950, Annex NAE.

WARNING! This unit is intended for installation in accordance with Articles 110-18, 110-26, and 110-27 of the United States National Electric Code ANSI/NFPA 70; and per Articles of the Canadian National Electric Code.

This equipment should be installed in accordance with Article 810 of the United States National Electrical Code.

Equipment is to be used with, and powered by, the power supply provided only.

Lightning surge protection is provided by the power supply included with this product while powered. Objects may contact hazardous energy parts that could result in a risk of fire or personal injury.

A 15-Amp circuit breaker is required at the power source.

WARNING! This equipment is to be earthed. See the Installation Manual for the proper grounding method. Use the provided 10AWG copper earthing conductor, or equivalent, for this purpose.

Do not connect or disconnect the power cable to the equipment when the power supply is plugged in an AC outlet.

Only trained personnel should perform servicing of this product. Do not disassemble this product. By opening or removing any covers, you may expose yourself to hazardous energy parts. Incorrect re-assembly of this product can cause a malfunction and/or electrical shock when the unit is subsequently used.

Do not insert any objects of any shape or size inside this product while powered. Objects may contact hazardous energy parts that could result in a risk of fire or personal injury.

Do not spill any liquids of any kind on or inside this product.

The maximum room ambient temperature (Tmra) for this product is –33 to +65 degrees Centigrade. The ambient temperature range for the power supply is 0-55 degrees Centigrade. Consideration should be given to installing this equipment in an environment compatible with the Tmra.

Equipment is suitable for mounting on concrete or other noncombustible surface only.

Do not remove or alter the Marking label provided on this product.

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Introduction

The following documents comprise the Tsunami Multipoint documentation set.

- The *Tsunami Multipoint BSU Quick Install* provides just enough information for the experienced professional to install the Tsunami Multipoint BSU.
- The *Tsunami Multipoint SU Quick Install* provides just enough information for the experienced professional to install the Tsunami Multipoint SU.
- The *Tsunami Multipoint Installation Guide* provides detailed installation information for the less experienced professional to install and initially configure the Tsunami Multipoint system. If you are uncertain about any of the procedures in the Quick Install, refer to this document on the Tsunami Multipoint CD.
- The *Tsunami Multipoint Reference Manual* provides conceptual, advanced configuration, and command reference information about the Tsunami Multipoint system.

This device must be professionally installed!

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BEFORE YOU BEGIN

Make sure you verify that the MAC Address on the SU being installed has been entered into the BSU's access table prior to installing. You should also record:

- The S/N and MAC address of the SU being installed and the site name. Keep the information in a safe place. The MAC address is required to be entered into the BSU database to establish a link and the Serial Number is required for support from Proxim and is available only from the label of the unit.
- The Channel (4, 5 or 6) of the BSU to which the SU is to connect as well as the Frequency (**A**, **B**, **C**, **D**, or **E**).
- The modulation rate of the BSU to which the SU is to connect (**20**, **30**, **40** or **60** Mbps).
- The mode of operation of the BSU to which the SU is to connect (**Bridging** or **Routing**)
- The Access Mode of the BSU to which the SU is to connect (**Restricted** or **Open**).
- Whether VLAN tagging is enabled on the BSU or SU.
- Whether VoIP Mode is enabled.

If the BSU is set to **Routing** mode and **Restricted,** you must use at least one of the five IP addresses allowed under this configuration for a device connected to the SU.

You must install the Subscriber Utility Software as well as the Base Station Configuration Software on your PC.

Installing Configuration Software

You must install the Subscriber Utility software in order to install the SU. The Subscriber Utility software is used in the antenna pointing process.

The BSU Configuration Software is also required in the antenna pointing process—after aiming, the SU performs a net entry to the BSU and the BSU assigns a new IP address to the SU. The BSU Configuration Software is also required for enhanced SU diagnostics.

STEP 1: INSTALL THE SUBSCRIBER UTILITY

To install the Subscriber Utility software:

1. Identify the computer on which you will run the Subscriber Utility.

Note: See "System Requirements" for operating system and hardware requirements.

2. Insert the Tsunami Multipoint CD (provided with the product) into the computer's CD-ROM drive and open the CD's **config software** folder.

Note: If the PC has Microsoft IIS running, disable it before running the Subscriber Utility.

3. Double-click **susetup.htm** (or use a Web browser to open the file).
4. Click to place a checkmark in the box next to the **Include VM in download** option to install Java Virtual Machine (VM).

Note: You need not add VM if your computer already has an appropriate version of VM installed.

5. Click the **Start Installer for Windows** button to begin the software installation.
6. Follow the on-screen instructions to install the software.

Click **Done** when the installation is finished to close the installer.

STEP 2: INSTALL BSU CONFIGURATION SOFTWARE

To install the BSU/SU Console:

1. From your server's Windows Explorer root directory, double-click on the **BSU** folder; then double-click on the Install icon (or **install.exe**).
2. Two windows open simultaneously: **InstallAnywhere Web Installer** — **Microsoft Internet Explorer** (in disabled mode) superimposed by **Security Warning** (in enabled mode).

   Click the **Yes** button on the **Security Warning** window to close this window and view the **Base Station Configuration Software** window.
3. Click **Download 15.7M** to download the Tsunami Multipoint Base Station configuration software and Java VM; click **Download 2.7M** to download the Tsunami Multipoint Base Station configuration software without Java VM.
4. After the download completes, double-click on **BS.exe** to begin installation.
5. When the Tsunami Multipoint Base Station Configuration Software **Introduction** window is displayed; click **Next**.
6. Follow the on-screen instructions to install the software.

When the **Install Complete** window is displayed, click on **Done** to return to the Web Installer window; then close the Web Installer window.

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STEP 3: UPGRADE FIRMWARE

Proxim recommends that all equipment be upgraded to Firmware Version 2.0 (**PMP_SU_release2-0.mot**). If the SU is new from the factory, it is preloaded with the current SU Firmware Version.

The method for upgrading SU equipment from previous versions to Version 2.0 using the local download method follows. This method describes attaching a PC with the Base Station Configuration Software installed to the SU.

Firmware can be downloaded to the SU by the over-the-air method once the SU has established connection to the BSU. This method is described in detail in Appendix B of the *Tsunami Multipoint Installation Manual* ("Firmware Downloads").

Local Download to SUs

You can use this method to upgrade SUs that have not been deployed or have failed to successfully download using the remote over-the-air procedure. Using this procedure, individual SUs are upgraded through their Ethernet/Power cable.

This procedure requires the Tsunami Multipoint Base Station Configuration Software application be loaded on the PC attached to the SU (SU 1.,4 or 1.5 Console). The window label appears as "Tsunami Multipoint Subscriber Utility Configuration Software."

To download locally to an SU:

1. From the Subscriber Utility 1.4 or 1.5 console, select the **Download** menu.
2. Select **Local Firmware**.
3. From the **Look In** search field, choose the binary file to be downloaded (**PMP_SU_release2-0.mot**) from the appropriate directory and click **Select**. The download requires about 2 minutes. Once the download is complete, the banner indicating **Version 2.0** is displayed.

If the download does not complete successfully, as indicated by a checksum mismatch or a failure to reboot, cycle power to the SU and repeat, starting at step 1.

Deploying the Subscriber Unit (SU)

Make sure to record the serial number and site at which the SU is installed. The serial number is required to obtain support from Proxim and is available only from the label on the back of the SU.

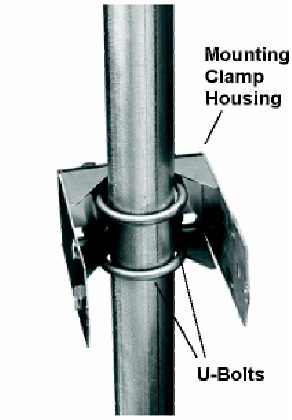
Unpack the following from the contents of the shipping box:



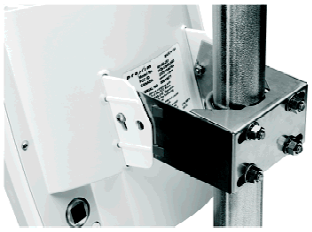
STEP 1: MOUNTING THE SUBSCRIBER UNIT

The outdoor component of the Subscriber Unit is designed to directly mount to a pole. Using the supplied U-bolts, you can mount the SU to a 1-1/4 inch to 1-3/4 inch pole (outside diameter). Using optional mounting brackets, you can mount the SU to a wall or other flat surface.

1. Insert the two U-bolts into the mounting clamp housing and attach the two #5/16 nuts and 5/16 flat washers.
2. Slide the mounting clamp housing/pole clamp assembly down the pole.



Squeeze the sides of the mounting clamp housing and slide it inside the flange protruding from the back of the SU until the pins extend into the holes on the side of the flange.



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3. Insert the two #10-32 screws in the sides of the mounting clamp housing/pole clamp assembly and loosely attach the two #10-32 nuts.



4. After you aim the SU (see "Aiming the SU"), tighten the two #10-32 screws and nuts to secure the SU in position.

Note: Complete "Step 2. Connecting Cables" before aiming the SU.

STEP 2: CONNECTING CABLES

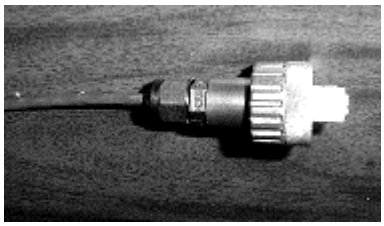
The following steps detail how to connect the cables between the radio, power adapter, and your network.

For each radio/power adapter set, perform these steps:

1. Insert the RJ-45 connector on the CAT5 cable into the RJ-45 port on the back of the SU until the locking tab clicks; slide the Woodhead body over the RJ-45 connector until it is fully seated. Hand-tighten the Woodhead connector; do not use the wrench to tighten the connector.

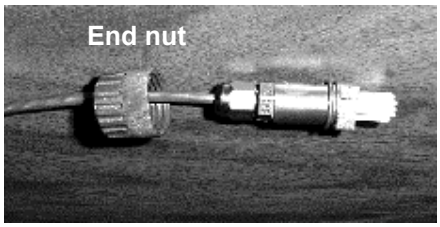


RJ-45 Connector



Woodhead Cover Placed over RJ-45 Connector

2. Tighten the end nut to seal the connector to the housing, and tighten the gland to seal the assembly to the cable.



End nut seated on RJ-45 connector

Note: Be sure the Tsunami Multipoint Subscriber Unit connector is properly "contacted" or the unit may fail; you should hear a "click" when installing the cable connector to its chassis.

3. Weatherproof the connection with waterproof butyl tape, as shown in the following photos:

The first photo depicts the connector before weatherproofing. You will add three layers of tape; one strip of butyl tape and two strips of electrician's tape are required.



First, wrap the connector using the first strip of electrician's tape, as shown in photos 2, 3, and 4. This serves as a base for the butyl tape, letting you remove the butyl tape easily when necessary.







Next, in the same manner, apply a layer of butyl tape over the electrician's tape, as shown in photos 5 – 8.









Finally, apply a layer of black electrician's tape over the butyl tape for further protection, as shown in photos 9 and 10; the butyl tape alone is not UV protected.





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4. Connect a standard CAT5 cable (not supplied) to the RJ-45 port on the power adapter. Connect the other end of the cable to a switch or hub on your network or directly to a PC.

   To directly connect the radio to a PC, use a ***straight-through Ethernet cable*** between the network interface card in the PC and the RJ-45 port on the power adapter. Use a ***cross-over Ethernet cable*** if connecting the power adapter to a switch or a hub.

WARNING!

The maximum length of the CAT5 cable allowed between the radio unit and the power adapter is 75 meters. The total length between the radio unit and PC, switch, or other network device, including the cabling from the radio unit and the power adapter and the cable from the power adapter to the network device, is 100 m.

5. If you are connected to a switch or a hub, connect a PC to the same switch or hub to which you connected the radio. Each PC is used to configure and control its associated radio.
6. Connect the power adapter to a grounded AC power source. The radio will emit a small chirp to indicate that it is receiving power.

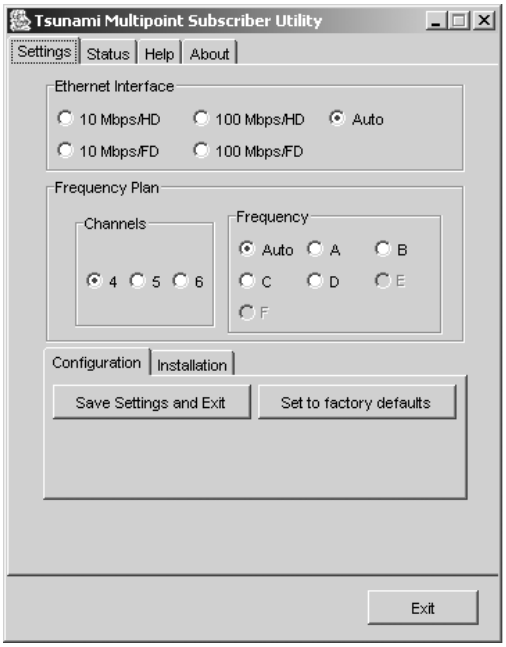
Note: To ensure proper grounding, use the hole on the back of each SU and the provided grounding screws to attach a ground wire to each radio. Use wire grounding techniques in accordance with your local electrical codes.

STEP 3: AIMING THE SU

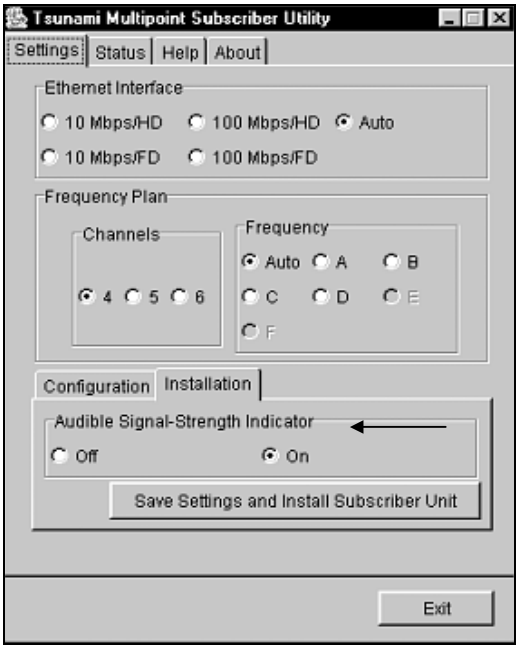
The SU is shipped from the factory in aiming mode (with Channel **4** and Frequency **Auto**) so that you can install and aim it without having to first run the Subscriber Utility. You must run the Subscriber Utility, however, to take the SU out of aiming mode in order to establish a link with the BSU.

1. The PC and the SU must be members of the same IP subnet to communicate properly. On the PC that has the Subscriber Utility installed, change the IP address for its Ethernet card to **192.168.20.xx** with a **255.255.255.0** subnet mask, where **xx** can be any available number between 1 and 254.

   Proxim recommends using **10** to avoid using the same IP address as the BSU or SU). You can run the Multi-BSU configuration software to verify the IP address of the SU that is displayed in the tab.
2. Launch the Subscriber Utility.
3. Choose the desired frequency plan and operating frequency. The factory default is the 4-channel frequency plan and frequency **Auto**. Selecting a specific frequency forces the SU to search for a BSU only on that specific frequency. Selecting **Auto** lets the SU search all frequencies in the plan.



4. Click on the **Installation** sub-tab and turn on the **Audible Signal-Strength Indicator** (if not already set to **On**).



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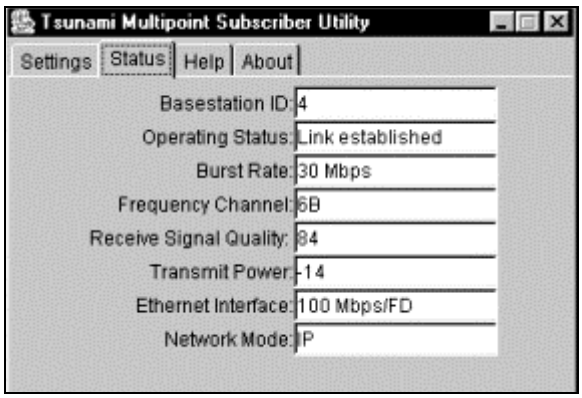
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5. Click **Save Settings and Install Subscriber Unit** to launch the aiming tool.
6. Slowly adjust the position of the SU until you have maximized the strength of the radio signal.
   - The SU beeps after it has detected a signal from the BSU. The beeps increase in frequency as the strength of the signal received from the BSU increases.
   - The Receive Signal Quality indicator within the Subscriber Utility's Installation window reports the strength of the radio signal.
7. Click **OK** to close the aiming tool.

If you have left the Base Station Configuration Software running on the computer connected to the BSU, a notification is displayed once the SU has successfully joined the network.

STEP 4: DISPLAYING LINK STATUS INFORMATION

1. The **Status** window displays the current information at the SU, as well as information about the link between the BSU and the local SU. To display the **Status** window select the **Status** tab.



2. If all of the fields within the **Status** window are blank (except for **Operating Status** where you read **"ODU not connected"**), this most likely means that the BSU has assigned a new IP address to the SU that is not within the same subnet as the IP that you have assigned to the NIC card on the PC running the Subscriber Utility.
3. If the **Status** window is similar to the previous figure, proceed to "Confirming Network Activity." If you receive an **"ODU not connected"** message in the **Operating Status** field, perform the following.

   On the computer that is connected to the SU, launch the Multi-BSU Configuration Software. Once this software connects to the attached SU, the "Configuration Software" banner changes to "Subscriber Configuration Software." At this point, the "Connection 1:" tab indicates the new IP address of the SU.

You must now change the IP address of the PC that is running the Subscriber Utility software to a new address within the same subnet as that of the SU.

STEP 5: CONFIRMING NETWORK ACTIVITY

Because of the learning bridge filter of the Tsunami Multipoint system, Proxim recommends you do not move a computer that was behind one end of the link to the other end of the link.

The learning bridge filter learns local hosts connected to the Ethernet port (up to 16 at the BSU and the SU) and prevents traffic from being sent to the wireless port for those hosts. This is based upon the MAC address of the host. For this reason, Proxim recommends that you test the Tsunami Mutlipoint with two PCs, one behind the BSU and one behind the SU.

You can clear the learning bridge filter on the BSU or SU by first disconnecting the PC and then rebooting the BSU or SU before moving the PC to the other side.

Attempt to ping from a computer on the SU side of the network to a computer on the BSU side of the network.

The BSU and SU must have different IP addresses to do this. If the BSU and SU are configured with the same IP address, the local unit responds to the ping (that is, if the BSU and SU have the same IP address and you ping the BSU from a host connected to the SU, the SU responds to the ping).

If the ping tests are unsuccessful, attempt the following:

1. Check all IP and computer configurations (for example, if you attempt to ping the BSU from the SU configuration computer and the BSU and SU's are in separate networks, you must have the configuration computer's gateway set to the SU for the ping to work.)
2. Adjust the network's IP settings, if necessary, to achieve IP connectivity.

If this procedure fails, see "Chapter 4. System Diagnostics and Operating Tips" in the *Tsunami Multipoint Installation Manual*. This chapter contains information about running system diagnostics to ensure the equipment is operating as expected .

Further information can be found in "Appendix A. Troubleshooting" in the *Tsunami Multipoint Reference Manual*.

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System Requirements for Version 2.0

Hardware	Multimedia PC with a Pentium 200 MHz or higher processor (300 MHz recommended).
Operating System	Microsoft Windows® 98, NT 4.0, Me, 2000, XP.
Java 2 VM	SDK or runtime (1.2.2_12 or later, 1.3.1_03 is provided)
Memory	64 MB for Windows® 95/98 or Windows® Me; 128 MB for Windows® NT 4.0 workstation, Windows® 2000 Professional, or Windows® XP Professional (256 MB RAM is recommended).
Hard Drive	2 GB hard disk with up to 250 MB of available hard-disk space.
ROM Drive	Double speed (2x) or faster CD-ROM / DVD-ROM.
NIC	10/100 Mbps NIC with RJ-45 input.
Input Devices	Standard IBM-PC compatible 101-key style keyboard, PS2 or USB compatible mouse, or a compatible pointing device.
Monitor	Super VGA 16-bit or higher monitor supporting 800 x 600 screen resolution; coordinated video driver for installed video card; VGA not supported.
Graphics Card	PCI, AGP, or on-board graphics card supporting 16-bit 640 x 480 video resolution or higher.
Video Driver	Must support 16-bit color.
Browser	Microsoft Internet Explorer 5.0 software or later (6.0 recommended); other browsers also supported.
Optional Hardware	16-bit sound card with speakers or headphones for audible alarm; 6 foot power strip with power surge protection.
Optional Software	Microsoft Personal Web Server, Internet Information Server (IIS), or Apache 1.3.x for over the Internet console installation.

Technical Support

If you are having a problem using a Tsunami Multipoint and cannot resolve it with the information in “Appendix A. Troubleshooting” in the *Tsunami Multipoint Reference Manual*, gather the following information and contact Proxim Technical Support:

- What kind of network are you using?
- What were you doing when the error occurred?
- What error message did you see?
- Can you reproduce the problem?

Be sure to:

- Note the serial number of the product before installation. Keep this information in a safe place. The serial number is required to obtain support and can be found only on the back of the unit.
- Obtain an RMA number before sending any equipment to Proxim for repair.

Have the following logs from the affected equipment before calling Technical Support:

- SUlog1
- SUlog2
- BSUlog (for each affected SU)
- uplber, berlog (for each affected SU)

Access Knowledgebase:

Ask a Wireless WAN Product question and get an express response: **WANsupport@proxim.com**

E-mail Technical Support:
WANtechnicalsupport@proxim.com

To receive E-mail technical support, be sure to include the serial number of the product or products in question. We will be unable to respond to your inquiry without this information.

Call Technical Support:

Toll Free +1-866-674-6626 or +1-408-542-5390
Hours: 6:00 a.m. to 5:00 p.m. M-F Pacific Time

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