



soma
NETWORKS™

OUTDOOR SOMAPORT USER GUIDE

Part 006217 revision 01

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PREFACE

Conventions

This section outlines the conventions used in this guide.

Measurement Conventions

Measurements in this guide are expressed according to the Systeme International d'Unites standards for metric units and abbreviation. Equivalent Imperial measurements (used in the United States) are provided in parentheses, except when Imperial is the international standard.

Bits and bytes are not abbreviated, though their prefixes are; for example, "kbits" for kilobits, "Gbytes" for gigabytes.

Trademark Identification

The Outdoor SOMAport™ subscriber device, a trademark of SOMA Networks Inc., is referred to without notation in the rest of this document.

Alerts used in this guide



WARNING: Where you see this symbol and the WARNING heading, strictly follow the instructions to avoid personal injury or damage to the product.



WARNING: Where you see this symbol and the WARNING heading, strictly follow the instructions to avoid electric shock.

Important Safety Instructions

For your safety and protection, read this entire guide before you attempt to install the SOMAport. In particular, read this safety section carefully. Keep this safety information where you can refer to it if necessary.



WARNING: One milliampere of current flowing through your body can kill you. Voltage as low as 15 volts can kill under the right conditions. Treat energized equipment with respect.

Read instructions – Read and follow all of the safety and operating instructions before operating the SOMAport.

Retain instructions – Retain the safety and operating instructions for future reference.

Follow instructions – Follow all operating instructions.

Heed warnings – Adhere to all warnings on the SOMAport and in the operating instructions.

Power sources – Use only the type of power source indicated on the label. If you are not sure of the type of power supplied to your home, consult your product dealer or local power company.

Grounding or polarization – The plug for the power cord on the SOMAport fits into the power outlet only one way. If you are unable to insert the plug fully into the outlet, contact your electrician to replace your outlet. To prevent electric shock, do not use this plug with an extension cord or outlet unless you can fully insert the blades without blade exposure. Do not defeat the safety purpose of this plug.

Power-cord protection – Route power-supply cords so that they are not likely to be walked on or pinched by items placed upon or against them. Watch for wear in the cord at the plug and socket.

Attachments – Do not use attachments with the SOMAport that have not been recommended in this guide as they may cause hazards.

Power lines – Locate the outdoor unit of the SOMAport more than 6 m (20 feet) from overhead power lines, electric lights, or power circuits. When installing the

outdoor unit, do not touch (or allow the outdoor unit or any cabling or ladder to touch) power lines, electric lights, and power circuits, as contact with them may be fatal. If any part of the outdoor unit comes into contact with a power line, call your local power company. Do not try to remove it yourself.

Weather conditions – Do not install the outdoor unit of the SOMAport while it is raining, if there is threat of lightning, or if winds are over 40 km/h (25 miles per hour).

In addition to the safety instructions above, follow these guidelines when installing the SOMAport:

Important Notice about Installation

An improperly installed SOMAport may cause serious damage to you and/or your property may even cause fatal injuries. The SOMAport Installation Guide has been developed and is intended for those individuals with experience in performing various installation tasks involving outdoor telecommunication devices. It is strongly recommended that the SOMAport be installed by those individuals who have experience, at a minimum, with the following tasks:

- Familiarity and ability to use a power drill and associated tools and devices to safely drill holes into the exterior and interior structures of a house
- Familiarity and ability to determine with a high degree of accuracy and precision the location of support studs, water pipes, electrical wiring, or heating, air conditioning, or gas lines or conduits in the structure near where holes are being drilled in the house
- Familiarity and ability to route CAT5 cable through walls, under floors and/or interior walls.

Before installing the SOMAport, you are advised to check the zoning codes, covenants and community restrictions that may be applicable in your area. Certain areas may prohibit the installation of devices such as the SOMAport. SOMA Networks, Inc. will not accept and is not responsible or liable for any damages or injuries that may result from the installation of the SOMAport by you. If you are not in agreement with this notice, or do not have the experience necessary to install the SOMAport, please contact your telecommunications service provider for further instructions with regard to the proper installation of the SOMAport.



WARNING: The outdoor unit must not be used indoors. It must be mounted on a permanent outdoor structure.



WARNING: Do not connect any third-party devices to the outdoor unit, CAT5 cable, or indoor unit. Otherwise, damage may occur.

Maintenance and servicing

Cleaning – Unplug the indoor unit from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleanser. Use a dry cloth for cleaning.

Servicing – Do not attempt to service the outdoor unit of the SOMAport yourself. Opening or removing covers may expose you to dangerous voltage or other hazards and may void the warranty. There are no user-serviceable parts inside. Refer all servicing to qualified service personnel.

Replacement parts – When replacement parts are required, have the technician verify that the replacements being used have the same safety characteristics as the original parts. Use of replacement parts specified by the product manufacturer can prevent fire, electric shock, other hazards.

Conditions requiring service – Unplug the indoor unit from the wall outlet and refer servicing to qualified service personnel under the following conditions:

- The power supply or cord is damaged.
- Liquid has been spilled on the indoor unit or it has been exposed to water.
- An object has fallen into the SOMAport.
- The SOMAport does not function normally even though you have adhered to the operating instructions and have made adjustments to only those controls covered by the operating instructions.
- The SOMAport has been dropped and a change in performance has occurred.
- The SOMAport exhibits a distinct change in performance.

REGULATORY NOTICES

The Outdoor SOMAport has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, you can try to correct the interference by:

- Relocating the SOMAport
- Increasing the distance between the SOMAport and the device experiencing the interference
- Connecting the equipment to an outlet on a circuit different from that to which the SOMAport is connected

Declaration of Conformity

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declares under our sole responsibility that the product
Outdoor SOMAport

complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

ATTENTION: Changes or modifications not expressly approved by SOMA Networks for compliance could void the user's authority to operate the equipment.

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INTRODUCTION

This chapter provides an overview of the Outdoor SOMAport.

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OVERVIEW

The Outdoor SOMAport™ subscriber terminal provides high-speed Internet access and telephone service. The SOMAport works like a cell phone, in that it communicates with your service provider's network over the air and does not require a special wire connection.

The SOMAport consists of two parts: an outdoor unit and an indoor unit. After installing the outdoor unit, simply plug-in the indoor unit and connect it to your computer using the provided Ethernet cable. The SOMAport will automatically connect to your service provider and you can setup your account using a Web browser.

If you are using your SOMAport to provide telephone service, you can connect ordinary telephones to it.

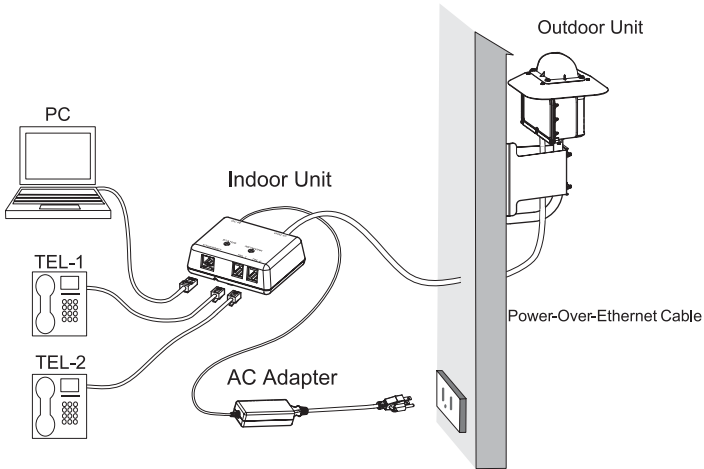
Internet service

The SOMAport provides a high-speed, "always on" internet connection, which means you can be connected to the Internet and still use your telephone. The SOMAport is designed to be left on – it should not be turned off when not in use.

Telephone service

The telephone service provided by the SOMAport is independent and separate from your phone service. Wireless services may differ from your traditional wired services. Consult with your wireless service provider for details.

SYSTEM COMPONENTS

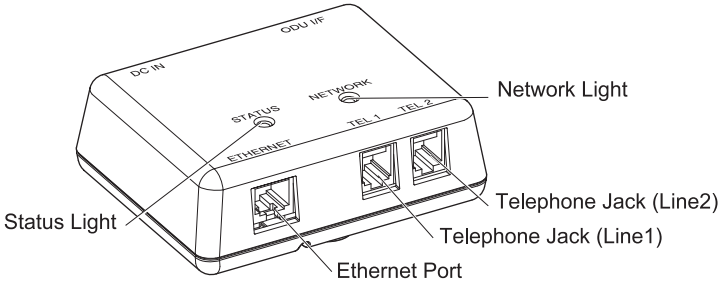


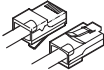
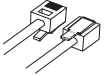
Outdoor Unit: The outdoor unit is a ruggedized box, typically pipe-mounted, that contains a radio modem and an internal antenna. It uses a single cable (CAT5) that transmits data, telephone, and power to and from the indoor unit.

Indoor Unit: The indoor unit is placed inside subscriber's residence and connects to the subscriber's computer and telephones. The indoor unit also functions as an AC adapter for the outdoor unit.

THE INDOOR UNIT

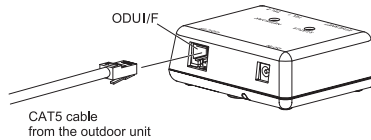
The ports and jacks used to connect computers and telephones to the indoor unit are shown below:



Part	Description	
Ethernet port	Use this port with the supplied Ethernet cable to connect the indoor unit to a computer or hub.	
Telephone jacks	Use these jacks to connect telephones to the indoor unit. The SOMAport can provide up to two independent telephone lines, depending on your service provider.	



Use ODU I/F port to attach the CAT5 cable that connects the indoor unit to the outdoor unit. **DO NOT** connect the cable to any of the other jacks or ports.



Status Light

The status light indicates whether or not the SOMAport is powered on and operating normally.

State	Description
Off	The SOMAport is not receiving power.
Amber	The SOMAport is booting and running its internal diagnostics.
Flashing Amber	The SOMAport is upgrading its software
Green	The SOMAport is powered and operating normally.
Red	An error occurred. The SOMAport is not currently functional.



DO NOT unplug the SOMAport when the Status light is flashing amber.

Network Light

The network light indicates if the SOMAport has located a base station.

Status	Description
Off	The SOMAport is not receiving power.
Amber	The SOMAport is attempting to locate a base station.
Flashing Amber	The SOMAport cannot locate a base station.
Flashing Green	The SOMAport has located a base station and is attempting to establish a connection.
Green	The SOMAport has located a base station and has established.
Red	An error occurred. The SOMAport is not currently functional.

ANTENNA

The outdoor unit of the SOMAport communicates with a cellular tower operated by your wireless service provider. The outdoor unit contains an internal antenna that automatically steers itself toward the best signal when you plug in the SOMAport. It also periodically checks to see if the current antenna direction is optimal and adjusts automatically if required.



WARNING: While this device is in operation, a separation distance of at least 20 centimeters (8 inches) must be maintained between the radiating antenna and any person exposed to the transmitter in order to meet the FCC RF exposure guidelines. No change to the antenna or device is permitted. Doing so may result in the installed system exceeding RF exposure requirements. This device must not be co-located or operating in conjunction with any other antenna or radio transmitter. Installers and end users must follow the installation instructions provided in this guide.



CONNECTING THE INDOOR UNIT

This chapter describes how to connect computer and telephone equipment to the indoor unit.

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CONNECTING THE POWER SUPPLY AND POWERING ON THE INDOOR UNIT

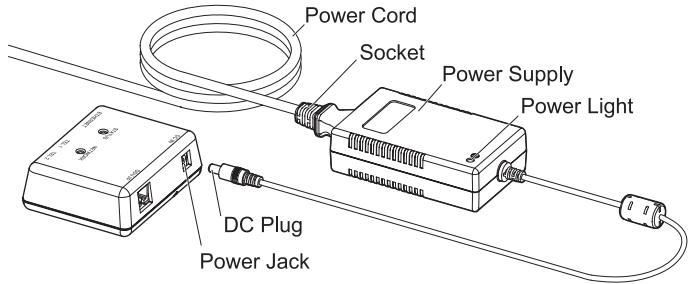
The indoor unit does not have a power switch. You turn on the indoor unit by plugging it into a power outlet, and turn it off by unplugging it. When you plug in the indoor unit, it starts, connects to your service provider's network, and establishes a connection.



WARNING: Use only the power supply and power cord that came with the indoor unit. Using another power supply may damage your equipment and poses the risk of shock or electrocution.

► To install the power supply and power on the indoor unit

- 1 Insert the DC plug into the power jack of the indoor unit.



- 2 Insert the socket end of the power cord into the power supply's receptacle.
- 3 Insert the plug end of the power cord into a three-prong grounded power outlet. The indoor unit powers on when you plug it in. There is no power button. The light on the power supply turns when it is receiving power.
- 4 The SOMAport takes up to five minutes to start, acquire a radio signal, and connect to the network.

NOTE: If you ever need to disconnect the power supply, disconnect the power cord from the power outlet first. Then unplug the connector from the back of the indoor unit.

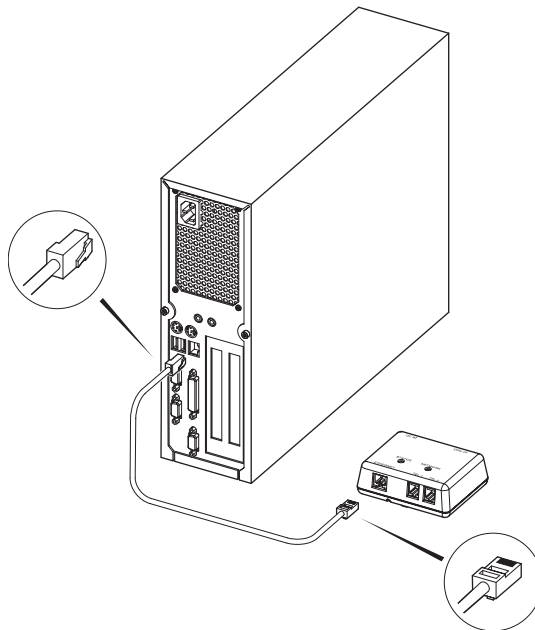
CONNECTING A COMPUTER VIA ETHERNET

Use the supplied Ethernet cable to connect your computer to the indoor unit.

NOTE: If your computer does not have an Ethernet port, you will need to purchase an Ethernet card or an Ethernet-to-USB adapter. Contact your service provider for information about supported hardware.

► To connect a computer via Ethernet

- 1 Insert one end of the supplied Ethernet cable into the Ethernet port on the indoor unit.
- 2 Insert the other end of the cable into the Ethernet port on your computer.



Connecting
the indoor unit
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CONNECTING TELEPHONES TO THE INDOOR UNIT

In order to use a telephone with your SOMApport, you will need to subscribe to your service provider's telephone service during service activation.

If telephone service is not available in your area or if you do not want to use telephones with your SOMApport, skip to "Activating Service" on page 30.

Telephone Jacks

There are two telephone jacks on the indoor unit, one for line 1 (left) and the other for line 2 (right).

How you connect telephones to the indoor unit depends on three things.

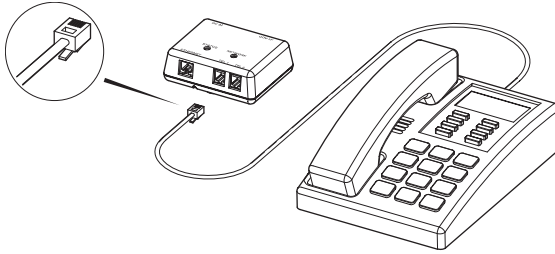
- The number of lines you subscribe to (one or two)
- The number of telephones you connect to the indoor unit
- The type of telephones you connect (one-line or two-line telephones)

Lines	Connecting One Telephone	Connecting Two Telephones
One	Use the line 1 (left) jack. See "To connect a single telephone" on page 28.	Insert a duplex adapter into the line 1 (left) jack and then connect both telephones to the adapter. See "To connect two telephones (when you have one line)" on page 28.
Two	Use the line 1 (left) jack. See "To connect a single telephone" on page 28.	Connect telephones to both jacks. See "To connect two telephones (When you have two lines)" on page 28.

▶ **To connect a single telephone to the indoor unit**

- 1 Insert the free end of the telephone cable into the line 1 (left) jack on the indoor unit.

NOTE: To connect a two-line telephone, you must subscribe to two lines.

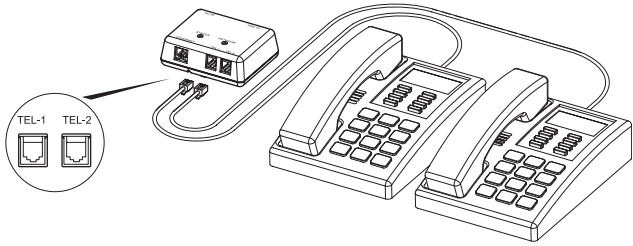


Connecting
the indoor unit
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▶ **To connect two telephones (when you have two lines)**

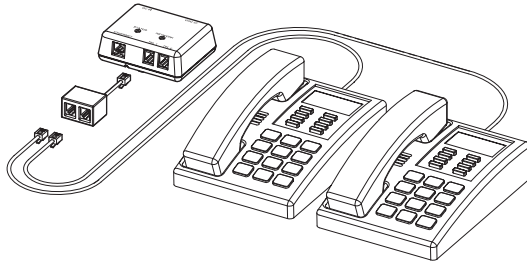
- 1 Connect the cable of the telephone you want serviced by line 1 to the line 1 (left) jack on the indoor unit.
- 2 Connect the cable of the telephone you want serviced by line 2 to line 2 (right) jack on the indoor unit.

NOTE: If you have a two-line telephone, connect it to the line 1 (left) jack.



▶ **To connect two telephone (when you have one line)**

- 1 Insert a dual-jack extension cord or adapter into the line 1 (left) jack of the indoor unit.
- 2 Insert the free end of one telephone cable into one of the jacks on the adapter.
- 3 Insert the free end of the second telephone cable into the other jack on the adapter.



▶ To test your SOMAport telephone service

Pick up the receiver and listen for dial tone.

- If you hear a standard dial tone, the SOMAport is connected to your service provider's network. You may have to activate full service if your service provider has not done so already. See "Activating Service" on page 30.
- If you hear a series of tones, the SOMAport is still starting. Hang up, and listen again in a few minutes.
- If you hear silence, see "Finding Causes of Telephone Problems" on page 38.

ACTIVATING SERVICE

After the SOMAport powers on, it will be in one of two service modes:

- **Restricted access** – Your SOMAport remains in this mode until your account is activated by your service provider. You can use the SOMAport only to contact your service provider to activate full service, either by telephone or through the service provider's Web site. You cannot receive telephone calls in this mode, although you can place a call to an emergency service (for example, 911 in North America).
- **Full-service access** – You can browse any site on the Internet, receive telephone calls, and place calls to any telephone number.

▶ To activate full service

- 1 Restart your computer while it is connected to the powered-on SOMAport.
- 2 Launch a Web browser.
- 3 Direct your browser to a known valid Internet address (such as www.google.com).
 - If the page opens, full service has already been activated and you can begin using your SOMAport for Internet service.
 - If you are redirected to your service provider's Web page, complete the signup procedure on the Web site to activate full service.
 - If you can not open any Web pages at all, see "Finding Causes of Computer Problems" on page 36.

NOTE: If you subscribe only to telephone service, activate full service by calling your service provider's assistance center.



CONNECTING MULTIPLE COMPUTERS

This chapter explains how to install the Outdoor SOMAport as an Internet gateway for a local area network. Follow the procedures in this chapter if you want to connect multiple computers.

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OVERVIEW

A hub, switch, or router is required in order to share the Internet connection with multiple computers. The Outdoor SOMAport functions as a DHCP server (it automatically assigns IP addresses to devices attached to it) and will work with most consumer home network devices.

The connection procedure differs slightly depending on the type of your home network device.

When using a hub or switch, see "Using an Ethernet Hub" on page 33.

When using an Internet router see "Using an Internet Router" on page 34.

USING AN ETHERNET HUB

An Ethernet hub or switch (referred to generically in this section as a "hub") can be used to have multiple computers share an Internet connection from a single SOMAport.

NOTE: Each computer connected to the hub requires an IP address assigned to it by your service provider. Contact your service provider for information about provisioning an account that can use several IP addresses.

► To use an Ethernet hub with the SOMAport

- 1 Choose a location and power on the indoor unit, as described in chapter "Connecting the Power Supply and Powering on the Indoor Unit" on page 24.
- 2 Wait for the SOMAport to find a base station.
- 3 Connect the indoor unit to the hub:
 - i Insert one end of a straight-through Ethernet cable into the Ethernet port on the indoor unit.
 - ii Insert the other end of the cable into an uplink port (sometimes labeled as a WAN or Internet port) on the hub.

NOTE: If the hub does not have an uplink port, you may connect to the indoor unit using an Ethernet port (which may be labeled as a switched, LAN, or numbered port) on the hub. However, you must obtain and use a crossover Ethernet cable (not shipped with the SOMAport) to make this connection.
- 4 Power on the hub.
- 5 Connect each computer to an Ethernet port on the hub.
- 6 Reboot each computer.

USING AN INTERNET ROUTER

An Internet router, supporting either Ethernet or WiFi (802.11) connections, can be used to have multiple computers share an Internet connection from a single SOMAport.

► **To use an Internet router with the SOMAport**

- 1 Choose a location and power on the indoor unit, as described in chapter "Installing the Indoor Unit."
- 2 Wait for the SOMAport to find a base station.
- 3 Power on the router.
- 4 If necessary, configure the router to use DHCP when obtaining an external IP address. See the documentation for your router for specific configuration Information.
- 5 Connect the SOMAport to the router:
 - i Insert one end of a straight-through Ethernet cable into the Ethernet port on the indoor unit.
 - ii Insert the other end of the cable into an uplink port (sometimes labeled as a WAN or Internet port) on the router.
- 6 Connect each computer to the Internet router. See the documentation for your router for information.



TROUBLESHOOTING

This chapter describes the problems the SOMAport may exhibit, the possible causes of those problems, and the actions you should take to fix them.

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FINDING CAUSES OF COMPUTER PROBLEMS

Look up the problem you are experiencing and follow the suggested actions. If the recommended actions do not fix the problem, contact your service provider.

Problem	Possible causes	Action
You cannot connect to the Internet	Network settings for an Ethernet connection are incorrect.	See "Ethernet Network settings are Incorrect" on page 49.
	Signal has been dropped.	Unplug the indoor unit and plug it back in again.
	The SOMAport is not receiving power.	See "The SOMAport is Not Receiving Power" on page 44.
	The SOMAport experienced a fault condition during startup.	See "There is a Fault Condition" on page 43.
	No connection between the computer and the indoor unit.	See "There is a Problem with the Ethernet Cabling" on page 45.
	You are using Internet Explorer and the LAN settings are not properly configured.	See "Internet Explorer LAN Settings are Incorrect" on page 48.
	Signal is weak.	See "The Signal is Weak" on page 41
It takes a long time to open a Web page	Internet congestion.	Try again.
	Signal is weak.	See "The Signal is Weak" on page 41.
	Cable connecting the computer to the indoor unit is damaged.	Replace the cable.

Problem	Possible causes	Action
It takes a long time to open a Web page	Your Ethernet interface is in full-duplex mode. (This applies only if your indoor unit is directly connected to the Ethernet port on your computer, rather than through a hub.)	Use the appropriate system control to change the duplex setting of your Ethernet port to half-duplex. Refer to the documentation for your operating system.
Making a wireless Internet connection is prevented by old dial-up default	Computer is set up to connect to the Internet via dial-up by default.	See "The Computer Uses an Old Dial-UP Connection" on page 46.
You cannot send Email	SMTP server associated with your existing email account is not accessible.	Use a Web account, such as yahoo, for sending and receiving messages.

FINDING CAUSES OF TELEPHONE PROBLEMS

Look up the problem you are experiencing and follow the suggested actions. If the recommended actions do not fix the problem, call your service provider.

Problem	Possible causes	Action
Irregular dial tone	If you hear a series of tones (not a regular dial tone) before you attempt a call, the SOMAport has not yet acquired a signal.	Wait a few minutes and try again.
No dial tone	If you hear a "fast busy" tone after you attempt to dial a number, you have not yet acquired a signal.	Activate full service as described in "Activating Service" on page 30.
	If your telephone is connected to line 2 and you hear silence before dialing a call, you are in restricted mode.	Activate full service as described in "Activate Service" on page 30.
	Cable connections are not secure.	Make sure the telephone cable is securely connected to the indoor unit and the telephone.
	Telephone cable is inserted into the indoor unit's Ethernet port	Make sure that the telephone is connected to a telephone jack.
	Telephone is broken.	Try a telephone that is known to work. If you were using a cordless telephone, try using a corded one.
	The SOMAport experienced a fault condition during startup.	See "There is a Fault Condition" on page 43.
	The SOMAport is not receiving power.	See "The SOMAport is not Receiving Power" on page 44.

Problem	Possible causes	Action
No dial tone	Signal is weak.	See "The Signal is Weak" on page 41.
Voice quality is poor	Signal is weak.	See "The Signal is Weak" on page 41.
	Telephone is broken.	Try a telephone that is known to work. If you were using a cordless telephone, try using a corded one.
Calls are dropped	Signal is weak.	See "The Signal is Weak" on page 41.

FINDING CAUSES OF OUTDOOR UNIT PROBLEMS

If you experience any of the following problems, follow the suggested actions.

Problem	Corrective Actions
The cable connections are poor	Secure the cable connections.
The signal is weak	Reposition the outdoor unit following the guidelines on page 79.
The total length of the CAT5 cable from the outdoor unit to your personal computer is more than 50 m	Check the connections and make sure they are secure. Poor connections may be reported due to excessive cable length. Reposition the outdoor unit or the indoor unit to reduce the amount of cable required.

THE SIGNAL IS WEAK

The signal to your SOMAport may be weak if you are having any of the following problems:

- Telephone voice quality is poor or calls are dropped.
- It takes a long time to open a Web page.
- You cannot browse the Internet at all.

▶ To improve reception quality

If you are experiencing an outgoing performance problem, try the following steps:

- 1 Make sure you have located the outdoor unit according to the guidelines listed in "Installation guidelines and requirements" on page 79.
- 2 See if a nearby appliance is having an effect on the signal. Do the following for each appliance, testing one appliance at a time:
 - i Turn off the appliance.
 - ii While the appliance is off, check the signal strength indicator to see if the signal improves.
 - If there is an improvement, reposition either the appliance or the outdoor unit so that they are further apart.
 - If there is no improvement, turn the appliance back on and try another appliance.
- 3 If you cannot improve reception in the outdoor unit's current location, try moving it to another location that meets the guidelines on page 79.

Persistent Reception Difficulties

Reception can be temporarily affected by severe weather conditions such as heavy storms, ice, or strong winds. Problems may persist in the absence of these conditions if:

- There are obstructions – tall buildings, trees, or mountains – between your outdoor unit and the nearest communications tower.
- Your outdoor unit is located at the outer limit of the coverage area.

Contact your service provider if you experience persistent signal reception difficulties.

THERE IS A FAULT CONDITION

This section describes how to restart the indoor unit. If you cannot solve a problem with any of the procedures above, try restarting.

▶ **To restart indoor unit**

- 1 Unplug the indoor unit and leave it off for at least 10 seconds.
- 2 Plug in the indoor unit.

Wait until the status light indicates that the SOMAport is receiving a radio signal. If the problem is not solved, please call your service provider.

THE SOMAport IS NOT RECEIVING POWER

If the light on the power supply of the indoor unit is off, the SomaPort is not receiving power. Try each of the actions in the following procedure until you locate the source of the problem.

► **To check the power**

- 1 Make sure the power cord which connects the power supply to the wall outlet is securely connected to the power supply and the wall outlet.
- 2 Make sure the power cord which connects the power supply to the indoor unit is securely connected to the power jack of the indoor unit.
- 3 Make sure the CAT5 cable which connects the indoor unit to the outdoor unit is securely connected.
- 4 Make sure the wall receptacle is working by plugging in an appliance which you know works.
- 5 Check the circuit breaker.
- 6 If you cannot find the source of the problem, call your service provider.

THERE IS A PROBLEM WITH THE ETHERNET CABLING

If there is a problem with the physical connection between the indoor unit and either your computer or hub, you will not be able to browse the Internet.

► To check Ethernet cabling

- 1 Make sure the cable connectors are firmly inserted in the appropriate Ethernet ports on the indoor unit and computer or hub.
- 2 Make sure you are using the correct type of cable:

Configuration	Cable Type	Provided
Ethernet port of a computer	Straight-through	Yes
Uplink port of a hub	Straight-through	Yes
Ethernet port of a hub	Crossover	No

- 3 Make sure the length of the cable does not exceed 50 meters (167 feet). See page 81.
- 4 If none of the previous steps solves the problem, replace the cable.

NOTE: You can replace the cable while the SOMAport is on.

THE COMPUTER USES AN OLD DIAL-UP CONNECTIONS

If you have switched from a dial-up Internet service you may still be prompted to connect to the Internet using the old dial-up connection. If this is the case, follow this procedure to ensure that your dial-up connection is not automatically activated whenever you attempt the Internet connection.

▶ To disable the automatic dial-up connection in Windows

- 1 Open the Control Panel.
 - **In Windows XP** – Choose Start → Control Panel.
 - **In all other versions of Windows** – Choose Start → Settings → Control Panel.
- 2 Double-click the Internet Options icon.
The Internet Properties window opens.
- 3 Click the Connections tab.
- 4 Enable the **Never dial a connection** checkbox.
- 5 Click **OK**.

NOTE: If you are still unable to display a Web page, check your browser to make sure it is in online mode.

▶ To disable the automatic dial-up connection in Mac OS 8 and 9

- 1 Click the Apple icon and choose Control Panels.
- 2 Click **Remote Access**.
- 3 Click **Options**.
- 4 Click the Protocol tab.
- 5 Make sure the **Connect automatically when starting TCP/IP applications** box is disabled.
- 6 Click **OK**.
- 7 Choose File → Quit.
- 8 Click **Save** when prompted to save the current configuration.

▶ **To disable the automatic dial-up connection in Mac OS X**

- 1 Click the Apple icon and choose System Preferences.
- 2 Click the Network icon.
- 3 Click **Show**.
- 4 Select **Network Port Configurations** from the pull-down list.
- 5 Disable the **On** checkbox for the dial-up modem.
- 6 Click **Apply Now**.

INTERNET EXPLORER LAN SETTINGS ARE INCORRECT

If you are using Internet Explorer as your Web browser, make sure it is configured to automatically detect LAN settings. If this default setting has been disabled, you will not be able to connect to the Internet.

► To check Internet Explorer settings

- 1 Open Internet Explorer.
- 2 Choose **Tools** → **Internet Options**.
The Internet Options window opens.
- 3 Click the Connections tab.
- 4 Click **LAN Settings**.
The Local Area Network (LAN) Settings window opens.
- 5 Make sure the **Automatically detect settings** checkbox is enabled.
- 6 Click **OK**.
- 7 Click **OK** on the Internet Options window.
- 8 Close Internet Explorer.

ETHERNET NETWORK SETTINGS ARE INCORRECT

If you could not establish an Internet connection after connecting your computer to the indoor unit via Ethernet, but your physical connection seems to be intact, your computer's Ethernet network settings may need to be changed.

Use the procedure in this section appropriate to your operating system to reconfigure Ethernet network settings. You may be prompted to insert the installation CD for your operating system, and you may need to reboot your computer after changing the settings before you can successfully connect to the Internet.

► To change network settings in Windows 95

- 1 Choose **Start** → **Settings** → **Control Panel**.
- 2 Double-click the Network icon.
The Network window opens to the Configuration tab.
- 3 Select **TCP/IP**.
 - If multiple TCP/IP connections are listed, select the one that contains "Ethernet", "NIC", or "10/100 MB" in its name, go to step 5.
 - If TCP/IP is not listed, go to step 4.
- 4 Install TCP/IP:
 - i Click **Add**.
The Select Network Component Type window opens.
 - ii Select **Protocol** from the list.
 - iii Click **Add**.
The Select Network Protocol window opens.
 - iv Select **Microsoft** from the Manufactures list.
 - v Select **TCP/IP** from the Network Protocols list.
 - vi Click **OK**.
 - vii Insert the Windows 95 CD or reboot the computer if prompted to do so.
 - viii If the PC reboots, repeat steps 1 to 3, then go to step 5.

-
- 5 Check the TCP/IP properties:
 - i Click **Properties**.
The TCP/IP Properties window opens to the IP Address tab.
 - ii Make sure the **Obtain an IP address automatically** radio button is enabled.
 - iii Click the DNS Configuration tab.
 - iv Enable the **Disable DNS** radio button.
 - v Click **OK** on the TCP/IP Properties window.
 - vi Click **OK** on the Network window.
 - vii Restart the computer if prompted to do so.
 - 6 Check your Internet connection by launching a Web browser on the computer connected to the indoor unit.
 - If your browser automatically opens to your service provider's Web site, activate full service by following the sign-up procedure that is provided on the Web site.
 - If your browser does not automatically open to your service provider's Web site, go to step 7.
 - 7 Enter a valid Internet address (such as www.google.com) in the **Address** field.
 - If the Web page opens, full service has already been activated and you can begin using your SOMApport for Internet service.
 - If your service provider's Web page opens, activate full service by following the sign-up procedure that is provided on the Web site.
 - If your computer attempts to connect to the Internet using an old dial-up connection, see "The Computer Uses an Old Dial-Up Connection" on page 46.
 - If you do not get an Internet connection, see "Finding Causes of Computer Problems" on page 36.

▶ To change network settings in Window 98 and ME

- 1 Choose **Start** → **Settings** → **Control Panel**.
- 2 Click the Network icon.
The Network window opens to the Configuration tab.
- 3 Select **TCP/IP**.

-
- If multiple TCP/IP connections are listed, select the one that contains "Ethernet", "NIC", or "10/100 MB" in its name, go to step 4.
 - If TCP/IP is not listed, install it:
 - i Click **Add**.
The Select Network Component Type window opens.
 - ii Select **Protocol** from the list.
 - iii Click **Add**.
The Select Network Protocol window opens.
 - iv Select **Microsoft** from the Manufacturers list.
 - v Select **TCP/IP** from the Network Protocols list.
 - vi Click **OK**.
 - vii Insert the Windows 98 or ME CD or reboot the computer if prompted to do so.
 - viii If the PC reboots, repeat steps 1 to 3.
- 4 Check TCP/IP properties:
- i Click **Properties** with the correct TCP/IP connection selected.
The TCP/IP Properties window opens to the IP Address tab.
 - ii Make sure the **Obtain an IP address automatically** radio button is enabled.
 - iii Click the DNS Configuration tab.
 - iv Make sure the **Disable DNS** radio button is enabled.
 - v Click **OK** on the TCP/IP Properties window.
 - vi Click **OK** on the Network window.
 - vii Restart the computer if prompted to do so.
- 5 Check your Internet connection by launching a Web browser on the computer connected to the indoor unit.
- If your browser automatically opens to your service provider's Web site, full service has already been activated and you can begin using your SOMAport for Internet service.
 - If your browser does not automatically open to your service provider's Web site, go to step 6.
- 6 Enter a valid Internet address (such as www.google.com) in the Address field and press Enter.
- If the Web page opens, full service has already been activated and you can begin using your SOMAport for Internet service.

-
- If your service provider's Web page opens, activate full service by following the sign-up procedure that is provided on the Web site.
 - If your computer attempts an Internet connection using an old dial-up connection, see "The Computer Uses an Old Dial-Up Connection" on page 46.
 - If you do not establish an Internet connection, see "Finding Causes of Computer Problems" on page 36.

▶ To change network settings in Windows 2000

- 1 Right-click the My Network Places icon and choose **Properties** from the pull-down menu.

The Network and Dial-up Connections window opens.

- 2 Select the Local Area Connection icon.

- If there are multiple local area connections, read the device name beside each icon and double-click the one that is associated with the Ethernet card.

- If there is no icon, the Ethernet card has not been properly installed. Install the Ethernet card by following the manufacturer's instructions, then return to this procedure.

The Local Area Connection Status window opens.

- 3 Click **Properties**.

The Local Area Connection Properties window opens.

- 4 Select **Internet Protocol (TCP/IP)**.

If **Internet Protocol (TCP/IP)** is not listed, install it as follows:

- i Click **Install**.

The Select Network Component Type window opens.

- ii Select **Protocol** from the list.

- iii Click **Add**.

The Select Network Protocol window opens.

- iv Select **Internet Protocol (TCP/IP)**.

- v Click **OK**.

- vi Insert the Windows 2000 CD or reboot the computer if prompted to do so.

- vii If the PC reboots, repeat steps 1 to 4.

- 5 Check TCP/IP properties:
 - i Click **Properties**.
 - ii The Internet Protocol (TCP/IP) Properties window opens to the General tab.
 - iii Make sure the **Obtain an IP address automatically** radio button is enabled.
 - iv Make sure the **Obtain DNS server address automatically** radio button is enabled.
 - v Click **OK** on the Internet Protocol (TCP/IP) Properties window.
 - vi Click **OK** on the Local Area Connection Properties window.
 - vii Click **Close** on the Local Area Connection Status window.
 - viii Restart the computer if prompted to do so.
- 6 Check your Internet connection by launching a Web browser on the computer connected to the indoor unit.
 - If your browser automatically opens to your service provider's Web site, full service has already been activated and you can begin using your SOMAport for Internet service.
 - If your browser does not automatically open to your service provider's Web site, go to step 7.
- 7 Enter a valid Internet address (such as www.google.com) in the **Address** field.
 - If the Web page opens, full service has already been activated and you can begin using your SOMAport for Internet service.
 - If your service provider's Web page opens, activate full service by following the sign-up procedure that is provided on the Web site.
 - If your computer attempts to connect to the Internet using an old dial-up connection, see "The Computer Uses an Old Dial-Up Connection" on page 46.
 - If you do not get an Internet connection, see "Finding Causes of Computer Problems" on page 36.

► To change network settings in Windows XP

- 1 Choose **Start** → **Settings** → **Network Connections**.

The Network Connections window opens.

- 2 Select the **Local Area Connection** icon.

- If there are one or more **Local Area Connection** icons, double-click the Local Area Connection icon that is associated with the Ethernet card.

- If there is no icon, the Ethernet card has not been properly installed. Install the Ethernet card by following the manufacturer's instructions, then return to this procedure.

The Local Area Connection Status window opens.

- 3 Click **Properties**.

The Local Area Connection Properties window opens.

- 4 Select **Internet Protocol (TCP/IP)**.

If **Internet Protocol (TCP/IP)** is not listed, install it as follows:

- i Click **Install**.

The Select Network Component Type window opens.

- ii Select **Protocol** from the list.

- iii Click **Add**.

The Select Network Protocol window opens.

- iv Select **Internet Protocol (TCP/IP)**.

- v Click **OK**.

- vi Insert the Windows XP CD or reboot the computer if prompted to do so.

- vii Once TCP/IP has been installed, repeat steps 1 to 4.

- 5 Check TCP/IP properties:

- i Click **Properties**.

The Internet Protocol (TCP/IP) Properties window opens to the General tab.

- ii Make sure the **Obtain an IP address automatically** radio button is enabled.

- iii Make sure the **Obtain DNS server address automatically** radio button is enabled.

- iv Click **OK** on the Internet Protocol (TCP/IP) Properties window.

-
- v Click **OK** on the Local Area Connection Properties window.
 - vi Click **Close** on the Local Area Connection Status window.
 - vii Restart the computer if prompted to do so.
- 6 Check your Internet connection by launching a Web browser on the computer connected to the indoor unit.
 - If your browser automatically opens to your service provider's Web site, full service has been activated.
 - If your browser does not automatically open to your service provider's Web site, go to step 6.
 - 7 Enter a valid Internet address (such as www.google.com) in the **Address** field and press Enter.
 - If the Web page opens, full service has already been activated and you can begin using your SOMAport for Internet service.
 - If your service provider's Web page opens, activate full service by following the sign-up procedure that is provided on the Web site.
 - If your computer attempts an Internet connection using an old dial-up connection, see "The Computer Uses an Old Dial-Up Connection" on page 46.
 - If you do not get an Internet connection, see "Finding Causes of Computer Problems" on page 36.

► To change network settings in Mac OS 8 and 9

NOTE: Your computer must have an Ethernet card and Open Transport networking software to connect to the Internet.

- 1 Click the Apple icon and choose **Control Panels > TCP/IP**.
The TCP/IP window opens.
- 2 Select **Ethernet** from the Connect via pop-up menu.
- 3 Select **Using DHCP Server** from the **Configure** pop-up menu.
- 4 Close the TCP/IP control panel.
If you made any changes, save them when prompted.
- 5 Restart your computer.
- 6 Check your Internet connection by launching a Web browser on the computer connected to the indoor unit.

-
- If your browser automatically opens to your service provider's Web site, full service has already been activated.
 - If your browser does not automatically open to your service provider's Web site, go to step 7.
- 7 Enter a valid Internet address (such as `www.google.com`) in the **Address** field.
- If the Web page opens, full service has already been activated and you can begin using your SOMAport for Internet service.
 - If your service provider's Web page opens, activate full service by following the sign-up procedure that is provided on the Web site.
 - If you do not establish an Internet connection, see "Finding Causes of Computer Problems" on page 36.

▶ To change network settings in Mac OS X

- 1 Click the Apple icon and choose **System Preferences**.
- 2 Choose **View** → **Network**.
- 3 Choose **Built-in Ethernet** from the **Show** pop-up menu.
- 4 Click the TCP/IP tab, if necessary.
- 5 Choose **Using DHCP** from the Configure pop-up menu.
- 6 Click **Apply Now**.
- 7 Restart your computer.
- 8 Check your Internet connection by launching a Web browser on the computer connected to the indoor unit.
 - If your browser automatically opens to your service provider's Web site, full service has already been activated.
 - If your browser does not automatically open to your service provider's Web site, go to step 6.
- 9 Enter a valid Internet address (such as `www.google.com`) in the **Address** field and press Enter.
 - If the Web page opens, full service has already been activated and you can begin using your SOMAport for Internet service.

-
- If your service provider's Web page opens, activate full service by following the sign-up procedure that is provided on the Web site.
 - If you do not establish an Internet connection, see "Finding Causes of Computer Problems" on page 36.

IP ADDRESS NEEDS TO BE RENEWED

If you cannot connect to the Internet even after you have checked all cabling and network settings and have rebooted the computer, follow the appropriate procedure in this section to manually obtain a new IP address.

▶ To obtain a new IP address (Windows 95 only)

- 1 Choose **Start** → **Run**.
- 2 Enter `winiipcfg` in the Open field and click **OK**.
The IP Configuration window opens.
- 3 Select the network interface that has a default gateway of 192.168.1.1 from the pull-down list.
- 4 Click **Release All**.
- 5 Force your computer to obtain a new IP address by clicking **Renew All**.

Wait until the fields in the IP Configuration window have values in them or an error message appears. If you close this program before it has completed its task, you will have to reboot your computer before you can use your Internet service.

- 6 Close the IP Configuration window.

▶ To obtain a new IP address (all other versions of Windows)

- 1 Open a command window using one of the following methods:
 - In Windows 2000 or XP, choose **Start** → **Programs** → **Accessories** → **Command Prompt**.
 - In Windows 98 or ME, choose **Start** → **Programs** → **MS-DOS Prompt**.

The command window opens.

-
- 2 Force your computer to obtain a new IP address by typing the appropriate command from the following table:

Operating System	Command
Windows 98 or ME	<code>ipconfig /renew_all ↵</code>
Windows 2000 or XP	<code>ipconfig /renew ↵</code>

The Windows IP configuration is displayed.

- 3 Look for the output section related to the network interface for the SOMAport.

Example:

```
Ethernet adapter:  
IP address..... : 65.94.64.233  
Subnet Mask..... : 255.255.255.0  
Default Gateway..... : 192.168.1.1
```

- 4 Close the MS-DOS Prompt or Command Prompt window.

Troubleshooting

○ ○ ○ ○ ●

SPECIFICATIONS

Release	Outdoor SOMAport R3.0												
Internal antenna	Type: internal passive-steered array antenna Internal antenna gain: 4.5 dBi Receiver noise figure: 6 dB Transmitted EIRP: 31.5 dBm RF output power: 27 dBm												
Device ports and Interfaces	Telephone Telephone terminal interface (RJ-11 jacks) (2) Data Data terminal interface (RJ-45 Ethernet 10Base-T) AC Adapter AC Adapter (Coaxial DC Power Jack, 30AV/2A) Between Outdoor Unit and Indoor Unit CAT-5 Ethernet w/Power feed and two telephone lines												
Lights (Indoor Unit)	Power, Network												
Power Requirements	Power Supply Type: U.S./International 100/240V AC-DC external power supply Cable: Power cord with non-wall-mounted AC-to-DC transformer												
Environmental Specifications (Outdoor Unit)	Temperature Operating: 5°C to 40°C (+46°F to +104°F) (w/o Heater) Humidity Operating: 0% to 85%, noncondensing Altitude Operating: 2438 m (8000 feet) Water Proof IP25												
Packaging	Dimensions <table><thead><tr><th>Outdoor Unit</th><th>Indoor Unit</th></tr></thead><tbody><tr><td>Height: 18.5 cm (7.3 inches)</td><td>4.6 cm (1.8 inches)</td></tr><tr><td>Width: 21 cm (8.3 inches)</td><td>10.4 cm (4.1 inches)</td></tr><tr><td>Depth: 21 cm (8.3 inches)</td><td>8.4 cm (3.3 inches)</td></tr><tr><td>Weight: 3 kg (6.7 pounds)</td><td>0.3 kg (0.7 pounds)</td></tr><tr><td>Volume: 8000 cc</td><td>400 cc</td></tr></tbody></table>	Outdoor Unit	Indoor Unit	Height: 18.5 cm (7.3 inches)	4.6 cm (1.8 inches)	Width: 21 cm (8.3 inches)	10.4 cm (4.1 inches)	Depth: 21 cm (8.3 inches)	8.4 cm (3.3 inches)	Weight: 3 kg (6.7 pounds)	0.3 kg (0.7 pounds)	Volume: 8000 cc	400 cc
Outdoor Unit	Indoor Unit												
Height: 18.5 cm (7.3 inches)	4.6 cm (1.8 inches)												
Width: 21 cm (8.3 inches)	10.4 cm (4.1 inches)												
Depth: 21 cm (8.3 inches)	8.4 cm (3.3 inches)												
Weight: 3 kg (6.7 pounds)	0.3 kg (0.7 pounds)												
Volume: 8000 cc	400 cc												
Regulatory Certifications	IEC 61000-4-5 class 3 CE CB Scheme (IEC60950-1) FCC Part 15B, Part 24 (PCS Only)												



soma
NETWORKS™

OUTDOOR SOMAPORT INSTALLATION GUIDE

Part 006217 revision 01

WARNING: The installation procedures described in this chapter are intended only for qualified technicians. Non-qualified personnel should not perform this installation.

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