WLAN b+g mini-PCI Module

RM1

OEM Installation Manual

(The module is sold only to the OEM integrators & the manual is valid only for the OEM manufactures)

Version: 1.0

June 2004

Copyright Statement

No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, whether electronic, mechanical, photocopying, recording or otherwise without the prior writing of the publisher. Windows™98SE/2000/ME/XP are trademarks of Microsoft® Corp. Pentium is trademark of Intel.

All copyright reserved.

Federal Communication Commission Interference Statement

This equipment 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, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: To assure continued compliance, (example - use only shielded interface cables when connecting to computer or peripheral devices) any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device 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.

IMPORTANT NOTE:

This module is restricted to mobile configuration. To comply with FCC RF exposure compliance requirements, the antenna used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter. This transmitter module must not be co-located or operating in conjunction with any other antenna or transmitter

Table of Contents

# 1. Introduction

1.1 The WLAN 802.11b+g mini-PCI Module

Thank you for purchasing the WLAN b+g mini-PCI Module that provides the easiest way to wireless networking. This User Manual contains detailed instructions in the operation of this product. Please keep this manual for future reference.

SYSTEM REQUIREMENTS

- Microsoft$^{®}$ Win^{TM}2000/ME/98 Second Edition/XP

1.2 Hardware Installation & Antenna Information

- MODULE IS INSTALLED IN THE ROUTER. (SEE THE FOLLOWING DIAGRAMS).
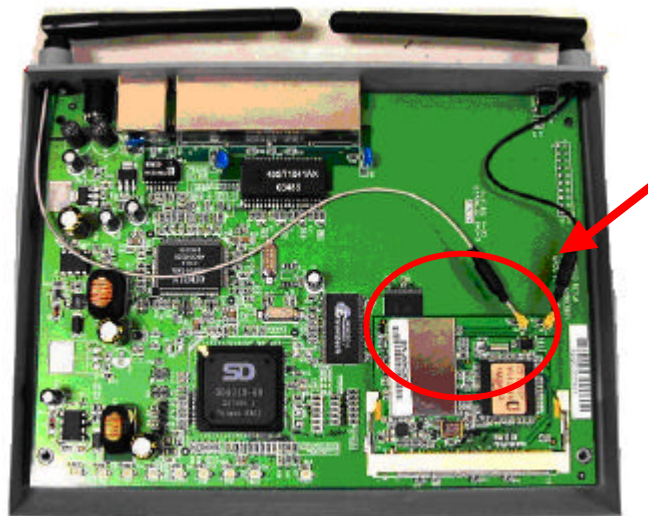
- Antennas are embedded in the two sides (see the two antennas shown below)

Aux

Main

Only the antenna type listed below can be used:
(1) **Vendor WanShih Electronic CO. Model: Wss002**

Important Note:

This module is restricted to mobile configuration. The antennas of module should be installed and operated with minimum distance 20cm between the radiator and all persons. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
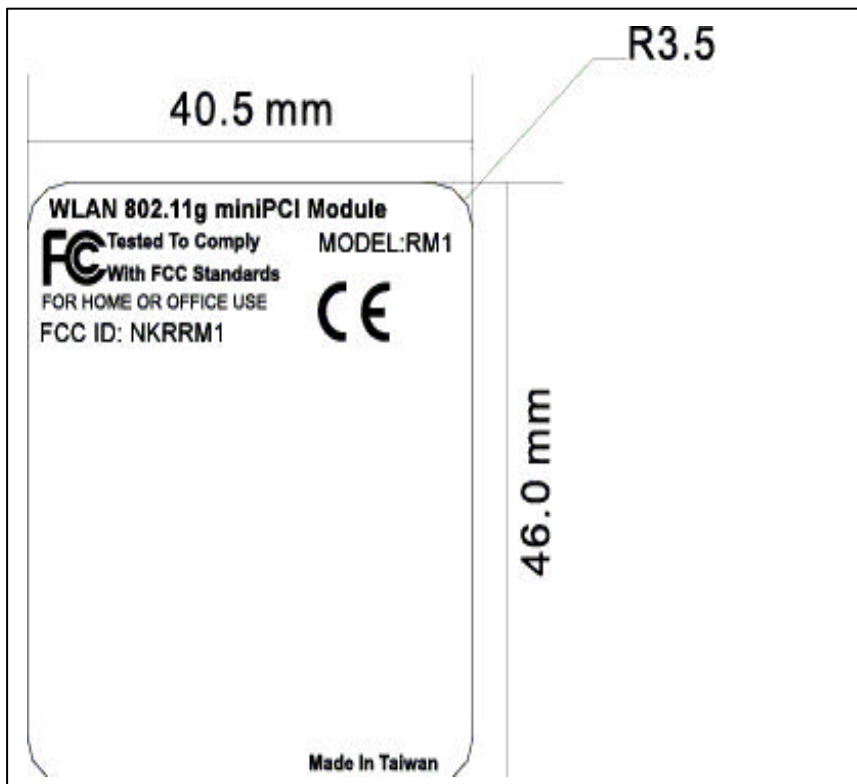The module is for OEM installation only and can not be sold to end user directly.

*Caution !!

(1). This module cannot be bound in a tablet computer for RF exposure issues. (See label 1)

Label 1

(3). This module must be labeled with FCC ID. (See label 2)

Label 2

(4). If the FCC ID is not visible when the module is installed inside another device, then the outside of device must also display a label referring to the enclosed module. The exterior label can be " Contains Transmitter Module FCC ID:NKRRM1 " or similar wording. (See label 3)

Contains Transmitter Module RM1
FCC ID: NKRRM1

Label 3

Please put Label 3 to the enclosure of end product to note the end user.
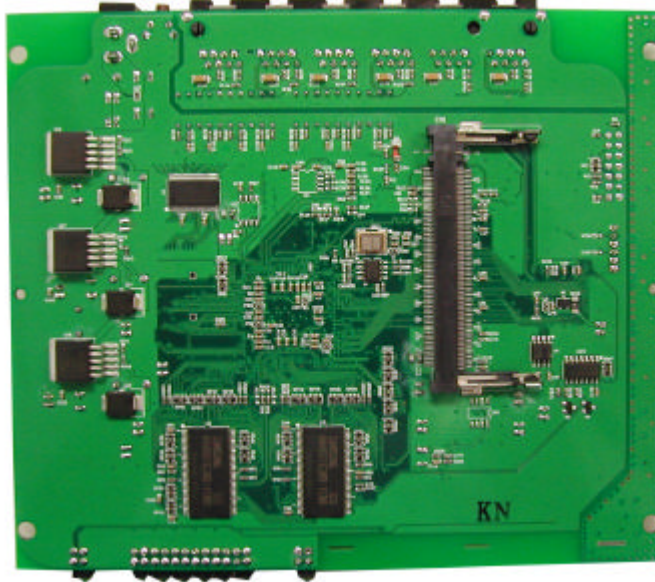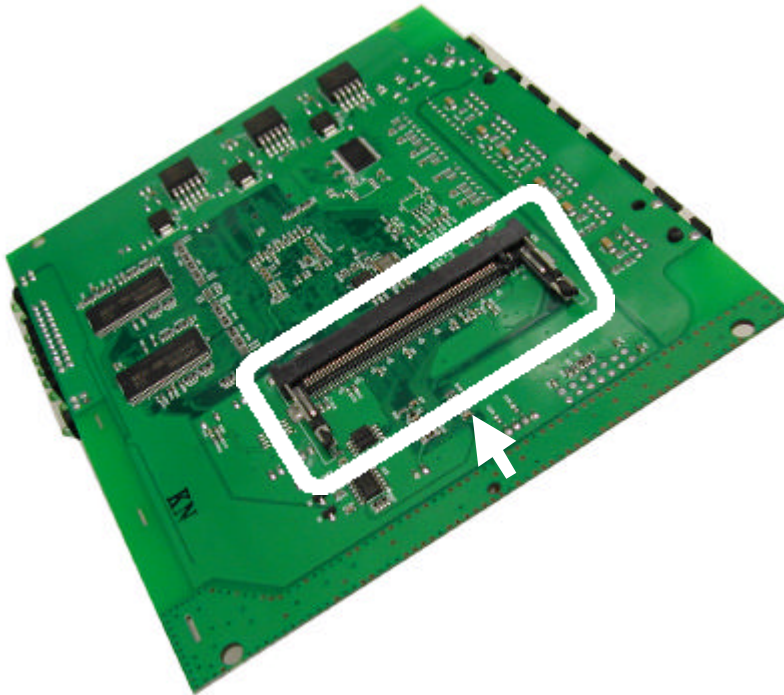
2. Features

- ■ Easy integration into OEM devices
- ■ Wireless connects more PCs for Home & Office
- ■ Supports up to 128-bit WEP, WPA, AES and CCX
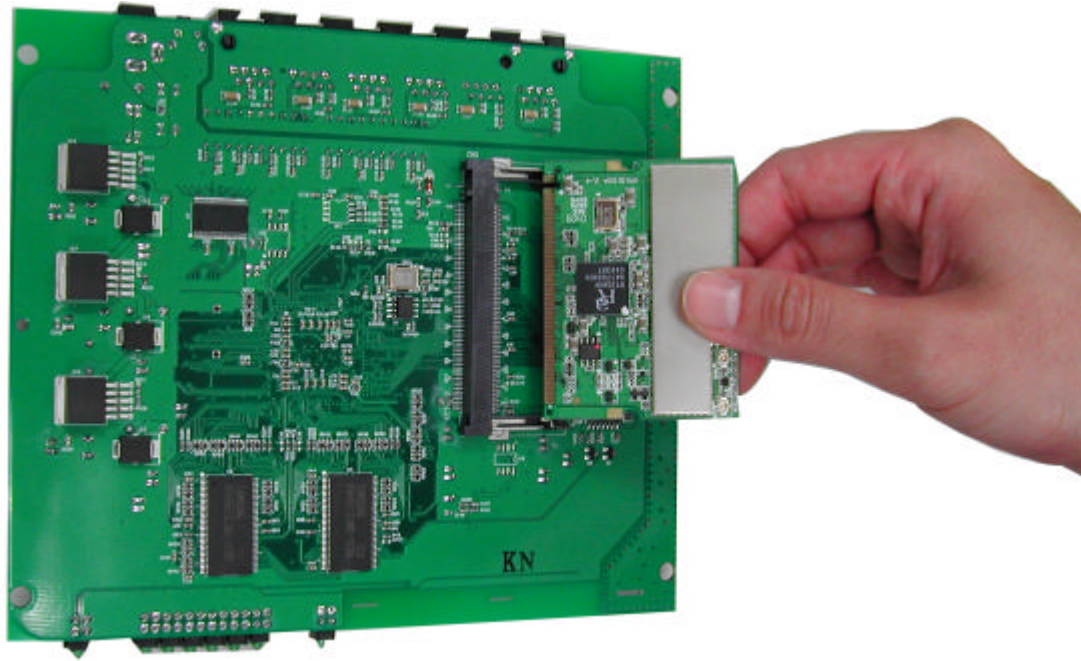- ■ Cost effective solution

3. Hardware Connections

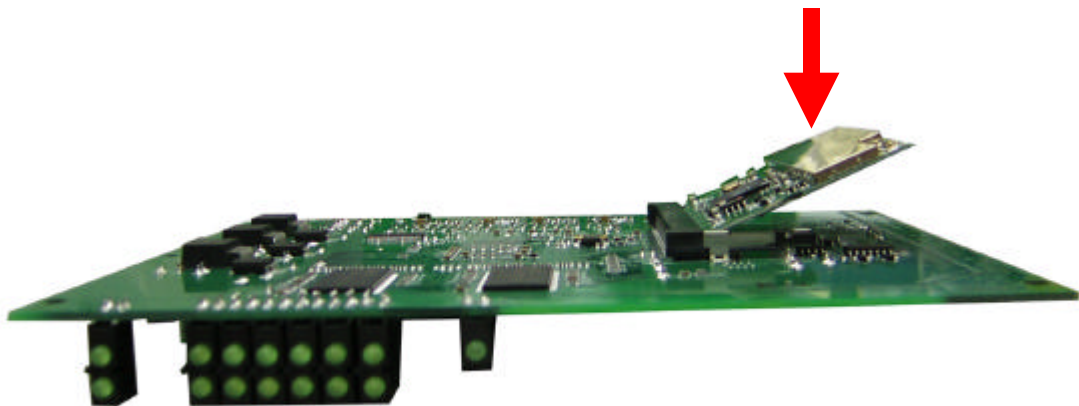1. Have your Access Point Prototyping Board ready.

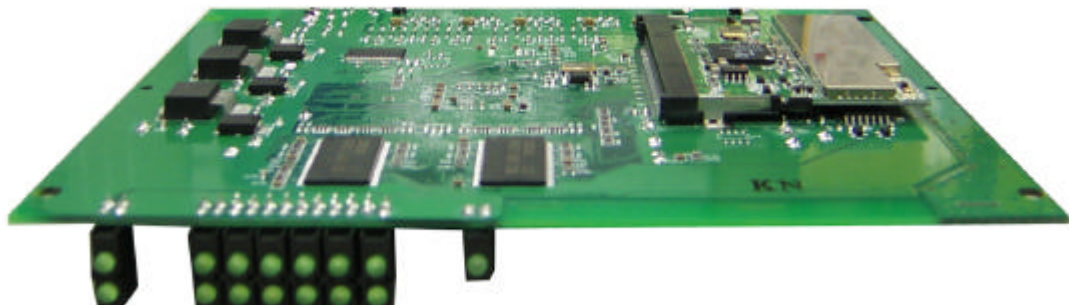2. Find the mini-PCI slot on the Prototyping Board.

3. Insert the WLAN 802.11g mini-PCI Module into the mini-PCI slot on the Prototyping Board.

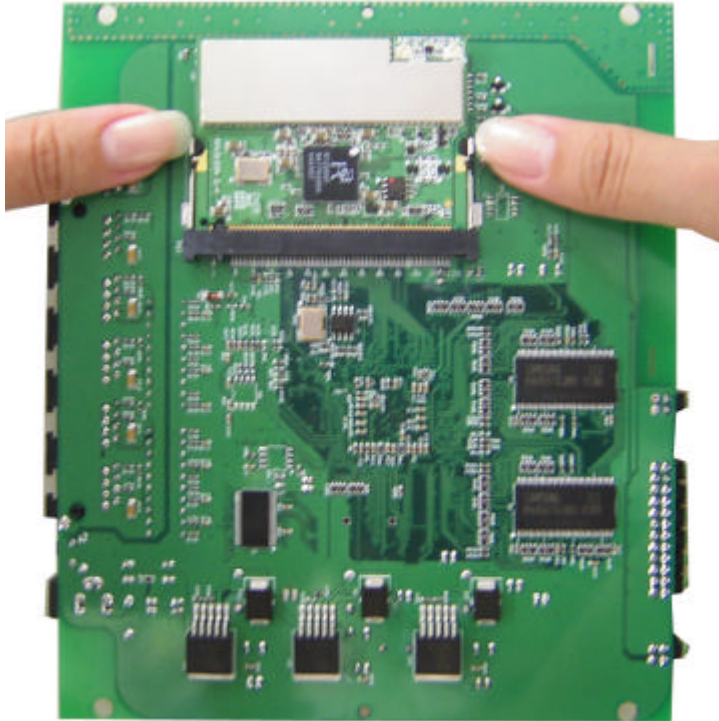4. Press down the Module until it is secured with the two latches on the Board.

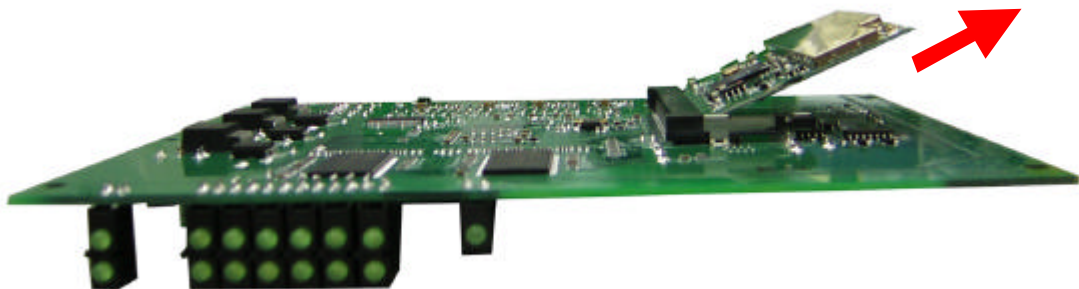5. Hardware Installation is completed.

4. Remove the Module

1. Release the two latches by gently remove them aside.


2. The module pops up. Remove the Module.

5. Basic Configuration of your Access Point

This section gives you an example of the general basic configuration procedure for your Access Point. It describes how to set up the Access Point for Infrastructure BSS operation, and the configuration of the local LAN environment.
Although the Command Line Interface (CLI) may also be used to configure the Access Point, the example we are using here is the browser-based configuration mechanism.
Suppose the Access Point is designed that all basic configuration may be effected through the a standard Web browser such as Internet Explorer.
From a PC or a Wireless client, enter the IP address of the Access Point as the URL in your browser.
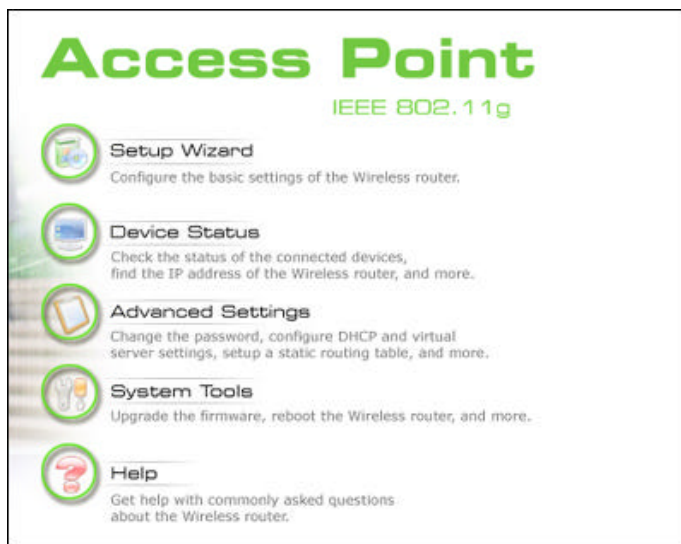
Note: **The IP address of your PC must be in the same IP subnet as the Access Point.**

The **Home Page** of the Access Point screen will appear, with its main menu displayed on the upper-side of the screen. The main menu includes the following choices: Setup Wizard, Device Status, System Tools, Advanced Settings and Help choices, which can be used to navigate to other menus.

5.1 Logging On

If you attempt to access a configuration item from the browser menu, an administrator login screen will appear, prompting you to enter the password in order to log on.


If you are logging on for the first time, you should use the factory default setting "password". The password is always displayed as a string of asterisks ("*"). Clicking the **LOG ON** button will begin the configuration session.

5.2 Setup Wizard

The Setup Wizard will guide you through a series of configuration screens to set up the basic functionality of the device. After you finish configuring these screens and press the "finish" button on the last screen, all your configuration modifications will take effect.

5.2.1 SETTING UP LOCAL TIME ZONE AND DATE/TIME

After logging in, the **time settings** page appears. The AP time is automatically set to the local time of the management PC the first time a connection is made. To modify the AP's clock, modify the appropriate fields, and click "NEXT".
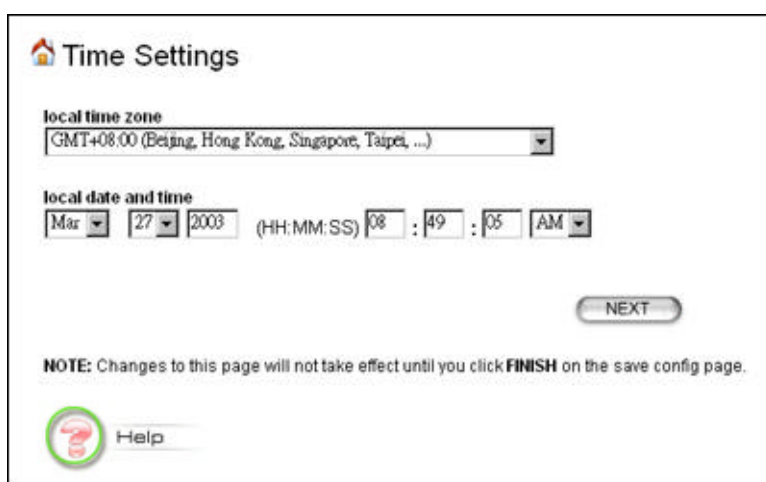
5.2.2 DEVICE IP SETTINGS

The **Device IP setting** screen allows you to configure the IP address and subnet of the AP on the LAN. Although you can rely on a DHCP server to assign an IP address to the Access Point automatically, it is recommended that you configure a static IP address manually in most applications.

If you choose to assign the IP address manually, check the button that says "**Assign static IP to this device**" and then fill in the following fields:

IP Address and **IP Subnet Mask:** These values default to 192.168.1.1 and 255.255.255.0, respectively. It is important to note that similar addresses fall within the standard *private IP address* range and it is an essential security feature of the device. Because of this private IP address, this device can no longer be accessed (seen) from the Internet.

Gateway IP Address: Enter the IP address of your default gateway

DNS Server: The Domain Name System (DNS) is a server on the Internet that translates logical names such as "www.ebay.com" to IP addresses like 209.103.14.2. In order to do this, a query is made by the requesting device to special DNS servers to provide the necessary information. If your system administrator requires you to manually enter DNS Server addresses, you should enter them on this page.

Then you should press **Next** to get to the next screen.

If you choose to use a DHCP Server to assign IP address automatically, check the button that says, "**Use the DHCP protocol to automatically get the IP address for**

this device", and then press **Next** to the next screen. Again, as a reminder, it is recommended that your Access Point should be assigned a static IP address in order for you to be able to manage it later on.

5.2.3 CONFIGURE YOUR WIRELESS LAN CONNECTION

Network Name (SSID): The SSID is the network name used to identify a wireless network. The SSID must be the same for all devices in the wireless network. Several Access Points on a network can have the same SSID. The SSID can be up to 30 characters long.

Disable SSID Broadcasting: An Access Point periodically broadcasts its SSID, along with other information, which allows client stations to learn its existence while

searching for Access Points in the wireless network. Select **Disable** if you do not want the device to broadcast the SSID.

Channel: Select the channel from the available list to match your network settings. All devices in the wireless network must use the same channel.

Note: The available channel numbers are different from country to country.

USA and Canada: CH01~11, Europe: CH01~CH13, Japan: CH01~CH14, France: CH10~CH13, Spain: CH01~CH13.

You can use encryption to protect your data when you are transmitting data across wireless channels.

WEP Selection: The Access Point allows you to use data encryption to secure your data from being eavesdropped by unauthorized wireless users. We allow up to four 40-bit encryption keys (**WEP40)** and four 128-bit encryption keys (**WEP128)** to be configured (using either the **ASCII** or **Hex**adecimal format) and selected.

WEP Key Setting: The length of a WEP40 key must be equal to 5 and WEP128 key equal to 13. Once you enable the WEP function, please make sure the same WEP key is used by both the Access Point and the wireless client stations.

5.2.4 FINISH SETUP WIZARD AND SAVE YOUR SETTINGS

After stepping through the Wizard's pages, you can press the **FINISH** button for your modification to take effect. This will also cause your new settings to be saved into the permanent memory in your system.

Congratulations! You are now ready to use the Access Point.

Note: If you change the AP's IP address, as soon as you click on FINISH you will no longer be able to communicate with your Access Point. You need to change your IP address and then re-boot your computer in order to resume the communication.