



PAD-1000

Wireless Broadband Modem



Dimensions: 5.32" long x 3.37" wide x 1.63" high

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Safety and Hazards

Remember to follow any special regulations in force in any area and always power down the Wireless Broadband Modem whenever radio transmitting devices are forbidden to use it, or when it may cause interference or danger. When connecting the Wireless Broadband Modem to another device, read its user's guide for detailed safety instructions.

Do not operate the Wireless Broadband Modem in near medical equipment, life support equipment, or any other equipment which may be susceptible to any form of radio interference. In such areas the Wireless Broadband Modem should be powered off so that the device does not transmit any radio signals that could interfere with this equipment.

Power down the Wireless Broadband Modem when present in an area of explosive atmosphere and obey all signs and instructions. Sparks from electronic devices may cause an explosion or fire resulting in bodily injury or even death. Users are advised to power down all electronic devices while present at a refueling center.

The driver or operator of any vehicle should not operate the Wireless Broadband Modem while in control of the vehicle. Operating a vehicle while utilizing the Wireless Broadband Modem may be in violation of some state regulations.

To avoid a shock hazard:

- Do not connect or disconnect any cables or perform installation, maintenance, or reconfiguration of this device during an electrical storm.
- The power cord must be connected to a properly wired receptacle.
- Any equipment to which this product will be attached must also be connected to a properly wired receptacle.

Your Wireless Broadband Modem contains and can be powered from a rechargeable Li-Ion battery. Never use a charger that is damaged or modified in any way. Use only the charger that was provided with the device. Battery charging time depends on the remaining battery charge and the type of battery and charger used. The battery can be charged and discharged hundreds of times, but the battery charge capacity will gradually degrade over time. If left unused, a fully charged battery will discharge itself over time. Do not attempt to remove and replace the battery, contact an authorized service center thru the Technical Support desk. Do not leave the battery connected to a charger for more than 7 days, since overcharging may shorten its capacity and operating life. Always try to keep the device at room temperature. A device with a hot or cold battery may not work correctly, even if the battery is fully charged. CAUTION: Danger of explosion if modem/battery is used with products/computers not approved by Flarion.

The MODEM must not be co-located or operated in conjunction with any other antenna or transmitter. Use of this device in any other configuration may exceed the FCC RF exposure compliance limit. . In order to comply with FCC RF exposure requirements, the EUT must be installed and operated in such a way that a minimum separation distance of 20cm is maintained between the antenna and all persons during normal operation.

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About Flarion

Flarion Technologies is mobilizing the Internet with its innovative mobile communications system - FLASH-OFDM®. The system enables licensed mobile operators to profitably offer voice and data broadband services. For mobile operators, Flarion's technology has the lowest cost per broadband subscriber as compared to any mobile system in the world. Flarion's RadioRouter® base station product easily overlays onto an operator's existing network and radio spectrum, and provides a seamless routing interface to the operator's existing IP network. Flarion's FLASH-OFDM enabled devices provide people with a true broadband mobile Internet access experience for voice and data. Flarion Technologies is based in Bedminster, New Jersey.

Wireless Broadband Modem Basics

About the Wireless Broadband Modem

The Wireless Broadband Modem is a wireless desktop modem that provides always-on access to the Wireless Broadband network. The modem is designed for plug-and-play compatibility with desktop PCs, notebook PCs, and other consumer electronic devices (gaming consoles, web tablets, etc) that have standard Ethernet or USB connections. Users can utilize the Wireless Broadband Modem in stationary or mobile environments.

Here are some examples of applications you can use with your modem:

- Email (including large file attachments)
- High-Speed Web Browsing
- Virtual Private Network (VPN) access
- File Transfer
- Online gaming
- Streaming video and audio

About the Wireless Broadband Modem software

The Wireless Broadband Modem comes with the following software:

- Mobility Manager, which allows you to monitor your broadband connection.
- Driver software (for USB connection only; not required for Ethernet connection)

What is the Mobility Manager?

The Mobility Manager is a software application that provides the user with information about a current Wireless Broadband session:

- Connection status
- Connection time
- Kilobytes sent and received
- Signal strength
- Signal quality

Package contents

- Wireless Broadband Modem (with internal battery)
- Antenna
- Installation CD-ROM, including this User Guide
- Power Adapter
- Ethernet Cable
- USB Cable
- Quick Start Guide

Note: Both the *Ethernet* and *USB cables* that are provided act as interfaces between your computer and the cT-1000 device. The *Ethernet* cable is the one that looks similar to (thicker than) a standard telephone line.

The *power adapter* is necessary to charge your mT-1000 device.

What operating systems are supported?

The modem functions with notebook and desktop PCs (and other consumer devices) that utilize the following operating systems:

Windows® 98SE, ME, 2000, and XP

Note: If your operating system is not listed, this does not mean the modem will not work on your device. Check Section 3 (Troubleshooting) in this guide for more information.

What hardware requirements must my host PC have?

- USB host or Ethernet host socket connection
- RAM: 128 MB
- Hard Disk Space: 10 MB
- Disk Drive: CD-ROM
- Suggested processor speed: 600Mhz

1. Installation and Configuration

Getting started

General Warning - Do not connect the Wireless Broadband Modem to your PC before the Mobility Manager software has been installed (Installation CD-ROM). Otherwise, the application will not work.

BATTERY NOTE: It is recommended that you charge the Wireless Broadband Modem for a minimum of twelve hours before first use, particularly if you plan on using it in a portable environment. Otherwise, the battery will not perform as well. It is highly recommended that you charge the modem for three hours on an ongoing basis if you consistently require portability. To charge the modem, simply connect it to a power outlet. The modem does not have to be turned on to charge. To monitor your battery power, view the battery indicator on the Mobility Manager (See Section 2- Using the Modem).

Battery Safety- Your Wireless Broadband Modem contains and can be powered from a rechargeable Li-Ion battery. Never use a charger that is damaged or modified in any way. Use only the charger that was provided with the device. Battery charging time depends on the remaining battery charge and the type of battery and charger used. The battery can be charged and discharged hundreds of times, but the battery charge capacity will gradually degrade over time. If left unused, a fully charged battery will discharge itself over time. Do not attempt to remove and replace the battery, contact an authorized service center thru the Technical Support desk. Do not leave the battery connected to a charger for more than 7 days, since overcharging may shorten its capacity and operating life. Always try to keep the device at room temperature. A device with a hot or cold battery may not work correctly, even if the battery is fully charged.

Handling the Wireless Broadband Modem

Before doing anything, take note of these guidelines on handling your modem:

1. Keep the antenna pointed upwards to ensure its optimum performance, but never forcefully bend it.
2. When transporting or storing your modem, remove the antenna and store it in a safe place.
3. Keep the Modem away from liquids, excessive heat and dust.
4. Keep your battery charged if you consistently require portability.

Step 1: Install the Mobility Manager software onto host PC

1. Make sure your PC is powered up. Close any programs that are running.
2. Insert the Installation CD-ROM (Mobility Manager software) into CD-ROM drive.

3. The CD Launcher Menu should appear. If the Menu does not appear, see box below.
4. In the CD launcher menu, click "Install Software"
5. Select the option for your operating system to launch the Mobility Manager wizard. *If the Mobility Manager wizard dialog box does not appear (it may be hidden behind the CD launcher menu), press the Esc key; it should now be visible.* The Mobility Manager wizard guides you through the installation of the Mobility Manager and the Modem driver (for USB connections only).

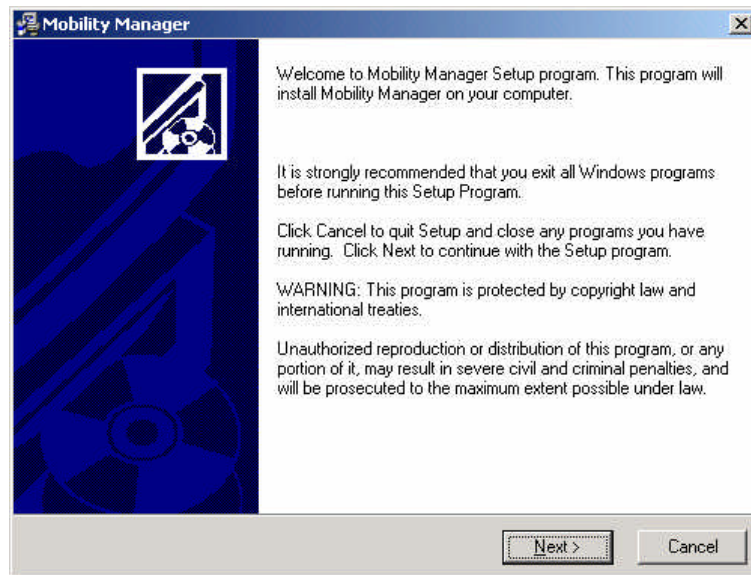


Figure 1, Mobility Manager Software

6. Follow the on-screen directions. Click "Next" after each step. *Note: at the software license agreement step, click Next if you wish to accept the agreement and Cancel if you wish to reject it. Rejecting the agreement will terminate the installation.*
7. Click "Finish" to end the installation. *Note: if the CD launcher menu is still visible, click "Main Menu" and then "Exit Browser."*
8. Remove the CD-ROM

If the CD does not start automatically:

- 1) Click "Start" then "Run".
- 2) In "Open," type the letter of your CD-ROM drive followed by install.exe (example - D:\install.exe, where D is the CD-ROM drive), or click "Browse" to locate and select the install.exe file on your CD-ROM drive.
- 3) Click "OK" to start the Mobility Manager wizard, which will guide you through the installation.

✓ **STEP 1 COMPLETE- YOUR SOFTWARE IS NOW INSTALLED.**

Step 2: Connect the Wireless Broadband Modem to host PC

After successfully installing the software, connect the modem to your PC by completing the following steps:

1. **Click** (PRESS FIRMLY) the antenna into the circular connector on the side of the modem (opposite side of Ethernet and USB socket). You should hear a click when inserted correctly. Keep the antenna pointed up to ensure its optimum performance.

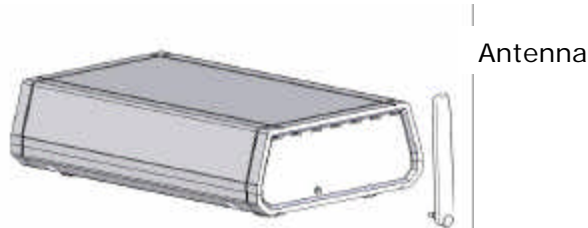


Figure 2, Attachment of the antenna

2. Connect one end of the power adapter (power adapter included) into a power outlet, and the other end to the side of the modem (same side as Ethernet and USB sockets). This will also charge the battery. If you will be using the modem in a portable environment, always charge your battery beforehand.
3. Insert one end of the Ethernet or USB cable into the appropriate modem socket, and the other end into your PC socket. Make sure your PC is on, and Windows is loaded.
4. Press the Power button located on the front of the modem.

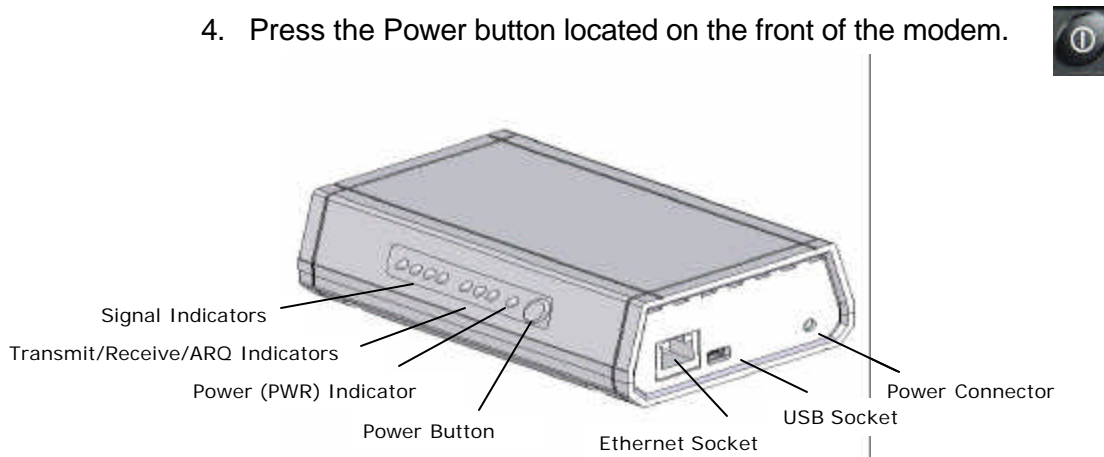


Figure 3, Modem Diagram

- ✓ **STEP 2 COMPLETE (ETHERNET ONLY)- YOUR MODEM IS NOW READY TO CONNECT, BUT ONLY THROUGH THE ETHERNET CABLE. IF YOU WISH TO CONNECT THROUGH THE USB CABLE, ADDITIONAL STEPS ARE REQUIRED (SEE BELOW).**

For USB Connections Only (Ethernet Connections do not apply)

When you first connect using the USB cable, the "Found New Hardware" message appears as Windows attempts to install the appropriate Drivers (this is not applicable for Ethernet connections). Each Windows operating system has slightly different steps for the USB Driver install. For example, you may need to have your original Windows operating system CD-ROM on hand if you utilize Windows 98 SE or ME applications.

Windows® 98 SE/Windows ME (through USB cable only)

The wizard detects the modem.

1. When the "Welcome to the Found New Hardware Wizard" appears, if prompted, insert your original operating system CD-ROM into the CD-ROM drive. The CD-ROM would have been included in your original Windows packaging.
2. Select the option to install the software automatically (recommended) or to install from a specific location (advanced). Then click "Next."
3. From the "Completing the Found New Hardware Wizard" page, click "Finish." If prompted, restart your PC. The driver installation is now complete for Windows 98 SE/ ME users.

Windows® 2000/Windows XP (through USB cable only)

The wizard detects the Wireless Broadband Modem.

1. When the "Hardware Installation" page (for XP users) or "Digital Signature Not Found" page (for 2000 users) appears, click "Continue Anyway" or "Yes."



Figure 4, Hardware Installation (XP)



Figure 5, Digital Signature Not Found (2000)

2. From the "Completing the Found New Hardware Wizard" page, click **Finish**. The driver installation is now complete for Windows 2000 users. If prompted, restart your PC.

✓ **STEP 2 COMPLETE (USB)- YOUR MODEM IS NOW READY TO CONNECT THROUGH THE USB CABLE.**

Step 3: Connecting to the Wireless Broadband network

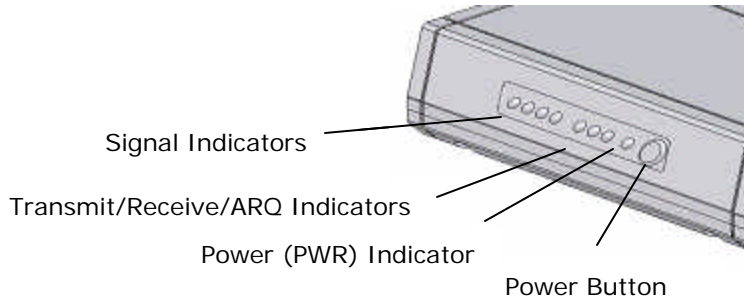
When you press the Wireless Broadband Modem power button, and the Ethernet or USB cable is attached correctly, the following will occur:

1. All indicators (red and green) on the face of the Wireless Broadband Modem will illuminate and remain that way for approximately 20 seconds (see Figure 6). At this time, the device is searching for the network.
2. When the network is found, the signal indicators (four indicators on the left hand side of the modem face) and the power indicator will be the only ones illuminated (see Figure 6). Between one and four indicators of the signal bar will be shown, depending on the strength of the signal.

✓ **STEP 3 COMPLETE- YOUR WIRELESS BROADBAND MODEM IS NOW READY TO USE.**

Transmit/ Receive Indicators:

These will illuminate when data is being transmitted (sent) or received.

**Signal Indicators:**

Will show 1-4 indicators illuminated, depending on the signal strength. The higher the strength, the more indicators are shown. If device cannot locate the network, the indicators will "scan" from left to right.

Power Indicator

This will illuminate when device is turned on. It will flash slowly when battery is low, and quickly when battery is about to run out.

Figure 6, Modem Indicators

NO SIGNAL: When the network is not found, the signal bar indicators will scan across from left to right. If this occurs, you may be in an area that does not have coverage. Please move to another location, or reposition the antenna (See Section 3- Troubleshooting).

LOW BATTERY: When the battery is running low, the power (PWR) indicator light will flash slowly. When the battery is about to run out, the power (PWR) indicator light will flash quickly; you will then have approximately 30 seconds before power is lost. Charge the modem by connecting it to an electrical outlet. The amount of battery power remaining will be shown on the Mobility Manager (See Section 2- Using the Modem).

NOTE: Each time you power up your modem and connect it to your PC:

- the modem icon appears on your screen's system tray and desktop
- the Mobility Manager software is launched (unless the auto-launch feature has been disabled)

2. Using the Modem

The Wireless Broadband Modem can be used in stationary or mobile environments. Once the software has been installed, simply plug the modem into your laptop or desktop PC using the Ethernet or USB cable that is included in your packaging. It is recommended that you charge the modem for three hours on an ongoing basis if you consistently require portability. To charge the modem, simply connect it to a power outlet.

Monitoring the connection using Mobility Manager

After installation, and each time you connect the powered up Wireless Broadband Modem to your powered up PC, the Mobility Manager icon appears on your desktop.

Use the Mobility Manager application to view everything from the signal strength of your wireless network card, to the number of kilobytes sent and received during your current session.

Mobility Manager NOTE: if for any reason, the Mobility Manager does not pop up automatically, click the modem icon on your desktop or system tray.



Figure 8, Mobility Manager desktop icon



Figure 9, Mobility Manager system tray icon

Check for Upgrades

The Options tab on the Mobility Manager reveals a scroll down menu.

Click on “Check for Upgrade” to see if an upgrade is available. A dialog box will appear. Click “Ok” to download upgrade. If an upgrade is not available, the dialog box will say “No upgrade is available, please try again later.” Click “Close.”

Connection Status and Connection Time

The Mobility Manager will indicate either “Connected” or “Searching”, depending on the Connection Status of your Wireless Broadband Modem.

The Connection Time indicator will show you how long you have been connected to the Wireless Broadband network (for that particular session only). When you end the session (turn off the computer, unplug the device, or disable the program), this value is reset to zero.

If it still says “Searching” after the 20 second search period, check that (1) you are in an area that has Wireless Broadband coverage (See Section 3 – Troubleshooting), (2) the antenna is upright and inserted properly, and (3) the modem is connected properly to the PC. The modem itself also shows the connection status (see previous section).

Kilobytes sent or received

To monitor the amount of data you have sent or received during your session, refer to the relevant indicator of the number of kilobytes:

- Received
- Sent

These indicators show the total number of bytes transmitted and received during your current session. When you end a session (turn the computer off, unplug the device, or disable the session), these values are both reset to zero.

Signal Strength and Signal Quality

To monitor the signal strength and quality, refer to the indicators. Signal Strength shows the power level of the signal you are receiving. When the signal is strongest, four bars are shown. When it is weakest, one bar is shown.

Signal Quality measures the actual quality of the signal (signal in relation to surrounding noise, etc).

NOTE: The Strength and Quality Bars will scan from left to right while the card searches for a signal.

Power

When the modem is plugged into an electrical outlet, a lightning bolt icon appears in the bottom right corner of the Mobility Manager. Your battery is being charged at the point. When the modem is using battery power, the battery icon appears instead. You can use this to monitor your battery power.

Close, Exit, and End Session

- To Close the Mobility Manager window, click the X in the top right corner. *Note that this does not end the session (break the connection).* To bring it back, click the modem icon on the system tray or desktop.
- To Exit the Mobility Manager program, but keep the modem session running, click “Options,” then “Exit.” This will remove the modem icon from the system tray. To re-enter the program, click the icon on your desktop. The modem window will pop up again, and the icon will reappear on the system tray. *Note that exiting the Mobility Manager application does not end your wireless broadband connection or the session.*
- To End Session, simply unplug the device, shut down your PC, or click “Options,” then “Disable.”
- The Disable function is used to quickly end the session without having to shut down your PC. This is especially practical in places that allow for electronic devices, but not wireless communication (airplanes, hospitals). To begin another session, click “Options,” then “Enable.”

Disconnecting the modem

- If you are connected through the Ethernet cable, simply unplug the cable from the modem and PC to disconnect the modem.
- If you are connected through the USB cable, disconnect by following these steps:

1. Click the Unplug or Eject Hardware icon on your system tray.



2. From the options presented, select “Stop FLASH-OFDM NIC” device. Click “Stop.”
3. A dialog box appears notifying you that it is safe to disconnect the modem. Unplug the USB cable from the modem and PC device.

Uninstalling the Mobility Manager software

To uninstall the Mobility Manager software, follow these steps:

1. Click the "My Computer" icon on your desktop.
2. Click the "Control Panel" icon in your "My Computer" folder.
3. Click the "Add/Remove Programs" icon.
4. Scroll down to "Mobility Manager" and click it. Then click on "Change/Remove." Follow instructions. Click "Next" and then "Finish."

The software is now uninstalled.

3. Troubleshooting

Problems, causes and suggestions

When properly installed and used, the modem is very reliable.

Problems that arise are likely to be because:

- Wireless Broadband coverage is not available.
- the modem is not compatible with the operating system in your PC.
- other devices are using the system resources that are required for the modem to function.
- the wrong driver has been installed.

Modem problems	Possible Causes	Suggestions
Online access is not available	Make sure you waited the full 20 seconds for the modem to search for and find the network before connecting the device to the PC. Check that the cable is attached correctly to both your PC and the modem. Check to see the signal indicators on the front of the modem- if they are "scanning" back and forth, then you do not have coverage. If the indicators are not on, then press the power button and wait 20 seconds for the network to be found.	If you do not have signal (indicators scanning from left to right) contact Customer Care to verify that you are in coverage area, or move to another location. If you do have signal, check to see that the cable is inserted properly in both the modem and your PC. Reinsert cable.
The Power (PWR) indicator is blinking	The modem battery is low (slow blink) or about to run out (fast blink).	Plug modem into electrical outlet to charge battery. Monitor the battery status through the Mobility Manager.
The Mobility Manager icon says "Disabled"	The Modem is not fully connected. The driver is not running properly.	Reconnect the Modem to the PC. The Ethernet socket light on the PC will illuminate. Click on "Options," then "Enable."

Modem problems	Possible Causes	Suggestions
Mobility Manager displays the message: "Searching"	You are outside the network coverage area. Your antenna is not attached.	Contact Customer Care to verify that you are in coverage area. Move to another location or reposition your antenna.

4. Technical Specifications

Environmental Specifications

Operating Temperature	-30 to +60 C
Storage Temperature	-30 C to +85 C
Humidity	95%

Approvals

FCC Parts 15 and 24

5. Regulatory Information

Manufacturer's Federal Communication Commission Declaration of Conformity statement



Model: Wireless Broadband Modem Wireless Broadband Modem

FCC Certification Number: QZX99163001

Manufacturer: Flarion Technologies, Inc. 135 Route 202/206 South
Bedminster One Bedminster, NJ 07921

This device complies with FCC Rules Part 15 and Part 24. The modem has been tested with a typical laptop. The MODEM must not be co-located or operated in conjunction with any other antenna or transmitter. Use of this device in any other configuration may exceed the FCC RF exposure compliance limit. In order to comply with FCC RF exposure requirements, the EUT must be installed and operated in such a way that a minimum separation distance of 20cm is maintained between the antenna and all persons during normal operation.

Operator is subject to these conditions. This equipment generates, uses, and radiates radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference. If this equipment causes interference to radio or television reception, which you can check by turning the equipment off and on, try to:

Reorient or relocate the receiving antenna

Increase separation between the equipment and receiver

Connect the equipment to an outlet on a circuit different from which the receiver is connected

Consult the dealer or an experienced radio/TV technician

Caution

Changes or modification to said product not expressly approved by Flarion could void the user's authority to operate this device.