

Appendix H - Users Manual

Attached is a preliminary copy of the Instruction Manual.

This manual will be provided to the end-user with each unit sold/leased in the United States.

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USER GUIDE

***Monarch™ M130C
Wireless PC Card Modem***

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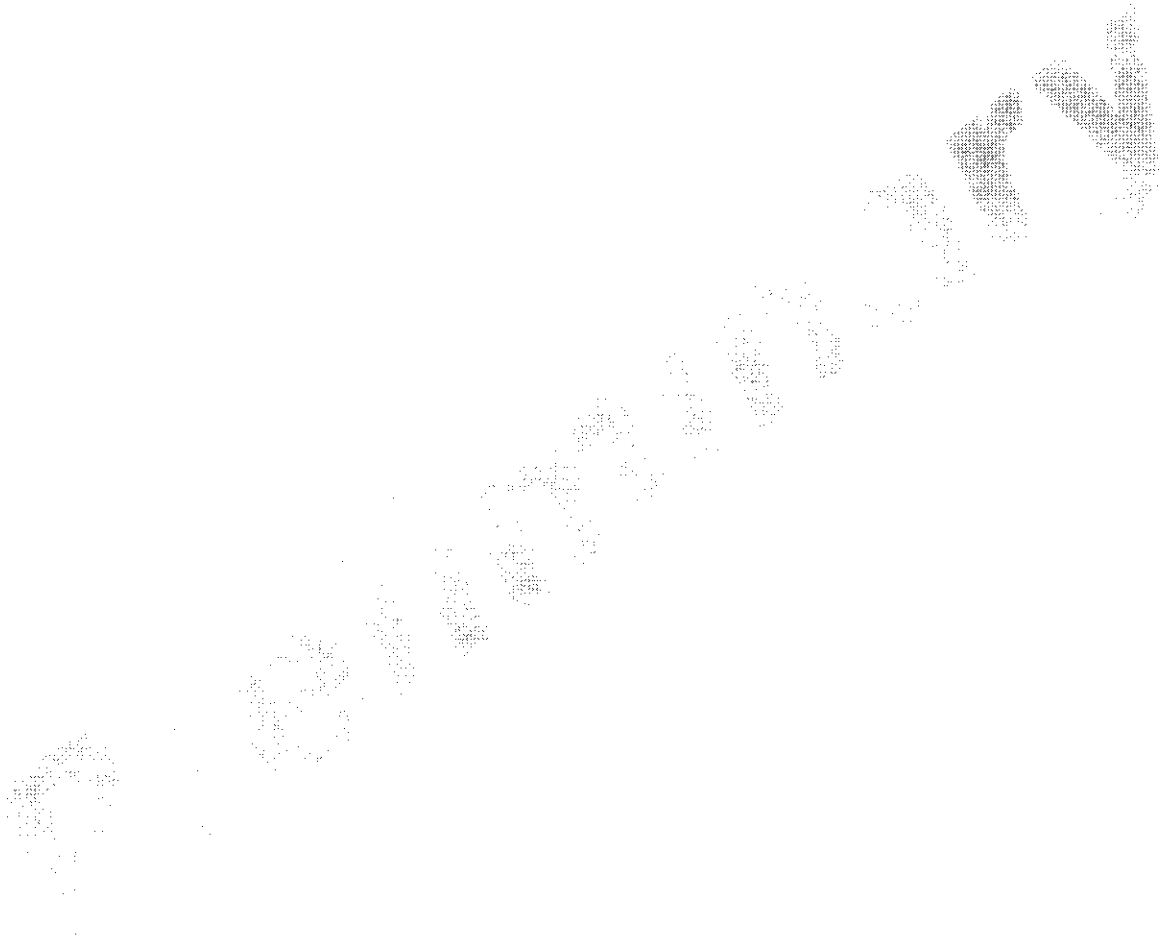
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Monarch M130C
Wireless PC Card Modem for CDPD Networks

CONTENTS



BOX CONTENTS

Monarch M130C Wireless PC Card Modem

Links your computing device to a Cellular Digital Packet Data (CDPD) network. You can exchange data with other CDPD-equipped devices and modem cards as well as with other remotely accessible computers.

Monarch M130C Installation and Setup Software Diskette

Contains the software files necessary to install the modem card on your computing device. Instructions are provided in the included README file. Updated software is always available on our website found at www.tellus-tech.com.

Protective Carrying Sleeve

Protects the modem card when it is not in your computing device.

9 V AC/DC Adapter

Powers the modem card RF section when the power selector switch is set to BATTERY POWER (position 1) and the transformer is plugged into an AC power socket.

9 V Alkaline Battery

Powers the modem card RF section when the power selector switch is set to BATTERY POWER (position 1) and the AC adaptor is not connected.

User Guide

Provides information on the use and care of the modem card.

Warranty Registration Card

Allows you to register your modem card with Tellus.

QUICK START INSTRUCTIONS

1. Inspect the contents of the box to verify that they are complete.
2. Fill out the warranty registration card and mail it to Tellus Technology.
3. Open the battery cover and install the battery included with the modem. Make sure that the battery is installed with the proper polarity.
4. Insert the Monarch card into the PCMCIA slot on your computing device (the host). The host may be powered on or off.
5. Lift the antenna from the unattached end until it is pointing directly up.
6. Set the selector switch to BATTERY POWER (position 1). The battery will be used to power the RF section of the modem. (With the power selector switch in this mode, the battery or the

AC adaptor may be used to power the RF section). The modem is designed so that it also can operate entirely from power supplied by the PCMCIA slot on the host. However, some computing devices that do not fully comply with the PCMCIA specifications may not provide sufficient power for the modem. In addition, this will drain the host's battery much more rapidly than in normal operation. To use in this manner, set the power selector switch to HOST POWER (position 0).

7. Turn on the modem host.
8. Confirm that the Power LED is on (red).
9. Establish a connection to your CDPD service provider and use your wireless application to send and receive data by following the application's instructions.

CDPD INTRODUCTION

System Overview

Your modem card uses special network protocols that allow you to transmit and receive packets of data over cellular voice channels. Collectively, these protocols are called Cellular Digital Packet Data (CDPD).

When you send or receive data, the CDPD network provides encryption and authentication services—adding security and privacy—to protect your data as it moves across the network.

Thus, CDPD is a reliable, reduced-interference, data-transfer system that provides the freedom to communicate data in a wireless environment.

Carrier Subscription

When you receive the modem card, your card provider configures it for operation with the appropriate CDPD cellular carrier. The carrier records the modem card Equipment Identifier (EID), assigns an Internet Protocol (IP) address, and sets up a billing account, similar to the assignment of a cellular phone number.

Your CDPD modem card includes two labels on the bottom: the EID / SN label and a FCC label. Copy the EID and serial number to page 35. This convenient, alternate location makes it easy to reference your unit if you need to contact your modem card provider or the Tellus Technology Help Desk (see page 30).

STANDARD FEATURES

Status LEDs

Indicates your modem card operation: Power (red), Message (yellow), and Range (green).

The LEDs inform you of modem card status under different operating conditions.

Range (green)—Lights whenever the modem card is powered on and in range

- Indicates that the modem is receiving signals from the cellular network.

Message (yellow)—Blinks whenever data is sent or received over the network

- Blinking indicates that the modem connection is "active".

Power (red)—Lights when modem radio power is on

- Power selector switch in position 0 (HOST POWER). Red LED lights when the modem is plugged into a PCMCIA slot and the modem RF section is drawing power from the host device.
- Power selector switch in position 1 (BATTERY POWER). Red LED lights when the modem is plugged into a PCMCIA slot and the modem RF section power (from the battery or the external adaptor) is okay.

Battery Holder

Holds the battery. Install the battery (included in box) before using the modem card.

Antenna

Flips up and extends during use; retracts and folds down for transport.

PCMCIA Connector

Connects the modem card to a personal computing device equipped with a PCMCIA Type II or III card slot.

Power Selector Switch

Switches the modem card between host-powered and battery-powered modes (0=HOST POWER / 1=BATTERY POWER).

AC Adaptor

With the power switch in battery-powered mode, the AC adaptor supplies power for the modem RF section when connected to the modem power jack and plugged into an AC powered socket. The AC adaptor has priority over the battery. If the AC adaptor is plugged in, power for the modem RF section will be supplied from the adaptor, even with a battery present.

Information Labels

List the unit EID and serial number; denote FCC requirements (on modem card bottom, not shown here)

IMPORTANT FUNCTIONS

Cellular Wide Area Coverage

Wide area coverage allows you to stay on the network to send and receive data without a break while you travel from one area (cell) of network coverage to the next.

The circles show the network coverage area. Your Range LED lights while you are in the coverage area (see "In Range / Out of Range" on page 17).

In-Slot Operation

Occurs when the modem card is switched ON and is in the host PCMCIA slot with the wireless application running.

The modem card provides Internet Protocol (IP) connectivity to the CDPD network.

In-slot functions:

- Network interface (SLIP) to existing host software
- Terminal emulation interface using AT command set
- Character-based messaging using Telnet

Power Saving Mode

The modem card implements a power saving "sleep" mode in order to maximize battery life. This ensures that the modem will be active only when there is data to be sent or received.

STARTING UP

Insertion and Removal

Grasp the modem card at the battery end to slide it in or out of the PCMCIA slot. Use care in handling, as shown above. To insert the card, push it into the slot until it stays firmly seated. To remove the card, pull it out or use the host eject button if available. The modem card can be on or off.

CAUTION Avoid these PCMCIA slots:

- Memory-only and PCMCIA Type I slots
- Slots with an interfering access hatch
- Slots causing the modem card to bear the weight of the host computer

Antenna Adjustment

From the notched tip, lift the antenna to the open, straight-up position and extend it until it clicks in place at full length. During operation, keep the antenna extended and straight up.

SENDING AND RECEIVING DATA

The Wireless Application

Use your wireless application by following its instructions. The application controls how the modem card sends and receives data. If the application activates stand-alone operation, the modem card can receive and store data even while disconnected from the host.

In Range / Out of Range

The Range LED lights while the modem card is within range of the network coverage area and has connected to the CDPD network. When you take the modem card out of range, the LED turns OFF. When you return to an area of coverage, the modem card reconnects to the network, and the LED lights again.

SHUTTING DOWN

End of Session

When you are finished with a session, exit the wireless application. Leave the antenna up as the modem disconnects. After the Range LED turns off, the modem may be removed from the PCMCIA slot.

Shutdown

Removing the modem card from the PCMCIA slot shuts off the power to the modem. The Power LED will turn off when the modem is removed from the slot.

MAINTENANCE

Cleaning

Switch off the modem card before cleaning it. Do not use liquid or aerosol cleaners. Wipe with a clean, lightly dampened cloth.

Handling

Use the PCMCIA protective carrying sleeve to cover the PCMCIA connector when the modem card is not inserted in the host PCMCIA slot.

Handle the modem card with care and store it in a clean, dry place.

Do not use the modem card if it is:

- Damaged or bent
- Wet or corroded

For help with these problems, refer to "Customer Support" on page 30.

CHANGING THE BATTERY

Follow these steps when the Power LED fails to light under battery operation:

1. Remove the modem card from the PCMCIA slot.
2. Wait until all LEDs are off.
3. Open the battery cover.
4. Replace the battery with a fresh battery. Observe proper battery polarity.

NOTE: Use these types of batteries:

- Disposable 9 V alkaline
 - Optional Tellus Technology rechargeable 6 V NiCAD
5. Close the battery cover.
 6. Install the modem card in the PCMCIA slot and check that the Power LED is on.
 7. Dispose of used alkaline batteries properly.

PROBLEM SOLVING

Step-by-Step Instructions

Follow these steps to correct a malfunction:

1. Install a fresh battery.
2. Check your wireless application for diagnostic data.
3. Contact your modem card provider or cellular carrier for support. See "Customer Support" on page 30.

Low Battery

To respond to a battery that is weak (as indicated by the Power LED), perform the following steps:

1. Continue your current session. Take note to change the battery soon.
2. When convenient, disconnect from the network and remove the modem from the PCMCIA slot.

CAUTION: Avoid loss of data. Do not lower the antenna or replace the battery until the Power LED shuts off.

1. Replace the battery (see page 20).
2. Re-install the modem in the PCMCIA slot and ensure that the Power LED is on.

SPECIFICATIONS

Physical Characteristics

- Weight: 122 g (no battery); 164 g (with battery)
- Length: 151 x 54 mm
- Height at card end: 5 mm; at battery end: 35 mm
- Status LEDs: 3 (Range, Message, and Power)

Power Source

Either of the following;

- Replaceable 9 volt alkaline battery (or optional rechargeable 6 volt NiCAD battery)
- 9v AC adaptor

Communications Interfaces

- Fits PCMCIA Type II and III slots
- PCMCIA: NS 16550 emulation
- RF Protocol: 19.2 kbps;
Compliant with CDPD 1.1 Specification
- Host Protocol:
Online: SLIP or Telnet
Command mode: TIA 602/615, PCCA STD 101

Radio Performance

- Full Duplex
- Transmit: 824 to 849 MHz
Receive: 869 to 894 MHz
- Transmit power: 600 mW
- Automatically scans for available channel

Environmental

- Temperature Range:
Operating: 0° C to 50° C (32° F to 122° F)
Storage: -35° C to 85° C (-31° F to 185° F)
- Physical Performance: Exceeds *PCMCIA PC Card Standard*, Release 2.1 recommendations for humidity, shock, and vibration.

ACCESSORIES

Tellus offers the following accessories for use with your modem card. To order, call 1(800) TEL-LUS2.

Battery Charger (PWPN4150A)

- Uses 110 V AC to charge 6 V NiCAD battery (approximately 8 hours for full charge)
- Fold-down prongs make it portable
- Small enough to fit in your pocket

Rechargeable Battery (PWNN4152A)

- Rechargeable 6 V NiCAD battery
- Alternative to disposable alkaline batteries

Charger Plus Batteries (PWNN4149A)

- Two rechargeable batteries
- Battery charger

Serial Port Adapter (PWKN4151A)

- PCMCIA interface to RS-232 port
- Includes DB-9 M/F serial port cable
- Portable and provides ease of connectivity
- Use with computers that do not have a PCMCIA slot

CUSTOMER SUPPORT

Tellus provides a one-year limited warranty for your modem card. For details, read the "Warranty" on page 31.

If you need support or accessories, contact the Tellus 24-hour Help Desk at:

- (TEL) LUS-HELP outside the U.S.
- or by e-mail at:
help@tellus.com

Warranty

Warranty Coverage

Tellus Technology, Inc. warrants that the Tellus Monarch M130C wireless modem card and accessories conforms to Tellus' published specification for such Product at the time of purchase, and will be free from defects in materials and workmanship, under normal operating use and service, for one year from the date of original purchase (not from date of Product activation or registration on the network). This warranty extends to the final consumer of the Product only. Tellus at its option, will at no charge either repair the Product (with new or reconditioned parts), replace it (with a new or reconditioned Product), or refund the purchase price of the Product during the first 60 days from the date of purchase of the Product. Repaired/replacement Products are warranted for either 60 days or the remainder of the original warranty period, whichever is longer. All replaced items become Tellus' property.

What the Warranty Does Not Cover

This warranty does not cover: (a) installation, maintenance or service of the Product; (b) defects or damage from misuse, use in other than the normal and customary manner, accident or neglect; (c) defects or damage from improper testing, operation, maintenance, installation, adjustment, alteration or modification; (d) defects or damage from spills of food or liquid; (e) all plastic surfaces and all other externally exposed parts that are scratched or damaged due to normal use; (f) the operation of the Product with equipment not supplied by Tellus if there is no fault with the Product; (g) damage to the Product caused by the use of equipment not supplied by Tellus; (h) Products that have had the serial number removed or made illegible; (i) Products rented to others; or (j) any batteries included with the Product (except Tellus NiCAD batteries).

This warranty also does not cover batteries if: (a) the battery is charged by other than our approved battery chargers; (b) any of the seals on the battery is broken or shows evidence of tampering; or (c) the battery is used in equipment or service other than the product for which it is specified.

In addition, Tellus specifically disclaims liability for: (a) range, coverage, traveling, availability or operation of any communications system(s) on which the Product operates; or (b) any data stored in or used with the Product, including recovery costs of such data.

Warranty Service Guidelines

The user must provide proof of purchase bearing the date of purchase in order to receive warranty service. In some cases, the provider who sold or installed your Product will facilitate your warranty service. Tellus will provide warranty service through Tellus authorized Product repair facilities or you may return the Product directly to Tellus for warranty service.

Please contact Tellus Technology at 1(800) TEL-LUS2 in the U.SI, or (510) TEL-LUS2 outside the U.S. for information on returning your Product for warranty service. For any return of Product to Tellus, you must prepay shipping costs and include your name, address, phone

number, proof of purchase and an explanation of the problem. If possible, use the original container in shipping a Product to Tellus. Tellus will pay any shipping costs for returning a Product to you.

General Provisions

This warranty sets forth the responsibilities of Tellus regarding this Product. Repair, replacement, or refund of the purchase price, at Tellus' option, is your exclusive remedy.

THIS WARRANTY IS GIVEN IN LIEU OF ALL OTHER EXPRESS WARRANTIES. IMPLIED WARRANTIES, INCLUDING WITHOUT LIMITATION IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED TO THE DURATION OF THIS LIMITED WARRANTY. IN NO EVENT SHALL TELLUS BE LIABLE FOR DAMAGES IN EXCESS OF THE PURCHASE PRICE OF THE PRODUCT, FOR ANY LOSS OF USE, LOSS OF TIME, INCONVENIENCE, COMMERCIAL LOSS, LOST PROFITS OR SAVINGS, OR OTHER INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE SUCH PRODUCT, TO THE FULL EXTENT SUCH MAY BE DISCLAIMED BY LAW.

Jurisdiction Rights

Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, or limitation on how long an implied warranty lasts, so the above limitations or exclusions may not apply to you. This warranty gives you specific rights, and you may also have other rights which vary from jurisdiction to jurisdiction.

In addition, this warranty only applies to Product purchased from dealers operating in the United States, Canada, or Mexico. Products purchased from any other country are excluded from this warranty.

Regulatory Notice

FCC Compliance 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 or more 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 connects.
- Consult the dealer or an experienced radio/television technician for help.

Properly shielded and grounded cables and connectors must be used in order to meet FCC emissions limits. Proper cables and connectors are available from Tellus authorized dealers. Tellus is not responsible for any radio or television interference caused by using other than recommended cables and connectors or by unauthorized changes or modifications to this equipment.

The user is cautioned that any changes or modifications not expressly approved by Tellus Technology, Inc. could void the user's authority to operate the equipment.



WARNING

Do not use this Product on an airplane or while in other non-radio zones. This Modem card could interfere with sensitive safety equipment.



You may find the following book helpful: *Interference Handbook* (stock number 004-000-00493-1). This booklet, prepared by the Federal Communications Commission, is available from the U.S. Government Printing Office, Washington DC 20402.

Industry Canada Compliance Statement

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Avis de conformite aux normes du ministere des Industrie Canada

Cet appariel numerique de la Classe B respecte toutes les exigences du Reglement sur le material brouilleur du Canada.

Important Reference Numbers

For easy access when seeking product support, fill in the information below. The numbers are on the bottom label of your Monarch M130C wireless modem card.

EID: _____

SN: _____