Document Number: 30635-000-002

PTC-1800

Product Reference

Guide

PTC-1800
Product Reference Guide

Document Number: 30635-000-002

Release Date: November 2000

Symbol is a registered trademark of Symbol Technologies, Inc.

Windows 95 and Microsoft are registered trademarks
of the Microsoft Corporation.

All other product or trade references appearing in this manual are registered trademarks of their respective owners.

The information in this manual is subject to change without notice.

Symbol Technologies shall not be liable for technical or editorial omissions or mistakes in this manual. Nor shall it be liable for incidental or consequential damages resulting from the use of the information contained in this manual.

This manual is copyrighted. No part of this manual may be photocopied or reproduced in any form without the prior written consent of Symbol.

Technical Writer: Norm Walters

© Copyright 2000 Symbol Technologies, Inc.

All rights reserved.

Table of Contents

Chapter 1 - Regulations 1
General regulations 1
FCC statement 1
DOC statement 1
Spread spectrum radio regulations 2
FCC regulations 2
DOC statement 2

Chapter 2 - Safety information 3
Safety precautions 3
Lithium-ion battery pack 3
Guidelines for handling 3
Disposal 4
Getting help 4
Bridge battery 4
Disposal 4
Recycling 4
Spread spectrum radio 4
Safety compliance 4
Internal laser scanner 5
Safety compliance 5
Warning label 5

Chapter 3 - Scope of the manual 7
Information 7
Included 7
Not included 7
Related publications 7

Chapter 4 - Overview of the PTC-1800 9
Introduction 9
Description of PTC-1800 9
Accessories 9
Headset 9
Carrying case 9
Model 1822 9

Chapter 5 - Getting started 11
Unpacking the PTC-1800 11
Package contents 11
Procedure 11
First-Time Use 12
Connecting a ferrite bead to the AC or vehicle adapter 12
Installing the battery pack 12
Charging the battery pack 12
Charging the bridge battery 12

Chapter 6 - Parts 13
Internal components 13
Bridge battery 13
DOC Hard disk drive 13
Memory 13
Operating system 13
Processor 13
Radio (optional) 14
External components 14
AC adapter 14
Vehicle adapter (optional) 14

Chapter 7 - Features 23
Applications 23
Backlight 23
Clock 23
Display contrast 24
Incoming message alert 24
Telephone application 24
VoiceAlert application 24
Low-battery warning 25
Power management 25
Run mode 25
Suspend mode 25
Ship mode 26
Resume 26

Chapter 8 - Operating the PTC-1800 27
Turning on the PTC-1800 27
Turning off the PTC-1800 27

Chapter 9 - Data application 29
Overview 29
Using the application 29
Entering data 29
Via the keyboard 30
Through a laser scanner 30
Via an optional internal radio 31
Storing data 31
Communicating data 32
Using the IrDA port 32
Using the radio 32

Chapter 10 - Telephone application 33
Overview 33
Features 33
Key functions 34
Accessing the telephone application 35
Menu structure 39
Setting up the telephone 39
Creating/modifying the telephone directory 39
Setting the telephone alert 46
Locking the keyboard 48
Turning on the Auto Answer feature 49
Initializing keypad tones 50
Editing/Viewing user identification information 50
Operating the telephone 52
Placing a call 52
Receiving an incoming call 53
Ending a call 53
Refusing a call 53
Placing a call on hold 53
Using multiple lines 53
Adjusting the speaker volume 53
Viewing call lists 54
Saving an entry in a call list to the telephone directory 54
Deleting a call from the call list 55
Obtaining information about a call in the call list 55
Clearing call lists 57
Obtaining information about the telephone application 58
Exiting the telephone application 58

Chapter 11 - VoiceAlert application 59
Overview 59
Setting up the VoiceAlert application 59
Adjusting the speaker volume 59
Selecting the type of VoiceAlert notification 60
Operating the VoiceAlert application 61
Sending a broadcast message 61
Receiving a broadcast message 62

Chapter 12 - Maintaining the battery pack 63
Lithium-ion batteries 63
Overview 63
Maintenance 63
Disposal 63
Replacing the battery pack 63
Removing the battery pack 63
Installing a new battery pack 64
Recharging the battery pack 64
Charging options 64
When to charge the battery pack 64
Charging time 64
Charging guidelines 65
Charging the battery pack 65
Battery pack life 66
Storing spare battery packs 67
Length of time 67
Environment 67

Chapter 13 - Maintaining the bridge battery 69
Overview 69
Recharging the bridge battery 69
When to charge the bridge battery 69
Equipment required 69
Procedure 69
Bridge battery support time 70
Conditioning the bridge battery 70
Replacing the bridge battery 71
When to replace the bridge battery 71
Replacement procedure 71

Chapter 14 - Maintaining the PTC-1800 73
Operating conditions 73
Environment 73
Temperature 73
Handling the PTC-1800 73
Storing/shipping the PTC-1800 74
Guidelines 74
Procedure 74
Cleaning the PTC-1800 75
Equipment required 75
Cleaning the PTC-1800 75
Cleaning the contacts 75
Servicing the PTC-1800 75
Disposing of the PTC-1800 76

Chapter 15 - Troubleshooting 77
Getting started 77
Common solutions 78
Getting help 81
Sources of information 81
Who to contact 81

Chapter 16 - Rebooting/Resetting the PTC-1800 83
Introduction 83
Rebooting the PTC-1800 83
Overview 83
Procedure 83
Resetting the PTC-1800 84
Overview 84
Procedure 84

Appendix A 85
Specifications 85
Communication and I/O 85
Display 85
Electrical 85
Environmental 86
Laser scanner 86
Memory 86
Microprocessor 86
Operating system 86
Physical 87
Storage 87

Appendix B 89
Accessory part numbers 89

Appendix C 91
Display icons and LED codes 91
Display icons 91
LED codes 92

Chapter 1

Regulations

General regulations

FCC statement

FCC testing results may not be valid if any products not manufactured or resold by Symbol are used with the PTC-1800 (e.g., another power supply).

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the Federal Communications Commission (FCC) rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with this instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case users will be required to correct the interference at their own expense.

DOC statement

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as outlined in the Radio Interference Regulations of the Canadian Department of Communications (DOC).

This Class B digital device meets all requirements of the Canadian Interference-causing Equipment Regulations.

Cet appareil numérique de la Classe B respecte toutes les éxigences du Règlement sur le matériel broilleur du Canada.

Spread spectrum radio regulations

FCC regulations

The PTC-1800 uses radios (transceivers) and radio communication in its operation. The PTC-1800 uses a spread spectrum radio transceiver that qualifies for unlicensed use. The FCC ID is on a label on the back of the unit.

DOC statement

The PTC-1800's radio is also approved for use in Canada. The PTC-1800 uses a spread spectrum radio transceiver that qualifies for unlicensed use. The Canadian DOC ID is on a label on the back of the unit.

This device complies with RSS-210 of Industry and Science Canada. Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Chapter 2

Safety information

Safety precautions

Observe the following precautions prior to and while using the PTC-1800:

- It is recommended that standard acceptance procedures be followed prior to operating this equipment in proximity of life-support systems.
- To minimize risk of interference, pacemaker users SHOULD NOT carry the PTC-1800 next to the pacemaker.
- Operation of the PTC-1800 with voice applications may produce an audible noise noticeable to hearing aid users. Thus, it is recommended that a headset be used by hearing aid users.

Lithium-ion battery pack

Guidelines for handling

Follow these guidelines when handling the PTC-1800's lithium-ion battery pack:

- Do not expose the battery pack to water, metal objects, direct sunlight, extreme heat, or fire.
- Do not attempt to disassemble the battery pack.
- Do not handle a damaged or leaking lithium-ion battery pack.
- Recharge the PTC-1800's battery pack using only a Symbol-approved charging accessory.

Disposal

! Never attempt to incinerate a lithium-ion battery; doing so could cause it to explode.

Lithium-ion batteries contain chemically active materials that are hazardous to the environment; therefore, they must be disposed of properly.

Getting help

Symbol urges you to contact the Environmental Protection Agency, the Department of Natural Resources, a local hazardous waste disposal agency, or the Symbol Product Support Center at 1-800-653-5350 for assistance prior to disposing of your lithium-ion batteries.

Bridge battery

Disposal

! Never attempt to incinerate the bridge battery; doing so could cause it to explode.

The PTC-1800's bridge battery is not user accessible; however, it contains chemically active materials that must be disposed of properly.

Recycling

Do not throw away the PTC-1800 when it has reached the end of its useful life. Send it to an authorized Symbol service center for bridge battery removal and recycling before disposal.

Spread spectrum radio

Safety compliance

This device is compliant to the ANSI C95.1 (1992) Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields per FCC Docket 93-62.

Internal laser scanner

Safety compliance

The PTC-1800's laser scanner is a Class II laser product. It emits a 1.0 mW beam of laser light from 6 Pre- released Version (2/25/00).the output window. No maintenance is required to keep this product in compliance with U.S. Department of Health and Human Services (DHHS) Regulation 21 CFR Subchapter J. No controls are provided for operation or maintenance. Laser light in excess of Class I limits is inside an internal protective cover.

Warning label

! Do not stare into the scanner's laser beam if the protective cover is removed. Permanent eye damage could result.

The laser safety warning label required by the DHHS for the PTC-1800's short-range laser scanner is located on the back of the PTC-1800 near the scanning window.

Chapter 3

Scope of the manual

Information

Included

This manual provides information on the PTC-1800's parts, features, applications, and accessories. It also explains how to operate and maintain the PTC-1800.

Not included

This manual does not provide instructions on how to perform the tasks specific to your job in your organization. For that information, refer to the manual or instructions provided by your supervisor.

Related publications

The following manuals may be useful as you operate the PTC-1800.

- *PTC-1800 Quick Start Guide*–Provides information on setting up and operating the PTC-1800.
- *PTC-1800 SDK Programming Guide*–Describes and provides programming information for the software components of the PTC-1800.
- *Model 1822 User's Guide*–Contains operation and maintenance instructions for the charger that can be used to recharge the PTC-1800's internal and/or spare lithium-ion battery packs.

Chapter 4

Overview of the PTC-1800

Introduction

Description of PTC-1800

The Symbol PTC-1800 is a small, lightweight, and rugged portable teletransaction computer. It is used to collect, store, and transmit data.

See Chapters 9, 10, and 11 for more information on each of the PTC-1800's application options.

Depending on how it has been programmed, the PTC-1800 may also be used to send and receive telephone calls and VoiceAlert messages.

Accessories

Various accessories are available for use with the PTC-1800. Contact your Symbol sales representative or visit www.symbol.com for ordering information.

Headset

A headset with a microphone can be used with the PTC-1800's telephone application to provide hands-free talking. The headset plugs into the PTC-1800's headset jack.

Carrying case

A leather carrying case for the unit provides added protection to the PTC-1800 while offering a convenient belt clip.

Model 1822

This charger recharges the PTC-1800's internal lithium-ion battery pack and/or a spare battery pack.

Chapter 5

Getting started

Unpacking the PTC-1800

Package contents

Each shipping box contains:

- a PTC-1800 portable teletransaction computer,
- a standard or extended-life battery pack,
- a 12-VDC, 1.2-A AC adapter or a 15-VDC, 2.7-A vehicle adapter (if ordered), and
- a PTC-1800 Quick Start Guide.

Procedure

If anything is missing or damaged, notify your Symbol sales representative.

Follow the instructions below to unpack your PTC-1800.

1. Remove the PTC-1800 and other parts from the box.
2. Remove all packing material from the PTC-1800. Save the packaging in case the PTC-1800 is ever stored or shipped to Symbol for service.
3. Check the contents of the package to make sure that you have received everything ordered.
4. Check the PTC-1800 and accessories for shipping damage. Pay particular attention to the PTC-1800's case and screen.

First-Time Use

Follow the instructions in this section to set up the PTC-1800 for the first time.

Connecting a ferrite bead to the AC or vehicle adapter

To comply with Federal Communications Commission (FCC) Part 15, Class B regulations, a ferrite bead must be connected to the PTC-1800's AC or vehicle adapter before the adapter is used.

A ferrite bead is shipped with the PTC-1800. Follow the instructions below to attach it properly.

1. Place the open bead around the AC or vehicle adapter's cord.
2. Position the bead approximately 5 in. (13 cm) away from the connector that will plug into the PTC-1800's charger jack.
3. Snap the bead closed to secure it to the cord.

Installing the battery pack

Follow the instructions in the “Installing a new battery pack” section in Chapter 12 to install the PTC-1800's lithium-ion battery pack.

Charging the battery pack

The battery pack must be charged before you can use the PTC-1800. Follow the instructions in the “Recharging the battery pack” section in Chapter 12.

Charging the bridge battery

The bridge battery must be charged before you can use the PTC-1800. Charging the main battery pack as instructed in the previous section will also fully charge the bridge battery. See Chapter 13 for more information.

Chapter 6

Parts

Internal components

Bridge battery

The bridge battery keeps the unit's memory intact while the battery pack is being replaced or if it runs out of power.

DOC Hard disk drive

The PTC-1800 contains an 8 MB hard disk drive identified as HARDDISK.

Memory

The PTC-1800 has two types of memory:

- 256 KB of read-only memory (ROM)
- 16 MB of random access memory (RAM).

Operating system

The PTC-1800 uses the Microsoft Windows CE 2.12 operating system.

Processor

The PTC-1800's 190-MHz Intel StrongArm® processor is fully IBM PC compatible. It provides exceptional processing speed and is designed for low power consumption.

Radio (optional)

The PTC-1800 can be equipped with a local area network spread spectrum radio.

Spread spectrum radios allow the PTC-1800 to communicate interactively in realtime with other radio devices on a radio-based local area network. Spread spectrum provides secure, interference-free communication and does not require a license for operation.

External components

The figures and tables on the following pages show and describe the external parts of the PTC-1800. The parts listed below are not shown in any of the figures.

AC adapter

! Use only the AC adapter supplied by Symbol with your PTC-1800. Using any other adapter could cause damage or change EMC emissions levels.

A 12-VDC, 1.2-A AC adapter provides power to recharge the PTC-1800's battery pack and its bridge battery. The AC adapter connects to the PTC-1800's charger jack and to an electrical outlet.

Vehicle adapter (optional)

! Use only the vehicle adapter supplied by Symbol with your PTC-1800. Using any other adapter could cause damage.

A 15-VDC, 2.7-A vehicle adapter provides power to recharge the PTC-1800's battery pack and bridge battery. The vehicle adapter connects to the PTC-1800's charger jack and to a vehicle's cigarette lighter socket.

Figure 1. Parts of the PTC-1800 (front view)

Table 1. Parts of the PTC-1800 (front view)

#	Name	Description
1	Status LED	Glows or blinks to indicate the status of the PTC-1800, the laser scanner, and the recharging process. (See Appendix C for an interpretation of the Status LED.)
2	Speaker	Supports simple beeps and verbal audio responses. The volume can be adjusted via the PTC-1800's application programs.
3	Display screen	This 1/8 VGA transflective monochrome liquid crystal display (LCD) screen displays data entered into the PTC-1800 and may show prompts, error messages, and other information.
4	Keypad	Consists of 25 keys that can be used to enter data or perform specific functions. The Push-to-Talk key is considered the 25th key. (See Table 2 for a description of each key's default function.)
5	Headset jack	Enables you to connect a headset to the PTC-1800 for hands-free talking.
6	Microphone	Supports voice input.
7	Push-to-Talk button	Activates the VoiceAlert application (if installed) and allows you to send a broadcast message.
8	Antenna	For wireless LAN communication.

Figure 2. The PTC-1800 keypad

Table 2. The PTC-1800 keypad*

#	Name	Description
1	Compass key	Moves the cursor on the PTC-1800's display screen in one of four directions: up, down, left, or right. (These will be referred to from here on as the **Up**, **Down**, **Left**, and **Right** arrow keys.)
2	Soft Key 1 (SK1)	The function of this key is dependent on the PTC-1800's active application.

<table>
<tr><th>#</th><th>Name</th><th>Description</th></tr>
<tr><td>3</td><td>Application Keys</td><td>Activate specific PTC-1800 applications.<table><tr><th>Key</th><th>Application</th></tr><tr><td>Teleph one</td><td>Activates the telephone application (if installed)</td></tr><tr><td>Data</td><td>Launches a user application</td></tr><tr><td>Msg</td><td>Launches a user application</td></tr></table></td></tr>
<tr><td>4</td><td>Send key</td><td>The function of this key is dependent on the PTC-1800's active application.</td></tr>
<tr><td>5</td><td>Data/ telephone keys</td><td>These 12 keys (1 through 0, *, and #) are used to enter alphanumeric data into the PTC-1800 or function like the keys on a standard telephone keypad when the telephone application is activated.</td></tr>
<tr><td>6</td><td>On/Off key</td><td>Wakes up or suspends the PTC-1800. Press to boot after reset.</td></tr>
<tr><td>7</td><td>Hold key</td><td>Places a call on hold or reconnects a call.</td></tr>
<tr><td>8</td><td>End key</td><td>The function of this key is dependent on the PTC-1800's active application.</td></tr>
<tr><td>9</td><td>Scan keys</td><td>Activate the PTC-1800's laser scanner. Also serve to wake the PTC-1800 from suspend mode.</td></tr>
<tr><td>10</td><td>Soft Key 2 (SK2)</td><td>The function of this key is dependent on the PTC-1800's active application.</td></tr>
</table>

***The functions of the PTC-1800's keys vary depending on the active application. Table provides a description of the general functionality of the PTC-1800's keys. See the "Key funcitons" section in Chapter 10 for the funcitons of the PTC-1800's keys when the telephone application is active.**

Figure 3. Parts of the PTC-1800 (left side, top, and back views)

Table 3. Parts of the PTC_1800 (left side, top, and back views)

#	Name	Description
1	Charger jack	A 12-VDC, 1.2-A AC adapter or a 15-VDC, 2.7-A vehicle adapter connects to this jack and to an electrical outlet or a vehicle's cigarette lighter socket, respectively, to recharge the PTC-1800's battery pack.
2	Battery pack release button	Allows you to remove the PTC-1800's battery pack. (Refer to Chapter 12 for instruction son replacing the battery pack.)
3	Battery pack	The PTC-1800 is powered by a standard or extended-life lithium-ion battery pack. **Caution!** Never leave the PTC-1800 without the battery pack installed. Removal of the pack for extended periods will drain the bridge battery (even with the unit suspended.)
4	Charger contacts	Connect the PTC-1800 to an optional Model 1822 charger. The power which recharges the PTC-1800's battery pack via the Model 1822 passes through these contacts.
5	Antenna	Sends and receives radio transmissions, allowing the PTC-1800 to communicate with other radio devices on the wireless network.
6	Buzzer port	Provides audible alerts and beeps.
7	Infrared port	Allows the PTC-1800 to communicate via pulses of light to and from other IrDA-compliant devices, such as printers. It can transmit data at up to 115.2 kbps. (See Chapter 9 for details.)

#	Name	Description
8	Laser scanner	Scans bar codes. (See Chapter 9 for details.)
9	Reset button (behind battery pack)	Press to place unit in ship mode. Press the On/Off key to perform a cold boot after resetting the unit.

Chapter 7

Features

Applications

This guide is not for the user. It is for the individual tasked with training and maintaining the units.

The following applications are available for the PTC-1800:

- Data
- Telephone
- VoiceAlert

See Chapters 9, 10, and 11 for instructions on using each of these applications.

Backlight

The PTC-1800's backlight lights up the screen to enhance readability in dim lighting conditions. The backlight turns on automatically when the PTC-1800 boots up and turns off when the keyboard has not been used for 20 seconds or when a telephone call is being received. The backlight may be reactivated by pressing any of the PTC-1800's keys.

Clock

The PTC-1800's built-in clock keeps track of the date (month, day, year, and day of the week) and the time (hours, minutes and seconds). The clock operates continuously.

How the clock is used depends on your application program. For example, the PTC-1800 can use the clock to show the date and time on its screen or to time-stamp a file.

Display contrast

Each press of the *Left* or *Right* arrow key progressively decreases or increases, respectively, the contrast of the PTC-1800's display screen.

The contrast of the PTC-1800's display screen can be increased or decreased as follows.

1. Press and hold down the **Hold** key.
2. Press the **Left** arrow key to decrease the screen's contrast or press the **Right** arrow key to increase the screen's contrast.

Incoming message alert

The PTC-1800 can be programmed to alert the user when a telephone call or a VoiceAlert message is being received, provided the PTC-1800 is configured with these applications. The alert can be audible or can be expressed by the PTC-1800's vibrator and/or Status LED.

Telephone application

The telephone application can be programmed to use an audible alert and/or the vibrator/LED combination. It supports eight volume levels plus off and five ring tones for the audible alert. When the vibrator option is enabled, the PTC-1800 vibrates and the Status LED blinks amber to indicate the presence of an incoming call.

VoiceAlert application

The VoiceAlert application notifies the user of an incoming broadcast message via an audible alert and/or the PTC-1800's vibrator.

Low-battery warning

The PTC-1800 warns you when the battery pack or the bridge battery is running out of power. Table 4 shows the low-battery warnings and the actions you should take to correct them.

Table 4. Low-battery warning

Battery	Notification	Action
Battery pack	Low Batt icon	Recharge or replace the battery pack
Bridge battery	Low Bridge icon	Recharge the bridge battery

Power management

The exact amount of time before the PTC-1800 enters any mode depends on how your PTC-1800 has been programmed.

The power management feature conserves battery power by slowing down or deactivating internal components of the PTC-1800. This feature is activated in levels, or modes, depending on the unit's operation and configuration.

Run mode

This is the PTC-1800's normal operating mode. All resources are functional.

Suspend mode

Pressing the *On/Off* key terminates any active telephone call(s). The unit will not accept telephone calls while suspended.

The PTC-1800 goes into **suspend** mode after approximately 1 min. of inactivity or when the **On/Off** key is pressed (see note below). During this mode, the PTC-1800's screen goes blank, the backlight turns off, and other subsystems inside the PTC-1800 may slow down or turn off to conserve power. The application program running at the time in which it is suspended, and any data in RAM is protected.

Ship mode

! Placing the PTC-1800 into *ship* mode erases all programs and data in RAM.

Ship mode is activated by pressing the **Reset** button (located behind the PTC-1800's battery pack). In this mode, most power to the unit is turned off.

Resume

If the PTC-1800 is suspended, pressing the **On/Off** key or one of the **Scan** keys turns the PTC-1800 back on and returns you to the point at which you left the application.

When the PTC-1800 is in **ship** mode, pressing the **On/Off** key will cause a cold reboot. This takes about 2 min.

Chapter 8

Operating the PTC-1800

Turning on the PTC-1800

To turn on the PTC-1800 initially, press the **On/Off** key.

If the PTC-1800 is in **suspend**, you can wake it by pressing the **On/Off** key or one of the **Scan** keys.

If the PTC-1800 is in **ship** mode, you cold boot it by pressing the **On/Off** key.

Turning off the PTC-1800

Refer to the "Power management" section in Chapter 7 for more information.

Press the On/Off key to suspend the PTC-1800. Suspending the PTC-1800 saves power and allows the unit to resume operation exactly where it left off. It also terminates any active telephone call(s). Be sure to save all files as a precaution before suspending.

In addition, the PTC-1800 suspends automatically if it has not been used for approximately 1 min.

Chapter 9

Data application

Overview

Your organization has developed an application to meet its data collection needs. This application allows the PTC-1800 to collect, store, and transmit data to a host device.

Using the application

Follow the instructions below to begin using the data application. Consult the information provided by your supervisor for details on your organization's data application.

1. Press the **Data** key to activate your organization's data application.
2. Use the PTC-1800 to enter, store, and transmit data. See the “Entering data,” “Storing data,” and “Communicating data” sections on the following pages for information.

Entering data

Data may be entered into the PTC-1800 via the following methods:

- Keyboard,
- Laser scanner,
- Internal radio (optional).

Via the keyboard

The PTC-1800's keyboard can be used to enter data. See Chapter 6 for a description of each of the PTC-1800's keys.

1. Press the data keys to enter alphabetical or numeric data into the PTC-1800.
2. Press the **Send** key.

Through a laser scanner

A *bar code* is a series of vertical bars and spaces used to encode information in a machine-readable form. They are used on nearly every item in business today.

Data can also be entered with the PTC-1800's laser scanner. When you scan a 1D bar code, the PTC-1800 is programmed to read, while the PTC-1800 and scanner interpret the data and store it in the PTC-1800's memory.

Bar-code types

See the information provided by your supervisor for the specific bar-code types your PTC-1800 has been programmed to recognize (several of those listed above).

If your PTC-1800 contains an internal laser scanner, that can scan and interpret these bar codes:

- BC412
- Codabar
- Code 4
- Code 5
- Code 11
- Code 39
- Code 93
- Code 128
- EAN-8
- EAN-13
- Industrial 2 of 5
- Interleaved 2 of 5
- MSI/Plessey
- UPC-A
- UPC-E
- UPC/EAN 2 & 5 digit add-on

Scanning procedure

! Do not stare into the laser beam or point the scanner at anyone's eyes. You could cause permanent eye damage.

The maximum distance from the window on the nose of the scanner to the label depends on the range of the scanner and on the size of the label being scanned. Table 5 provides a list of recommended scanning distances.

Follow this procedure to scan bar-code labels with the PTC-1800's internal laser scanner.

1. Point the laser scanner at the label to be scanned. The scanner can be at an angle to the label.

Table 5. Recommended scanning distances

Size of label	SE-900 scanner (inches/centimeters)
5 MIL	2 to 5 in./5.1 to 12.7 cm
7.5 MIL	1 to 7 in./2.5 to 17.8 cm
10 MIL	1.5 to 10 in./3.8 to 25.4 cm
20 MIL	Up to 15 in./38.1 cm
40 MIL	Up to 22 in./55.9 cm
55 MIL	Up to 29 in./73.7 cm

The Status LED glows amber when the scanner is scanning a bar code.

The PTC-1800 beeps if the scan is successful.

2. Press one of the PTC-1800's **Scan** keys to start scanning.
3. Watch the line of light made by the scanner as it scans the bar code. The line must pass over all of the bars on the label for the bar code to be read.

Via an optional internal radio

Another method of entering data is via the PTC-1800's optional internal local area network (LAN) radio. The radio transmits and receives information to/from other radio devices on the wireless network.

Storing data

Data entered into the PTC-1800 may be stored in the PTC-1800's RAM or on the internal solid-state hard disk drive.

Communicating data

After collecting the data, the PTC-1800 can transmit it to a host device for processing or for sending it to a printer. The PTC-1800 can transmit data via its IrDA port or through its optional internal LAN radio.

Using the IrDA port

Introduction

The PTC-1800's IrDA port allows the PTC-1800 to communicate via pulses of light to and from other IrDA-compliant devices, such as printers and host systems.

Procedure

Follow the instructions below to use the PTC-1800's IrDA port.

1. Line up the PTC-1800 and the other IrDA-compliant device so that their IrDA ports are within 2 to 3 ft (.6 to .9 m) of one another.

2. Follow the instructions or manual provided by your supervisor for the proper communication procedure to follow.

Using the radio

All radio communication is controlled by your PTC-1800's application program. See the instructions provided with the program for information.

Chapter 10

Telephone application

Overview

The telephone application uses voice-over-IP technology to allow users to send and receive telephone calls via the PTC-1800 to/from the following devices:

- Other PTC-1800s on the same wireless LAN,
- Other H.323 devices on the same wireless LAN,
- Any off-link H.323 Gateway telephony device (e.g., POTS, H.321, H.324) via an AirTalk Gateway.

Features

The telephone application provides the following features:

- Initiates and receives telephone calls using the ITU H.323 voice-over-IP protocols,
- Supports the creation of a personal telephone directory,
- Provides three telephone call lists: dialed calls, received calls, and missed calls,
- Supports one-key speed dialing,
- Supports a manually initiated keylock to prevent accidental activation of the PTC-1800's keys.

Key functions

The function of the PTC-1800's keys varies with the active application. Table 6 describes the functions of the PTC-1800's keys when the telephone application is activated.

Table 6. Key functions of the telephone application

Key	Function
Telephone	• Activates the telephone application.
On/Off	• Wakes up or suspends the PTC-1800.
Telephone keys	• These 12 keys (1 through0, *, and #) are used to enter alphanumeric data into the PTC-1800 (e.g., to create a telephone directory) or function like the keys on a standard telephone keypad.
Hold	• Places a call on hold or reconnects a call.
Send	• Places a call to the number entered or selected from the phone directory or from the dialed calls list. • Answers an incoming call on Line 1. • Selects menu options. • Selects the OK button in dialog boxes.
End	• Terminates a call on Line 1. • Rejects an incoming call on Line 1. • Cancels menu selections. • Selects the Cancel button in dialog boxes.
Left Arrow	• Backspaces and deletes characters in fields that accept data.
Right Arrow	• Advances you to the next menu (indicated by an arrow to the right of a menu option.)

Key	Function
Down Arrow	• Opens the telephone directory from the Home screen. • Moves you down through menu options.
Up Arrow	• Opens the dialed calls list from the Home Screen. • Moves you up through menu options.
Soft Key 1 (SK1)	• Opens the Main Menu from the Home screen.
Soft Key 2 (SK2)	• Mutes the call on Line 1. • Checks or unchecks a check box. • Allows you to enter data in lowercase alphabetic (ab), uppercase alphabetic (AB), or numeric (12) characters. The current format is shown in the top left-hand corner of the screen.

Accessing the telephone application

Press the **Phone** key to activate the telephone application. The **Home** screen displays.

The Home screen is divided into four sections, as shown in Figure 4:

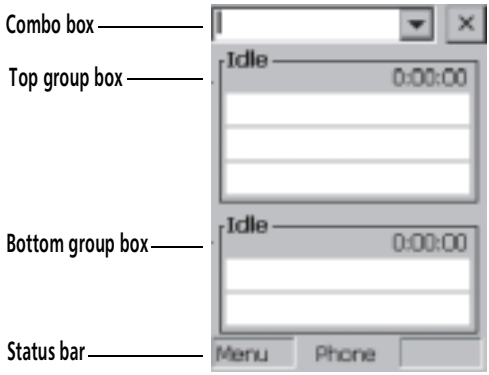
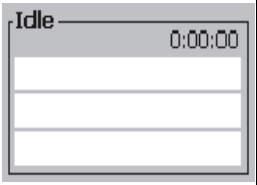


Figure 4. The Home Screen

Table 7. Description of the Home screen

<table>
<tr><th>Section</th><th>Description</th></tr>
<tr><td>Combo box
 </td><td>Allows you to enter or select a telephone number, IP address, E.164 address, or host name to which you wish to place a call.
<table>
<tr><th>Component</th><th>Description</th></tr>
<tr><td>Number field (blank box where cursor is located)</td><td>Allows you to enter the telephone number, IP address, E.164 address, or host name of the person you want to call.</td></tr>
<tr><td>Telephone directory</td><td>Pressing the Down arrow key opens the telephone directory, from which you can select a person to call.</td></tr>
<tr><td>Dialed calls list</td><td>Pressing the Up arrow key opens the dialed calls list, from which you may select a previously dialed number to call.</td></tr>
</table></td></tr>
</table>

<table>
<tr><th>Section</th><th>Description</th></tr>
<tr><td>Top group box
  </td><td>Shows information for a call on Line 1.
<table>
<tr><th>Component</th><th>Description</th></tr>
<tr><td>Line state</td><td>Indicates the status of the call on Line 1. Options include: Idle, Dialing, Call Offer (incoming call), Call Rejected, Answering, Active/Hold/Mute, Terminating.</td></tr>
<tr><td>Call duration</td><td>Indicates the length (in hours, minutes, and seconds) of the call on Line 1 (e.g., 0:00:00).</td></tr>
<tr><td>Call ID</td><td>The first line of the top group box shows the name of the caller on Line 1.</td></tr>
<tr><td>Telephone number/address</td><td>The second line of the top group box shows the telephone number, IP address, E.164 address, or host name of the call on Line 2.</td></tr>
<tr><td>Display message</td><td>Displays information about the caller on Line 1 (e.g., dept. name).</td></tr>
</table></td></tr>
</table>

<table>
<tr><th>Section</th><th>Description</th></tr>
<tr><td>
</td><td>Shows information for a call on Line 2.
<table>
<tr><th>Component</th><th>Description</th></tr>
<tr><td>Line state</td><td>Indicates the status of the call on Line 2 (e.g., Idle).</td></tr>
<tr><td>Hold duration</td><td>Indicates how long (in hours, minutes, and seconds) the call on line 2 has been on hold (e.g., 0:00:00).</td></tr>
<tr><td>Call ID</td><td>The first line of the bottom group box shows the name of the caller on Line 2.</td></tr>
<tr><td>Telephone number/address</td><td>The second line of the bottom group box shows the telephone number, IP address, E.164 address, or host name of the call on Line 2.</td></tr>
</table></td></tr>
<tr><td>Status bar
</td><td>Shows the current function of the Soft keys and the name of the active application.
<table>
<tr><th>Component</th><th>Location</th></tr>
<tr><td>Function of Soft Key 1</td><td>Left side of status bar (e.g., Menu)</td></tr>
<tr><td>Active application</td><td>Middle of status bar (e.g., Phone)</td></tr>
<tr><td>Function of Soft Key 2</td><td>Right side of status bar</td></tr>
</table></td></tr>
</table>

Menu structure

The menu structure for the PTC-1800's telephone application is shown in Figure 5.

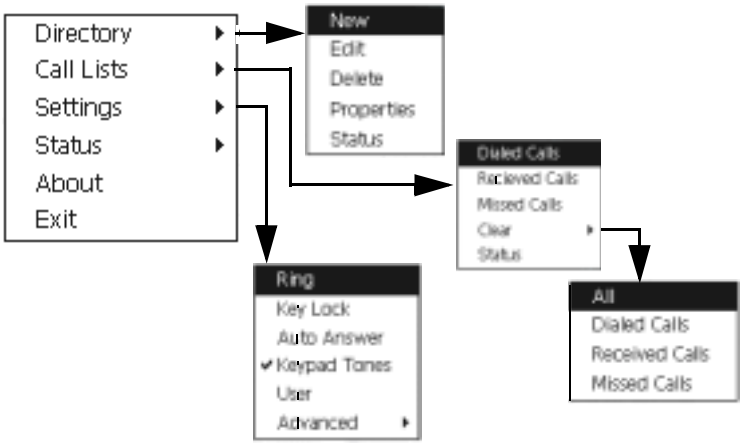


Figure 5. The telephone application menu structure

Setting up the telephone

This section provides instructions for setting up the PTC-1800's telephone.

Creating/modifying the telephone directory

You can create a telephone directory to access easily the telephone numbers of people you call frequently. Each directory entry, which is stored in the PTC-1800, contains the person's first and last name as well as his/her telephone number, IP address, E.164 address, or host name. You can also assign a one-digit speed dial number to up to ten directory entries.

Adding a telephone directory entry

Follow the instructions below to create a telephone directory or to add an entry to the PTC-1800's existing telephone directory.

1. At the **Home** screen, press the SK1 key. The **Main Menu** displays (see Figure 6).

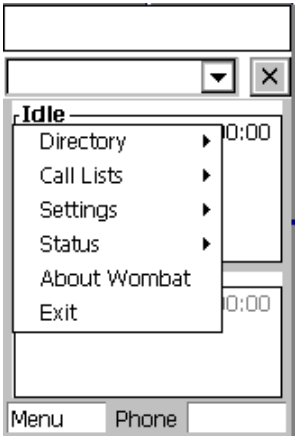


Figure 6. The Main Menu

2. Press the **Down** arrow key to highlight Directory.
3. Press the **Send** key. “New” should be highlighted.
4. Press the **Send** key. The first of three telephone directory screens displays (see Figure 7).

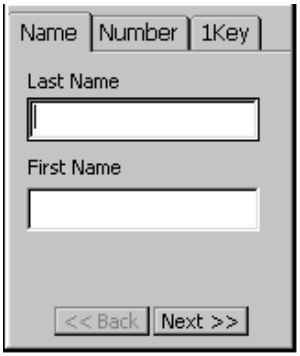


Figure 7. Telephone Director Screen

5. Type the last name of the person you want to add to your telephone directory.

   - Type the first letter of the person's last name. The letter will automatically display as an uppercase character. Once you have entered the letter, if you wait about 2 sec, the cursor will automatically move to the next position or you can press another key to move it instantly.
   - Press the SK2 key to select the lowercase alphabetic mode. The display ab appears in the top right-hand corner of the display.
   - Type in the rest of the letters in the person's last name.

The telephone keys 2 through 9 activate three or four letters. To select a specific letter, press the appropriate key repeatedly until the desired letter appears. For example, to type the letter R, press the 7 key three times.

When the upper or lowercase alphabetic mode is selected, the letters and the number on the key are cycled through when pressing.

6. Press the SK1 key to go to the **First Name** field.
7. Follow the instructions in Step 5 to enter the person's first name.
8. Press the SK1 key to highlight the **Next** button.
9. Press the SK2 key. The second telephone directory screen displays (see Figure 8).

Figure 8. Telephone Directory Screen

10. Press the **Down** arrow key to select the type of number you are going to enter for this entry (i.e., telephone number, host name, or IP address).

11. Press the SK1 key to move to the blank field below the number options.

12. Press the SK2 key to select the numeric mode; 12 displays in the top right-hand corner of the display.

13. Type the telephone number, host name, or IP address of the person you are adding to the telephone directory.

14. Press the SK1 key twice to highlight the **Next** button.

15. Press the SK2 key. The third telephone directory screen displays (see Figure 9)

Figure 9. .Telephone Directory Screen

Leave the *None* option selected if you do not wish to assign a speed dial number to this entry.

16. Press the **Down** arrow key to select the speed dial number you would like to assign to this person in your telephone directory.

Repeat the steps of this procedure if you wish to add additional entries to the PTC-1800's telephone directory.

17. Press the SK1 key twice to highlight the **Done** button.

18. Press the **Send** key.

Setting telephone directory properties

You can specify how your telephone directory entries are displayed (by first or last name) and sorted (alphabetically or according to frequency of use).

1. At the **Home** screen, press the SK1 key. The **Main Menu** displays (see Figure 6).
2. Press the **Down** arrow key to highlight **Directory**.
3. Press the **Send** key.
4. Press the **Down** arrow key until **Properties** is highlighted.
5. Press the **Send** key. The **Directory Properties** screen displays (see Figure 10).

Figure 10. Directory Properties Screen

6. Press the **Down** Arrow key to select how names are displayed in the telephone directory (i.e., last, first or first, last).
7. Press the SK1 key to move to the **Sort** field.
8. Press the **Down** arrow key to select how names are listed in the telephone directory (i.e., alphabetically by name or according to frequency of use).
9. Press the **Send** key.

Editing a telephone directory entry

Follow the instructions below to modify an existing telephone directory entry.

1. At the **Home** screen, press the **Down** arrow key to display the telephone directory.
2. Press the SK1 key. A small menu appears.
3. Press the **Down** arrow key to highlight **Edit**.
4. Press the **Send** key. The first telephone directory screen displays (see Figure 7).
5. Proceed through the fields in the telephone directory screens, making the necessary changes as you go.

Follow the instructions in the "Adding a telephone directory entry" section (starting with step 5) to move through the fields in the telephone directory screens.

Deleting a telephone directory entry

Follow the instructions below to delete a telephone directory entry.

1. At the **Home** screen, press the **Down** arrow key to display the telephone directory.
2. Press the **Up** or **Down** arrow key until the entry that you want to modify is highlighted.
3. Press the SK1 key. A small menu appears.
4. Press the **Down** arrow key until **Delete** is highlighted.
5. Press the **Send** key. A message displays asking if you want to delete that particular telephone directory entry.
6. Press the **Down** arrow key to highlight either **Yes** or **No**.
7. Press the **Send** key. If you selected **Yes**, the entry will be deleted from the telephone directory. If you selected **No**, the entry will not be removed from the telephone directory.

Obtaining information about a telephone directory entry

Follow the instructions below to obtain information about any entry in the PTC-1800's telephone directory.

1. At the **Home** screen, press the **Down** arrow key to display the telephone directory.
2. Press the **Up** or **Down** arrow key until the entry that you want to obtain information about is highlighted.
3. Press the SK1 key. A small menu appears.
4. Press the **Down** arrow key until **Info** is highlighted.
5. Press the **Send** key. The Information screen displays (see Figure 11).

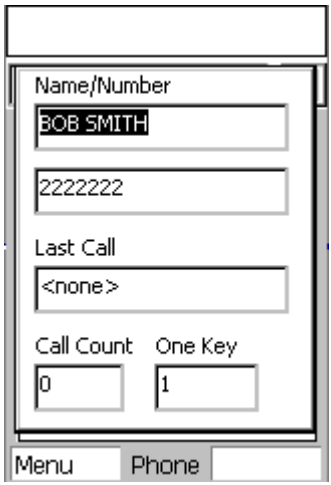


Figure 11. The Information Screen

Table 8. Description of the Information screen.

Field	Description
Name	The name of the person associated with this entry.
Number	The telephone number, IP address, or host name associated with this entry.
Last Call	The date and time of the last call to this number.
Call Count	The number of times this number has been called.
One Key	The one-digit speed dial number assigned to this entry.

6. Press the **End** key to exit the **Information** screen and return to the **Home** screen.

Setting the telephone alert

The PTC-1800 can be configured to ring and/or vibrate when it receives an incoming call. Follow the instructions below to specify how you want to be notified.

1. At the **Home** screen, press the SK1 key. The **Main Menu** displays (see Figure 6).
2. Press the **Down** arrow key until **Settings** is highlighted.
3. Press the **Send** key. **Ring** should be highlighted.
4. Press the **Send** key. The **Alert** screen displays (see Figure 12).

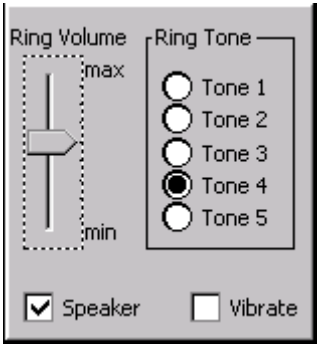


Figure 12. The Alert Screen

5. Press the **Up** and **Down** arrow keys to scroll through the list of eight possible volume levels (from max to min). Stop at the desired level.
6. Press the SK1 key to move to the **Ring Tone** field.
7. Press the **Down** arrow key to select the desired ring tone.
8. Press the SK1 key to move to the **Speaker** checkbox.
9. Press the SK2 key to check or uncheck this box.

Speaker box	Description
☑	The PTC will ring when it receives an incoming call.
☐	The PTC will not ring when it receives an incoming call.

10. Press the SK1 key to move to the **Vibrate** checkbox.

11. Press the SK2 key to check or uncheck this box.

Vibrate box	Description
☑	The PTC will vibrate and the Status LED will glow amber when it receives an incoming call.
☐	The PTC will not vibrate when it receives an incoming call.

11. Press the **Send** key to save the alert settings.

Locking the keyboard

The PTC's keyboard can be locked to prevent accidental key presses. Follow the instructions below to lock the keyboard.

1. At the **Home** screen, press the SK1 key. The **Main Menu** displays (see Figure 6).
2. Press the **Down** arrow key until **Settings** is highlighted.
3. Press the **Send** key. A new menu appears.
4. Press the **Down** arrow key until **Key Lock** is highlighted.
5. Press the **Send** key. The keyboard is now locked.

Unlocking the keyboard

Follow the instructions below to unlock the PTC-1800's keyboard.

1. Press one of the PTC-1800's keys. The following message displays:

Keys Locked

Press 'Unlock' then '5'

to Unlock

2. Press the SK1 key. The following message displays:

Now press '5' to Unlock

3. Press the **5** key. The keyboard is now unlocked.

Turning on the *Auto Answer* feature

If you are talking on Line 1 and a call comes in while the *Auto Answer* feature is on, a checkmark appears beside the *Auto Answer* menu option. You may place the first call on hold and answer the second call.

If the vibrator alert is on and a call comes in on the second line while you are talking on the first line, the telephone will vibrate to alert you to the second call.

Follow the instructions below to set the PTC-1800 to answer incoming calls automatically (without you having to press the **Send** key).

1. At the **Home** screen, press the SK1 key. The **Main Menu** displays (see Figure 6).
2. Press the **Down** arrow key until **Settings** is highlighted.
3. Press the **Send** key.
4. Press the **Down** arrow key until **Auto Answer** is highlighted.
5. Press the **Send** key. The **Auto Answer** menu option will now be checked in the **Settings** Menu, and the PTC-1800 will automatically answer incoming calls.

Turning off the *Auto Answer* feature

To turn off the PTC-1800's Auto Answer feature, follow the instructions in the “Turning on the Auto Answer feature” section above. After you press the Send key, the Auto Answer menu option will no longer be checked in the Settings Menu, and the PTC-1800 will not automatically answer incoming calls.

Initializing keypad tones

Follow the instructions below to set the PTC-1800 to generate a tone when its keys are pressed.

1. At the **Home** screen, press the SK1 key. The **Main Menu** displays (see Figure 6).
2. Press the **Down** arrow key until **Settings** is highlighted.
3. Press the **Send** key.

If the PTC-1800 is already set to generate keypad tones, a checkmark displays beside the *Keypad Tones* menu option.

4. Press the **Down** arrow key until **Keypad Tones** is highlighted.
5. Press the **Send** key. The **Keypad Tones** menu option will now be checked in the **Settings** Menu, and the PTC-1800 will generate a tone when its keys are pressed.

Turning off keypad tones

To prevent the PTC-1800 from generating keypad tones, follow the instructions in the "Initializing keypad tones" section above. After you press the **Send** key, the **Keypad Tones** menu option will no longer be checked in the **Settings** menu, and the PTC-1800 will not generate a tone when its keys are pressed.

Editing/Viewing user identification information

Follow the instructions below to view your user identification information. This is the information that is seen by people who receive calls from you.

1. At the **Home** screen, press the SK1 key. The **Main Menu** displays (see Figure 6).
2. Press the **Down** arrow key until **Settings** is highlighted.
3. Press the Send key.
4. Press the **Down** arrow key until **User** is highlighted.

5. Press the **Send** key. The **User Identification** screen displays (see Figure 13).

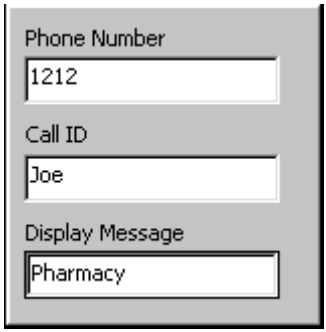


Figure 13. The User Identification Screen

Table 9. Description of the User Identification screen

Field	Description
Telephone Number	The telephone number, IP address, E.164 address, or host name assigned to your PTC-1800.
Call ID	The user name assigned to your PTC-1800.
Display Message	A short message corresponding to the assigned user(s) of the PTC-1800 (e.g., the name of the user's department).

6. Press the **End** key to exit the **User Identification** screen and return to the **Home** screen.

Operating the telephone

This section provides instructions for using the PTC-1800's telephone application.

Placing a call

Follow these steps to place a telephone call.

1. Press the **Telephone** key to activate the telephone application.

2. Follow one of the steps below to enter or select a number to dial.

To enter the periods in an IP address, press the SK2 key.

   - Use the keypad to enter the desired telephone number, IP address, E.164 address, or host name.
   - Press the **Down** arrow key to open the PTC-1800's telephone directory; then use the **Up** and **Down** arrow keys to highlight the desired number in the list.
   - Press the **Up** arrow key to open a list of your most recently dialed calls; then use the **Up** and **Down** arrow keys to highlight the desired number in the list.
   - Follow the instructions in the "Viewing call lists" section on page 54 to access the **Dialed Calls** screen, **Received Calls** screen, or **Missed Calls** screen. Then press the **Up** or **Down** Arrow key to select a number from the list that you want to call.

3. Press the **Send** key.

4. Speak into the microphone on the PTC-1800 or on an attached headset.

While a call is in progress, the Call Duration field shows how long the call has been active.

5. Use the PTC-1800 like a normal cellular telephone.

Receiving an incoming call

The PTC-1800 will ring and/or vibrate (depending on how your PTC-1800 was configured) to alert you to an incoming call. The display will also provide caller ID functions, such as the caller's name and telephone number.

! Keep the PTC-1800 away from your ear when it is ringing.

1. Press the **Phone** key to activate the telephone application.
2. Press the **Send** key.
3. Place your ear near the PTC-1800's speaker.
4. Use the PTC-1800 like a normal cellular telephone.

Ending a call

When your telephone conversation is finished, press the **End** key to terminate the call.

Refusing a call

Press the **End** key to reject an incoming call.

Placing a call on hold

If a call is in progress, pressing the *Hold* key swaps Lines 1 and 2. Only the call on Line 1 can be the active call capable of sending and receiving audio. Calls on Line 2 are considered to be on hold.

Press the **Hold** key to place a call on hold.Pressing the *Hold* key again returns you to the call.

Using multiple lines

If you receive a second call while you are on a call, select one of the options below:

If you choose not to answer the second call, you may determine who called by viewing the list of missed calls after your conversation on Line 1 is finished. See the "Viewing call lists" section below for instructions.

- to switch between calls, press the **Hold** key or
- ignore the second call if you do not want to answer it.

Adjusting the speaker volume

While you are on a call, you can adjust the volume of the PTC-1800's speaker by pressing the **Up** and **Down** arrow keys.

Viewing call lists

Follow the instructions below to view the 20 most recently dialed, received, or missed calls.

1. At the **Home** screen, press the SK1 key. The **Main Menu** displays (see Figure 6).
2. Press the **Down** arrow key until **Call Lists** is highlighted.
3. Press the **Send** key.
4. Press the **Down** arrow key to highlight **Dialed Calls**, **Received Calls**, or **Missed Calls**.
5. Press the **Send** key. The **Dialed Calls screen, Received Calls screen, or** Missed Calls screen displays.

   The screen displays a list of the 20 most recently dialed (starting with the most recent), received, or missed calls, respectively.

You may also access the list of most recently dialed calls by pressing the *Up* arrow key at the *Home* screen.

Saving an entry in a call list to the telephone directory

Follow the instructions below to save a dialed, received, or missed call to the PTC-1800's telephone directory.

1. Follow the instructions in the "Viewing call lists" section on the previous page to access the **Dialed Calls** screen, **Received Calls** screen, or **Missed Calls** screen.
2. Press the **Up** or **Down** arrow key to select the entry in the list that you want to save to the telephone directory.
3. Press the SK1 key. A small menu displays.
4. Press the **Down** arrow key to highlight **Save**.
5. Press the **Send** key. The first telephone directory screen displays.

6. Follow the instructions in the “Adding a telephone directory entry” section on page 40 to set up this entry in the telephone directory.

Deleting a call from the call list

Follow the instructions below to delete a dialed, received, or missed call from the call list.

1. Follow the instructions in the “Viewing call lists” section on the previous page to access the **Dialed Calls** screen, **Received Calls** screen, or **Missed Calls** screen.
2. Press the **Up** or **Down** arrow key to select the entry in the list that you want to delete.
3. Press the SK1 key. A small menu displays.
4. Press the **Down** arrow key until **Delete** is highlighted.
5. Press the **Send** key. A message displays asking if you want to delete the entry.
6. Press the **Down** arrow key to highlight either **Yes** or **No**.
7. Press the **Send** key. If you selected **Yes**, the entry will be deleted from the call list. If you selected **No**, the entry will not be removed from the call list.

Obtaining information about a call in the call list

Follow the instructions below to view information about a dialed, received, or missed call.

1. Follow the instructions in the “Viewing call lists” section on page 54 to access the **Dialed Calls** screen, **Received Calls** screen, or **Missed Calls** screen.
2. Press the **Up** or **Down** arrow key to select the entry in the list that you want to obtain information about.

3. Press the SK1 key. A small menu displays.
4. Press the **Down** arrow key until Info is highlighted.
5. Press the **Send** key. The Call Information screen displays (see Figure 14).

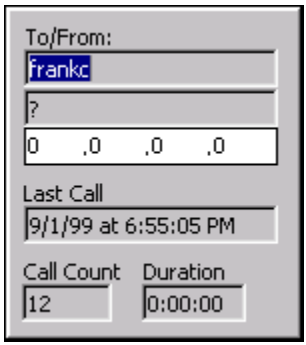


Figure 14. The Call Information Screen

Table 10. Description of the Call Information Screen

Field	Description
To/From	The name of the person associated with this call.
Number	The telephone number, IP address, E.164 address, or host name of the dialed, received, or missed call.
Last Call	The date and time of the last call to/ from this number.
Call Count	The number of times a call has been placed to this number, received from this number, or missed.
Duration	The length of the call.

Clearing call lists

Follow the instructions below to clear all of the calls from the dialed, received, or missed call list.

1. At the **Home** screen, press the **SK1** key. The **Main Menu** displays (see Figure 6).
2. Press the **Down** arrow key until **Call Lists** is highlighted.
3. Press the **Send** key.
4. Press the **Down** arrow key until **Clear** is highlighted.
5. Press the **SK1** key.
6. Press the **Down** arrow key to highlight one of the options in Table 11.

Table 11. Options for Clearing Calls

Option	Description
All	Clears all calls from the **Dialed Calls** screen, **Received Calls** screen, and **Missed Calls** screen.
Dialed Calls	Clears all calls from the **Dialed Calls** screen.
Received Calls	Clears all calls from the **Received Calls** screen.
Missed Calls	Clears all calls from the **Missed Calls** screen.
End	To exit without change.

7. Press the Send key.

Obtaining information about the telephone application

Follow the instructions below to obtain information about the version of the telephone application that is loaded into the PTC-1800.

1. At the **Home** screen, press the **SK1** key. The **Main Menu** displays (see Figure 6).
2. Press the **Down** arrow key until **About** is highlighted.
3. Press the **Send** key. The **About PTC-1800** screen displays.
4. Press the **End** key to exit the **About PTC-1800** screen.

Exiting the telephone application

Follow the instructions below to exit the PTC-1800's telephone application.

1. At the **Home** screen, press the **SK1** key. The **Main Menu** displays (see Figure 6).
2. Press the **Down** arrow key until **Exit** is highlighted.
3. Press the **Send** key. A message displays asking if you want to exit the application.
4. Press the **Down** arrow key to highlight either **Yes** or **No**.
5. Press the **Send** key. If you selected **Yes**, the PTC-1800 will exit the telephone application. If you selected **No**, the telephone application will remain active.

Chapter 11

VoiceAlert application

Overview

The VoiceAlert application uses voice-over-IP technology to allow the PTC-1800's user to talk and listen to other users within specified VoiceAlert groups. The PTC-1800s in each group must be properly configured and running the VoiceAlert application. Only configured members of the group will be able to hear the transmitted message and be able to communicate with the originator of the message.

Setting up the VoiceAlert application

This section provides instructions for setting up the PTC-1800's VoiceAlert application.

Adjusting the speaker volume

1. Press the **Push-to-Talk** button to activate the VoiceAlert application after it is loaded from the main menu. The **VoiceAlert** screen displays. See Figure 16.

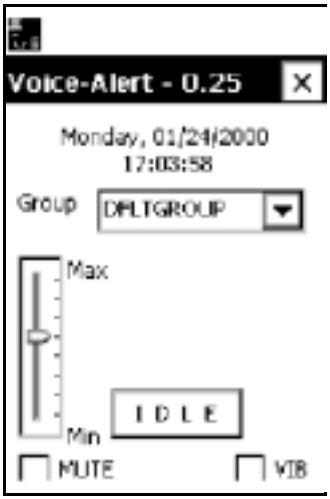


Figure 15. The VoiceAlert Screen

The level selected determines the volume of incoming broadcast messages.

2. Press the **Down** arrow key until the slider is at the desired volume level between Max and Min.

Selecting the type of VoiceAlert notification

This section allows you to select how the PTC-1800 will alert you to an incoming broadcast message.

Audible alert

In the bottom left-hand corner of the VoiceAlert screen is a **Mute** checkbox. Press the **SK1** key to check or uncheck this box.

Mute box	Description
☑	The PTC-1800 will not emit an audible noise when it receives an incoming broadcast message.
☐	The PTC-1800 will emit an audible noise similar to a "chirp" to alert you to an incoming broadcast message.

Vibration alert

In the bottom right-hand corner of the **Voice-Alert** screen is a Vib checkbox. Press the **SK2** key to check or uncheck this box.

Vib box	Description
☑	The PTC-1800 will vibrate to alert you to an incoming broadcast message.
☐	The PTC-1800 will not vibrate when it receives an incoming broadcast message.

Operating the VoiceAlert application

This section provides instructions for using the PTC-1800's VoiceAlert application.

Sending a broadcast message

Follow these steps to send a VoiceAlert message to a specific user group.

1. Press the **Push-to-Talk** button to activate the VoiceAlert application. The **Voice-Alert** screen displays. See Figure 16.

The available user groups have been set up by your system administrator.

2. Press the **Right** arrow key to move to the **Group** field and open the list of user groups.

A box near the bottom of the VoiceAlert screen indicates when the PTC-1800 is in "Talking" mode.

3. Press the **Down** arrow key until the user group that you want to send a broadcast message to is highlighted.

A box near the bottom of the VoiceAlert screen indicates when the PTC-1800 is in *Idle* mode.

4. Press the **Send** key.

Instead of holding down and releasing the Push-to-Talk button to talk and listen, you can press the Send and End keys, respectively.

5. Hold down the **Push-to-Talk** button and speak into the microphone on the PTC-1800 or an attached headset.
6. Release the **Push-to-Talk** button when you are finished talking.

Receiving a broadcast message

The PTC-1800 will beep and/or vibrate (depending on how your PTC-1800 was configured) to alert you to an incoming broadcast message. Place your ear near the PTC-1800's speaker and listen to the incoming message.

Maintaining the battery pack

Lithium-ion batteries

Overview

Lithium-ion batteries can be recharged a number of times. While in use, they provide nearly constant discharge voltage.

Maintenance

Other than for routine recharging, the battery pack is maintenance free.

Disposal

Lithium-ion battery packs are hazardous waste. See Chapter 2 for information on how to dispose of them properly.

Replacing the battery pack

Removing the battery pack

Follow these steps to remove the battery pack.

! You must suspend the PTC-1800 before replacing its battery pack.

! Do not leave the PTC-1800 without a battery pack installed. The bridge battery drains in 10 hours, and all data in RAM will be lost!

1. Suspend the PTC-1800.
2. Turn the PTC-1800 over so the back is facing you.
3. Press the battery pack release button as you slide the pack away from the PTC-1800.
4. Lift the battery pack off of the PTC-1800.

Installing a new battery pack

1. Hold the battery pack over the PTC-1800's battery compartment.
2. Place the battery pack straight down onto the PTC-1800. The slots on the sides of the battery should come down over the tabs in the battery compartment.
3. Slide the battery pack toward the battery pack release button until it clicks into place.
4. Resume the PTC-1800.

Recharging the battery pack

Charging options

The PTC-1800's lithium-ion battery pack can be recharged via a 12-VDC, 1.2-A AC adapter; a 15-VDC, 2.7-A cigarette lighter adapter; or the Model 1822 charger.

When to charge the battery pack

If you need to continue using the PTC-1800, use a spare battery pack while the first one is being recharged.

Charge the PTC-1800's battery pack before you use the unit for the first time, at the end of the work day or if the low battery icon (Appendix C) appears.

Charging time

The amount of time it takes for the PTC-1800's built-in charger to recharge a battery pack depends on several factors:

- The battery type
- The charging temperature
- The percentage of charge remaining in the battery
- The age of the battery
- Whether or not the unit is used while charging.

A lithium-ion battery pack will take longer to recharge if the charging process occurs below room temperature.

The following table provides approximate times for recharging fully depleted standard and extended-life battery packs based on a charging temperature of 77 F° (25 C°).

Battery pack	Charge time to 90% capacity	Charge time to 100% capacity
Standard	2.5 hours	3.5 hours
Extended life	4.5 hours	5.5 hours

*The charge times listed above are based on the capacity of the battery packs used at the time of publication. In the future, higher capacity battery packs may be used.

Charging guidelines

Follow these basic guidelines when charging your PTC-1800's battery pack.

- Recharge the battery pack in temperatures 32–113 F° (0–45 C°).
- Recharge the battery pack in an environment free of dust, dirt, and high humidity.
- Use only a Symbol battery charger designed for use with your PTC-1800's battery pack.

Charging the battery pack

Via the AC or cigarette lighter adapter

Follow the instructions below to charge the PTC-1800's battery pack using an AC or cigarette lighter adapter.

- **Equipment required:**
  - A 12-VDC, 1.2-A AC adapter or a 15-VDC, 2.7-A cigarette lighter adapter
  - An electrical outlet or a vehicle's cigarette lighter socket

1. Suspend the PTC-1800.
2. Connect the AC or cigarette lighter adapter to the PTC-1800's charger jack; then plug the AC adapter into an electrical outlet or the cigarette lighter adapter into a vehicle's cigarette lighter socket.

If you are using the PTC-1800 outside of the U.S. or Canada, the AC adapter can be attached to any CEE-22-style AC cord before it is connected to an electrical outlet.

3. Charge standard battery packs for 3.5 hours (5 hours for first-time use) and extended-life battery packs for 5.5 hours.

The Status LED blinks green while the PTC-1800's battery pack is being recharged and glows solid green when it reaches a 90% charge, except when it is being charged and used simultaneously.

4. When charging is finished, disconnect the AC adapter from the electrical outlet and the PTC-1800 or the cigarette lighter adapter from the vehicle's cigarette lighter socket and then from the PTC-1800.

Via the Model 1822 charger

To charge the PTC-1800's battery pack via the Model 1822 charger, follow the instructions provided with the charger.

Battery pack life

To purchase more batteries, contact your supervisor or visit Symbol's website at www.symbol.com.

The PTC-1800's battery pack is rated for approximately 500 recharges, depending on the PTC-1800's configuration and use. At some point, it will no longer be able to hold a full charge and will require replacement.

Storing spare battery packs

Length of time

The Lithium-ion battery pack cannot be stored indefinitely. It will self discharge and eventually become inoperable. To prevent this, charge the battery pack at least every six months.

Environment

! Avoid long-term storage of your batteries in temperatures above 104 F° (40 C°) or in environments with a relative humidity of over 95%.

Store your lithium-ion batteries in a cool, dry, well-ventilated, and weatherproof location where the temperature is –4 to 104° (–20 to 40 C°).

Chapter 13

Maintaining the bridge battery

Overview

The PTC-1800 has an internal rechargeable bridge battery that protects data in the PTC-1800's memory when the main battery pack runs out of power or is being replaced. While a charged battery pack is in the PTC-1800, the bridge battery is inactive.

Recharging the bridge battery

When to charge the bridge battery

Charge the PTC-1800's bridge battery before you use the unit for the first time, whenever the Low Bridge icon (Appendix C) displays on the PTC-1800's screen, and whenever the main battery pack has been left out of the PTC-1800 for an extended period of time.

Equipment required

The following equipment is required to recharge the PTC-1800's bridge battery:

- Symbol 12-VDC, 1.2-A AC adapter
- An electrical outlet providing 100-240 VAC.

Procedure

Follow the instructions below to recharge the PTC-1800's bridge battery.

1. Make sure the main battery pack is properly installed in the PTC-1800.

If you are using the PTC-1800 outside of the U.S. or Canada, the AC adapter can be attached to any CEE-22-style AC cord before it is connected to an electrical outlet.

2. Plug the AC adapter into the unit's charger jack and an electrical outlet.
3. Charge the bridge battery for approximately 5 hours.

Bridge battery support time

A fully charged bridge battery can safely back up the PTC-1800's memory for approximately 10 or more hours with the main battery pack removed.

Conditioning the bridge battery

Nickel-cadmium batteries are susceptible to “memory effects.” This means that even if the bridge battery appears to be fully charged, it may not be able to back up the contents of the PTC-1800's memory if the main battery pack is removed before the PTC-1800 is placed into suspend mode.

Memory effects are characteristic of nickel-cadmium battery technology. To reduce the risk of memory effects, perform the following procedure once a month to condition the bridge battery.

It is not necessary to back up data or program files that are stored on the internal solid-state hard disk drive.

If you regularly follow this procedure, the bridge battery should last several years. Otherwise, you may need to replace it sooner.

1. Transfer any data stored in the PTC-1800 to a host computer. Make sure you have a copy of any programs stored in RAM memory.
2. Remove the main battery pack from the PTC-1800.
3. Store the PTC-1800 and the battery pack somewhere out of the way and at room temperature. The PTC-1800 must not be placed in the Model 1822 charger or be connected to any power source during the ensuing discharge period.
4. Allow the PTC-1800 to remain idle while the bridge battery discharges for at least 6 hours.
5. After the 6-hour discharge period, place the main battery pack back into the PTC-1800.

6. Charge the PTC-1800 for at least 5 hours. The bridge battery has now been conditioned and is good for another month of service.

Replacing the bridge battery

When to replace the bridge battery

Symbol recommends that the PTC-1800's bridge battery be replaced every 3–5 years under normal operating conditions. However, the PTC-1800's bridge battery is not user replaceable.

Replacement procedure

If the bridge battery fails or no longer holds a charge, send your PTC-1800 to an authorized Symbol service center to have the bridge battery replaced. The center will insert a new bridge battery into your PTC-1800 and follow the proper procedure to recycle the failed battery.

Chapter 14

Maintaining the PTC-1800

Operating conditions

Environment

Do not use the unit in excessively dirty or moist conditions.

Temperature

If the PTC-1800 is operated at low temperatures, the display may darken, and the response time may slow.

Operate the PTC-1800 only in temperatures between 32 and 122 F° (0–50 C°).

Handling the PTC-1800

The following information will help to ensure that you receive safe, reliable, and trouble-free service from your PTC-1800.

- Suspend the PTC-1800 before you replace the battery pack.
- Avoid dropping the PTC-1800 or knocking it against a hard surface.
- Carry the PTC-1800 in a holster or carrying case to protect it.
- If you have stored the PTC-1800 or its battery pack in below-freezing temperatures for more than 1 hour, the battery pack may be too cold to charge. Let it warm and try again.

- If you store the PTC-1800 in below-freezing temperatures for more than 1 hour, you can improve the display's performance by waiting until the unit warms up to room temperature before using it.
- Do not open or attempt to service the PTC-1800; no user-serviceable parts are inside. Doing so will void your warranty.

Storing/shipping the PTC-1800

Guidelines

Follow the instructions below if you plan to ship the PTC-1800 or store it for more than 30 days.

- Do not store the PTC-1800 in temperatures below –4 F° (–20 C°) or above 104 F° (40 C°).
- Do not store the PTC-1800 in a damp or humid environment.

Procedure

1. Transfer any data stored in the PTC-1800 to a host computer or another PTC-1800.
2. Make sure you have a copy of any programs stored in the PTC-1800.
3. Disconnect any accessories from the PTC-1800.
4. Shut down the PTC-1800 via Windows CE.
5. Remove the PTC-1800's battery pack, following the instructions in Chapter 12.
6. Use a nonconductive object (such as a coffee stirrer) to press the PTC-1800's **Reset** button located immediately behind the battery compartment in the back of the unit.
7. Replace the PTC-1800's battery pack, following the instructions in Chapter 12.

8. Recharge the PTC-1800's battery pack.
9. Pack the PTC-1800 in the original packing material or in a padded box and put it in a safe place, away from dust, dirt, humidity, and excessive cold or heat.
10. Recharge the PTC-1800's battery pack every 6 months.

Cleaning the PTC-1800

Equipment required

The following equipment is required to clean the PTC-1800:

- A soft, lint-free cloth
- A nonabrasive liquid cleaner such as Windex
- Isopropyl alcohol or a battery contact cleaner.

Cleaning the PTC-1800

! Do not soak the cloth and do not spray or pour cleaning liquids directly onto the PTC-1800.

To clean the PTC-1800, slightly moisten a soft, clean, lint-free cloth with a mild, nonabrasive liquid cleaner and wipe the outside surfaces. Do not use a paper towel.

Cleaning the contacts

If the PTC-1800 becomes extremely dirty or if liquids, dirt, or other foreign materials get inside the case, contact your Symbol service representative.

To clean the battery pack contacts and the contacts on the PTC-1800, use a cloth moistened with isopropyl alcohol or a battery contact cleaner.

Servicing the PTC-1800

Contact your Symbol service representative for information on purchasing a service contract.

Do not attempt to service the PTC-1800. Only a trained Symbol technician may service the PTC-1800. Follow the procedure set up by your organization to have the PTC-1800 serviced properly.

Disposing of the PTC-1800

When your PTC-1800 has reached the end of its useful life, do not throw it away. Send it to an authorized Symbol service center for bridge battery removal and recycling before its disposal.

Chapter 15

Troubleshooting

Getting started

As a first step in resolving problems, consider the points in this section.

- As soon as an error occurs, stop what you are doing. Write down what the system is doing and what actions you took immediately before the problem occurred.
- If any messages display on the screen, look them up in your software manuals.
- Does the Status LED glow? Does it stay on or blink? See Appendix C for an explanation of the PTC-1800's Status LED codes.
- Do any icons appear on the PTC-1800's display screen? See Appendix C for an explanation of the display icons.
- Has the speaker sounded? How many times and in what pattern? Do the beeps seem to be related to anything you are doing?
- Is the PTC-1800 making any unusual noises?
- Confirm that the PTC-1800 has been set up properly.
- Can you run some applications but not others? Check that your software is properly installed and that the application program and data files are not corrupted.
- If the PTC-1800 locks up (the application stops responding), reboot the PTC-1800. See Chapter 16 for instructions.

Common solutions

If you experience any of the problems listed in the table below, follow the instructions provided.

Table 12. Common solutions

Problem	Action
The PTC-1800 does not turn on.	• Charge or replace the battery pack. • Reboot the PTC-1800, following the instructions in Chapter 16. • If the PTC-1800 still does not operate, follow your organization's procedure to have the PTC-1800 serviced.
The PTC-1800's screen is slow to refresh.	• Wait until the PTC-1800 warms up to room temperature if it has been stored or used in the cold.
The battery pack runs down rapidly after being charged.	• Disconnect the AC or vehicle adapter from the PTC-1800. • Contact your Symbol service representative if the problem continues.
The battery pack does not hold a full charge after being recharged.	• The battery pack may be faulty or worn out, particularly if it is old. Replace it with a new one.

Problem	Action
The radio fails to establish contact.	• Change you location by a few feet and transmit again. • Recharge or replace the PTC's battery pack. • Make sure the receiving equipment is turned on and is properly connected to the host computer. • If the PTC still does not establish contact, follow your organization's procedure to have the PTC serviced. • Check that the radio type matches your access point radio system. • Check the antenna. • Validate that the telephones are all using the same vocoder (e.g. G.711).

Problem	Action
The laser scanner does not read a label.	• Move the laser scanner closer to or farther away from the bar-code label. You may not be scanning at the correct distance. • Change the angle of the laser scanner to the bar-code label. The scanner may be too far above or below the bar-code label or too far to the side to scan properly. • Clean the scanner's lens. • Point the scanner at a blank surface and press one of the Scan keys. Look for the scanning line that appears on the blank surface when the scanner is operating. If no scanning line appears, follow your organization's procedure to have the scanner serviced. • Make sure the bar-code label you are trying to scan is one of the bar-code types that your PTC-1800 has been programmed to recognize. • The PTC-1800's application program may not support scanned data at this particular field. Consult the documentation for the PTC-1800's application program to determine when the scanner and Scan keys are enabled.
Your application locks up.	• Reboot the PTC-1800, following the instructions in Chapter 16. • Reset the PTC-1800, following the instructions in Chapter 16. • Follow your organization's procedure to have the PTC-1800 serviced.

Getting help

If you are unable to correct a problem by following the troubleshooting tips in this chapter, follow the instructions below for assistance.

Sources of information

Try the following before contacting Symbol:

- Review the other documentation available for the PTC-1800.
- Review the troubleshooting sections in your Microsoft manuals.
- Review the documentation for your application.

Who to contact

If reviewing the above sources of information does not improve the PTC-1800's performance, notify the following Symbol personnel:

- Your Symbol service representative.
- The Symbol Customer Support Center at 1-800-653-5350.

Rebooting/Resetting the PTC-1800

Introduction

! Do not interfere with the operation of the PTC-1800 during a resume, reboot, or reset. Allow this process to complete before pressing any keys, replacing the battery pack, or performing any other procedure. Otherwise, the PTC-1800 may lock up.

If your application locks up (stops responding to the keyboard), reboot your PTC-1800. If the reboot is unsuccessful, follow the instructions on the next page to reset the PTC-1800.

Rebooting the PTC-1800

Overview

! Do not reboot the PTC-1800 unless absolutely necessary. Rebooting the PTC-1800 erases all programs and data in RAM.

Rebooting stops the PTC-1800, resets the unit, and then restarts (boots) it. When the PTC-1800 starts again, it returns you to the operating system.

Procedure

1. Hold down the **Hold** key and press the **Send** key. The PTC-1800's **Main Menu** displays.
2. Press the **Down** arrow key until **Warm Reboot** is highlighted.
3. Press the **Send** key. The following message displays: “Are you sure you want to warm boot?”
4. Press the **Down** arrow key to highlight either **Yes** or **No**.
5. Press the **Send** key. If you selected **Yes**, wait for the PTC-1800 to reboot. If you selected **No**, the PTC-1800 will return to the operating system.

Resetting the PTC-1800

Overview

! Never reset the PTC-1800 unless absolutely necessary. Resetting the PTC-1800 erases all programs and data in RAM.

If rebooting is not effective, you may have to reset the PTC-1800. When the PTC-1800 reboots after a reset, it returns you to the operating system.

Procedure

1. Remove the PTC-1800's battery pack, following the instructions in Chapter 12.
2. Use a nonconductive object (such as a coffee stirrer) to press the **Reset** button located in the battery compartment.
3. Replace the PTC-1800's battery pack, following the instructions in Chapter 12.
4. Press the **On/Off** key to initiate the cold reboot. The unit reboots in about 2 minutes.

Appendix A

Specifications

Communication and I/O

Radio

Choice of one of the following optional internal LAN radios:

- 900-MHz direct-sequence spread spectrum
- 2.4-GHz direct-sequence 802.11-compliant spread spectrum
- 2.4-GHz frequency-hopping 802.11-compliant spread spectrum
- 2.4-GHz direct-sequence TMA-compliant spread spectrum

Software program: AirBeam2 for radio file transfer

Charging Contacts

Connects to Model 1822 charger

Infrared port

Infrared lens for IrDA communications
Speed: 115.2 kbps (maximum)

Headset jack

1-mm jack for connecting a headset with an attached microphone

Display

Type

Monochrome transflective LCD

Active area

1.62 x 2.38 in/4.14 x 6.06 cm

Resolution

1/8 VGA, 160 x 240 pixels

Backlight

Electro-luminescent (EL) panel

Electrical

Battery pack

Standard: 1450-mAhr @ 3.7 VDC lithium-ion
Extended-life: 3200-mAhr @ 3.7 VDC lithium-ion

AC adapter

Input: 100–240 VAC/50–60 Hz
Output: 12 VDC @ 1.2 A

Vehicle adapter	Input: 9 to 16 VDC Output: 15 VDC @ 2.7 A

Environmental

Operating temperature	32 to 122 F° (0 to 50 C°)
Storage temperature (5–50% RH)	With battery pack: –4 to 104 F° (–20 to 40 C°) Without battery pack: –22 to 131 F° (–30 to 55 C°)
Operating humidity	0 to 95% noncondensing @ 104 F (40 C°)
Shock	4-ft/1.2-m drop to concrete

Note: *If the PTC-1800's battery pack dislodges, the connection to the LAN network will have to be re-established.*

Altitude	Operating: Up to 10,000 ft/3,048 m Non-operating: Up to 20,000 ft/6,096 m
ESD protection	Europe: 8 kV (no reset); U.S. and Canada: 15 kV (no permanent damage)

Note: *If unit displays blanks, press On/Off key to resume.*

Laser scanner

Type	SE-900

Memory

ROM	256 KB
RAM	16 MB DRAM

Microprocessor

Type	Intel StrongArm
Speed	190 MHz

Operating system

Type	Microsoft Windows CE 2.12

Physical

Length	7.7 in/19.6 cm
Width	2.6 in/6.6 cm
Thickness	1.2 in/3 cm
Weight	12 to 13 oz/.34 to .37 kg (with standard battery pack); 14 to 15 oz/.4 to .43 kg (with extended-life battery pack)

Storage

Hard disk drive	Internal 8-MB solid-state drive

Appendix B

Accessory part numbers

Table 13 contains part numbers for ordering PTC-1800 accessories. Contact your Symbol sales representative or visit www.symbol.com to order any of the following parts.

Table 13. Accessory part numbers

Item	Part number
Hardware	
AC Adapter (12 VDC, 1.2 A)	30442-001
Lithium-ion battery packs	
Standard	24661-001
Extended-life	24789-001
Cigarette lighter adapter (15 VDC, 2.7 A)	21438-010
US power cord/adapter	30591-001
Accessories	
Model 1822 charger	24928-001
Headset	30580-001
Leather Carrying Case	24926-001

Appendix C

Display icons and LED codes

Display icons

Table 14 interprets the display screen's status icons.

Table 14. Display icons

Icon	Name	Description
	Low Batt	The battery pack is low; recharge it.
	Low Bridge	The bridge battery is low; recharge the battery pack.
	Out of Range	The radio is out of range of an access point.

LED codes

Table 15 interprets the codes for the PTC-1800's Status light-emitting diode (LED).

Table 15. LED codes

Status LED	Explanation
Blinking green	The PTC-1800's battery pack is being charged.
Green	The PTC-1800's battery pack has been charged (to a 90% or greater capacity).
Amber	The PTC-1800's laser scanner is scanning a bar code.
Blinking amber	The PTC-1800 is receiving a call when the vibrator is on.

Index

A

AC adapter, 14
Accessing the telephone application, 35
Accessories, 9
Accessory part numbers, 89
Adding a telephone directory entry, 40
Adjusting the speaker volume, 53, 59
Appendix A, 85
Appendix B, 89
Appendix C, 91
Applications, 23
Audible alert, 60

B

Backlight, 23
Bar-code types, 30
Battery pack life, 66
Bridge battery, 4, 13
Bridge battery support time, 70

C

Carrying case, 9
Charging guidelines, 65
Charging options, 64
Charging the battery pack, 12, 65
Charging the bridge battery, 12
Charging time, 64
Cleaning the contacts, 75
Cleaning the PTC-1800, 75
Clearing call lists, 57
Clock, 23
Common solutions, 78
Communicating data, 32
Communication and I/O, 85
Conditioning the bridge battery, 70
Connecting a ferrite bead to the AC or vehicle adapter, 12
Creating/modifying the telephone directory, 39

D

Data application, 29
Deleting a call from the call list, 55
Deleting a telephone directory entry, 44
Description of PTC-1800, 9
Display, 85
Display contrast, 24
Display icons, 91
Display icons and LED codes, 91
Disposal, 4, 63
Disposing of the PTC-1800, 76
DOC Hard disk drive, 13
DOC statement, 1, 2

E

Editing a telephone directory entry, 44
Editing/Viewing user identification information, 50
Electrical, 85
Ending a call, 53

Entering data, 29
Environment, 67, 73, 86
Equipment required, 69, 75
Exiting the telephone application, 58
External components, 14

F

FCC regulations, 2
FCC statement, 1
Features, 23, 33
First-Time Use, 12

G

General regulations, 1
Getting help, 4, 81
Getting started, 11, 77
Guidelines, 74
Guidelines for handling, 3

H

Handling the PTC-1800, 73
Headset, 9

I

Included, 7
Incoming message alert, 24
Information, 7
Initializing keypad tones, 50
Installing a new battery pack, 64
Installing the battery pack, 12
Internal components, 13
Internal laser scanner, 5
Introduction, 9, 32, 83

K

Key functions, 34

L

Laser scanner, 86
LED codes, 92
Length of time, 67
Lithium-ion batteries, 63
Lithium-ion battery pack, 3
Locking the keyboard, 48
Low-battery warning, 25

M

Maintaining the battery pack, 63
Maintaining the bridge battery, 69
Maintaining the PTC-1800, 73
Maintenance, 63
Memory, 13, 86
Menu structure, 39
Microprocessor, 86
Model 1822, 9

N

Not included, 7

O

Obtaining information about a call in the call list, 55
Obtaining information about a telephone directory entry, 45
Obtaining information about the telephone application, 58
Operating conditions, 73
Operating system, 13, 86
Operating the PTC-1800, 27
Operating the telephone, 52
Operating the VoiceAlert application, 61
Overview, 29, 33, 59, 63, 69, 83, 84
Overview of the PTC-1800, 9

P

Package contents, 11
Parts, 13
Physical, 87
Placing a call, 52
Placing a call on hold, 53
Power management, 25
Procedure, 11, 32, 69, 74, 83, 84
Processor, 13

R

Radio (optional), 14
Rebooting the PTC-1800, 83
Rebooting/Resetting the PTC-1800, 83
Receiving a broadcast message, 62
Receiving an incoming call, 53
Recharging the battery pack, 64
Recharging the bridge battery, 69
Recycling, 4
Refusing a call, 53
Regulations, 1
Related publications, 7
Removing the battery pack, 63
Replacement procedure, 71
Replacing the battery pack, 63
Replacing the bridge battery, 71
Resetting the PTC-1800, 84
Resume, 26
Run mode, 25

S

Safety compliance, 4, 5
Safety information, 3
Safety precautions, 3
Saving an entry in a call list to the telephone directory, 54
Scanning procedure, 30
Scope of the manual, 7
Selecting the type of VoiceAlert notification, 60
Sending a broadcast message, 61
Servicing the PTC-1800, 75
Setting telephone directory properties, 43
Setting the telephone alert, 46
Setting up the telephone, 39
Setting up the VoiceAlert application, 59
Ship mode, 26
Sources of information, 81
Specifications, 85
Spread spectrum radio, 4
Spread spectrum radio regulations, 2
Storage, 87
Storing data, 31
Storing spare battery packs, 67
Storing/shipping the PTC-1800, 74
Suspend mode, 25

T

Telephone application, 24, 33
Temperature, 73
Through a laser scanner, 30
Troubleshooting, 77
Turning off keypad tones, 50
Turning off the Auto Answer feature, 49
Turning off the PTC-1800, 27
Turning on the Auto Answer feature, 49
Turning on the PTC-1800, 27

U

Unlocking the keyboard, 48
Unpacking the PTC-1800, 11
Using multiple lines, 53
Using the application, 29
Using the IrDA port, 32
Using the radio, 32

V

Vehicle adapter (optional), 14
Via an optional internal radio, 31
Via the AC or cigarette lighter adapter, 65
Via the keyboard, 30
Via the Model 1822 charger, 66
Vibration alert, 61
Viewing call lists, 54
VoiceAlert, 24
VoiceAlert application, 24, 59

W

Warning label, 5
When to charge the battery pack, 64
When to charge the bridge battery, 69
When to replace the bridge battery, 71
Who to contact, 81

Symbol Technologies, Inc.

One Symbol Plaza

Holtsville, NY 11742-1300

(Document No: 30635-000-002)

Printed in the U.S.A.