



Part Number: 24831-000-002

PTC-1800

Quick Start

Guide





PTC-1800

Quick Start Guide

Document Number: 24831-000-002

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.....	5
Safety compliance.....	5
Internal laser scanner.....	5
Safety compliance.....	5
Warning label.....	5
Chapter 3 - Scope of the guide	7
Information.....	7
Included.....	7
Document conventions.....	7
Related publications.....	7
Getting help.....	7
Chapter 4 - Getting started	9
Unpacking the PTC-1800.....	9
Package contents.....	9
Procedure.....	9
Setting up the PTC.....	9
Installing the battery pack.....	9
Removing the battery pack.....	10
Charging the battery pack.....	10
Equipment required.....	10

Chapter 5 - Parts	13
Chapter 6 - Operating the PTC	19
Turning on the PTC	19
Turning off the PTC	19
Display features and controls	19
Backlight	19
Display contrast	20
Display icons	20
LED codes.....	21
Chapter 7 - Using the PTC's applications.....	23
Overview	23
Data application	23
Overview.....	23
Procedure.....	23
Scanning bar-code labels	24
Telephone application	24
Overview.....	24
Placing a phone call	25
Receiving an incoming phone call	25
Ending a phone call.....	26
Refusing a phone call	26
Placing a phone call on hold	26
Using multiple lines.....	26
Adjusting the speaker volume	26
VoiceAlert application.....	27
Overview.....	27
Sending a broadcast message.....	27
Receiving a broadcast message	27
Chapter 8 - Maintaining the PTC-1800.....	29
Handling the PTC	29
Storing/shipping the PTC	29
Guidelines.....	29
Disposing of the PTC	30
Appendix A	31
Battery pack information.....	31
Charging time	31
Charging guidelines	31
Battery pack care	32
Battery pack life	32

Regulations

General regulations

FCC 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 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 exigences du Règlement sur le matériel brouilleur 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.

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

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

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

Although lithium-ion battery packs contain a protection circuit to prevent short circuits, lithium-ion battery pack terminals should be taped prior to disposal. This is necessary because lithium-ion cells contain a flammable electrolyte solution that can be ignited by a spark if the solution is ever allowed to escape.

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 a 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.

Scope of the guide

Information

Included

This guide is designed to provide you with enough information to set up and operate the PTC-1800.

Document conventions

Convention	Description	Illustration
Warning	Indicates potential bodily injury or death.	WARNING!
Caution	Indicates potential damage to equipment.	CAUTION!
Note	Provides supplementary information.	<i>Note:</i>

Related publications

For additional information on the PTC-1800, visit Symbol's website at www.symbol.com.

Getting help

If you experience a problem with your PTC-1800, contact your Symbol service representative or the Symbol Customer Support Center at 1-800-653-5350.

Getting started

Unpacking the PTC-1800

Package contents

Each shipping box contains:

- a PTC-1800 portable teletransaction computer,
- a standard or extended-life lithium-ion 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.

Unpack the box and check the unit for shipping damage.

Setting up the PTC

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

Installing the 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.

Removing the battery pack

Follow these steps to remove the battery pack.

1. Remove power from (turn it off) the PTC-1800.
2. Turn the PTC-1800 over so its 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.

Charging the battery pack

Charge the PTC-1800's bridge battery before you use the unit for the first time. This will take three to five hours. The PTC's Status LED will blink until the battery is about 90% charged. When the battery pack needs recharging, an icon will be displayed on the LCD and the unit will vibrate.

Note: Refer to Appendix A for more information on charging the PTC's battery pack.

Equipment required

- Symbol 12-VDC, 1.2-A AC adapter or a 15-VDC, 2.7-A vehicle adapter.
 - An 100-240 VAC electrical outlet or a vehicle's cigarette lighter socket.
1. If you wish to recharge the battery pack as fast as possible, turn off the PTC. If speed is not of importance, you may leave the PTC turned on and use it while the battery pack is being recharged.
 2. Connect the AC or vehicle adapter to the PTC's charger jack; then either plug the AC adapter into an AC electrical outlet or plug the vehicle adapter into the vehicle's cigarette lighter socket.

! 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!

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 the battery pack for 3- 5 hours, or until the PTC's Status LED glows solid green.

Note: The PTC Status LED will blink green while the battery pack is recharging.

4. When charging of the PTC's battery pack is completed, disconnect the PTC from the charging equipment.

Parts

The following pages show and describe the parts of the PTC-1800.



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

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

#	Name	Description
1	Status LED	<p>Glows or blinks to indicate the status of the PTC-1800, the laser scanner, and the recharging process.</p> <p><i>Note:</i> Refer to Chapter 6 for an interpretation of the Status LED.</p>
2	Speaker	<p>Supports simple beeps and verbal audio responses. The volume can be adjusted via the PTC-1800's application program.</p>
3	Display screen	<p>This 1/8 VGA transfective monochrome LCD (liquid crystal display) screen displays data entered into the PTC. It may also display prompts, error messages, and other information.</p> <p>The top line of the LCD is reserved for the display of several status icons.</p> <p><i>Note:</i> Chapter 6 gives an interpretation of these icons.</p>
4	Keypad	<p>Consists of 24 keys that can be used to enter data or perform specific functions.</p> <p><i>Note:</i> Table 2 gives a description of each key's default function.</p>
5	Headset jack	<p>Enables you to connect a headset to the PTC for hands-free talking.</p>
6	Microphone	<p>Supports voice input.</p>
7	Push-to-Talk button	<p>Activates the microphone used in the VoiceAlert application (if installed) and allows you to send a broadcast message.</p>



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.
2	Soft Key 1 (SK1)	The function of this key is dependent on the PTC-1800's active application.

#	Name	Description								
3	Application Keys	<p>Activate specific PTC-1800 applications:</p> <table border="1"> <thead> <tr> <th>Key</th> <th>Application</th> </tr> </thead> <tbody> <tr> <td>Phone</td> <td>Activates the phone application (if installed).</td> </tr> <tr> <td>Data</td> <td>Application Launch Key.</td> </tr> <tr> <td>Msg</td> <td>Application Launch Key.</td> </tr> </tbody> </table>	Key	Application	Phone	Activates the phone application (if installed).	Data	Application Launch Key.	Msg	Application Launch Key.
Key	Application									
Phone	Activates the phone application (if installed).									
Data	Application Launch Key.									
Msg	Application Launch Key.									
4	Send key	The function of this key is dependent on the PTC's active application.								
5	Data/ telephone keys	These 12 keys (1 through 0, *, and #) are used to enter alphanumeric data into the PTC. When the phone application is activated, they function like the keys on a standard phone keypad.								
6	On/Off key	Wakes up or suspends the PTC-1800.								
7	Hold key	Places a call on hold or reconnects a call.								
8	End key	This key's function is dependent on the PTC's active application.								
9	Scan keys	Activates the PTC's laser scanner. It also wakes the PTC-1800 from suspend mode.								
10	Soft Key 2 (SK2)	The function of this key is dependent on the PTC-1800's active application.								



Figure 3. Parts of the PTC-1800 (left side and top view)

Table 3. Parts of the PTC-1800 (left side and top view)

#	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 AC electrical outlet or a vehicle's cigarette lighter socket, respectively, to recharge the PTC's battery pack.
2	Battery pack release button	Allows you to remove the PTC-1800's battery pack. <i>Note:</i> Chapter 4 has instructions on replacing the battery pack.
3	Battery pack	The PTC is powered by either a standard or extended-life lithium-ion battery pack. CAUTION! Never leave the PTC without a battery pack installed. Removal for extended periods will drain the bridge battery (even with the PTC turned off.) <i>Note:</i> Promptly recharge the battery pack when the Low Batt icon displays.
4	Cradle contacts	Connects the PTC to the optional Model 1822 charger. The PTC's battery pack is recharged through these contacts.
5	Buzzer port	Provides audible alerts and beeps.
6	Antenna	Sends and receives radio transmissions, allowing the PTC to communicate with a host computer.
7	Infrared (IrDA) port	Allows the PTC to communicate via pulses of light to and from other IrDA-compliant devices, such as printers. <i>Note:</i> The PTC IrDA port supports both V1.0 and V1.1 IrDA standards.
8	Laser scanner	Scans bar codes. Refer to Chapter 7 for instructions.

Operating the PTC

Turning on the PTC

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

If the PTC is in suspend mode (turned off), you can wake it (turn it on) by pressing the On/Off key or one of the Scan keys.

Turning off the PTC

Press the On/Off key to suspend the PTC. Suspending the PTC saves power and allows the unit to resume operation exactly where it left off.

***Note:** The PTC cannot receive calls or other messages when it is turned off. Messages, voicemails, etc., may or may not be saved (this depends on your company's application. For further information on this, refer to your company's manuals.).*

Display features and controls

The PTC's display provides information about the active application and status of the PTC.

Backlight

The PTC's backlight illuminates the screen to enhance readability in dim lighting conditions. The backlight turns on automatically when the PTC boots up and turns off when the keyboard has not been used

for several seconds or when a phone call is being received. The backlight can be reactivated by pressing any of the PTC's keyboard keys.

Display contrast

The contrast of the PTC's screen can be increased or decreased as follows:




1. Depress the Hold key.
2. Depress the Left Arrow on the Compass key to decrease the screen's contrast or the Right Arrow on the Compass key to increase the screen's contrast.

Note: Each time the Right or Left arrow is depressed, the contrast of the PTC's screen will be changed.

Display icons

Table 4 describes the display screen's status icons.

Table 4. PTC display screen icons

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

LED codes

Table 5 describes the PTC's Status LED (light emitting diode) codes.

Table 5. PTC Status LED codes

Status LED	Explanation
Blinking green	The PTC's battery pack is being charged.
Steady green	The PTC's battery pack has been charged to at least 90% of it's capacity.
Blinking amber	If the PTC's vibrator is also running, the PTC is receiving a call.
Steady amber	The PTC's laser scanner is scanning a bar code.

Using the PTC's applications

Overview

The following applications are available for the PTC:

- Data (developed by your organization).
- Telephone.
- VoiceAlert.

***Note:** Because the PTC's features and functions vary according to customized user applications, networks, and phone systems, your supervisor or network administrator will explain them to you in detail. This guide provides only basic user information.*

Data application

Overview

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

Procedure

1. Press the Data key to activate your organization's data application.
2. Use the PTC's keyboard, radio, or laser scanner to enter data.

***Note:** Refer to the next page for instructions on scanning bar-code labels.*

3. Depress the Send key after entering data with the PTC's keyboard.

Scanning bar-code labels

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

1. Point the laser scanner at the label to be scanned.

Note: The maximum distance from the window of the scanner's nose to the label depends on the scanner's range and the size of the label being scanned.

2. To start scanning, depress one of the PTC's Scan keys.

Note: When the PTC is scanning a bar code, the Status LED will glow amber.

3. Watch the line of light produced by the scanner as it scans the bar code. It must pass over all of the label bars for the bar code to be read correctly.

Note: If the scan is successful, the PTC will beep.

Telephone application

Overview

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

- Other PTCs 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.

Placing a phone call

Perform the following steps to place a phone call.

1. Press the **Phone** key to activate the telephone application.
2. Use the PTC keypad to dial the desired phone number.

***Note:** To select a phone number that has been programmed into the PTC by your system administrator, press the Down Arrow on the Compass key to bring up your phone call list. Use the Up and Down Arrows to find the desired number in the list.*

3. Depress the Send key.
4. Speak into the PTC's microphone or (if provided) the attached headset.
5. Use the PTC like a normal cellular phone.

Receiving an incoming phone call

An incoming phone call will cause the PTC to ring or vibrate. The PTC display will also provide caller ID functions, such as the caller's name, extension, or phone number, as defined by your system administrator.

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

Perform the following steps to receive an incoming phone call:

1. Depress the Phone key to activate the phone application.
2. Depress the Send key to activate the call.
3. Place your ear near the PTC's speaker.
4. Use the PTC like a normal cellular phone.

Ending a phone call

Depress the End key when your phone conversation is finished.

Refusing a phone call

Depress the End key to reject an incoming phone call.

Placing a phone call on hold

Depress the **Hold** key to place a phone call on hold.

Note: Pressing the Hold key again returns you to the call.

Using multiple lines

If you receive a second phone call while you are talking on one phone line, you can select either of the following options:

- Place the first phone call on hold by depressing the Hold key and then depressing the Send key to answer the second phone call.
- Ignore the second phone call if you do not want to answer it.

Note: If you choose not to answer the second phone call, how it is dealt with will depend on how your system administrator has programmed the PTC.

Adjusting the speaker volume

While you are on a call, you can adjust the volume of the PTC's speaker by pressing either the Up or Down Arrow on the Compass key.

VoiceAlert application

Overview

The VoiceAlert application uses voice-over-IP technology to allow the PTC's user to talk and listen to other users within specified VoiceAlert groups. The PTCs 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.

Sending a broadcast message

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

1. Press the Push-to-Talk button and speak into the PTC's microphone or (if equipped) on the attached headset.
2. Release the Push-to-Talk button when you are finished talking.

Receiving a broadcast message

The PTC-1800 will beep and/or vibrate to alert you to an incoming broadcast message. to receive the message:

Place your ear near the PTC's speaker and listen to the incoming message.

Maintaining the PTC-1800

Handling the PTC

The PTC-1800 is designed to withstand the wear and tear of normal use; however, these guidelines should be followed:

- Operate the PTC in temperatures between 32 and 122 degrees F (0 to 50 degrees C).
- Avoid dropping the PTC or knocking it against a hard surface.
- Carry the PTC in a holster or carrying case to protect it.
- Do not open or try to service the PTC; no user-serviceable parts are inside. Doing so will void your warranty.

Storing/shipping the PTC

Guidelines

Observe these restrictions if you plan to store the PTC.

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

Perform the following procedure if you plan to ship the PTC.

1. Transfer any data stored in the PTC to a host computer or another PTC.
2. Make sure you have a copy of any programs stored in the PTC.
3. Disconnect any accessories from the PTC.
4. Shut down the PTC via Windows CE.
5. Remove the PTC's battery pack.
6. Use a non-conductive object (such as a coffee stirrer) to press the PTC's Reset Button located in the battery compartment.
7. Replace the PTC's battery pack.
8. Recharge the PTC's battery pack.
9. Pack the PTC in its 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's battery pack every 60 days.

Disposing of the PTC

When your PTC has reached the end of its useful life, do not throw it away. Send it to an authorized Symbol service center for permanent disposal.

Appendix A

Battery pack information

Charging time

Table 6 provides the approximate time required to recharge fully depleted standard and extended-life battery packs. These times are based on an ambient air temperature of 77 degrees F (25 degrees C).

Table 6. Charge times of PTC battery packs

Operational status of PTC	Charge time of standard battery pack	Charge time of extended-life battery pack
PTC is off	2-3 hours to 90% capacity. 3-5 hours to 100% capacity.	4.5 hours to 90% capacity. 5.5 hours to 100% capacity.
PTC is on	7 hours to 100% capacity.	7 hours to 100% capacity.

Note: Table 6 charge times 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's battery pack.

- Recharge the battery pack in temperatures between 32–113 degrees F (0–45 degrees 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's battery pack.

Battery pack care

Observing the following guidelines will ensure that the PTC's battery pack is protected and will give you maximum usage.

- Do not take the battery pack apart.
- Keep sharp objects away from the battery pack, case, and contacts.
- Avoid short-circuiting the battery pack - do not touch the battery pack contacts with any metal object.
- Do not touch the battery pack contacts. Oil from your fingers could cause a bad connection with the PTC.
- Clean the battery pack contacts and the PTC contacts on a regular basis.
- Do not incinerate old battery packs. Observe the battery pack disposal instructions given in Chapter 2.

Battery pack life

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.

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

Symbol Technologies, Inc.

One Symbol Plaza

Holtsville, NY 11742-1300

Part No: 24831-000-002

Printed in U.S.A.

