© 1997 - 2006 SYMBOL TECHNOLOGIES, INC. All rights reserved.
Symbol reserves the right to make changes to any product to improve reliability, function, or design.
Symbol does not assume any product liability arising out of, or in connection with, the application or use of any product, circuit, or application described herein. No license is granted, either expressly or by implication, estoppel, or otherwise under any patent right or patent, covering or relating to any combination, system, apparatus, machine, material, method, or process in which Symbol products might be used. An implied license exists only for equipment, circuits, and subsystems contained in Symbol products.
Symbol and the Symbol logo are registered trademarks of Symbol Technologies, Inc. Other product names mentioned in this manual may be trademarks or registered trademarks of their respective companies and are hereby acknowledged.
Symbol Technologies, Inc.
One Symbol Plaza
Holtsville, N.Y. 11742-1300
http://www.symbol.com

Warranty
For the complete Symbol hardware product warranty statement, go to:

Patents
This product is covered by one or more patents. For patent information go to:
Introduction
The P470/370 cordless RF scanners bring new flexibility and economy to data capture and data management in both industrial and retail operations. The scanner communicates with your host computer through radio transmission instead of through a cable. With the RF scanner, you are free to scan and transmit without a physical cable, from as far away as 100 feet (30.5 meters) even without a direct line of sight. This lets you take the scanner to where the work is, whether on the loading dock, the plant floor, the warehouse, or the POS checkout area. There are several versions available:
- P470: cordless retail scanner.
- P370: cordless industrial scanner.
- P370 ALR: cordless industrial ALR scanner.

This Quick Reference Guide provides basic instruction on the set up and use of the Phaser P370/P470 RF scanners.

Refer to PL 370/470 RF Cradle Quick Reference Guide (p/n 72-38494-xx) for information on setting up the PL 370/470 RF cradle.

To quickly get you started with your new scanner:
1. Charge the scanner in the cradle.
2. Power up the scanner.
3. Follow the Quick Startup Instructions (see page 6).
4. Use the test bar codes to ensure the scanner is working properly (see page 7).

Charging the Scanner in the Cradle
To charge the scanner, insert the scanner into the cradle so the nose of the scanner and tip of the handle seat into the receptacles. The scanner displays “UNIT CRADLED” when properly inserted in the cradle.

The battery charges automatically. A full charge of a depleted battery takes approximately 3-1/2 hours. The charge status indicator light on the back of the cradle blinks then becomes solid when the battery is fully charged.

Powering Up the Scanner
To turn the scanner on, press the “Enter” key or pull the trigger. The scanner is brought out of sleep mode and into scanning mode.
Scanning

Consult the P470/P370 RF Scanners Product Reference Guide (p/n 72-38495-xx) for programming instructions. If you need assistance, contact your local supplier or the Symbol Support Center.

To scan:

1. Ensure the battery is charged.
2. Ensure the bar code is in the correct scanning range.
3. Aim and press the trigger. When the scanner has read the symbol:
   - a beep sounds.
   - the LED above the display turns green.
   - the red laser turns off.

Aiming

Hold at an Angle

Do not hold the scanner directly over the bar code. Laser light reflecting directly back into the scanner from the bar code is known as specular reflection. Specular reflection can make decoding difficult.

The scanner can tilt up to 65° forward or back and achieve a successful decode. Simple practice quickly shows what tolerances to work within.
Scan the Entire Symbol
- The scan beam must cross every bar and space on the symbol (as in the left bar code below).
- Hold the scanner farther away for larger symbols.
- Hold the scanner closer for symbols with bars that are close together.

![Scan example](image)

Changing the Battery
When a battery is fully charged, it generally lasts up to 10 hours without being returned to the cradle. By returning it to the cradle during the day, this time is extended.

If a significant decrease in battery life is noticed and does not correspond to increased usage, consider replacing the battery.

Removing the Battery
1. Slide the battery release latch down using center indent and remove the battery compartment cover.
2. Slide the battery toward the bottom of the scanner and then pull the bottom of the battery back and out of the scanner.

Replacing the Battery
1. Place the top portion of the battery (curved side up, contacts toward top) into the scanner and then slide it up the handle.
2. Replace the battery compartment cover.
3. Slide the release latch up to secure the cover in place.
Quick Startup Instructions

The table that follows includes an index of startup instructions to help get you started quickly. The index is listed in a step-by-step order beginning with step 1, Setting up the System. This index references pages in the P470/P370 RF Scanners Product Reference Guide (p/n 72-38495-xx). The Product Reference Guide is included on the CD shipped with the scanner. It is also available on the Symbol Web site at: http://www.symbol.com/manuals.

Mandatory steps are designated by an asterisk (*). If an item has multiple pages referenced, the most important reference is in bold.

<table>
<thead>
<tr>
<th>Topic</th>
<th>PRG Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Setting Up the System</td>
<td></td>
</tr>
<tr>
<td>• Connecting the cradle to a host *</td>
<td>2-1</td>
</tr>
<tr>
<td>- RS-232 connection</td>
<td>2-2</td>
</tr>
<tr>
<td>- Synapse connection (keyboard wedge, USB, etc.)</td>
<td>2-3</td>
</tr>
<tr>
<td>• Charging the battery *</td>
<td>1-3, 2-8</td>
</tr>
<tr>
<td>• Pairing the scanner with the cradle *</td>
<td>2-6</td>
</tr>
<tr>
<td>- RF channel</td>
<td>3-8, 5-13, C-1</td>
</tr>
<tr>
<td>- Coexisting in Spectrum24 environments</td>
<td>2-7</td>
</tr>
<tr>
<td>2. Using the Default Applications</td>
<td></td>
</tr>
<tr>
<td>• Overview of Scan and Transmit application*</td>
<td>3-2</td>
</tr>
<tr>
<td>• Keypad operation</td>
<td>3-2, 3-3, 3-22</td>
</tr>
<tr>
<td>• Eliminating repetitive scanning</td>
<td>3-4</td>
</tr>
<tr>
<td>• Selecting the host communication protocol</td>
<td>3-2, 3-8, 5-8</td>
</tr>
<tr>
<td>- RS-232 baud rate</td>
<td>5-81</td>
</tr>
<tr>
<td>3. Programming an Advanced Data Formatting Rule Using 123Scan</td>
<td>3-17</td>
</tr>
<tr>
<td>4. Troubleshooting Problems</td>
<td></td>
</tr>
<tr>
<td>• Troubleshooting table</td>
<td>3-24</td>
</tr>
<tr>
<td>• Communication errors</td>
<td>3-5, D-2</td>
</tr>
<tr>
<td>• Beeper indications and default application error codes</td>
<td>4-7</td>
</tr>
<tr>
<td>• Cradle LED indications</td>
<td>4-3</td>
</tr>
</tbody>
</table>
Test Symbols

Code 128

5012345248

EAN-8

00003001

13 Mil UPC

1234567890

Code 39

01234567
Regulatory Information

All Symbol devices are designed to be compliant with rules and regulations in locations they are sold and are labeled as required. Any changes or modifications to Symbol Technologies equipment, not expressly approved by Symbol Technologies, could void the user’s authority to operate the equipment.

**CAUTION** Only use Symbol approved and UL Listed accessories, battery packs and battery chargers.

Do NOT attempt to charge damp/wet mobile computers or batteries. All components must be dry before connecting to an external power source.

Country Approvals

Regulatory markings are applied to the device signifying the radio(s) are approved for use in the following countries: United States, Canada, Australia, Japan and Europe. Please refer to the Symbol Declaration of Conformity (DoC) for details of other country markings. This is available at [http://www2.symbol.com/doc/](http://www2.symbol.com/doc/).

**Operation of the device without regulatory approval is illegal.**

Health and Safety Recommendations

**Ergonomic Recommendations**

**CAUTION** In order to avoid or minimize the potential risk of ergonomic injury follow the recommendations below. Consult with your local Health & Safety Manager to ensure that you are adhering to your company’s safety programs to prevent employee injury.

- Reduce or eliminate repetitive motion.
- Maintain a natural position.
- Reduce or eliminate excessive force.
- Keep objects that are used frequently within easy reach.
- Perform tasks at correct heights.
- Reduce or eliminate vibration.
- Reduce or eliminate direct pressure.
- Provide adjustable workstations.
- Provide adequate clearance.
- Provide a suitable working environment.
- Improve work procedures.

Vehicle or Forklift Installation

RF signals may affect improperly installed or inadequately shielded electronic systems in motor vehicles (including safety systems). Check with the manufacturer or its representative regarding your vehicle. You should also consult the manufacturer of any equipment that has been added to your vehicle.

Position your device within easy reach. Be able to access your device without removing your eyes from the road.
Warnings for Use of Wireless Devices

Please observe all warning notices with regard to the usage of wireless devices.

Potentially Hazardous Atmospheres

You are reminded of the need to observe restrictions on the use of radio devices in fuel depots, chemical plants etc. and areas where the air contains chemicals or particles (such as grain, dust, or metal powders) and any other area where you would normally be advised to turn off your vehicle engine.

Safety in Hospitals

Wireless devices transmit radio frequency energy and may affect medical electrical equipment.

Wireless devices should be switched off wherever you are requested to do so in hospitals, clinics or health care facilities. These requests are designed to prevent possible interference with sensitive medical equipment.

Pacemakers

Pacemaker manufacturers recommended that a minimum of 15cm (6 inches) be maintained between a handheld wireless device and a pacemaker to avoid potential interference with the pacemaker. These recommendations are consistent with independent research and recommendations by Wireless Technology Research.

Persons with Pacemakers:

- Should ALWAYS keep the device more than 15cm (6 inches) from their pacemaker when turned ON.
- Should not carry the device in a breast pocket.
- Should use the ear furthest from the pacemaker to minimize the potential for interference.

If you have any reason to suspect that interference is taking place, turn OFF your device.

Hearing Aids

The wireless device may interfere with some hearing aids. In the event of interference you may want to consult your hearing aid supplier to discuss solutions.

Other Medical Devices

Please consult your physician or the manufacturer of the medical device, to determine if the operation of your wireless product may interfere with the medical device.
FCC / EU RF Exposure Guidelines

Safety Information
The device complies with Internationally recognized standards covering Specific Absorption Rate (SAR) related to human exposure to electromagnetic fields from radio devices.

Reducing RF Exposure - Use Properly
It is advisable to use the device only in the normal operating position.

Handheld Devices
To comply with FCC RF exposure requirements, this device must be operated in the hand with a minimum separation distance of 20 cm or more from a person's body. Other operating configurations should be avoided.

Laser Devices
Complies with 21CFR1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated July 26, 2001.
The laser classification is marked on one of the labels on the device.
Class 1 Laser devices are not considered to be hazardous when used for their intended purpose. The following statement is required to comply with US and international regulations:

CAUTION Use of controls, adjustments or performance of procedures other than those specified herein may result in hazardous laser light exposure.

Class 2 laser scanners use a low power, visible light diode. As with any very bright light source, such as the sun, the user should avoid staring directly into the light beam. Momentary exposure to a Class 2 laser is not known to be harmful.

Scanner Labeling
In accordance with Clause 5, IEC 825 and EN60825, the following information is provided to the user:

**Power Supply**

Use only a Symbol approved power supply 50-14000-101R output rated 9 Vdc and minimum 1 A. The power supply is certified to EN60950-1 with SELV outputs. Use of an alternative power supply invalidates any approval given to this device and may be dangerous.

**Batteries**

Please follow the local regulations when disposing of re-chargeable batteries.

**Taiwan - Recycling**

EPA (Environmental Protection Administration) requires dry battery producing or importing firms in accordance with Article 15 of the Waste Disposal Act are required to indicate the
recycling marks on the batteries used in sales, giveaway or promotion. Contact a qualified Taiwanese recycler for proper battery disposal.

Symbol Rechargeable Batteries
Symbol rechargeable battery packs are designed and constructed to the highest standards within the industry. However, there are limitations to how long a battery can operate or be stored before needing replacement. Many factors affect the life of a battery pack such as heat, cold, customer usage profiles, age, and severe drops.

When batteries are stored over a year, battery cell manufacturers advise that some irreversible deterioration in overall battery quality may occur. To minimize this loss, they recommend storing batteries half charged in a dry, cool place between 41° and 77°F (5° and 25°C), the cooler the better) and removed from the equipment to prevent the loss of capacity. Batteries should be charged to half capacity at least once a year. If an electrolyte leakage is observed, avoid any contact with the affected area and properly dispose of the battery.

Replace the battery when a significant loss of run time is detected. Batteries must be charged within the 32° to 104°F (0° to 40°C) temperature range.

The standard warranty period for all Symbol batteries is 30 days, regardless if the battery was purchased separately or included as part of the mobile computer. For more information on Symbol batteries, please visit http://mysymbolcare.symbol.com/battery/batbasics1.html.

Radio Frequency Interference Requirements-FCC

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

Radio Transmitters (Part 15)
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Radio Frequency Interference Requirements - Canada

This Class B digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.
Radio Transmitters
This device complies with RSS 210 of Industry & Science Canada. Operation is subject to the following two conditions: (1) this device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation.
Label Marking: The Term "IC:" before the radio certification only signifies that Industry Canada technical specifications were met.

Marking and European Economic Area (EEA)

2.4GHz devices for use through the EEA have the following restrictions:
- Maximum radiated transmit power of 10 mW EIRP in the frequency range 2.400 -2.4835 GHz
- France, equipment is restricted to 2.446 -2.454 GHz frequency range
- Italy requires a user license for outside usage.

Statement of Compliance
Symbol Technologies, Inc., hereby, declares that this device is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC. A Declaration of Conformity may be obtained from http://www2.symbol.com/doc/.

Brazil
Declarações Regulamentares para P370, P470 PL370 y PL470 BRAZIL
NOTA: A marca de certificação se aplica ao Equip. de Radiação Restrita, model P470 y PL470. Este equipamento opera em caráter secundário, isto é, não tem direito a proteção contra interferência prejudicial, mesmo de estações do mesmo tipo, e não pode causar interferência a sistemas operando em caráter primário."
Para maiores consultas sobre ANATEL consulte o site: www.anatel.gov.br
The following signifies approval in Brazil.

Waste Electrical and Electronic Equipment (WEEE)

English: For EU Customers: All products at the end of their life must be returned to Symbol for recycling. For information on how to return product, please go to: http://www.symbol.com/environmental_compliance.


Italiano: per i clienti dell’UE: tutti i prodotti che sono giunti al termine del rispettivo ciclo di vita devono essere restituiti a Symbol al fine di consentirne il riciclaggio. Per informazioni sulle modalità di restituzione, visitare il seguente sito Web: http://www.symbol.com/environmental_compliance.


Before you use the unit, it must be configured to operate in your facility’s network and run your applications.

If you have a problem running your unit or using your equipment, contact your facility’s Technical or Systems Support. If there is a problem with the equipment, they will contact the Symbol Support Center:

United States 1-800-653-5350 Canada 905-629-7226
United Kingdom 0800 328 2424 Asia/Pacific 337-6588
Australia 1-800-672-906 Austria/Österreich 01-5055794-0
Denmark/Danmark 7020-1718 Finland/Suomi 9 5407 580
France 01-40-96-52-21 Germany/Deutschland 6074-49020

Italy/Italia 2-484441 Mexico/México 5-520-1835
Netherlands/Nederland 315-271700 Norway/Norge +47 2232 4375
South Africa 11-809 5311 Spain/España +913244000
Sweden/Sverige 08 445 29 00 Europe/Mid-East Contact local
Latin America Inside USA: 1-800-347-0178; distributor or call
Sales Support Outside USA: +1.954.255.2610 Operations +44 118 945 7360

For the latest version of this guide go to: http://www.symbol.com/manuals.