QRG

68XX Series

symbol®

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Symbol Technologies, Inc.
One Symbol Plaza
Holtsville, N.Y. 11742-1300
http://www.symbol.com

Patents

This product is covered by one or more of the following U.S. and foreign Patents:

U.S. Patent No.4,360,798; 4,369,361; 4,387,297; 4,460,120; 4,496,831; 4,593,186; 4,603,262; 4,607,156; 4,652,750; 4,673,805; 4,736,095; 4,758,717; 4,816,660; 4,845,350; 4,896,026; 4,897,532; 4,923,281; 4,933,538; 4,992,717; 5,015,833; 5,017,765; 5,021,641; 5,029,183; 5,047,617; 5,103,461; 5,113,445; 5,130,520 5,140,144; 5,142,550; 5,149,950; 5,157,687; 5,168,148; 5,168,149; 5,180,904; 5,229,591; 5,230,088; 5,235,167; 5,243,655; 5,247,162; 5,250,791; 5,250,792; 5,262,627; 5,262,628; 5,266,787; 5,278,398; 5,280,162; 5,280,163; 5,280,164; 5,280,498; 5,304,786; 5,304,788; 5,306,900; 5,321,246; 5,324,924; 5,337,361; 5,367,151; 5,373,148; 5,378,882; 5,396,053; 5,396,055; 5,399,846; 5,408,081; 5,410,139; 5,410,140; 5,412,198; 5,418,812; 5,420,411; 5,436,440; 5,444,231; 5,449,891; 5,449,893; 5,468,949; 5,471,042; 5,478,998; 5,479,000; 5,479,002; 5,479,441; 5,504,322; 5,519,577; 5,528,621; 5,532,469; 5,543,610; 5,545,889; 5,552,592; 5,578,810; 5,581,070; 5,589,679; 5,589,680; 5,608,202; 5,612,531; 5,619,028; 5,664,229; 5,668,803; 5,675,139; 5,693,929; 5,698,835; 5,705,800; 5,714,746; 5,723,851; 5,734,152; 5,734,153; 5,745,794; 5,754,587; 5,762,516; 5,763,863; 5,767,500; 5,789,728; 5,808,287; 5,811,785; 5,811,787; 5,815,811; 5,821,519; 5,821,520; 5,823,812; 5,828,050; 5,850,078; D305,885; D341,584; D344,501; D359,483; D362,453; D363,700; D363,918; D370,478; D383,124; D391,250.

Invention No. 55,358; 62,539; 69,060; 69,187 (Taiwan); No. 1,601,796; 1,907,875; 1,955,269 (Japan).

European Patent 367,299; 414,281; 367,300; 367,298; UK 2,072,832; France 81/03938; Italy 1,138,713.

rev. 1/99

Introduction

The 68XX is a ruggedized, weather-resistant, hand-held portable computer combining the following capability in one package:

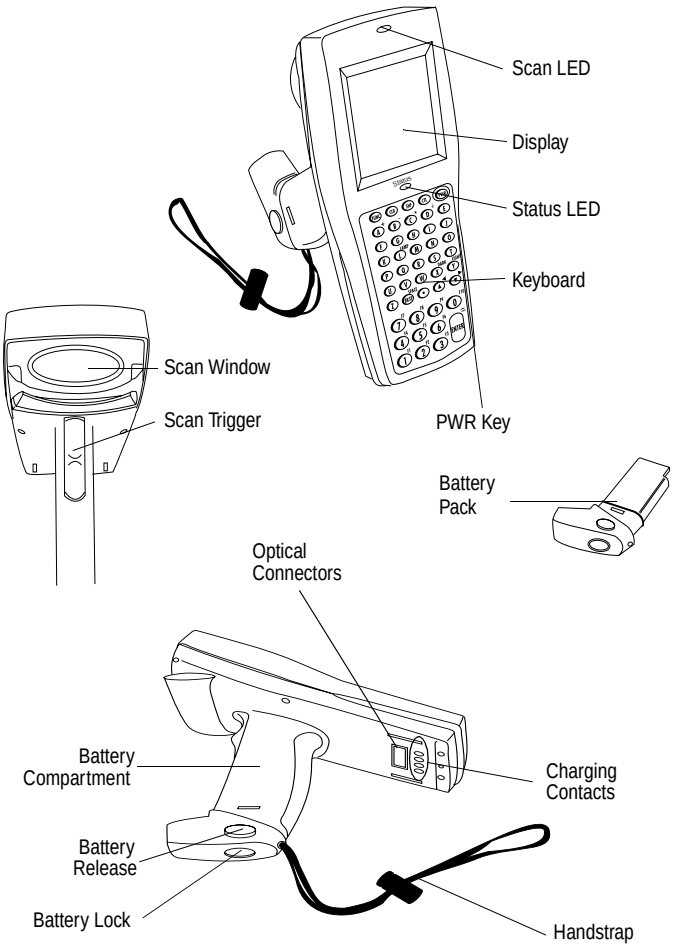
- PC-standard architecture (8088 16-bit architecture)
- DR-DOS compatibility
- 16-line by 21-character display
- Key input from 46-key alphanumeric keyboard
- Integrated scanning capability
- Sealed NiCd rechargeable or replaceable alkaline battery pack
- Batch communications or RF network communications (with internally mounted antenna):
  - Spectrum One® RF network (681X)
  - Spectrum24® RF network (684X).

About This Guide

This guide provides the operator with instructions for the following procedures:

- Installing/removing the battery
- Charging the battery
- Powering the 68XX on and off
- Adjusting the display contrast
- Turning the backlight on/off
- Using the keyboard
- Using the integrated scanner
- Running communications
- Troubleshooting the 68XX.

Parts of the 68XX



Required Accessories

Required 68XX accessories include:

- Five-cell, 780 mAh NiCd rechargeable battery pack or Six-cell, 600 mAh IS NiCd rechargeable battery pack
- CCM 38/6860 4-slot charging and communication module with spare battery charging slot

  or
- CRD 38/6865 1-slot cradle charging and communications cradle

  or
- CRD 38/6866 4-slot charging and communications cradle
- RS-232 serial cable(s)
- Power supply (1 per cradle).

Optional Accessories

Optional 68XX accessories include:

- Wall mounting kit (p/n 3866-000)
- UBC battery charger (1000 or 2000)
- PC adapter and printer interface module (PIM)
- 10-hour trickle battery charger (wall cube)
- Spectrum One and Spectrum24 network accessories
- Holster.

Providing Power

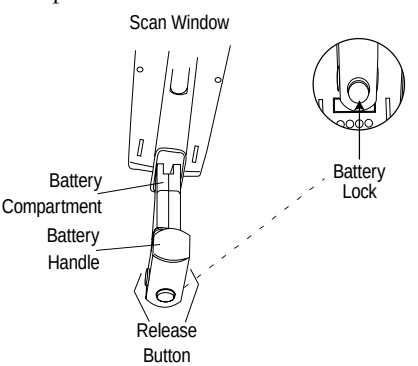
Power for the 68XX is provided by a Nickel Cadmium (NiCd) rechargeable battery pack.

Note: The Series 3800 NiCd battery packs, 3872-103, 3872-105, and 3872-115, CANNOT be used in the 68XX.

Installing New or Recharged NiCd Batteries

To install the NiCd battery:

1. Orient the battery pack with the handle facing the 6800's scan window.
2. Slide the pack into the battery compartment with the battery release buttons pressed in.



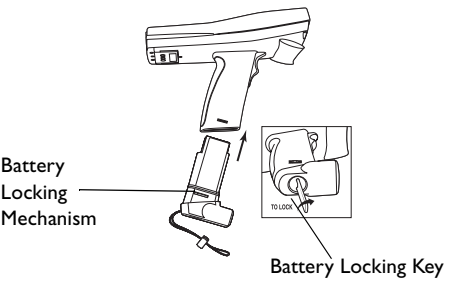
3. Press the battery lock in to secure.

Changing the Battery Pack for the Intrinsically Safe PDT 68xx terminal

To insert the battery pack:

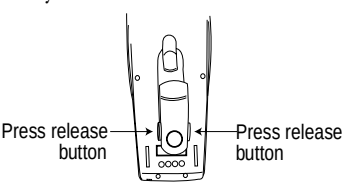
1. Firmly insert the battery into the bottom of the terminal as shown in the following illustration.

2. Use the enclosed battery locking key to lock the battery into place. As you are turning the locking key, the battery locking mechanism should be turning and locking the battery into place.
3. To unlock and remove the battery, use the battery locking key to unlock the battery locking mechanism, and pull the battery out of from the bottom of the terminal.

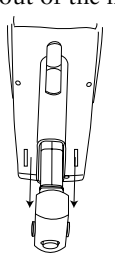


Removing the NiCd Battery Pack

1. Press the battery release buttons on both sides of the handle.



2. Slide the battery pack out of the handle.



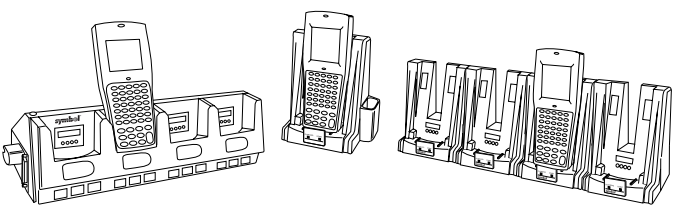
Charging the NiCd Battery

To charge the NiCd battery in the 68XX, use one of the cradles listed in *Required Accessories* on page 3.

Caution: Use only Symbol battery 21-32801-01, 21-325217-01, or 21-35241-01 in this terminal.

Note: The 68XX has a built-in safeguard to ensure that an alkaline battery is not recharged when the 68XX is placed in a cradle.

1. Seat the 68XX in the cradle against the charging contacts.



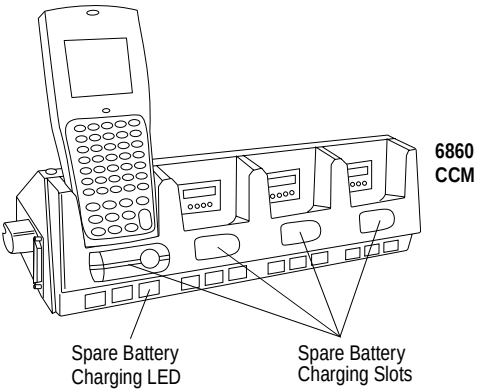
6860 6865 6866

2. The 68XX's Status LED lights solid green when the unit is placed in the cradle. The cradle's *CHARGING* LED flashes when charging a discharged battery and remains steady when trickle-charging a charged battery. Refer to the *Quick Reference Guide* for your cradle for more information.
3. Leave the 68XX in the cradle up to 7 hours to recharge a fully discharged battery.

The 38/6860 and 38/6865 cradles provide slots for charging spare battery packs outside the 68XX. To charge a spare NiCd battery in a cradle, insert the battery pack in the spare battery slot.

The LED indicator lamp under the slot where the pack is placed lights to indicate the battery is charging. A blinking LED indicates

a fast charge; a solid LED means slow charge/ready. Spare battery packs are recharged in 7 hours.



To charge the NiCd battery in a UBC charger:

1. Remove battery pack from 68XX as described in *Removing the NiCd Battery Pack* on page 5.
2. Insert the pack in a UBC adapter.
3. Insert the adapter in the UBC charger.

   Refer to the charger's documentation for more information.

Operating the 68XX

Powering the 68XX On/Off

Power the 68XX on by:

- squeezing the scan trigger,
- or pressing the **PWR** key.

Note: The battery must be installed, or the 68XX must be in a cradle to power the terminal on.

To suspend the 68XX's operation, press the **PWR** key.

Adjusting the Contrast

The 68XX's display contrast can be set to 8 levels. To adjust the contrast:

- Press **FUNC** then **X** to increase the contrast
- Press **FUNC** then **Y** to decrease the contrast.

Turning Backlight On/Off

The 68XX has a backlight to illuminate the display for operating in dim light. To turn the backlight on or off, press **FUNC** then **L** (Lamp).

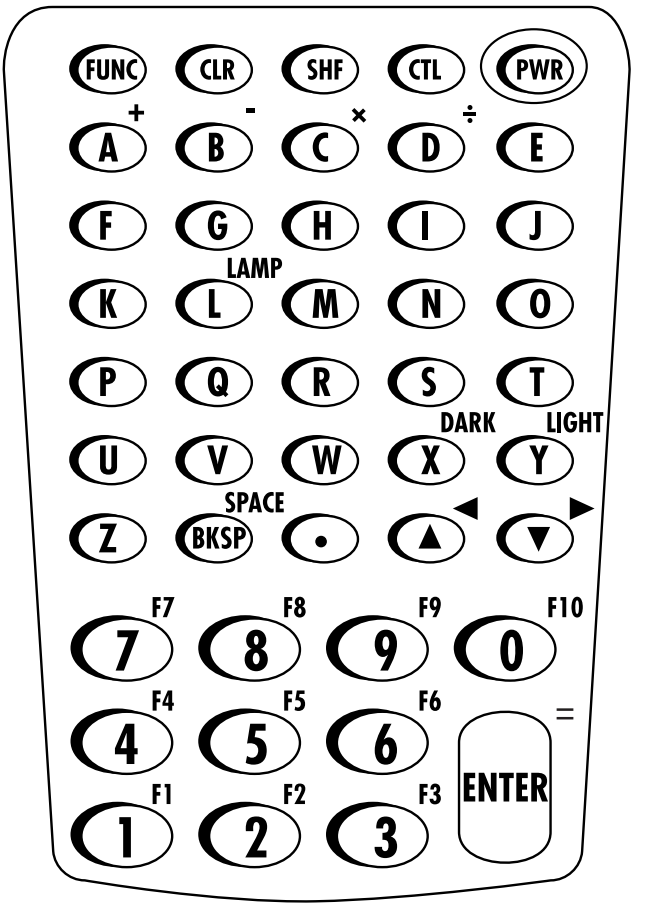
The backlight turns off automatically in approximately 15 seconds or when the 68XX is powered off.

Using the Keyboard

The 68XX uses a 46-key alphanumeric keyboard that produces the 26-character alphabet (**A-Z**), numbers (**0-9**), and assorted characters (**+**, **-**, **X**, ÷, **=**, •). The keypad is color-coded to indicate which modifier key to press to produce a particular character or action.

- The Alpha keys marked in white produce the upper-case characters A to Z.
- The default numeric keypad produces the numbers 0-9.
- Press **FUNC** and the corresponding numeric key to produce function keys F1 to F10.
- Press the cursor keys ▲▼ to scroll up and down the screen.
- Press **FUNC**, then ▲ to scroll left and FUNC then ▼ to scroll right.
- Press **BKSP** to erase information entered on the display, one character at a time.
- Press **FUNC** then **BKSP** (SPACE) to enter a blank space.
- Press **CLR** to partially or completely escape from an application level or screen. **CLR** also erases all entered data from the screen.
- Press **SHF** to access the shifted keyboard.
- **CTL** performs the control function and is under application control.
- Press **ENTER** to place entered data into the 68XX's memory.

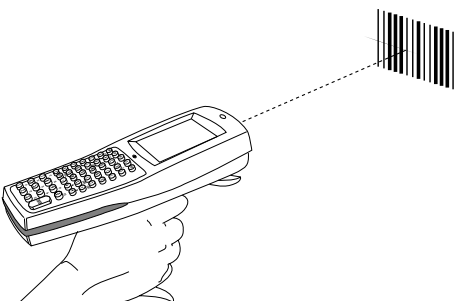
68XX Series Keyboard



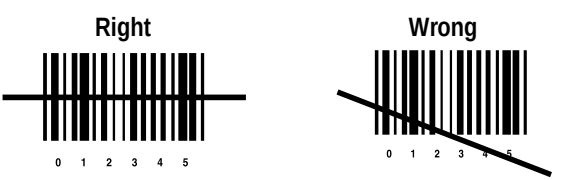
Using the Integrated Laser Scanner

To scan:

1. Press the scanner trigger to power the 68XX and scanner on. The Scan LED turns red if scanning is enabled and the laser is on.
2. Point the 68XX at the bar code and press the trigger.



3. Ensure that the scan beam crosses all bars and spaces on the bar code symbol, as shown below:



   Hold the scanner farther away for larger symbols, and closer for symbols with bars that are close together.

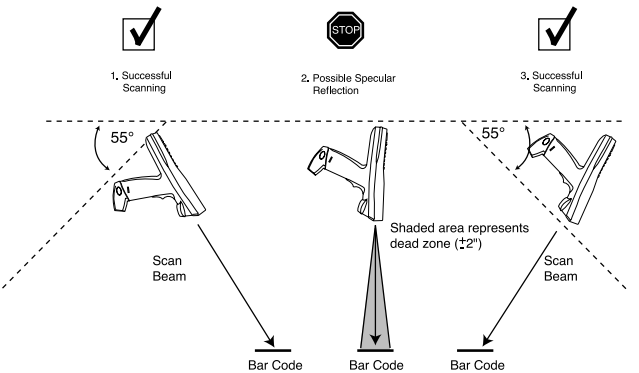
   Long-range versions support a two-level scan trigger. The first, narrow beam is for aiming, and the second beam decodes the label.

4. The LED turns from red to green for successful decodes. The 68XX may also beep.

Aiming: Hold at an Angle

Do not hold the 6800's scan window directly over the bar code. Laser light reflecting directly back into the scan window from the bar code is known as specular reflection. This strong light can "blind" the scanner and make decoding difficult. The area where specular reflection occurs is known as a "dead zone".

You can tilt the 6800 up to 55° forward or back and achieve a successful decode. Practice quickly shows what tolerances to work within.



Running Communications

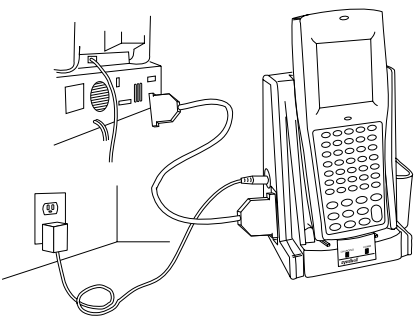
Communicating with a Host

The 68XX communicates with a host through the CCM 38/6860, CRD 38/6865, CRD 38/6866, or PC Adapter. For information on setting up the CCM, cradles, or PC Adapter, refer to the *68XX Product Reference Guide* or the *Quick Reference Guide* provided with each unit.

To communicate with a host:

1. Set up the cradle(s) or PC Adapter as described in *68XX Product Reference Guide* or QRG for the device.
2. Place the 6800's base in the cradle. Press the top of the 68XX against the cradle back until it is firmly seated.

   The Status LED lights solid green when the 68XX is securely placed in the cradle.



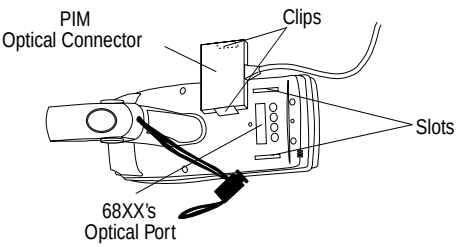
3. Start the communications program on the host and the 68XX.

Caution: Do NOT remove the 68XX while the cradle's red **COMM** LED is blinking.

Communicating with a Printer

The 68XX communicates with a printer through the printer interface module (PIM). To connect the 68XX to the printer:

1. Attach the PIM's optical connector to the 68XX's port by inserting the clips on the connector in the slots on either side of the port.



2. Plug the PIM's DB-9 connector in the printer's port.
3. Power the printer and 68XX on.

Communicating in a RF Network

The PDT 6810 operates in a Symbol Spectrum One RF network; the PDT 684X operates in a Symbol Spectrum24 RF network.

The Status LED indicates the state of the terminal's connection to the RF network:

Off	indicates that the radio is working and associated with an access point (Spectrum24) or base station (Spectrum One). *Status LED indication of RF operation presently not available.*
Flashes red once per second	to indicate that the radio is out of range or not associated with an access point or base station. *Status LED indication of RF operation presently not available.*

Refer to the documentation for the Spectrum One or Spectrum24 network for more information on operating the PDT 68XX in that RF environment.

Troubleshooting

Symptom	Possible Cause	Action
68XX does not power on.	Battery is not installed.	Verify that the 68XX has power from a NiCd or alkaline battery.
	NiCd battery not charged.	Charge the battery in the terminal, or remove the battery and charge in the spare battery charging slot on the CCM 38/6860 or CRD 38/6866.
	Alkaline battery is drained.	Replace battery.
Low Battery message	The main battery pack is running low.	Place the 68XX in a cradle and recharge the NiCd battery. OR Power the 68XX off and replace the battery.
Battery is dead	Battery not replaced after receiving *Low Battery* message.	Replace the battery.
Cannot see characters on display.	68XX not powered on.	Press the **PWR** key.
	Battery pack is missing or dead.	Replace or recharge the battery pack.
	Contrast not adjusted properly.	Refer to page 8 for the key sequence.
Scanner does not decode a bar code	The bar code is unreadable.	Verify that the bar code is not defective, e.g., smudged or dirty.

Symptom	Possible Cause	Action
Scanner does not decode a bar code (cont'd)	Scan window is dirty.	Clean scan window with lens tissues for use with eyeglasses. Do NOT use tissues with lotion.
Double Key error message	Two or more keys were pressed at the same time.	Press keys in sequence.
68XX does not respond when keys are pressed	Application was not successfully downloaded.	Ask System Administrator to repeat application download.

Regulatory Information

Radio Frequency Interference Requirements

This device has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the Federal Communications Commissions Rules and Regulation. 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 the 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 the user will be required to correct the interference at his own expense.

However, there is no guarantee that interference will not occur in a particular installation. If the 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:

- Re-orient 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 which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Radio Frequency Interference Requirements - Canada

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

Cet appareil numérique de la Classe A respecte toutes les exigences du Reglement sur le Materiél Brouilleur du Canada.

CE Marking and European Union Compliance

Products intended for sale within the European Union are marked with the CE Mark which indicates compliance to applicable Directives and European Normes (EN), as follows. Amendments to these Directives or ENs are included:

Applicable Directives

- Electromagnetic Compatibility Directive 89/336/EEC
- Low Voltage Directive 73/23/EEC

Applicable Standards

- EN 55 022 - Limits and Methods of Measurement of Radio Interference Characteristics of Information technology Equipment
- EN 50 082-1:1997 - Electromagnetic Compatibility - Generic Immunity Standard, Part 1: Residential, commercial, Light Industry

- IEC 1000-4-2(1995-01) - Electromagnetic compatibility (EMC) - Part 4:Testing and measurement techniques - Section 2: Electrostatic discharge immunity test.
- IEC 1000-4-3(1995-03) - Electromagnetic compatibility (EMC) - Part 4:Testing and measurement techniques - Section 3: Radiated, radio-frequency, electromagnetic field immunity test.
- IEC 1000-4-4(1995-01) - Electromagnetic compatibility (EMC) - Part 4:Testing and measurement techniques - Section 4: Electrical fast transient/burst immunity test.
- EN 60 950 + Amd 1 + Amd 2 - Safety of Information Technology Equipment Including Electrical Business Equipment
- EN 60 825-1 (EN 60 825) - Safety of Devices Containing Lasers

Laser Devices

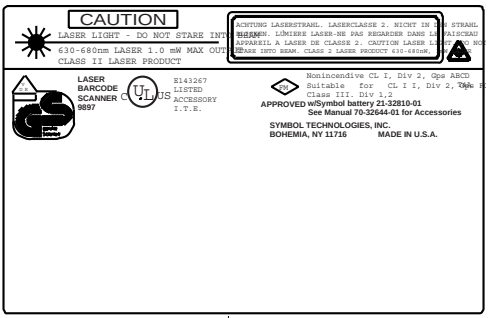
Symbol products using lasers comply with US 21CFR1040.10, Subchapter J and IEC825/EN 60 825 (or IEC825-1/EN 60 825-1, depending on the date of manufacture). The laser classification is marked on one of the labels on the product.

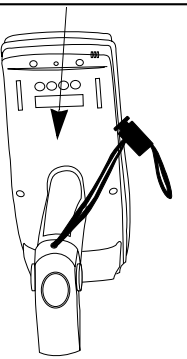
Class 1 Laser devices are not considered to be hazardous when used for their intended purpose. The following statement is required to comply with US and international regulations:

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

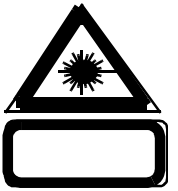
Class 2 laser scanners use a low power, visible light diode. As with any very bright light source, such as the sun, the user should avoid staring directly into the light beam. Momentary exposure to a Class 2 laser is not known to be harmful.

Scanner Labeling





In accordance with Clause 5, IEC 0825 and EN60825, the following information is provided to the user:



ENGLISH

CLASS 1	CLASS 1 LASER PRODUCT
CLASS 2	LASER LIGHT
	DO NOT STARE INTO BEAM
	CLASS 2 LASER PRODUCT

DANISH

KLASSE 1	KLASSE 1 LASERPRODUKT
KLASSE 2	LASERLYF
	SE IKKE IND I STRÅLEN
	KLASSE 2 LASERPRODUKT

DUTCH

KLASSE 1	KLASSE-1 LASERPRODUKT
KLASSE 2	LASERLICHT
	NIET IN STRAAL STAREN
	KLASSE-2 LASERPRODUKT

FINNISH

LUOKKA 1	LUOKKA 1 LASERTUOTE
LUOKKA 2	LASERVALO
	ÄLÄ TUIJOTA SÄDETTÄ
	LUOKKA 2 LASERTUOTE

FRENCH

CLASSE 1	PRODUIT LASER DE CLASSE 1
CLASSE 2	LUMIERE LASER
	NE PAS REGARDER LE RAYON FIXEMENT
	PRODUIT LASER DE CLASSE 2

GERMAN

KLASSE 1	LASERPRODUKT DER KLASSE 1
KLASSE 2	LASERSTRAHLEN
	NICHT DIREKT IN DEN LASERSTRAHL SCHAUEN
	LASERPRODUKT DER KLASSE 2

HEBREW

רמה 1 מוצר לייזר רמה 1

רמה 2 אור לייזר
אין להביט אל תוך הזרם
מוצר לייזר רמה 2

ITALIAN

CLASSE 1 PRODOTTO AL LASER DI CLASSE 1
CLASSE 2 LUCE LASER
NON FISSARE IL RAGGIOPRODOTTO AL LASER DI CLASSE 2

NORWEGIAN

KLASSE 1 LASERPRODUKT, KLASSE 1
KLASSE 2 LASERLYS IKKE STIRR INN I LYSSTRÅLEN
LASERPRODUKT, KLASSE 2

PORTUGUESE

CLASSE 1 PRODUTO LASER DA CLASSE 1
CLASSE 2 LUZ DE LASER NÃO FIXAR O RAIO LUMINOSO
PRODUTO LASER DA CLASSE 2

SPANISH

CLASE 1 PRODUCTO LASER DE LA CLASE 1
CLASE 2 LUZ LASER
NO MIRE FIJAMENTE EL HAZ
PRODUCTO LASER DE LA CLASE 2

SWEDISH

KLASS 1 LASERPRODUKT KLASS 1
KLASS 2 LASERLJUS STIRRA INTE MOT STRÅLEN
LASERPRODUKT KLASS 2

RF Devices

Symbol's RF products are designed to be compliant with the rules and regulations in the locations into which they are sold and will be labeled as required. The majority of Symbol's RF devices are type approved and do not require the user to obtain license or authorization before using the equipment. Any changes or modifications to Symbol Technologies equipment not expressly approved by Symbol Technologies could void the user's authority to operate the equipment.

Service Information

Before you use a terminal, it must be configured to operate in your facility's network and run your applications. If you have a problem with running your terminal 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	1-505-5794
Denmark	7020-1718	Finland	9 5407 580
France	01-40-96-52-21	Germany	6074-49020
Italy	2-484441	Mexico	5-520-1835
Netherlands	315-271700	Norway	66810600

South Africa	11-4405668	Spain	9-1-320-39-09
Sweden	84452900		
Latin America Sales Support		1-800-347-0178 Inside US +1-561-483-1275 Outside US	
Europe/Mid-East Distributor Operations		Contact local distributor or call +44 118 945 7360	

Warranty

Symbol Technologies, Inc. ("Symbol") manufactures its hardware products in accordance with industry-standard practices. Symbol warrants that for a period of twelve (12) months from date of shipment, products will be free from defects in materials and workmanship.

This warranty is provided to the original owner only and is not transferable to any third party. It shall not apply to any product (i) which has been repaired or altered unless done or approved by Symbol, (ii) which has not been maintained in accordance with any operating or handling instructions supplied by Symbol, (iii) which has been subjected to unusual physical or electrical stress, misuse, abuse, power shortage, negligence or accident or (iv) which has been used other than in accordance with the product operating and handling instructions.

Preventive maintenance is the responsibility of customer and is not covered under this warranty.

Wear items and accessories having a Symbol serial number, will carry a 90-day limited warranty. Non-serialized items will carry a 30-day limited warranty.

Warranty Coverage and Procedure

During the warranty period, Symbol will repair or replace defective products returned to Symbol's manufacturing plan in the US. For warranty service in North America, call the Symbol Support Center at 1-800-653-5350. International customers should contact the local Symbol office or support center. If warranty service is required, Symbol will issue a Return Material Authorization Number. Products must be shipped in the original or comparable packaging, shipping and insurance charges prepaid. Symbol will ship the repaired or replacement product freight and insurance prepaid in North America. Shipments from the US or other locations will be made F.O.B. Symbol's manufacturing plant.

Symbol will use new or refurbished parts at its discretion and will own all parts removed from repaired products. Customer will pay for the replacement product in case it does not return the replaced product to Symbol within 3 days of receipt of the replacement product. The process for return and customer's charges will be in accordance with Symbol's Exchange Policy in effect at the time of the exchange.

Customer accepts full responsibility for its software and data including the appropriate backup thereof.

Repair or replacement of a product during warranty will not extend the original warranty term.

Symbol's Customer Service organization offers an array of service plans, such as on-site, depot, or phone support, that can be implemented to meet customer's special operational requirements and are available at a substantial discount during warranty period.

General

Except for the warranties stated above, Symbol disclaims all warranties, express or implied, on products furnished hereunder, including without limitation implied warranties of merchantability and fitness for a particular purpose. The stated express warranties are in lieu of all obligations or liabilities on part of Symbol for damages, including without limitation, special, indirect, or consequential damages arising out of or in connection with the use or performance of the product.

Seller's liability for damages to buyer or others resulting from the use of any product, shall in no way exceed the purchase price of said product, except in instances of injury to persons or property.

Some states (or jurisdictions) do not allow the exclusion or limitation of incidental or consequential damages, so the proceeding exclusion or limitation may not apply to you.

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Symbol Technologies, Inc. One Symbol Plaza Holtsville, NY 11742-1300