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Patents

This product is covered by one or more of the following U.S. and foreign Patents: U.S. Patent No. 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; 5,216,232; 5,229,591; 5,230,088; 5,235,167; 5,243,655; 5,247,162; 5,250,791; 5,250,792; 5,260,553; 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; 5,557,093; 5,578,810; 5,581,070; 5,589,679; 5,589,680; 5,608,202; 5,612,531; 5,619,028; 5,627,359; 5,637,852; 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; 5,742,043; 5,745,794; 5,754,587; 5,762,516; 5,763,863; 5,767,500; 5,789,728; 5,789,731; 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; 5,861,615; 5,874,720; 5,875,415; 5,900,617; 5,902,989; 5,907,146; 5,912,450; 5,914,478; 5,917,173; 5,920,059; 5,923,025; 5,929,420; 5,945,658; 5,945,659; 5,946,194; 5,959,285; 6,002,918; 6,021,947; 6,047,892; 6,050,491; 6,053,413; 6,056,200; 6,065,678; 6,067,297; 6,068,190; 6,082,621; 6,084,528; 6,088,482; 6,092,725; 6,101,483; 6,102,293; 6,104,620; 6,114,712; 6,115,678; 6,119,944; 6,123,265; 6,131,814; 6,138,180; 6,142,379; D305,885; D341,584; D344,501; D359,483; D362,453; D363,700; D363,918; D370,478; D383,124; D391,250; D405,077; D406,581; D414,171; D414,172, D418,500; D419,548; D423,468; D424,035 D431,158; D430,159; D431,562. 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. 09/00

Purpose

This Quick Reference Guide is designed to assist you during routine LS 6000 operation. Detailed information about setting up and programming your scanner can be found in the *LS 6000 Series Product Reference Guide* (Symbol p/n 70-33186-XX).

Product Description

The LS 6000 Series scanner combines the benefits of omnidirectional scanning with a light-weight, hand-held design. The scanner converts easily to hands-free use with an optional presentation stand.

The following models are available:

- LS6004i-I000 (RS-232C) contains on-board discrete RS-232C communications for connecting to RS-232C asynchronous terminals and host systems. It also accommodates Synapse™ Smart Cables which allow you to connect to a wide variety of host systems.
- LS6004i-I090 (RS-232C with EAS) also supports Checkpoint VII Electronic Article Surveillance (EAS).
- LS6005i-I000 (IBM 468X/469X) is fully compatible with the entire line of IBM 468X/469X terminals. It also accommodates Synapse Smart Cables.
- LS6005i-I090 (IBM 468X/469X with EAS) provides additional signal lines for EAS deactivation (Checkpoint VII).
- LS6007i-I000 (USB) supports USB connectivity. It also accommodates Synapse Smart Cables.
- LS6007i-I090 (USB with EAS) provides additional signal lines for EAS deactivation (Checkpoint VII).

Using Your Scanner

If the scanner is powered by the host, ensure the host is connected to a power outlet. When power is applied to the host, the scanner powers up.

If the scanner is powered by an external power supply, ensure the power supply is connected to a power outlet. When the power supply is connected to the scanner, the scanner powers up.

The green LED on top of the scanner illuminates and 3 power-up beeps sound, indicating the scanner is operational.

The LS 6000's LED and beeper indicate scanning activity. These indications are described later in this guide.

If the scanner is inactive for more than a pre-programmed length of time, it enters a rest mode to conserve energy. When you need to scan again, just bring a bar code to the scanner window to "wake up" the scanner.

If you have any problems using the scanner, contact your technical support person for assistance.

Installing the Scanner Cable

To connect the cable to the LS 6000 scanner:

- 1. Switch off all devices connected to the LS 6000 cable.
- 2. Plug the modular connector on the cable into the receptacle in the bottom of the LS 6000 handle. Listen for a click.



Gently tug the cable to ensure the connector is properly secured.

Switching Cables

Different cables are required for different hosts. To change the scanner cable:

- Unplug the installed cable's modular connector by depressing the connector clip with a screwdriver or paper clip (through the access hole).
- 2. Carefully slide out the cable.
- 3. Follow the steps for *Installing the Scanner Cable* to connect a new cable.

Electronic Article Surveillance (EAS) (Optional)

Because there are several Checkpoint EAS systems available, your local Checkpoint representative must install the EAS cable. To contact your local Checkpoint representative inside the U.S. call 800-257-5540, ext. 4300. Outside the U.S., call (609) 848-1800, ext. 4300.

If you are using an EAS cable, refer to the Universal Cable EAS Installation Sheet (Symbol p/n 70-32824-XX).

Scanning In Hand-Held Mode

The LS 6000 may be placed on the counter-top or in the Desk Mount Stand (optional). The scanner operates in one of the following three scanning modes, programmable by the bar codes that begin on page 12:

Combination Mode

The omnidirectional scan pattern is always on and ready to decode. When the trigger is pulled, the scanner emits a single scan line to decode, then reverts back to omnidirectional constant-on. This mode is only for hand-held use.

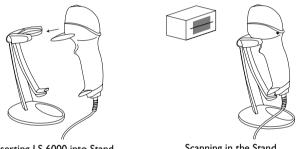
- Triggered Omnidirectional Mode (Default)
 An omnidirectional scan pattern activates upon trigger pull.
- Triggered Single Scan Line Mode
 A single scan line appears upon trigger pull.

To scan in hand-held mode, pick up the scanner and hold it within the scanning range for the bar code. If the scanner is in the constant-on mode, it decodes the bar code automatically. If the scanner is in trigger mode, pull the trigger to activate the scan pattern and decode the bar code.



Scanning in Hands-Free (Presentation) Mode

To place the LS 6000 scanner in the optional hands-free Presentation Stand, slide the rubber "chin" support on the scanner into the notch in the stand until the scanner is firmly seated. The scanner emits a constant-on omnidirectional pattern. To scan a bar code, bring the bar code anywhere within 10 in. (25.4 cm) of the scanner window for a successful decode. Bar codes can either be directed in toward the nose of the scanner ("presentation" scanning) or from side to side in a sweeping motion ("swipe" scanning).



Inserting LS 6000 into Stand

Scanning in the Stand

When the LS 6000 is removed from the Presentation Stand, the scanner operates in the programmed trigger mode (see page 4 for trigger mode descriptions).

Selecting Beeper Volume

The LS 6000 emits a short beep when it successfully reads a bar code. There are three volume settings for this decode beep. To change the setting, hold down the trigger for five seconds. The scanner cycles through three settings, emitting a 2-beep tone at each setting. To select a particular setting, release the trigger after the desired 2-beep tone.

To adjust the frequency (tone) of the scanner's beeper, see Beeper Frequency on page 13.

LED Indications

The green LED located on top of the scanner indicates the operational status of the scanner. These LED indications are defined below:

LED	Indication		
Off	No power is applied to the scanner.		
On steady	The scanner is on and "ready to scan," or a flash download cable is attached.		
Momentary flash off	A bar code has been successfully decoded.		
Fast double-blinking	The scanner is in a programming sequence.		
Fast sequential flashing	A scanner malfunction has occurred.		
Slow steady blinking	The scanner is in flash program mode.		

Beeper Indications

The beeper indicates the scanner's status as follows:

Beeper	Indication
3 Beeps	Power up (or reset) has occurred.
1 Beep	A bar code has been successfully decoded.
4 Beeps	A transmission error has occurred. Bar code data was not received by the host.
Fast warble	A programming parameter was entered successfully.

Programming Bar Codes

Following are some frequently used programming bar codes.

Set Defaults

Scanning this bar code sets all parameters to their default values.



SET DEFAULTS

Host Type

If you're using a Synapse cable, Synapse autodetects the type of host you're using, so no bar codes need to be scanned. If not, select an IBM 46XX, RS-232 or USB host from the following bar code menus.

IBM 46XX Host Types (LS 6005)

To select one of the following as a POS interface, scan the appropriate bar code below.

Note: To properly communicate with 468X/9X terminals, the driver corresponding to the port being used must be loaded and enabled when you are configuring your terminal system. See your terminal's operating manual for details.



PORT 5B



PORT 9B



PORT 17, 9E

RS-232C Host Types (LS 6004)

To select an RS-232C host interface, scan one of the bar codes that begin on the next page. Refer to the table below for the defaults set for the selected host type. These defaults take precedence over the standard defaults.

Parameter	Standard	ICL	FUJITSU	NIXDORF Mode A/ Mode B
Transmit Code ID	No	Yes	Yes	Yes
Data Transmission Format	Data as is	Data/Suffix	Data/Suffix	Data/Suffix
Suffix	CR/LF (7013)	CR (1013)	CR (1013)	CR (1013)
Baud Rate	9600	9600	9600	9600
Parity	Even	Even	None	Odd
Hardware Handshaking	None	RTS/CTS Option 3	None	RTS/CTS Option 3
Software Handshaking	None	None	None	None
Serial Response Time- out	2 Sec.	9.9 Sec.	2 Sec.	9.9 Sec.
Stop Bit Select	One	One	One	One
ASCII Format	8-Bit	8-Bit	8-Bit	8-Bit
Beep On <bel></bel>	Disabled	Disabled	Disabled	Disabled
RTS Line State	Low	High	Low	*Low = No data to send

^{*}In the Nixdorf Mode B, if CTS is Low, scanning is disabled. When CTS is High, the user can scan bar codes.

LS 6000 Series

RS-232C Host Types (LS 6004) (Cont'd)



STANDARD RS-232C



ICL RS-232C



NIXDORF RS-232C MODE A



NIXDORF RS-232C MODE B



FUJITSU RS-232C

USB Host Types (LS 6007)



Default USB Type



IBM Hand-Held USB (Default)



IBM Table Top USB



HID Keyboard Emulation



Symbol Native USB



Symbol COM Port Emulation

LS 6000 Series

Scanning Mode

Scan a bar code below to select one of the following trigger modes:

- Triggered Omnidirectional Mode
- Triggered Single Scan Line Mode
- Combination Mode (Hand-Held only)



COMBINATION MODE (CONSTANT-ON OMNIDIRECTIONAL/ TRIGGERED SINGLE SCAN LINE) (DEFAULT)



TRIGGERED SINGLE SCAN LINE MODE



TRIGGERED OMNIDIRECTIONAL MODE

Quick Reference

Beeper Frequency

To select a decode beep frequency (tone), scan the appropriate bar code.



LOW FREQUENCY



MEDIUM FREQUENCY



HIGH FREQUENCY

Prefix/Suffix Values

A prefix/suffix may be appended to scan data for use in data editing. These values are set by scanning a four-digit number (i.e., four bar codes) that corresponds to key codes for various terminals. See the *LS 6000 Product Reference Guide* for conversion information. Numeric bar codes begin on page 15. If you make an error or wish to change your selection, scan **CANCEL** on page 17.



SCAN PREFIX



SCAN SUFFIX

Numeric Bar Codes

After scanning the **SCAN PREFIX** or **SCAN SUFFIX** bar code, scan four numeric bar codes to set the value.



ι



1



2



3

LS 6000 Series

Numeric Bar Codes (Cont'd)









Numeric Bar Codes (Cont'd)





Cancel

If you make an error or wish to change your selection, scan the bar code below.



CANCEL

LS 6000 Series

Scan Data Transmission Format

To change the Scan Data Transmission Format, scan the **SCAN OPTIONS** bar code below. Then select one of four options. When you have made your selection, scan the **ENTER** bar code on the next page. If you make a mistake, scan the **DATA FORMAT CANCEL** bar code on the next page.



SCAN OPTIONS



DATA AS IS



<DATA> <SUFFIX>

Quick Reference

Scan Data Transmission Format (Cont'd)



<PREFIX> <DATA>



<PREFIX> <DATA> <SUFFIX>



ENTER



DATA FORMAT CANCEL

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 meeting with 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.

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.

This device complies with FCC Part 15. 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 A digital apparatus complies with Industry Canada Standard ICES-003. Cet appareil numérique de la classe B est conform à la norme NMB-003 d'Industrie 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 FNs are included:

Applicable Directives

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

Applicable Standards

- EN 55022:1998, Limits and Methods of Measurement of Radio Disturbance Characteristics of Information Technology Equipment
- EN 55024:1998; Information Technology equipment Immunity characteristics -Limits and methods of measurement
- IEC 1000-4-2:1995; Electromagnetic compatibility (EMC); Part 4:Testing and measurement techniques; Section 4.2:Electrostatic discharge immunity test
- IEC 1000-4-3:1997; Electromagnetic Compatibility (EMC); Part 4:Testing and measurement techniques; Section 3. Radiated, radio frequency, electromagnetic field immunity test.
- IEC 1000-4-4:1995; Electromagnetic compatibility (EMC); Part 4: Testing and measurement techniques; Section 4:Testing electrical fast transient,/Burst immunity.
- IEC1000-4-5:1995; Electromagnetic compatibility (EMC), Part 4: Testing and measurement techniques; Section 5: Surge Immunity
- IEC 1000-4-6:1996; Electromagnetic compatibility (EMC), Part 4:Testing and measurement techniques; Section 6: Immunity to conducted disturbances, induced by radio frequency fields.
- IEC 1000-4-11:1994; Electromagnetic compatibility (EMC), Part 4: Testing and measurement techniques; Section 11: Voltage Dips, Short Interruptions, and Voltage Variations.
- EN 60 950 + A1+A2+A3+A4+A11 Safety of Information Technology Equipment Including Electrical Business Equipment
- EN 60 825-1 (EN 60 825) Safety of Devices Containing Lasers

Laser Devices

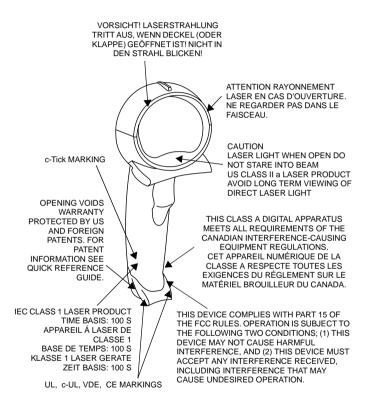
Symbol products using lasers comply with US 21CFR1040.10, and IEC825-1:1993, EN60825-1:1994+A11:1996. The laser classification is marked on one of the labels on the product.

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



е S

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

KLASSE-2 LASERPRODUKT

DANISH KLASSE 1

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

DUTCH

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

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 KLASSE 2

LASERPRODUKT DER KLASSE 1 LASERSTRAHLEN

NICHT DIREKT IN DEN LASERSTRAHL SCHAUEN

LASERPRODUKT DER KLASSE 2

HEBREW

מוצר לייזר רמה 1

אור לייזר איו להביט אל תוד הזרם מוצר לייזר רמה 2 רמה 1

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

KLASS 2

CLASE 1 PRODUCTO LASER DE LA CLASE 1 CLASE 2 LUZIASER

NO MIRE FLIAMENTE EL HAZ

PRODUCTO LASER DE LA CLASE 2

SWEDISH KLASS 1

LASERPRODUKT KLASS 1 LASERLJUS STIRRA INTE MOT STRÅLEN

LASERPRODUKT KLASS 2

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, (iii) 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 plant 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.

Service Information

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	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

Contact local distributor or call +44 208 945 7360



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