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L S   3 0 7 0   S c a n n e r

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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.4,360,798; 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; 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;D305,885; D341,584; D344,501; D359,483; D362,453; D363,700; D363,918; D370,478; D383,124; D391,250; D405,077; D406,581.
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. 7/99

Scanner Varieties

The LS 3070 scanners include a wide variety of scanning types, optimized for particular applications. The varieties are the following:

- Standard - for most Class II scanning applications, in which symbol density (5 to 55 mil) and range (0 - 35 in.) fall within relatively normal ranges.
- Long Range (LR) - for Class II applications with short range reading on medium density symbols and long range reading on low density symbols.
- Advanced Long Range (ALR) - for long range reading on medium and low-density symbols, optimized by the increased power of the Class IIIA laser.
- Extra Long Range (XLR) - for scanning ranges of up to 180 inches (457 cm) on 55 mil symbols, also using a Class IIIA laser.
- High Visibility (HV) - for scanning ranges up to 33 inches (86 cm) on 55 mil symbols, and ambient sunlight up to 10,000 ft. candles, using a Class IIIA laser.

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Setup

1. Identify System Components

Power Supply

LS 3070 Scanner

RL 470 Base/Interface/Charger Unit
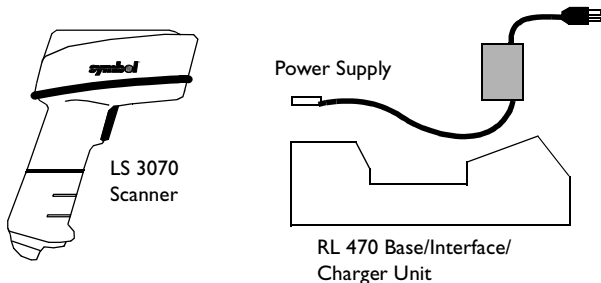
2. Connect Cable to the Base/Charger Unit

This procedure depends on which host terminal is used. For complete details per terminal type, refer to the RL 470 Base Station Interface portion of the LS 3070 Product Reference Guide.

3. Attach Power Supply

Connect the power supply to the power input port on the rear panel of the LS 3070 base/interface/charger.

Power Supply Connection Port

Host
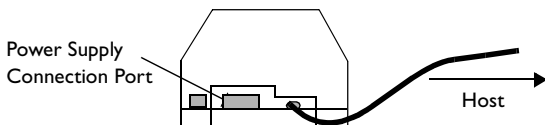
Connect the power supply to a receptacle supplying AC power of the proper voltage level.

4. Insert Scanner Into Base/Charger and Charge the Battery

Before its first use, the LS 3070 battery must be charged.

After the power supply has been connected, insert the scanner into the base/charger cradle as follows.

     a. Place the nose of the scanner into the large rectangular receptacle of the base/charger.

     b. Then place the handle of the scanner into the opening of the smaller latched receptacle.

     c. Press down firmly until the bottom of the handle seats snugly into the receptacle and engages the latch.

Caution: Use of excessive force in placing the scanner into the base can damage the charging contacts on the scanner or base. Such damage can interfere with or prevent charging of the scanner's batteries by the base.

Check the charge-status indicator LED; it stays steadily on while the battery is charging and blinks rapidly when the battery is fully charged. Full charge takes less than two hours.

To remove the scanner from the base/charger, grasp the handle of the scanner and lift the bottom of the handle out of the latched receptacle, thereby freeing the scanner from the base.

Caution: Trying to remove the scanner nose first, instead of handle first, can break the latch in the base receptacle.

---
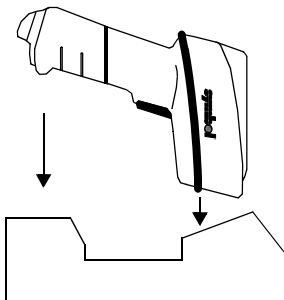
5. Set Address of the Base/Charger

The base/charger must be assigned an address, with a value between 01 and 7E.

Caution: Each base station must have a unique address.

The unique address of the base determines the initial frequency on which the base and the scanner communicate. To minimize possible interference between systems, bases which are close to each other should be assigned sequential addresses.

Set the address through setting the two rotary dials, located by opening a panel on the base/charger's underside. Turn the base/charger upside down, open the panel, and notice two rotary dials.

Insert Screwdriver in Slot

High Order
10 Position

Low Order
16 Position
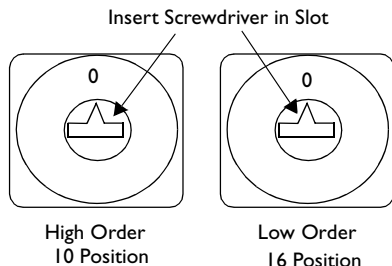
Rotary Switches

The first is a 10-position (0 to 9, high order address digit) and the second a 16-position (0 to F, low order address digit). Digits are printed sequentially around each circle. Note that positions 8 and 9 are illegal on the 10-position switch.

Set the desired address with a small screwdriver; possible addresses are listed on the next page. Note that too large a screwdriver can damage the switches.

When the address is set, close the panel, turn the base/charger rightside up again.

Possible Base/Charger Addresses															
	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
10	11	12	13	14	15	16	17	18	19	1A	1B	1C	1D	1E	1F
20	21	22	23	24	25	26	27	28	29	2A	2B	2C	2D	2E	2F
30	31	32	33	34	35	36	37	38	39	3A	3B	3C	3D	3E	3F
40	41	42	43	44	45	46	47	48	49	4A	4B	4C	4D	4E	4F
50	51	52	53	54	55	56	57	58	59	5A	5B	5C	5D	5E	5F
60	61	62	63	64	65	66	67	68	69	6A	6B	6C	6D	6E	6F
70	71	72	73	74	75	76	77	78	79	7A	7B	7C	7D	7E	

6. Pair Scanner with Base/Charger

The wireless "connection" between the scanner and base/charger is the low power radio transmission through RF transceivers in the both the scanner and base/charger. The actual communication consists of bidirectional message packets. However, the scanner and base/charger must be paired for this communication to work between the two devices.

To pair the scanner with the base/charger:

• Scan the **PAIRING** bar code on the next page or on the RL 470 base.

PAIRING

• Then insert the scanner into the base/charger's cradle. You have 15 seconds to do this, or there will be error beeps (4 beeps = unsuccessful pairing or base not powered). Note that you cannot scan data until this linking is complete.
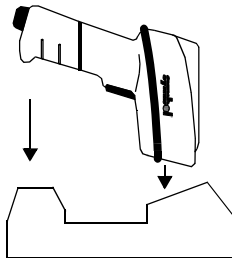
• At that time, through the scanner's contact shoe, there is an exchange of information (addressing, RF channels, etc.) between the scanner and the base/charger's cradle. This occurs in less than a second.

- After that exchange, the scanner and base/charger are paired. Successful pairing is indicated by as warble beep; failure, or unsuccessful link, is indicated by a **Lo Lo Lo Lo** beep.

7. Set Host Type

Each Interface Cable Assembly defaults to a given host. Below is a list of the assemblies and their corresponding default hosts. If you wish to change the type of host, find and scan the proper bar code on the following pages.

Cable Assy.	Default
IK-0100, -0101	IBM 4683/93 Port 5B; 4683/84 Port 17
IK-1005, -1006	ICL 9505, 9507, 9518; 9520 OCIA
IK-0200	IBM 3683, 3684 Keybd Wedge
IK-0300	IBM 3653 Kybd Wedge
IK-0400	IBM PC/AT, Telex Memorex Kybd Wedges
IK-0401	IBM PS/2 - 30, 50, 55SX, 60, 70, 80
IK-0402, -0403	NCR 7052 Wedge; Fujitsu 9000 Wedge
IK-0406, -0409	IBM 3161/319X; IBM 3151, 347X Wedges
IK-0413	Wyse 50 Wedge
IK-0500	NCR 2152 Tel Kybd Wedge
IK-0600	NCR 2151 Tel Kybd Wedge
IK-0700	NCR 280 Kybd Wedge
IK-0800 — 0803	Standard RS-232C
IK-0900	Fujitsu 9000 OCR
IK-0901	Fujitsu 7770, 7880, 7990, 8770 OCR
IK-0902	IBM 3653, 3683/3684 OCR
IK-1001, -1002	NCR 2152, 2257, 2950; 215X, 7050 OCIA
IK-1003, -1004	Nixdorf 8812 OCIA; NCR 2126-1120 OCIA
IK-1100	IBM 4683/93 Port 9B
IK-1200, -1201	IBM 3178; IBM 3278 Wedges
IK-1300	Wyse 60, 85, 150, 160, 185 Wedges
IK-1301	HP 7000/XX, 239X Wedges
IK-1400	DEC VT 2XX/3XX/4XX Wedges
IK-1500, -1501	Dual RS-232C

In some cases, two bar codes may correspond to one interface type;
this happens when different software revisions exist for the same host type.
If there are two bar codes for your host type, try the first bar code; if that
does not work, then try the second one.

Single Port RS-232

Dual Port RS-232

Four Options for Dual Port RS-232 Follow
For IK-1500, Port 1 = Male, TxD on Pin 2; Port 2 = Female, TxD on Pin 3.
For IK-1501, Port 1 = Male, TxD on Pin 3; Port 2 = Female, TxD on Pin 2.

Dual Port RS-232: Transmit and Receive from Port 1

Dual Port RS-232: Transmit to Ports 1 and 2 — Receive from Port 1

Dual Port RS-232: Transmit and Receive from Port 2

Dual Port RS-232: Transmit to Ports 1 and 2 — Receive from Port 2

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IBM PC/AT, IBM PS2-50/55SX/60/70/80 and Clones

IBM PC/XT And Clones

IBM PS2-30 and Clones

IBM 3653 Keyboard Wedge

IBM 3683/3684 Calc 35 Keyboard Wedge

IBM 3683/3684 Calc 48 Keyboard Wedge

IBM 3683/3684 Calc 116 Keyboard Wedge

IBM 3683/3684 Tel 35 Keyboard Wedge

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IBM 3683/3684 Tel 48 Keyboard Wedge

IBM 3683/3684 Tel 116 Keyboard Wedge

NCR 2151 (Tel) Keyboard Wedge

NCR 2151 (Calc) Keyboard Wedge

NCR 2152 (Tel) Keyboard Wedge

NCR 2152 (Calc) Keyboard Wedge

NCR 280 Keyboard Wedge

NCR 255/2152/2154/2155, NCR 2126-1120
NCR 2157/2257/7050, NCR "S" 7052 OCIA

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NCR 7052 Keyboard Wedge

NCR "F" 7052 OCIA

NCR "S" 2950 OCIA

Nixdorf 8812 OCIA

14

ICL 9505/9507/9518/9520 OCIA

Spectra Physics OCIA

IBM 4683/4684 Port 5B 4693

IBM 4683/4684 Port 9B 4693

QRG

IBM 4683/4684 Port 17

IBM 3653/3683/3684 OCR

Fujitsu 7770/7880/7990/ 8770/9000 OCR

HP 239X

16

HP 700-9X

DEC VT 2XX/3XX/4XX

DEC 420 (Later Software Revision)

IBM 3178

IBM 3278

IBM 319X/347X/348X Telex Memorex 122

IBM 3151/316X

IBM 3179/3180

IBM 3180 (Later Software Revision)

Telex Memorex 88

Wyse 50 (ASCII Keybd)

Wyse 60/30/160 (ASCII Keybd)

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Wyse 60/160 (PC Keybd)

Wyse 60/150 (ANSI 101 Keybd)

**Wyse 85/150+/185/160 (ANSI 105 Keybd)**

HP 2392 (Later Software Revision)

8. Install a Magstripe Reader (Optional)

If desired, install a magstripe reader. Do this either before or after pairing.

Remove the blank plug in the magstripe connection port on the base/charger, and then plug the magstripe reader's cable into this port. The blank plug protects the base/charger from accidental damage due to static electrical discharge into the magstripe connection port. Do not remove the plug unless installing a magstripe reader, and replace the plug into the port whenever the magstripe reader is removed.

Magstripe
Connection Port
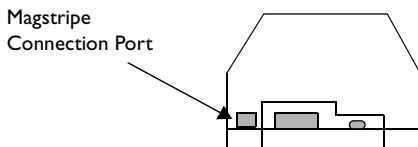
9. Program Default Parameters

Scanning the **SET DEFAULTS** bar code returns all parameters to the values listed in the **Default Table**, which appears at the end of this document.

SET DEFAULTS

Other customized programming must be performed through bar codes available in the *LS 3070 Product Reference Guide* or *Advanced Programmer's Guide*.

With this set, you are ready to scan bar codes.

10. Set Transmission Frequency (Optional)

The scanner and base can communicate on a number of different channel frequencies, which varies by country. In most countries, there are 80 available channels (numbered 2 through 81); in France, there are only 9 channels (numbered 46 through 54).

The initial transmission frequency is determined by the base's unique address, so neighboring LS 3070 systems operate on different channels without interfering with each other. Occassionally, there may be noticeable interference on a channel from some other source of radio transmissions. The system has been programmed to change the channel automatically if it detects excessive interference, but the channel may also be changed manually if there are communications problems.

To set the transmission frequency, scan the **SELECT CHANNEL NUMBER** bar code appropriate for your country. Then scan two numeric bar codes to set the two-digit channel number within the allowable range (46 through 54 in France, 02 through 81 elsewhere).

Set Transmission Frequency
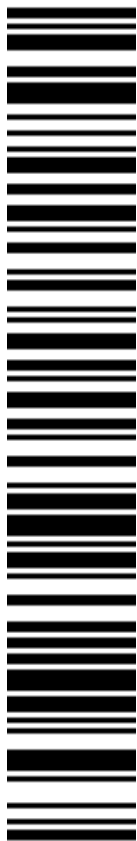
Scan this bar code for all countries except France.

SELECT CHANNEL NUMBER (02-81)

Scan this bar code for France only.

SELECT CHANNEL NUMBER (46-54)

0

1

2

3

QRG

4

5

6

7

8

9

CANCEL

Scanning

1. Ready

Before starting to scan bar codes for data collection, make sure:

- The base station is connected to the host device.
- The battery has been charged.
- The scanner is paired with the base/charger.

2. Test

Aim the scanner toward a bar code and press the trigger. When you press the trigger, the scanning beam is energized. See the Decode Zones in the Product Reference Guide.

3. Scan

Make sure the symbol you want to scan is within the proper scanning range. Then aim and press the trigger.

Aim and press the trigger.

- The scan beam and red SCAN LED will light for about 3 seconds, or until a successful decode.

The scanner has read the symbol when:

- You hear a beep.
- The green DECODE LED lights.

The LED stays green for up to one second if the trigger is down or disappears if you release the trigger. The scanner powers down after a successful decode.

If the scanning attempt ends in 4 error beeps, any of these may be true:

- Scanner and base are out of range
- Scanner and base/charger are not paired
- Base/charger is not powered.

Hold at an Angle

Do not hold the scanner directly over the bar code. In this position, light can bounce back into the scanner's exit window and prevent a successful decode.

Scan the Entire Symbol

- Your scan beam must cross every bar and space on the symbol.
- The larger the symbol, the farther away you should hold the scanner.
- Hold the scanner closer for symbols with bars that are close together.
- A short high-tone beep indicates a good decode.

WRONG

012345

RIGHT

012345

Using a Long Range or High Visibility Scanner?

Press the trigger to the first detent and center the "collapsed" beam on the target bar code. The collapsed beam helps to establish the correct scanning position. Press the trigger to the second detent, and a scan beam crosses all the bars and spaces on the bar code.

First Trigger Position

WRONG

RIGHT

Second Trigger Position

WRONG

RIGHT

RL 470 Base / Charger Unit

The RL 470 base/charger unit has two main functions. First, it is the base station interface that manages the flow of information from the scanner to the host device. Second, it is a charging stand which charges the scanner's battery module (located in the handle) and holds the scanner securely when it is not in use. An LED indicates the status of battery charging.
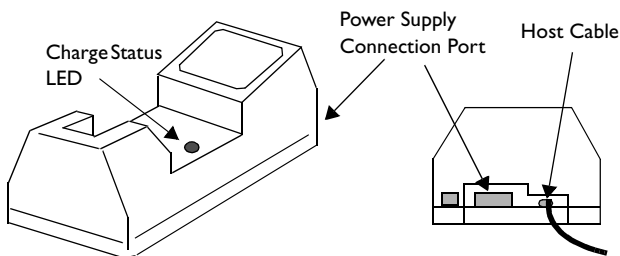
The base/charger unit communicates via radio transmission with the scanner to receive bar code data from the scanner, confirm receipt of data back to the scanner, and exchange configuration information. The base/charger unit also formats the scanned bar code data as required and then transmits it to the host system through the attached cable.

Recharging the Battery

When necessary, recharge the batteries. To do so with the RL 470 base/charger:

- Connect the power supply to the power input port on the front panel of the RL 470 base/charger, as illustrated below.

- Connect the power supply to a receptacle supplying AC power of the proper voltage level.

- Then place the scanner into the base/charger cradle, so that the nose of the scanner and tip of the handle fit snugly into the receptacles. Check the charge status indicator (blinking rapidly = fully charged) for full charge, which occurs in less than two hours. However, the scanner can be used on less than full charge.

Power Supply Connection Port

32
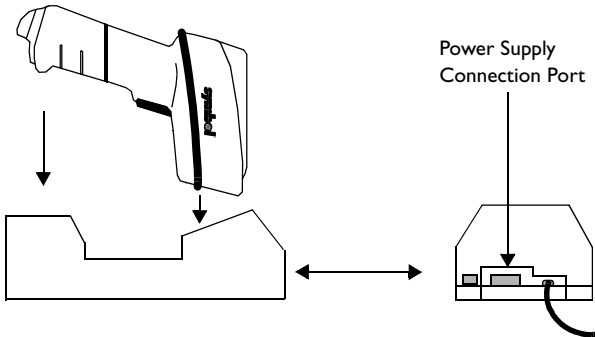
Charge Status LED Indications

On the base/charger, there is a red LED indicator which uses
flashing patterns to indicate the current charger status. The red
Charge Status LED indicates the following conditions:

- **RED LED OFF —** The scanner is not properly inserted or the
  battery is not functioning properly.
- **RED LED blinking slowly** (1/8 sec. ON, 3/8 sec. OFF) — Bat-
  tery charge is pending. This can occur if the batttery tempera-
  ture is too high or low or if the battery is deeply discharged.
  After several minutes, normal charging should begin.
- **RED LED ON —** The battery is actively charging. Charging
  will complete in less than 2 hours.
- **RED LED blinking rapidly** (1/8 sec. ON, 1/8 sec. OFF) —
  Battery charging is complete.

Changing Battery Packs

You can charge battery packs on the Universal Four Slot Battery Charger so that a charged battery pack is available when needed. In this case, simply remove the depleted battery pack and replace it with a freshly charged one. User instructions are in the *Universal Four-Slot Battery Charger User's Guide*.

1. Remove Lower Handle from Scanner

Using a probe, press in the release button on the handle, as indicated below. With button pressed in below the outer housing's thickness, slide the battery pack out from the handle.

Release Button

Ni-Cd

Nickel-cadmium rechargeable battery. must be recycled or disposed of properly.
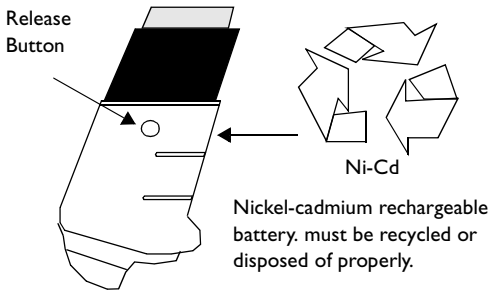
2. Insert Charged Battery Pack in Handle

With release button down, slide charged battery pack up into handle until it locks into place and the release button pops up into place as well.

What If...

Nothing happens when you follow the operating instructions

You Should

- Check that the correct power supply is attached to the base/charger.
- Check for correct host interface cable or loose cable connections at the base/charger and host device.
- Make sure the device is programmed to read the type of bar code you want to scan.
- Check the scanner's battery pack.
- Check the symbol to make sure it is not defaced.
- Try scanning similar symbols of the same code type.
- Check that the gas tank is not exhausted.*
- Make sure the scanner and base/charger have been successfully paired.
- Be sure you're within the proper scanning and transmission range (30 to 50 ft., or 9 - 15 meters).

You get frequent communication errors (6 beeps after decode)

- Check that you are within transmit range.
- Check that the scanner is successfully paired with the base/charger.

You get frequent communication errors (6 beeps after decode):

- Check that the base/charger is powered up and that its cable connections are secure.

    Note: If after performing these checks the symbol still does not scan, contact your distributor or call the Symbol Support Center.

    * The gas tank limits the amount of time the laser remains on within a given period.

Maintenance

Cleaning the exit window is the only maintenance required. A dirty window may affect scanning accuracy.

- Do not allow any abrasive material to touch the window.
- Remove any dirt particles with a damp cloth.
- Wipe the window using a tissue moistened with ammonia/ water.
- Do not spray water or other cleaning liquids directly into the window.

Default Table

Parameter	Default
Host Interface	See *Set Host Type*
Code Types	All
Code Lengths	
Code 39	1 to 55
Code 128	3 to 55
Codabar	2 to 55
I 2 of 5	14
D 2 of 5	14
MSI Plessey	1 to 55
Decode Options	
Transmit UPC-A Check Digit	Enabled
Transmit UPC-E Check Digit	Enabled
Convert UPC-E to UPC-A	Disabled
EAN Zero Extend	Disabled
Transmit No Decode Message	Disabled
Decode UPC/EAN Supplemental	Disabled
ITF-14/EAN-13 Conversion	Enabled
Transmit Code 39 Check Digit	Disabled
MSI Plessey Check Digit	One
Buffer Code 39	Disabled
Beeper Volume	High
Beep After Good Decode	Enabled
*Prefix/Suffix values only apply when the selected transmission format utilizes them. For example, if you select the default setting for Scan Data Transmission Format (Data As Is), any prefix or suffix selected will not be recognized, since the format requires neither.	

Parameter	Default
UPC/EAN Security Level	0
Decode Redundancy	0
UPC-A Preamble	System Character
UPC-E Preamble	System Character
Pause Duration	0
Prefix/Suffix Values*	7013 (<Enter> for wedges, <CR/LF> for serial devices)
Magstripe Data Transmission Format	Data as is
Scan Data Transmission Format	Data as is
Laser Control	
Laser On Time-out	3 Sec
RS-232C Options	
Baud Rate	9600
Parity	Odd
Check Parity	Enabled
Hardware Handshaking	None
Software Handshaking	None
Serial Response Time-out	2.0 Sec
Stop Bit Select	Two
ASCII Data Format	7 Bit
RTS Line State	Low
Intercharacter Delay	0
Transmit Code ID Character	Disabled

*Prefix/Suffix values only apply when the selected transmission format utilizes them. For example, if you select the default setting for Scan Data Transmission Format (Data As Is), any prefix or suffix selected will not be recognized, since the format requires neither.

Parameter	Default
Transmit AIM Code ID	Disabled
Ignore Unknown Characters	Enabled
OCIA Transmit Time-out	3 Sec
OCIA Clock Polarity	Falling
NCR 2152 Fast Transmit	Disabled
IBM 4683/4 Magstripe Communications	Enabled
International Keypad Emulation	Disabled
International Keypad Emulation Fast Xmit	Disabled
National Keyboard Type	U.S. English
Set Transmission Frequency (Channel)	50
Wait for Host Interface Response Time	00
*Prefix/Suffix values only apply when the selected transmission format utilizes them. For example, if you select the default setting for Scan Data Transmission Format (Data As Is), any prefix or suffix selected will not be recognized, since the format requires neither.	

Terminal Specific RS-232C Defaults

Two RS-232C hosts are set up with their own parameter default settings. Selecting the ICL or Nixdorf RS-232C terminal will set the defaults listed below. These defaults take precedence over standard defaults. So, if you've selected Nixdorf RS-232C, then select the standard defaults, the Nixdorf defaults will still take precedence.

Parameter	Standard	ICL	Nixdorf
Fixed Host Select	No Host	RS-232C	RS-232C
Transmit Code ID	No	Yes	Yes
Data Transmission Format	Data as is	Data/Suffix	Data/Suffix

Parameter	Standard	ICL	Nixdorf
Suffix	CR/LF (7013)	CR (1013)	CR (1013)
Baud Rate	9600	9600	9600
Parity	Even	Even	Odd
Check Parity	Enabled	Enabled	Enabled
Hardware Handshaking	None	None	None
Software Handshaking	None	None	None
Serial Response Time-out	2 Sec.	2 Sec.	2 Sec.
Stop Bit Select	Two	One	One
ASCII Format	7-Bit	8-Bit	8-Bit
Beep On <BEL>	Disabled	Disabled	Disabled
RTS Line State	Low	High	Low
RS-232C UPC-A Code ID	"A"	"A"	"A"
RS-232C UPC-E Code ID	"A"	"E0"	"C0"
RS-232C EAN-8 Code ID	"A"	"FF"	"B"
RS-232C EAN-13 Code ID	"A"	"F"	"A"
RS-232C Code 39 Code ID	"B"	"C"	"M"
RS-232C Codabar Code ID	"C"	"N"	"N"
RS-232C Code 128 Code ID	"D"	None	"K"
RS-232C I 2 of 5 Code ID	"F"	"I"	"I"
RS-232C MSI/Plessey Code ID	"J"	None	"O"

Test Symbols

Code 128

5012345248

EAN-8

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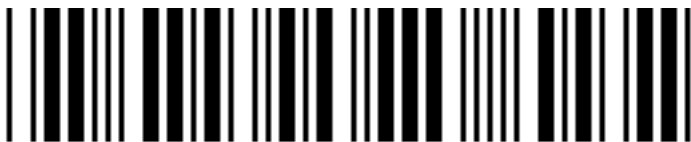**Code 39**

01234567

Test Symbols: Long Range Scanners

5012345248

Code 128

001234

Interleaved 2 Of 5

01234

Code 39

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 +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 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.

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 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.

This Class B 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

CE

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.
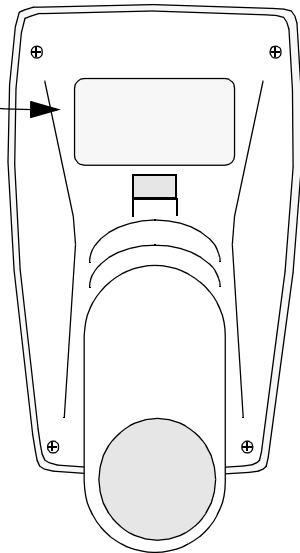
Scanner Labeling
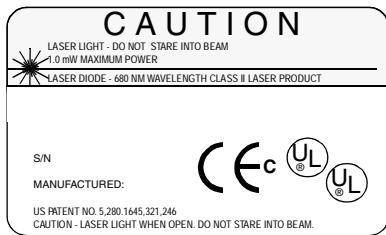
LS 3070 scanners use a low-power, visible laser. As with any bright light source, such as the sun, the user should avoid staring directly into the light beam. Momentary exposure to a CDRH Class II laser is not known to be harmful. Note the required safety label as it appears on the scanner.

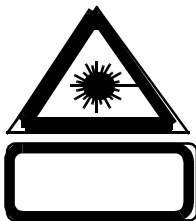**Caution**: Use of controls, adjustments, or performance of procedures other than those specified herein may result in hazardous laser light exposure.

The label shown reads:

CAUTION
LASER LIGHT - DO NOT STARE INTO BEAM
1.0 mW MAXIMUM POWER
LASER DIODE - 680 NM WAVELENGTH CLASS II LASER PRODUCT

S/N
MANUFACTURED:

US PATENT NO. 5,280,1645,321,246
CAUTION - LASER LIGHT WHEN OPEN. DO NOT STARE INTO BEAM.

Underside of LS 3070

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
             AL LASER DI CLASSE 2

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

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

PORTUGUESE
CLASSE 1PRODUTO LASER DA CLASSE 1

CLASSE 2LUZ 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

70-19993-02
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