

Chapter 1 User's Guide

Scanning Made Easy

The LS 2030MX/LS 3030MX is Symbol's new family of interface scanners designed specifically for the IBM 4683/84, 4693/94 series of terminals. The LS 2030MX suits most retail environments, while the LS 3030MX is ideal for more demanding settings. Unless there are specific differences in the two models, this guide will refer to them collectively as the "30MX".

The 30MX hand-held scanner is based on Symbol's unique "MX" advanced mylar™ technology scan engine. This state-of-the-art technology gives the scanner excellent reliability and consistent outstanding scanning performance. This scanner reads most code symbologies, densities, and colors, produced by a wide range of printing techniques.

Set Up

Unpacking

Remove the 30MX from its packing and inspect the scanner for evidence of physical damage. If the scanner was damaged in transit, call the *Symbol Support Center* at the telephone number on page 1-11.

KEEP THE PACKING . It is the approved shipping container and should be used if you ever need to return your equipment for servicing.

Connecting the Scanner to the IBM 4683/84/93/94

Plug the SDL modular connector at the end of the scanner's coil cord into the appropriate receiving port. Check that the connection is secure. Some parameters are programmed by the IBM terminal. Others, including receiving port are programmed through a series of bar code menus. See *Parameter Selections* on page 1-16 to 1-20 for more information.

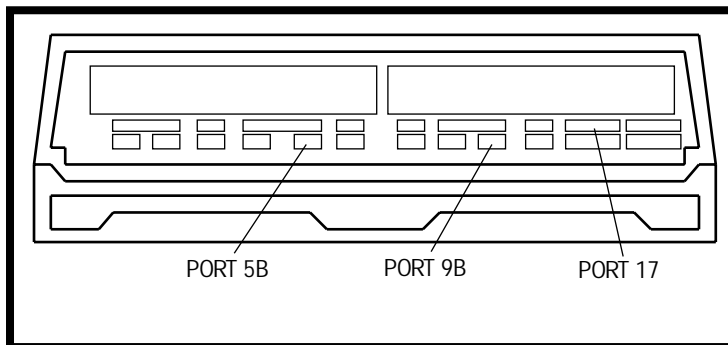


Figure 1-1. IBM 4683 Rear Panel with Cover Removed

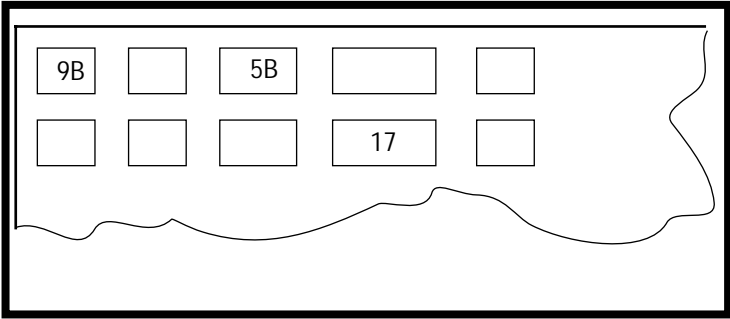


Figure 1-2. IBM 4683 Rear Panel with Cover Removed

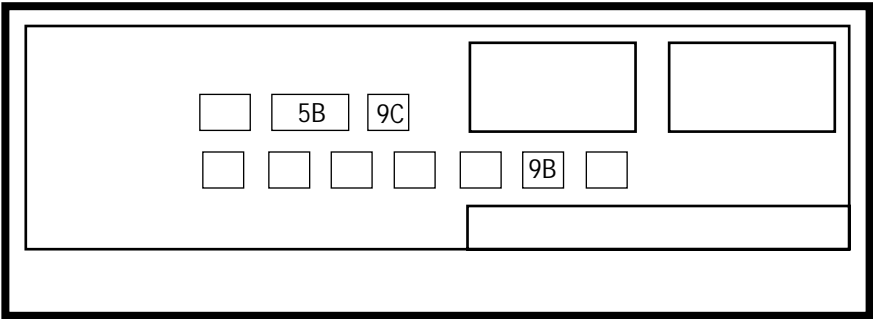


Figure 1-3. IBM 4693 Rear Panel with Cover Removed

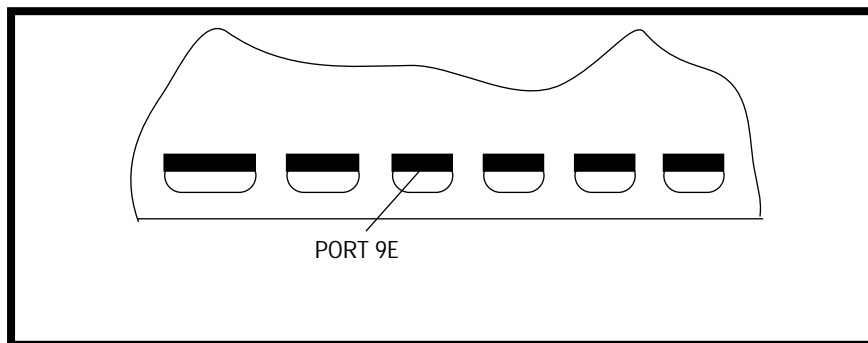


Figure 1-4. IBM 4694 Rear Panel with Cover Removed

Ready, Test, Scan

1. Ready

Make sure the scanner is connected to the terminal before you turn on the system.

2. Test

Aim the scanner away from you and press the trigger. When you press the trigger, the scanning beam is energized for approximately 3.0 seconds (default).

3. Scan

Make sure the symbol you want to scan is within the proper scanning range. (See *30MX Decode Zone* on page 1-8.)

Aim and press the trigger.

- The scan beam and red SCAN LED will light for about 3.0 seconds, or until a successful decode.

The scanner has read the symbol when:

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

Aiming

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.



What If...

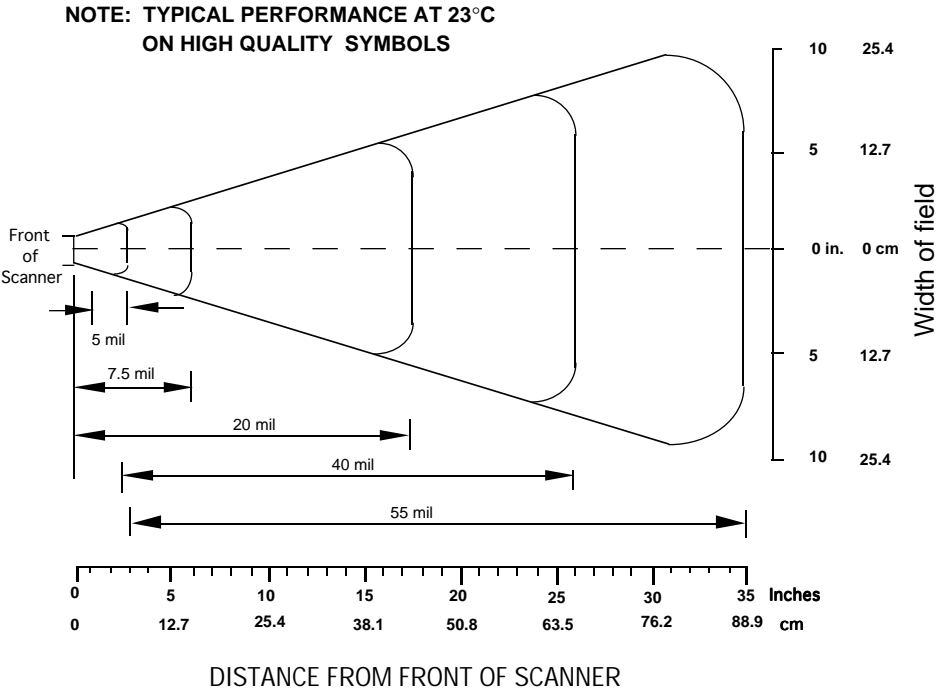
Nothing happens when you follow the operating instructions.

You Should

- Check that you are using the correct interface cable.
- Check for loose cable connections.
- Make sure the symbol is not defaced.
- Try scanning test symbols of the same code type.

Note: If after performing these checks, the symbol still does not scan, contact your distributor or call *Symbol Support Center*. See page 1-11 for telephone numbers.

30MX Decode Zone



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 damp cloth, and if necessary, a non-ammonia based detergent.
- Do not spray water or other cleaning liquids directly into the window.

Factory Service

Before calling, have the model number and several of your bar code symbols at hand.

Call the Support Center from a phone near the scanning equipment so that the service person can try to talk you through your problem. If the equipment is found to be working properly and the problem is symbol readability, Support will request samples of your bar codes for analysis at our plant.

If your problem cannot be solved over the phone, you may need to return your equipment for servicing. If that is necessary, you will be given specific directions.

Note: Symbol Technologies is not responsible for any damages incurred during shipment if the approved shipping container is not used. Shipping the units improperly can possibly void the warranty. If the original shipping container was not kept, contact Symbol to have another sent to you.

Symbol Support Center

In the U.S.A., for service information, warranty information or technical assistance call:

SYMBOL SUPPORT CENTER

1-800-653-5350

If you purchased your Symbol product from a Symbol Business Partner, contact that Business Partner for service.

Canada

Mississauga, Ontario
Canadian Headquarters
(905) 629-7226

Europe

Wokingham, England
European Headquarters
0734-771-222 (Inside UK)
+44-734-771222 (Outside UK)

Asia

Singapore
Symbol Technologies Asia, Inc.
337-6588 (Inside Singapore)
+65 337-658 (Outside Singapore)

Accessories

Required Accessories

30MX scanners are sent as a package with required accessories, listed in the *Product Ordering Guide*. Optional accessories are available at extra cost.

Optional Accessories

Optional accessories, listed in the *Product Ordering Guide*, include various stands and holders, which are supplied at extra cost. Additional units of required accessories may also be purchased at extra cost.

Beeper Definitions

The beeper in the unit lets you know if scanning was successful. The beep issued on good decode can be disabled via the IBM 4683 store controller program. This, however, is not recommended.

Table 1-1. Beeper Definitions

Beeper Sequence	Indication
1 Beep - short high tone	A symbol has been successfully scanned
3 Beeps - short high tone	Successful power-up or reset
4 Beeps - long low tone	Host communications error

Technical Specifications

Table 1-2. Technical Specifications

Item	Description	
Power Requirements	5VDC; 300 mA typical	
Decode Capability	A 30MX, when programmed (via the IBM 4683/4 store controller) can decode one or more of the following code types: UPC/EAN, Code 39, Interleaved 2 of 5, Code 128*, Codabar	
Beeper Operation	Programmed via IBM 4683/4: Enable, Disable	
Scan Repetition Rate	36 (\pm 3) scans/sec (bidirectional)	
Skew Angle	\pm 65° from normal	
Pitch Angle	\pm 55° L/R of normal	
Decode Depth of Field	Maximum typical working distance is 35 in. (88.9 cm); minimum element width resolution is 5.0 mils	
Print Contrast Minimum	25% absolute dark/light reflectance differential, measured at 675 nm	
Ambient Light Immunity		
Artificial Lighting	450 ft. candles	4845 lux
Sunlight	8000 ft. candle	86112 lux (@8 in. on low density bar codes)
Operating Temperature	32° to 104°F	0° to 40°C
Storage Temperature	-40° to 140°F	-40° to 60°C
Humidity	5% to 95% (non-condensing)	
Coil Cable Length	9 ft.	274 cm
Host Connector		
Port 5B	8-pin, SDL modular connector	
Port 9B	4-pin, SDL modular connector	
Port 17	16-pin, SDL modular connector	

*Code 128 available on port 9 only.

Table 1-2. Technical Specifications

Item	Description	
Durability		
LS 2030MX	4-ft. drop to concrete	
LS 3030MX	6-ft. drop to concrete	
Dimensions		
LS 2030MX		
Height	5.8 in.	14.7 cm
Length	4.9 in.	12.4 cm
Width	2.6 in.	6.6 cm
LS 3030MX		
Height	6.3 in.	16 cm
Length	5 in.	12.7 cm
Width	2.8 in.	7.1 cm
Laser Classification	CDRH Class II IEC 825 Class 1 IEC 825 Class 2	

Parameter Selections

The table below presents user options programmable through facilities of the host system. The IBM host terminals present an interactive menu facility for selecting these parameter values. Refer to the IBM User Manual for programming details.

Additional options, described on the next page, can be programmed by scanning the appropriate bar code menus.

Table 1-3. Parameter Selections

Parameters	Selections Available
Beep on Good Decode	Yes, No Select whether the unit's beeper will sound during operation. It is usually desirable to operate the unit with the beeper enabled.
Add Codes to be Decoded	The scanner can decode the following symbology types: UPC / EAN, Code 39, Interleaved 2 of 5, Code 128, Codabar.
Interleaved 2 of 5 Length Selection	If this parameter is required, select a 2-digit entry decimal numbers (0-9) for values greater than, or equal to, minimum length specified by host device. Count the numeric characters printed beneath the bar codes to be scanned and then program the scanner for that length

Bar Code Menu Scanning

To set a specific parameter, scan the appropriate bar code. If you select the wrong option, or wish to change your selection, simply scan another bar code. These are the parameters you can program:

Receiving Port

After connecting the cable from the scanner to the terminal, select the appropriate port by scanning the associated bar code on [page 1-18](#).

Transmit UPC-E/UPC-A Check Digit

Scan the desired bar codes on [page 1-19](#) to select if decoded UPC symbols are transmitted with or without a check digit.

UPC-E and A Preamble

Three options are given for the lead-in characters of decoded UPC-A or UPC-E symbols transmitted to the host. Select one preamble for UPC-A decodes, and one for UPC-E decodes. These lead-in characters are considered part of the symbol itself. The three options are:

- a system character only
- the country code and system character
- no preamble

The system character is the digit printed to the extreme left of a UPC symbol. The country coded for UPC is always zero, and it cannot be transmitted without the system character. See the [UPC-E/UPC-A Preamble](#) bar codes on [page 1-20](#).

Three options are given for the lead-in characters of decoded UPC-A or UPC-E symbols transmitted to the host.

Parameter Selections

Receiving Port

Scan the bar code corresponding to the port into which the scanner is plugged.



Port 5B



Port 9B/9E

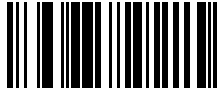


Port 17

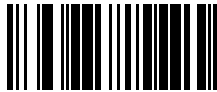
Parameter Selections

UPC-E/UPC-A Check Digit

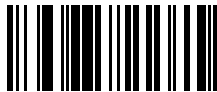
Select the desired options.



Transmit UPC-E Check Digit



**Do Not Transmit
UPC-E Check Digit**



Transmit UPC-A Check Digit

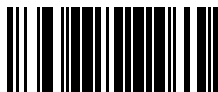


**Do Not Transmit
UPC-A Check Digit**

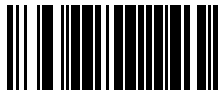
Parameter Selections

UPC-E/UPC-A Preamble

Select the desired option.



**System Character
&
Country Code**



System Character Only



None