

Chapter 2 Programmer's Guide

Programming

Before programming the scanner, follow the instructions in the *Set Up* section of *Chapter 1*.

Consult the parameter descriptions beginning on *page 2-4* for explanations of parameter types.

If the default values suit your requirements, all you need to do is scan the appropriate **SET DEFAULT** bar code. Parameters other than default values can be set by scanning sequences of bar codes. *Parameter Menus* contain all the bar codes necessary to program the controller for each parameter selection.

Be sure to scan a **TERMINAL TYPE**, or data will not be transmitted to the host.

Scanning Sequences

A scanning sequence establishes a value for one parameter type. During a scanning sequence, you scan bar codes for a parameter type, a parameter value, and **ENTER**.

Suppose you want to program the scanner for all default settings except you want to disable Code 128.

Since you want to keep most of the default settings, scan the **SET DEFAULT** bar code. Then scan the three bar codes in the order listed below:

SCAN	YOU WILL HEAR...
1. DISABLE	Short high tone
2. CODE 128	Short high tone
3. ENTER	Hi/Lo/Hi/Lo warble

After the last scan in a successful scanning sequence (ENTER), the warble sound (i.e., hi/lo/hi/lo) indicates that the scanner has been successfully programmed for the selected parameter. *Beeper Definitions* are listed on page 2-8.

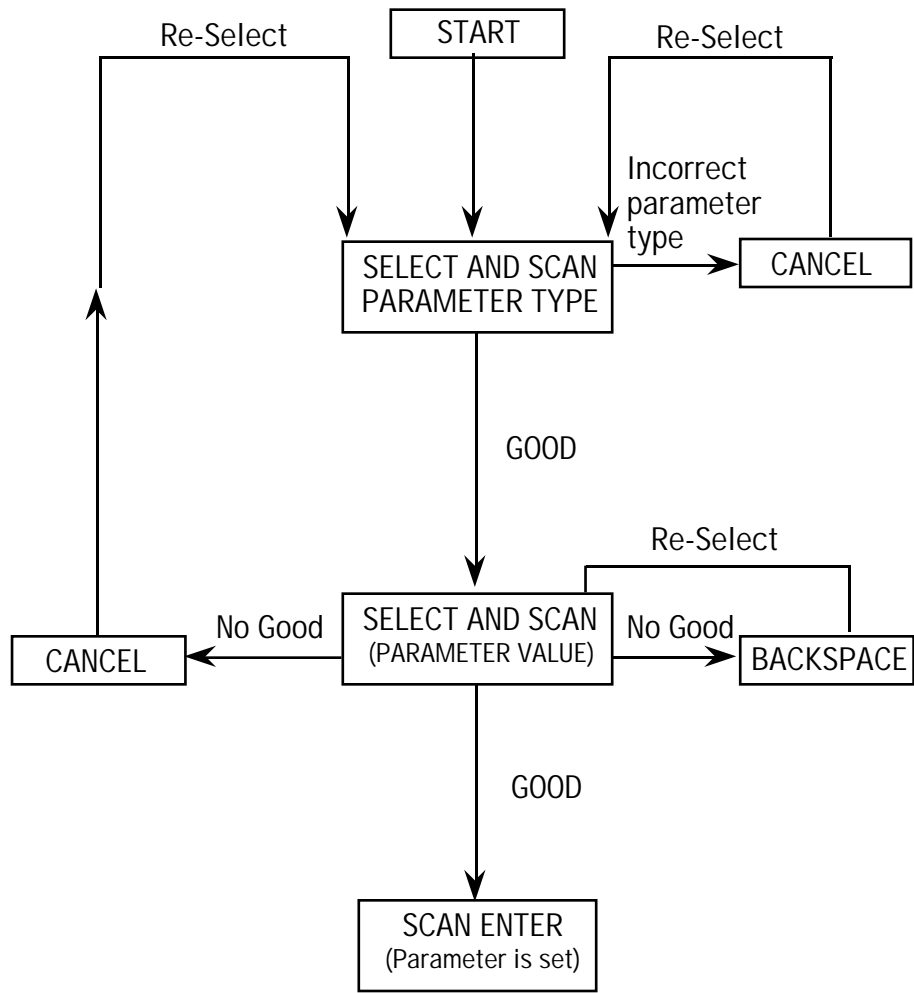
Errors While Scanning

Don't worry if you make an error during a scanning sequence. There are two special-purpose bar codes, **BACKSPACE** and **CANCEL**, to help you.

Scanning the **BACKSPACE** bar code erases the value of the previous bar code scanned but keeps you within the scanning sequence for a parameter type.

Scanning **CANCEL** removes you from the current sequence so that you can start again.

Scanning Sequence Flow Chart



See *Parameter Menus* for the range of values and default settings for each parameter type.

Set Parameter Defaults

Scanning this bar code returns all parameters to the values listed in the *Default Table* on page 2-9.

POS Terminal Type

This parameter selects the POS terminal type used with the 50MX. Note that it also sets a default clock edge value (clock polarity signal phase indicating data), and selects terminal-compatible code types. Clock edge cannot be set by the user

Code Types

The bar code menu selections enable the scanner to decode any or all of the following symbologies

- UPC Versions A and E (EAN 8 and 13)
- Code 128
- Code 39
- Interleaved 2 of 5

The scanner will autodiscriminate between all of the above symbologies.

If UPC/EAN with supplemental characters is selected, UPC/EAN without supplemental characters is ignored. See [page 2-7](#) for details.

If you want to add Interleaved 2 of 5, check the previously enabled lengths. To set lengths for these codes, see the **FIXED LENGTHS FOR CODE I 2 OF 5** section of the parameter menus.

Fixed Lengths For Code I 2 of 5

Select one or two lengths for the Interleaved 2 of 5 code. Determine the number of characters by counting the number of printed (i.e., human readable) digits that represent a bar code label. One length (Length 1) or two lengths (Length 2) for either code type may be set, as needed.

If any default setting is in effect and is an appropriate length, it need not be reset. Set one or both lengths, one per scanning sequence. **LENGTH 1** may range from 01-31 and **LENGTH 2** may range from 00-31.

Decode Options

Transmit UPC-E/UPC-A Check Digit

Select if decoded UPC-E or UPC-A symbols are transmitted with or without the check digit.

Decode UPC Only (Not EAN)

If selected, this option limits the scanner's decode capability to UPC versions only. It disables EAN decode capability.

ITF-14/EAN-13 Conversion

If your terminal supports EAN-13, this feature converts a 14 character I 2 of 5 code into EAN-13, and transmits to the host as EAN-13. In order to accomplish this, the I 2 of 5 code must be enabled, one length (either Length 1 or Length 2) must be set to 14, and the code must have a leading zero, and proper trailing check digit.

Convert UPC-E to UPC-A

Use this parameter to convert UPC-E (zero suppressed) decoded data to UPC-A format before transmission. After conversion, data will follow UPC format and be affected by UPC programming selections (e.g., Preamble, Check Digit).

Decode Options (Contd)

Beeper Enable/Disable

Determine if the unit beeper will sound during normal scanning. Usually it is desirable to operate the unit with the beeper enabled. In all cases, the beeper operates during parameter menu scanning and indicates error conditions.

Beeper Definitions are on page 2-8.

EAN Zero Extend

This parameter adds five leading zeros to decoded EAN-8 symbols to make them compatible in format to EAN-13 symbols.

UPC A And E Preamble(s)

Three options are given for the lead-in characters of decoded UPC-A or UPC-E symbols transmitted to the host device. 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 code for UPC is always zero, and it cannot be transmitted without the system character.

Decode UPC/EAN Supplemental

Select whether UPC/EAN is decoded with or without supplemental characters, or whether the unit will autodiscriminate between the two. Supplementals are additionally appended characters, according to specific code format conventions (e.g., UPC A+2, UPC E+2, EAN 8+5). If UPC/EAN with supplemental characters is selected, UPC/EAN symbols without supplemental characters won't be decoded. If UPC/EAN without supplemental characters is selected and the scanner is presented with a UPC/EAN plus supplemental symbol, the UPC/EAN will be decoded and the supplemental characters ignored. If autodiscrimination is chosen, the scanner will, after additional processing to ensure a good decode, transmit either.

Scanstand/IntelliStand Time-out

ScanStand/IntelliStand operation can be programmed to shut down if no bar code is detected within the specified time. Duration is programmable in 15 minute increments from 15 minutes to one hour.

Laser On Time

This parameter allows you to select a specific laser on time. Values range from 0.5 to 6 seconds in 0.5 second increments. The default is 3 seconds.

Beeper Definitions

Standard Use

BEEPER SEQUENCE	INDICATION
1 Beep - short high tone	A symbol has been successfully decoded.
4 Beeps - long low tone	Error in transmission; loss of last data scanned. Scan last data again.
3 Beeps - short high tone	Successful power-up or reset.

Parameter Menu Scanning

BEEPER SEQUENCE	INDICATION
1 Beep- short high tone	Appropriate menu within the scanning sequence has been read.
1 Beep- warble sound	Parameter value entered successfully.
2 Beeps- long low tone	Parameter not entered or incorrect sequence performed. Scan CANCEL and restart the scanning sequence.

Default Table

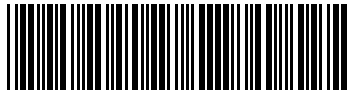
Parameter	Default
Code Types	All
POS Terminal Type	None
Code Lengths I 2 of 5 Length 1 I 2 of 5 Length 2	14 0
Decode Options Transmit UPC-A Check Digit Transmit UPC-A Check Digit Decode UPC Only Convert UPC-E to UPC-A Beep After Good Decode ITF-14/EAN-13 Conversion EAN Zero Extend	Enabled Enabled Disabled Disabled Enabled Enabled Disabled
UPC-E Preamble	System Character
UPC-A Preamble	System Character
Decode UPC/EAN Supplemental	No Supplemental
ScanStand/IntelliStand Time-out	60 minutes
Laser On Time	3 seconds

Parameter Menus

Set Default	page 2-11
POS Terminal Type	page 2-12
Code Types	page 2-16 to 2-17
Code Lengths	page 2-18 to 2-19
Decode Options	page 2-20 to 2-21
UPC-E & UPC-A Preamble	page 2-22 to 2-23
UPC/EAN Supplementals	page 2-24
ScanStand/IntelliStand Time-out	page 2-25 to 2-26
Laser On Time	page 2-27 to 2-29

Set Defaults

To set all parameters to their default settings, scan the bar code below.



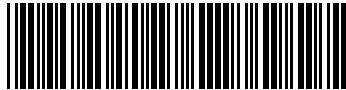
SET DEFAULTS

POS Terminal Type

To select the POS terminal type:

1. Scan the **POS TERMINAL TYPE** bar code.
2. Scan the bar code corresponding to the host terminal type.
3. Scan **ENTER**.

Note: Selecting a terminal type automatically enables those codes supported by that terminal and disables all others.



POS TERMINAL TYPE

Nixdorf 8812-200



CLOCK EDGE = FALLING EDGE

Byte Format: Spectra Physics Bit Representation

Transmission Format Supported:

A: <PREAMBLE> DATA

UPC-A, UPC-E, EAN-13

B: <PREAMBLE> <PREAMBLE> DATA

EAN-8

ICL 9505/9507/9516/9518



CLOCK EDGE = RISING EDGE

Byte Format: ICL Bit Representation

Transmission Format Supported:

A: <PREAMBLE> DATA

UPC-A, UPC-E, EAN-13

B: <PREAMBLE> <PREAMBLE> DATA

EAN-8

NCR255/1255/2126-1120/2152/2154/2155/2157/2257/7000/ 7050/7051/7052/7820



CLOCK EDGE = RISING EDGE

Byte Format: NCR "S"

Transmission Format Supported:

A: <PREAMBLE> DATA

UPC-A, UPC-E, EAN-13

B: <PREAMBLE> <PREAMBLE> DATA

EAN-8

NCR 7052



CLOCK EDGE = RISING EDGE

Byte Format: NCR "F"

Transmission Format Supported:

A: <PREAMBLE> DATA

UPC-A, EAN-13

B: <PREAMBLE> <PREAMBLE> DATA

UPC-E, EAN-8, Code 39, I 2 OF 5, Code128

Nixdorf 8812-200



CLOCK EDGE = FALLING EDGE

Byte Format: Nixdorf Bit Representation

Transmission Format Supported:

A: <PREAMBLE> DATA

UPC-A, UPC-E, EAN-13

B: <PREAMBLE> <PREAMBLE> DATA

EAN-8

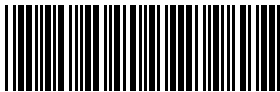
C: <ID CHAR> <PREAMBLE> DATA <CR>

UPC/EAN (w/Suppl), Code 39, I 2 of 5, Code 128

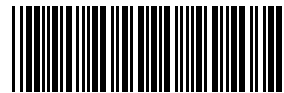
BACKSPACE - deletes the last bar code scanned.

CANCEL - deletes entire change and returns you to the decode mode.

ENTER - stores and enters the new change.



BACKSPACE



ENTER



CANCEL

Code Types

These two options, either add or delete a code type.

To add a code:

1. Scan the **ENABLED** bar code.
2. Scan the bar code corresponding to the code type to be added.
3. Scan **ENTER**.

To delete a code:

1. Scan the **DISABLED** bar code.
2. Scan the bar code corresponding to the code type to be deleted.
3. Scan **ENTER**.



ENABLED



DISABLED

Code Types (Contd)



UPC/EAN



I 2 OF 5



CODE 39



CODE 128



ALL CODES

BACKSPACE - deletes the last bar code scanned.

CANCEL - deletes entire change and returns you to the decode mode.

ENTER - stores and enters the new change.



BACKSPACE



ENTER



CANCEL

Fixed Lengths For Code I 2 OF 5

To set the fixed lengths for a code I 2 of 5:

1. Scan the **FIXED LENGTH** bar code corresponding to the length to be changed.
2. To enter the length, scan two bar codes from the next page; the first bar code scanned should signify the most significant digit.
3. Scan **ENTER**.



INTERLEAVED 2 OF 5
LENGTH 1 (Range 01-31)



INTERLEAVED 2 OF 5
LENGTH 2 (Range 00-31)

Fixed Lengths For Code I 2 OF 5 (Contd)



0



5



1



6



2



7



3



8



4

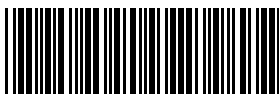


9

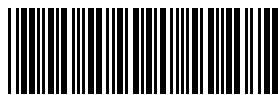
BACKSPACE - deletes the last bar code scanned.

CANCEL - deletes entire change and returns you to the decode mode.

ENTER - stores and enters the new change



BACKSPACE



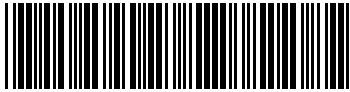
ENTER



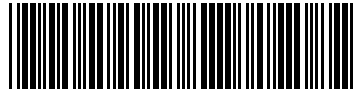
CANCEL

Decode Options

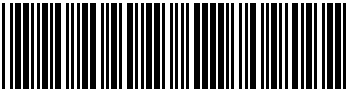
1. To select one of the decode options:
2. Scan the desired **DECODE OPTION** bar code.
3. Scan the **ENABLE** or **DISABLE** option bar code.
4. Scan **ENTER**.



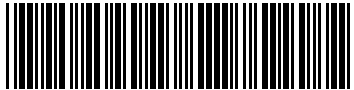
TRANSMIT UPC-E CHECK DIGIT



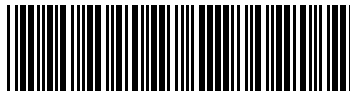
TRANSMIT UPC-A CHECK DIGIT



CONVERT UPC-E TO UPC-A



DECODE UPC ONLY



EAN ZERO EXTEND



BEEP AFTER GOOD DECODE



ITF-14/EAN-13 CONVERSION

Decode Options (Contd)



ENABLED



DISABLED

BACKSPACE - deletes the last bar code scanned.

CANCEL - deletes entire change and returns you to the decode mode.

ENTER - stores and enters the new change.



BACKSPACE



ENTER

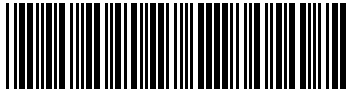


CANCEL

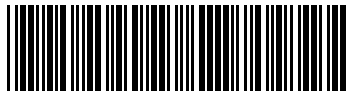
UPC-E/UPC-A Preamble

To select one of the preamble options:

1. Scan the bar code corresponding to the **PREAMBLE** option desired.
2. Scan a bar code on the next page to enable or disable the decode option.
3. Scan **ENTER**.



UPC-E PREAMBLE



UPC-A PREAMBLE

UPC-E/UPC-A Preamble (Contd)



SYSTEM CHARACTER



SYSTEM CHARACTER
AND COUNTRY CODE



NONE

BACKSPACE - deletes the last bar code scanned.

CANCEL - deletes entire change and returns you to the decode mode.

ENTER - stores and enters the new change.



BACKSPACE



ENTER

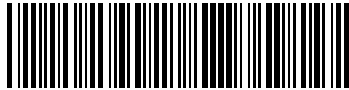


CANCEL

UPC/EAN Supplementals Option

To select a UPC/EAN supplementals option:

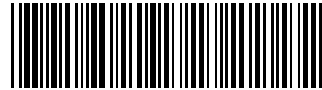
1. Scan the **UPC/EAN SUPPLEMENTALS** bar code.
2. Scan the desired option.
3. Scan **ENTER**.



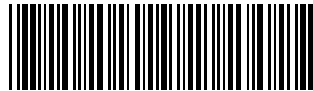
UPC/EAN SUPPLEMENTALS



NO SUPPLEMENTALS



SUPPLEMENTALS ONLY



AUTODISCRIMINATE

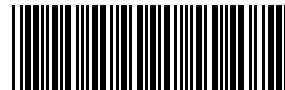
BACKSPACE - deletes the last bar code scanned.

CANCEL - deletes entire change and returns you to the decode mode.

ENTER - stores and enters the new change.



BACKSPACE



ENTER



CANCEL

Scanstand/IntelliStand Time-out

To select a ScanStand/IntelliStand time-out:

1. Scan the bar code below.
2. Scan the bar code corresponding to the desired time-out.
3. Scan **ENTER**.



SCANSTAND/INTELLISTAND TIME-OUT

Scanstand/IntelliStand Time-out (Contd)



15 MINUTES



60 MINUTES



30 MINUTES



75 MINUTES



45 MINUTES



90 MINUTES

BACKSPACE - deletes the last bar code scanned.

CANCEL - deletes the entire change and returns the user to the decode mode.

ENTER - stores and enters the new change.



BACKSPACE



ENTER



CANCEL

Laser On Time

To select a laser on time:

1. Scan the bar code below.
2. Scan the bar code corresponding to the desired value.
3. Scan **ENTER**.



LASER ON TIME

Laser On Time (Contd)



0.5 SEC.



2.0 SEC.



1.0 SEC.



2.5 SEC.



1.5 SEC.



3.0 SEC.

Laser On Time (Contd)



3.5 SEC.



5.0 SEC.



4.0 SEC.



5.5 SEC.



4.5 SEC.



6.0 SEC.

BACKSPACE - deletes the last bar code scanned.

CANCEL - deletes the entire change and returns the user to the decode mode.

ENTER - stores and enters the new change.



BACKSPACE



ENTER



CANCEL