METROLOGIC INSTRUMENTS, INC.

IS4320 ScanGlove

Programming Guide

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Programming the Scanner

The IS4320 is shipped from the factory programmed to a set of default parameters. Defaults are noted in the following pages by double asterisks next to the bar code labels. Modifications to the default program to match the host system are made using bar codes contained in this manual.

1. Connect the scanner to the host system or power source. (Refer to the Installation and User's Guide.)

2. Scan the ENTER/EXIT PROGRAM MODE bar code. (The unit will beep three times.)

3. Scan by positioning the output window within two inches of each code. (When you scan the first menu selection, the laser will stay on until you scan the ENTER/EXIT PROGRAM MODE code again. If no scanning occurs for 30 seconds while the scanner is in program mode, the unit will beep three times and all changes made will be lost. If this occurs, return to Step 1.)

4. After completing the scanning of the appropriate configuration options, scan the ENTER/EXIT PROGRAM MODE bar code again. (The new options will be saved and the scanner is ready for normal operation.)

Enter/Exit
Program Mode

* *

Enter/Exit Program Mode

Enter Program Mode

****Ability to Enter Program Mode After Any Scan**

When this option is selected, enter programming by scanning the ENTER/EXIT PROGRAM MODE bar code after power up or during normal scanning operation.

Enter Program Mode Only on First Scan

When this option is selected, the scanner will only enter program mode after power-up. Scan the ENTER/EXIT PROGRAM MODE bar code immediately after the scanner first receives power. This option prevents the scanner from accidentally entering program mode during normal scanning operation.

Recall Defaults

If during programming of the scanner, there is a need to return the scanner to the original factory settings, scan the RECALL DEFAULTS bar code. Any settings selected during that session or any previous session will be lost .

Recall Defaults

Recall Defaults

D F 1

Laser Activation Range

Short Range Activation Out of the Stand

R S 1

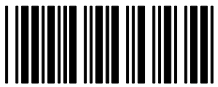
When this option is selected, the IR sensor guarantees to activate when the scanning window is positioned three inches from the object.

Short Range Activation In the Stand

R S 3

When this option is selected, the IR sensor guarantees to activate when an object is presented three inches from the scanning window.

****Long Range Activation Out of the Stand**



R S 2

When this option is selected, the IR sensor guarantees to activate when the scanning window is positioned eight inches from the object.

****Long Range Activation In the Stand**

R S 4

When this option is selected, the IR sensor guarantees to activate when an object is presented eight inches from the scanning window.

Enter/Exit Program Mode

Laser Operation

****Normal Scan**

This option is the default setting. When the laser activates by the IR sensor, the laser beam will emit from the output window. It will also display a constant, horizontal line until it senses a bar code or until the scanner timeout elapses.

Pulsing Scan

When the laser activates by the IR sensor, the laser beam will emit from the output window. It will also display a pulsing, horizontal line until it senses a bar code or until the scanner timeout elapses.

Custom Scan

This option is available for special applications. **Do not** scan the CUSTOM SCAN bar code unless instructed by a Metrologic representative.

Recall Defaults

Same Symbol Re-Scan

The scanner is programmed with a same symbol timeout. For SHORT SAME SYMBOL RE-SCAN, the time delay is ½ second, while the LONG SAME SYMBOL RE-SCAN delay is 1 second. These numbers represent the amount of time that a bar code must be out of the scan field before it can be scanned again.

Short Same Symbol Re-Scan

**** Long Same Symbol Re-Scan**

Enter/Exit Program Mode

* *

Beeper Tones

Program the scanner to emit a certain tone.

Alternate Tone 1 . . . . . Low Tone
Alternate Tone 2 . . . . . High Tone
(Default)
Alternate Tone 3 . . . . . Medium Tone
No Tone

Alternate Tone 1

B P 1

****Alternate Tone 2**

B P 2

Alternate Tone 3

B P 3

No Tone

B P 4

Recall Defaults

D F 1

Audible Indicators for Communication Timeouts

Two Second Timeout

O C 5

When this option is selected, the scanner will timeout if it does not transmit its data to the host after two seconds during communication. This is only valid in modes where some type of hand-shaking is involved.

****No Two Second Timeout**

O C 6

Razz Beep on Timeout

O C 7

When this option is selected, The scanner will produ ce an audible razzberry tone when communications timeout.

**** No Tone After Timeout**

O C 8

Three Beep on Timeout

O C 9

When this option is selected, the scanner will beep three times when communications timeout.

**** Beep Before Transmit**

R 5 0

When this option is selected, the scanner will beep before each label transmits.

Beep After Transmit

R 5 1

When this option is selected, the scanner will beep after each label transmits.

Enter/Exit Program Mode

RS-232 Interface

**** Enable RS-232 Interface**

RS-232 Parameter - Baud Rate

A baud rate is a unit that measures the speed with which information transfers. The baud rate of the scanner must equal the baud rate of the host device. The available baud rates range from 150 to 19200.

150 Baud Rate

300 Baud Rate

600 Baud Rate

1200 Baud Rate

Recall Defaults

D F 1

2400 Baud Rate

B R 5

4800 Baud Rate

B R 6

**** 9600 Baud Rate**

B R 7

19200 Baud Rate

B R 8

Enter/Exit Program Mode

RS-232 Parameter - Parity

Parity is an additional digit that makes the number of bits in the ASCII code odd or even. The scanner's parity must match the host's parity.

****Space Parity**

Select this option to make the parity bit always 0.

Even Parity

Select this option to make the additional parity bit either a 0 or 1 to guarantee an even number of bits.

Mark Parity

Select this option to make the parity bit always 1.

Odd Parity

Select this option to make the additional parity bit either a 0 or 1 to guarantee an odd number of bits.

Recall Defaults

RS-232 Parameter - Data Bits

RS-232 serial communication requires ASCII data to transmit in either 7 or 8 data bits. In addition, one parity bit will transmit. If necessary, scan the appro-priate bar code that matches your host device's requirements.

8 Data Bits

**** 7 Data Bits**

Enter/Exit Program Mode

RS-232 Parameter - Hardware Handshaking

To prevent scanned information from being lost during transmission, your host device may require an RTS/CTS signal. When RTS/CTS (Ready To Send/Clear To Send) enables, the scanner will output an RTS signal and wait for a CTS signal before any data transmits. The default setting of RTS/CTS disables. If necessary, scan the ENABLE RTS/CTS bar code.

Enable RTS/CTS

**** Disable RTS/CTS**

**** Character RTS/CTS**

When this option is selected, the scanner will activate and deactivate its RTS signal on each character that it transmits.

Message RTS/CTS

When this option is selected, the scanner will activate and deactivate its RTS signal on each message that it transmits. This mode should normally enable for Sanyo registers.

Recall Defaults

RS-232 Parameter - Software Handshaking

For control of the data transmission process, use the following parameters instead of or in addition to the RTS/CTS hardware handshaking option.

ACK/NAK When this option is enabled,the scanner will not scan again unless after transmission of a bar code it receives an ACK (ASCII 06H). The scanner will retransmit the bar code, if it receives an NAK (ASCII 15H).

Enable ACK/NAK

**** Disable ACK/NAK**

XON/XOFF When this option is enabled, the scanner will stop transmission whenever it receives an XOFF (ASCII 13H). Transmission will resume after it receives an XON (ASCII 11H).

Enable XON/XOFF

****DisableXON/XOFF**

Enter/Exit Program Mode

RS-232 Parameter - Intercharacter Delay

The time specified with an intercharacter delay bar code represents the interim of time between transmission of characters. Some host systems require this delay when receiving transmissions. If necessary, scan the appropriate bar code.

**** No Intercharacter Delay**

1 Millisecond Intercharacter Delay

5 Millisecond Intercharacter Delay

25 Millisecond Intercharacter Delay

Recall Defaults

D F 1

RS-232 Parameter - Scanning Control (DTR Signal)

When the DTR (Data Terminal Ready) input is enabled, the scanner will not transmit unless an active (+12V) DTR signal is present on the scanner's DTR input pin. You can disable the scanner by making DTR inactive (-12V) at the DTR input pin.

Enable DTR Input

H H 3

The DTR Scan Disable feature will prevent any scanning when the Enable DTR input feature is chosen. Before enabling the Enable DTR Scan Disable feature, scan the Enable DTR Input bar code. To turn off this feature, scan the Recall Defaults bar code.

**** Disable DTR Input**

H H 4

Enable DTR Scan Disable

R 3 2

Record Header/Terminator Select

CR When this option is on, the scanner will transmit a Carriage Return after each bar code.

CR Off

T R 1

****CR On**

T R 2

Enter/Exit Program Mode

* *

LF When this option is on, the scanner will transmit a Line Feed after each bar code.

**** LF On**

T R 4

LF Off

T R 3

STX Prefix When this option is on, the scanner will transmit a Start of TeXt (ASCII 02H) before each bar code.

STX Prefix On

T R 6

**** STX Prefix Off**

T R 5

Recall Defaults

ETX Suffix When this option is on, the scanner will transmit an End of TeXt (ASCII 03H) after each bar code.

ETX Suffix On

**** ETX Suffix Off**

Tab Prefix When this option is on, the scanner will transmit a TAB (ASCII 09H) before each bar code.

Tab Prefix On

**** Tab Prefix Off**

Tab Suffix When this option is on, the scanner will transmit a TAB (ASCII 09H) after each bar code.

Tab Suffix On

**** Tab Suffix Off**

Enter/Exit Program Mode

* *

RS-232 Parameter - UPC/EAN Identifiers

Prefix ID

When this option is on, the scanner will transmit a prefix before any UPC/ EAN bar code. The prefixes are A (UPC-A), E0 (UPC-E), F (EAN-13), and FF (EAN-8).

Prefix ID On

P X 2

**** Prefix ID Off**

P X 1

Suffix ID

When this option is on, the scanner will transmit a suffix after any UPC/ EAN bar code. The suffixesare A (UP C-A),E0 (UPC-E), F (EAN-13), and FF (EAN-8).

Suffix ID On

S X 2

**** Suffix ID Off**

S X 1

Recall Defaults

D F 1

Light Pen Options

If the scanner is being used in place of a light pen, scan the ENABLE LIGHT PEN INTERFACE bar code. When this interface, is enabled the scanner can output a bar or space as the high signal. Enable the appropriate option for your specific application. When the TRANSMIT AS CODE 39 is enabled , the scanner will output the bar code's bar or space high signal as Code 39. These settings will only work with a Version 15 (LTPN) MS951 scanner.

Enable Light Pen Interface

L P 1

**** Bars High**

L P 3

Spaces High

L P 4

**** Transmit as Scanned**

L P 5

Transmit as Code 39

L P 6

Poll Light Pen 5 Volts

R 5 8

When this option is enabled, the scanner will wait for an active source voltage before transmitting the data.

**** No Poll Light Pen**

R 5 9

Enter/Exit Program Mode

* *

Code Type Selections

Use the following bar codes to program the scanner to read different types of bar codes. This will enable the default settings for all of the bar code types. To improve reliability, disable the code types that will not be used. This will not decrease the amount of time it takes for the scanner to scan a bar code. It will prevent the operator from accidentally scanning bar code types that are not included in your application.

**** Enable UPC**

C T A

Disable UPC

C T B

**** Enable EAN**

C T C

Disable EAN

C T D

**** Enable Code 39**

C T E

Disable Code 39

C T F

Recall Defaults

D F 1

**** Enable Codabar**

C T I

Disable Codabar

C T J

**** Enable Code 128**

C T G

Disable Code 128

C T H

**** Enable Code 93**

C T K

Disable Code 93

C T L

**** Enable Interleaved 2 of 5**

C T M

Disable Interleaved 2 of 5

C T N

Enter/Exit Program Mode

Minimum Code Length for All Code Types

The minimum number of characters can be specified in the bar code that will be scanned by scanning one of the follow ing bar codes. For example, when the minimum is 3,the scanner will not scan bar codes that have less than 3 characters.

Minimum 1 Character

**** Minimum 3 Characters**

Minimum 6 Characters

UPC/EAN Code

UPC and EAN are typical bar code types. These enable the default settings for UPC and EAN.

**** Enable UPC**

Disable UPC

**** Enable EAN**

Disable EAN

Recall Defaults

D F 1

UPC-A Options

****Transmit UPC-A Number Sys**

L Z 5

When this option is selected , the scanner will transmit the UPC-A number system character. Metrologic strongly discourages the disabling of this feature because duplicate numbers may result in the database when the scanner is programmed not to transmit the UPC-A number system character.

Do Not Transmit UPC-A Number Sys

L Z 6

****UPC-A Check Digit On**

C K 4

When this option is on, the scanner will transmit the UPC-A check digit.

UPC-A Check Digit Off

C K 3

Convert UPC-A to EAN-13

L Z 3

When this option is selected , the scanner will convert UPC-A to EAN-13 by transmitting a leading zero before the bar code.

**** Do Not Convert UPC-A to EAN-13**

L Z 4

Enter/Exit Program Mode

UPC-E Options

Expand UPC-E

When this option is selected, the scanner will expand UPC-E to the 12 digit equivalent UPC-A.

**** Do Not Expand UPC-E**

UPC-E Check Digit On

When this option is on, the scanner will transmit the UPC-E check digit.

**** UPC-E Check Digit Off**

UPC-E Leading 0 On

When this option is on, the scanner will output a zero before each UPC-E bar code.

**** UPC-E Leading 0 Off**

Disable EAN-8 Check Digit Transmission

**** Enable EAN-8 Check Digit Transmission**

Disable EAN-13 Check Digit Transmission

**** Enable EAN-13 Check Digit Transmission**

Recall Defaults

D F 1

Supplemental UPC Options

Enable 2 Digit Supps

S P 1

When this option is enabled, the scanner will scan 2 digit supplementals.

**** Disable 2 Digit Supps**

S P 2

Enable 5 Digit Supps

S P 3

When this option is enabled, the scanner will scan 5 digit supplementals.

**** Disable 5 Digit Supps**

S P 4

Convert EAN-8 to EAN-13

R 5 2

When this option is selected , the scanner will convert EAN-8 to EAN-13 by trans-mitting five zeroes before the bar code.

**** Do Not Convert EAN-8 to EAN-13**

R 5 3

Enable Bookland

S P 5

When this option is enabled, the scanner will require that a 5-digit supplement be scanned whenever an EAN-13 code begins with 978.

**** Disable Bookland**

S P 6

Supplement Required

S P 7

When this option is selected, all UPC/EAN labels that are to be scanned must have a supplement.

**** Supplement Not Required**

S P 8

Enter/Exit Program Mode

Code 39

****Enable Code 39**

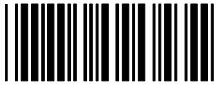
When this option is enabled, the scanner will scan Code 39 bar codes.

Disable Code 39

Enable Mod 43 Check Digit

When this option this enabled, the scanner will only scan Code 39 bar codes that have a Modulo 43 check digit.

**** Disable Mod 43 Check Digit**



Enable Italian Pharmaceutical

**** Disable Italian Pharmaceutical**

****Transmit Mod 43 Check Digit**

When this option is selected, the scanner will transmit to the host the Modulo 43 check digit of Code 39.

Do Not Transmit Mod 43 Check Digit

Recall Defaults

D F 1

Enable Full ASCII Code 39

R 1 0

When this option is enabled, the scanner will scan full ASCII Code 39 bar codes.

**** Disable Full ASCII Code 39**

R 1 1

Codabar

****Enable Codabar**

C T I

When this option is enabled, the scanner will scan Codabar bar codes.

Disable Codabar

C T J

TransmitStart/Stop

C B 2

When this option is selected, the scanner will transmit Codabar's start and stop characters before and after each bar code.

**** Do Not Transmit Start/Stop**

C B 1

Enable CLSI Editing

C B 4

When this option is enabled, the scanner will perform CLSI library type editing before the information transmits to the host. This editing only works with 14 digit Codabar type labels.

**** Disable CLSI Editing**

C B 3

Enter/Exit Program Mode

Interleaved 2 of 5 (ITF)

**** Enable ITF**

When this option is enabled, the scanner will scan Interleaved 2 of 5 (ITF) bar codes.

Disable ITF

Enable ITF Check Digit

When these options are enabled, the scanner will scan ITF bar codes that have a Modulo 10 check digit.

**** Disable ITF Check Digit**

Transmit MOD 10 ITF Check Digit

When the transmit option is chosen, the scanner will transmit the ITF MOD 10 check character. This feature works with the ITF check digit option. In order for this feature to work both must be enabled.

**** Do Not Transmit MOD 10 ITF Check Digit**

Recall Defaults

Interleaved 2 of 5 (ITF) Symbol Lengths

Specify the number of ITF digits in the bar codes that will be scanned by scanning the appropriate bar codes. Specify a maximum of two bar code lengths. If all of the bar codes that will scan are variable lengths, program the scanner to VARIABLE LENGTH.

**** Variable Length**

2 Digits

4 Digits

6 Digits

8 Digits

10 Digits

12 Digits

Enter/Exit Program Mode

14 Digits

16 Digits

18 Digits

20 Digits

22 Digits

24 Digits

26 Digits

28 Digits

30 Digits

Recall Defaults

32 Digits

34 Digits

36 Digits

38 Digits

40 Digits

42 Digits

44 Digits

46 Digits

Enter/Exit Program Mode

48 Digits

50 Digits

MSI - Plessey Check Digit

Enable MSI - Plessey

When this option is enabled, the scanner will scan Plessey bar codes.

**** Disable MSI - Plessey**

****Enable MSI - Plessey Test of Check Digit**

When this option is enabled, the scanner will check the Plessey bar code for a proper check digit.

Disable MSI - Plessey Test of Check Digit

****Enable Plessey Mod 10 Check Digit**

When this option is enabled, the scanner will scan Plessey bar codes that have a single Modulo 10 check digit.

Plessey Mod 10/10 Check Digit

When this option is selected, the scanner will scan Plessey bar codes that have a double Modulo 10 check digit.

Recall Defaults

D F 1

****Transmit Plessey Check Digits**

R 1 2

When this option is selected, the scanner will transmit Plessey's check digit(s) character. This option works with the Plessey Mod 10 and/or Plessey Mod 10/10 features. Enable this option and one or both of the Plessey Mod options in order for this feature to work.

Do Not Transmit Plessey Check Digits

R 1 3

Enable Code 11 Decode

R 4 1

**** Disable Code 11 Decode**

R 4 2

Enable Airline 2 of 5

R 6 4

**** Disable Airline 2 of 5**

R 6 5

Enter/Exit Program Mode

Test Modes

Scan Count

When scanning this option, the scanner will enter the scan count test mode. The firmware number of the scanner will also transmit to the host device. Do not enable this feature unless a Metrologic representative instructs you to do so.

Scannability

When this option is enabled, the scanner will enter the scannability test mode. Do not enable this feature unless a Metrologic representative instructs to do so.

Normal Scan

When this option is selected, the scanner will exit from the scannability or scan count test modes.

Transmit Scanner Parameters

When this option is selected, the scanner will transmit (at 9600 baud) its current configuration.

Recall Defaults

D F 1

Special Features

The special features options are for special applications. Do not enable any of the special features options unless instructed by a Metrologic representative.

**** Disable Sanyo 635 ECR Protocol**

R 0 0

Enable Sanyo 635 ECR Protocol

R 0 1

Enable Post Software ID Characters

R 0 8

**** Disable Post Software ID Characters**

R 0 9

Enable “NEWCODE” Mode “A”

R 1 4

**** Disable “NEWCODE” Mode “A”**

R 1 5

Enter/Exit Program Mode

Enable "NEWCODE" Mode "B"

**** Disable "NEWCODE" Mode "B"**

Enable SNI Beetle Mode

**** Disable SNI Beetle Mode**

Enable Sineko Mode

Once enabled the Sineko mode, the only way to disable it is by scanning the Recall Defaults bar code.

Enable Caps Lock Mode
(For the MI951 external wedge)

Enable this option when using the Caps Lock on the keyboard. Once enabled, Metrologic's MS951 (RS-232) hand-held scanner will simulate Caps Lock keyboard input when used with Metrologic's MI951 external keyboard wedge. This mode may not work with all applications.

**** Disable Caps Lock Mode**

Enable French Wyse 120V PC Term

**** Disable French Wyse 120V PC Term**

Recall Defaults

Reserved Codes

Metrologic has reserved the codes on the following pages for features that will be added at a later date. Do not assign a function for any of the reserved codes.

Enter/Exit Program Mode

Recall Defaults

D F 1

R73

R74

R75

R76

R77

R78

R79

R80

R81

R82

R83

Enter/Exit Program Mode

Recall Defaults

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