



METROLOGIC INSTRUMENTS, INC.

MetroSelect<sup>®</sup>  
Configuration Guide

## LOCATIONS

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## INTRODUCTION

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Your new scanner has been configured at the factory with a set of default communication protocols. Since many host systems have unique formats and protocol requirements, Metrologic provides a wide range of configurable features that may be selected with the use of this bar code configuration guide.

Once the configuration is completed, the scanner stores the settings in nonvolatile memory or NOVRAM. NOVRAM saves the settings when the power is turned off.

Symbol Key	
* (asterisk)	Default Feature
~ (tilde)	Feature requires the <i>Multi-Code Configuration Method</i> , see <i>Bar Code Configuration Methods on page x</i> .
	Important!
	Note

## BAR CODE CONFIGURATION METHODS

---

Metrologic scanners can be bar code configured in two ways: the *Single-Code Method* and the *Multi-Code Method*.

### **Single-Code Method**

Most features can be enabled or disabled using the Single-Code Method.

1. Power up the scanner.
2. Scan the bar code(s) for the desired feature(s).
3. Observe a multi-toned, “save setting” beep that indicates the configuration has been saved to NOVRAM.

### **Multi-Code Method**

All features can be enabled or disabled using the Multi-Code Method. A feature marked with a “~” requires the Multi-Code Method.

1. Power up the scanner.
2. Scan the *Enter/Exit Configuration Mode* bar code. [3 beeps]
3. Scan the bar code(s) for the desired feature(s). [1 beep]
4. Scan the *Enter/Exit Configuration Mode* bar code [3 beeps] and save new configuration.

Enter/Exit Configuration Mode



To abort a configuration change, power off the scanner before scanning the *Enter/Exit Configuration Mode* bar code.

## NEED TO START OVER?

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Scan the Recall Default bar code. This will erase all previous settings and return to the scanner's default communications protocol.

- Keyboard Wedge interface scanners will load keyboard wedge defaults.
- All other scanners will load RS-232 defaults.

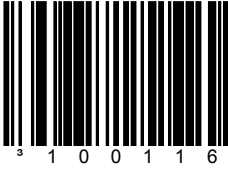


Metrologic manufactures custom OEM scanners, which load the OEM's defaults. For further information on the affects they have on Metrologic default communications protocols refer to Section N, Custom Defaults.





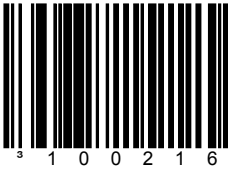
\* Enable UPC/EAN



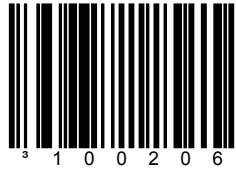
Disable UPC/EAN



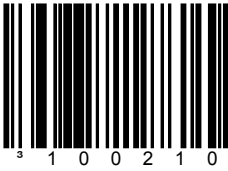
\* Enable UPC-A



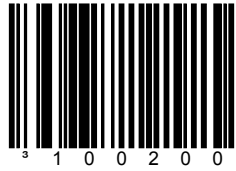
Disable UPC-A



\* Enable UPC-E



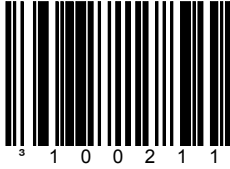
Disable UPC-E



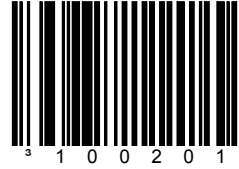
## SECTION A

## UPC/EAN

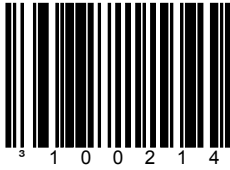
\* Enable EAN-13



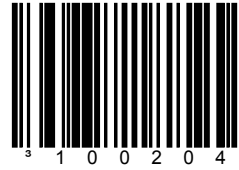
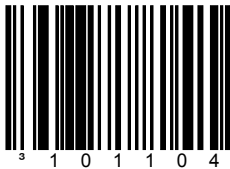
Disable EAN-13



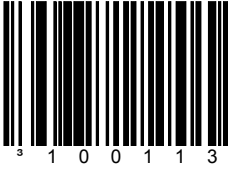
\* Enable EAN-8



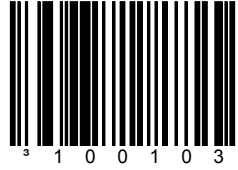
Disable EAN-8

\* Enable  
Auto Redundancy UPC-EDisable  
Auto Redundancy UPC-E

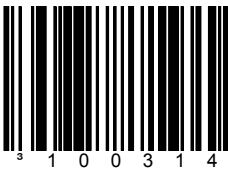
\* Enable Code 128



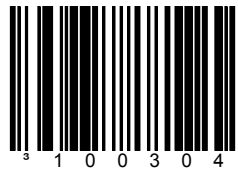
Disable Code 128



Enable  
UCC/EAN-28  
'J' Code Formatting



Disable  
UCC/EAN-128  
'J' Code Formatting

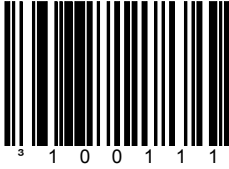


For Coupon Code 128, see Section B, page 5.

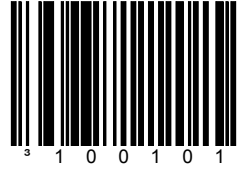
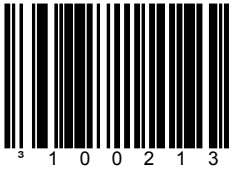
## SECTION A

## CODE 39

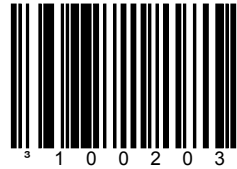
\* Enable Code 39



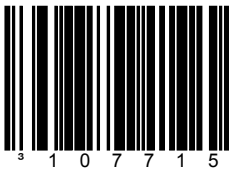
Disable Code 39

Enable MOD 43  
Check on Code 39

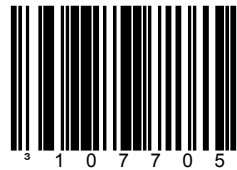
The scanner will only scan Code 39 bar codes that have a valid Modulo 43 check digit.

\* Disable MOD 43  
Check on Code 39

The scanner will not test Code 39 bar codes for a modulo 43 check digit.

Transmit Mode 43 Check  
Digit on Code 39

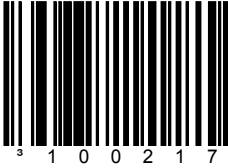
This feature works in conjunction with Mode 43 Check on Code 39. Both options must be enabled for this feature to work.

\* Do Not Transmit Mode 43  
Check Digit on Code 39

This option will not transmit Code 39's Mod 43 check character.



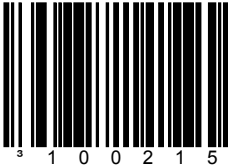
Enable Full ASCII Code 39



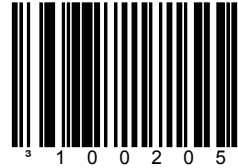
\* Disable Full ASCII Code 39



Enable PARAF Support  
(Italian Pharmaceutical Codes)



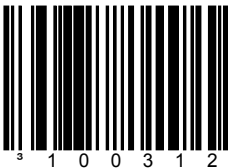
\* Disable PARAF Support



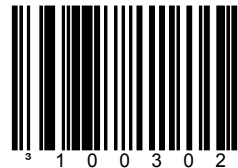
The scanner will convert  
Code 39 bar codes to  
PARAF format.

The scanner will not convert  
code 39 bar codes to  
PARAF format.

Enable TRI-OPTIC Code



\* Disable TRI-OPTIC Code



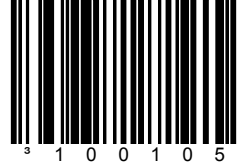
## SECTION A

## INTERLEAVED 2 OF 5

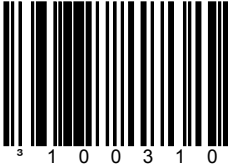
\* Enable Interleaved  
2 of 5 (ITF)



Disable Interleaved  
2 of 5 (ITF)

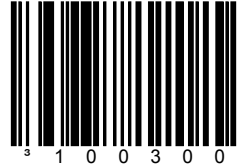


Enable MOD 10  
Check on ITF



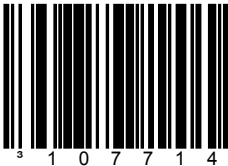
The scanner will only scan  
Interleaved 2 of 5 (ITF)  
Bar codes that have a  
Modulo 10 check digit.

\* Disable MOD 10  
Check on ITF



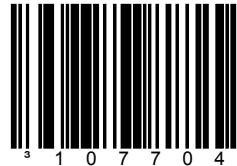
The scanner will not test  
Interleaved 2 of 5 (ITF)  
bar codes for a Modulo 10  
check digit.

Transmit MOD 10  
Check Digit on ITF



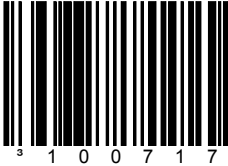
The scanner transmits  
Interleaved 2 of 5 (ITF)  
MOD 10 check character.

\* Do Not Transmit MOD 10  
Check Digit on ITF

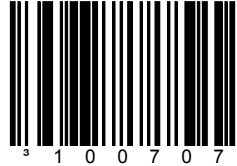


The scanner will not  
transmit Interleaved 2 of 5  
(ITF) MOD 10 check digit  
characters. This feature  
works in conjunction with  
Mod 10 Check on ITF. Both  
must be enabled for this  
feature to work.

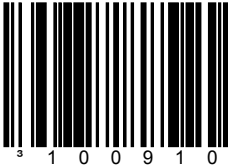
Enable ALT  
Check Digit ITF



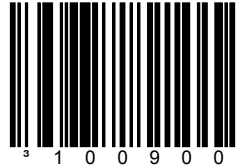
\* Disable ALT  
Check Digit ITF



Enable 12 Digit ITF  
Check Digit at 1

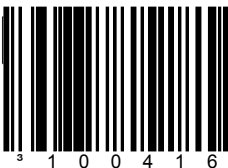


\* Normal Check Digit

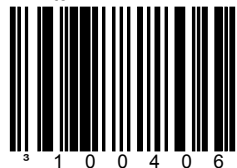


This feature requires  
*MOD 10 ITF Check Digit*  
to be enabled. The 12-  
character ITF check digit  
calculation will start with 1  
instead of 0.

Enable ITF/Code 39 Filter



\* Disable ITF/Code 39  
Filter



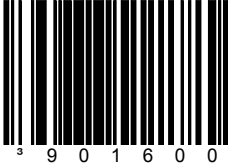
Supports Code 39/ITF filters.

This feature may  
adversely affect reading  
of Codabar, Code 93 and  
some other non-standard  
symbologies.

## SECTION A

## INTERLEAVED 2 OF 5

~ ITF Symbol Length  
Lock 1 †



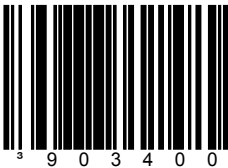
To specify a 1<sup>st</sup> ITF symbol length lock, scan the above bar code and the appropriate code bytes located in Section M.†

~ ITF Symbol Length  
Lock 2 †



To specify a 2<sup>nd</sup> ITF symbol length lock, scan the above bar code and the appropriate code bytes located in Section M.†

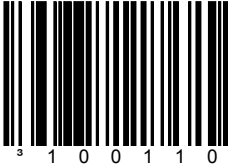
~ ITF Minimum  
Symbol Length †



To specify a minimum number of ITF characters to be decoded, scan the above bar code and the appropriate code bytes located in Section M.†

† Refer to the Multi-Code Configuration Method on page x.

Enable  
Standard 2 of 5



\* Disable  
Standard 2 of 5



~ Standard 2 of 5  
Symbol Length Lock



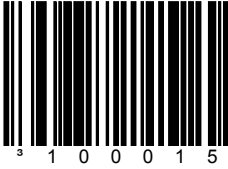
To specify a minimum number of ITF characters to be decoded, scan the above bar code and the appropriate code bytes located in Section M.†

† Refer to the Multi-Code configuration method on page x.

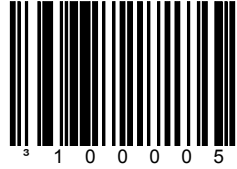
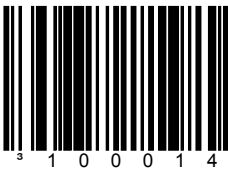
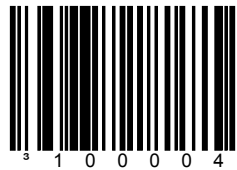
## SECTION A

## OTHER 2 OF 5 CODES

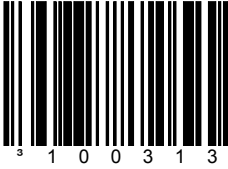
Enable Matrix 2 of 5



\* Disable Matrix 2 of 5

Enable 15 Digit  
Airline 2 of 5\* Disable 15 Digit  
Airline 2 of 5

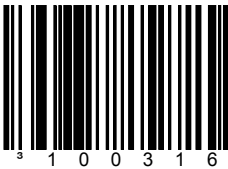
Enable 13 Digit  
Airline 2 of 5



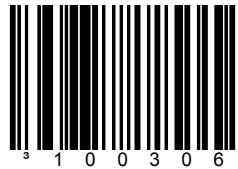
\* Disable 13 Digit  
Airline 2 of 5



Enable Hong Kong  
2 of 5



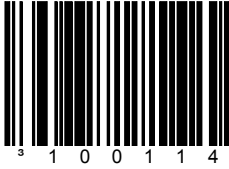
\* Disable Hong Kong  
2 of 5



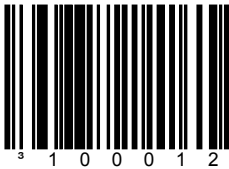
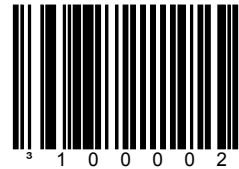
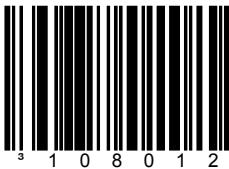
## SECTION A

## CODABAR

\* Enable Codabar



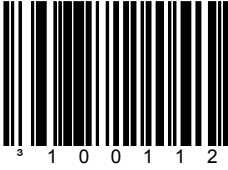
\* Disable Codabar

Enable  
Dual Field Codabar\* Disable  
Dual Field CodabarEnable  
Tab in Dual Codabar\* Disable  
Tab in Dual Codabar

This feature requires *Dual Field Codabar* to be enabled. The scanner will insert a tab between the fields of the dual field Codabar.



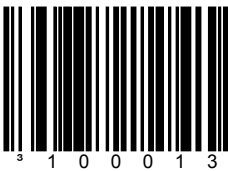
\* Enable Code 93



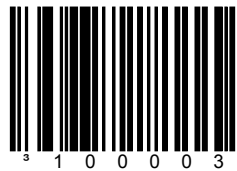
Disable Code 93



Enable Code 11



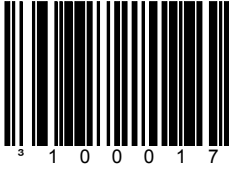
\* Disable Code 11



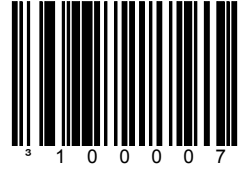
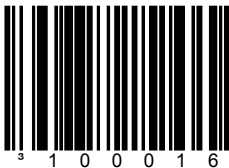
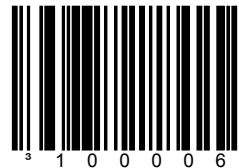
## SECTION A

## TELEPEN

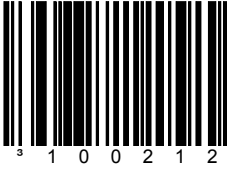
Enable Telepen



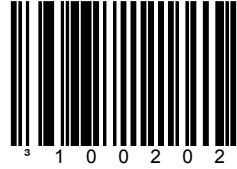
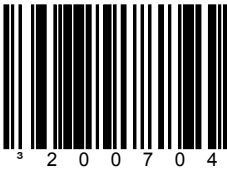
\* Disable Telepen

Enable  
ALPHA Telepen\* Disable  
ALPHA Telepen

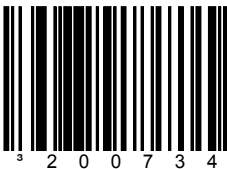
Enable MSI Plessey



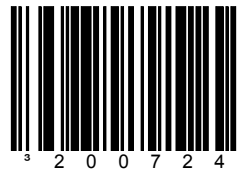
\* Disable MSI Plessey

\* No MSI Plessey  
Check Digit

The scanner will not test  
MSI Plessey bar codes for a  
check digit.

Enable MSI Plessey  
MOD 10/10 Check Digit

The scanner will test MSI  
Plessey bar codes for a  
double Modulo 10 check  
digit.

\* Enable MSI Plessey  
MOD 10 Check Digit

The scanner will test MSI  
Plessey bar codes for a  
single Modulo 10 check  
digit.

## SECTION A

## PLESSEY CODES

Transmit

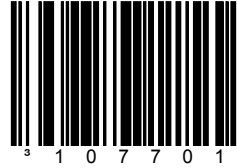
MSI Plessey Check Digit



This option works in conjunction with one or both of the Enabled MSI Plessey Mode options.

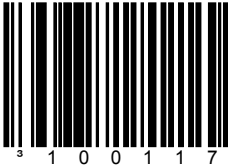
\* Do Not Transmit

MSI Plessey Check Digit

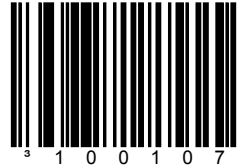


The scanner will not transmit MSI Plessey check digit characters.

Enable UK Plessey

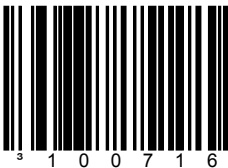


\* Disable UK Plessey



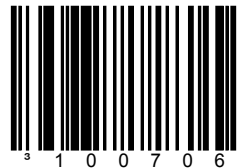
Enable UK Plessey

A to X Conversion

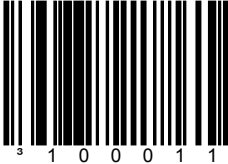


\* Disable UK Plessey

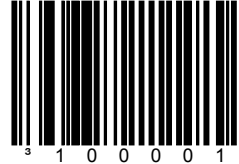
A to X Conversion



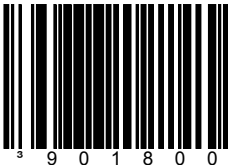
Enable Double Border  
Required/Large  
Inter-Character Space



\* Disable Double Border  
Required/Large  
Inter-Character Space

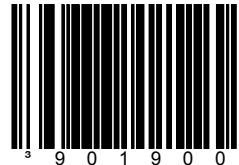


~ Minimum  
Symbol Length †



Omnidirectional default is 4.  
Combine this code with the  
proper Code Bytes, to  
specify the minimum  
number of characters in all  
non-UPC/EAN bar codes.†

~ Symbol Length Lock †



This code combined with the  
proper Code Bytes, locks the  
bar code's length into place.†

† Refer to the Multi-Code Configuration Method on page x.

## SECTION A

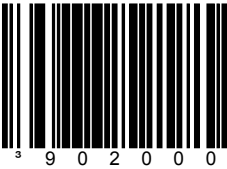
## CONFIGURABLE CODE LENGTHS

There are seven bar code lock lengths available. Specific code types can be assigned to a lock length using the *Multi-Code* configuration method.

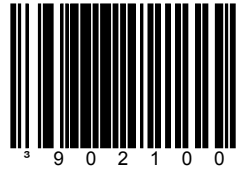
**Example:**

1. Scan the enter/exit configuration bar code.
2. Scan the *code length lock #1* bar code.
3. Scan the three Code Bytes that represent the code length.
4. Scan the matching code type lock #1 bar code.
5. Scan the three code bytes that represent the code type.  
Refer to the *Code Type Table* in Section M.
6. Repeat steps 2 through 5 for lock lengths 2 through 7 if desired.
7. Scan the enter/exit configuration bar code when finished to save settings.

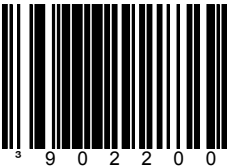
~ Code Length  
Lock #1



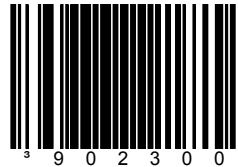
~ Code Type  
Lock #1



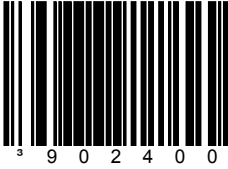
~ Code Length  
Lock #2



~ Code Type  
Lock #2



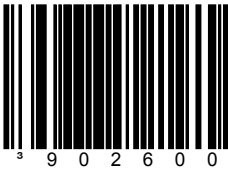
~ Code Length  
Lock #3



~ Code Type  
Lock #3



~ Code Length  
Lock #4



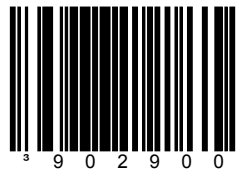
~ Code Type  
Lock #4



~ Code Length  
Lock #5



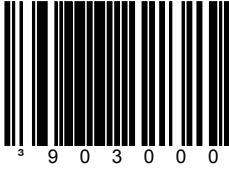
~ Code Type  
Lock #5



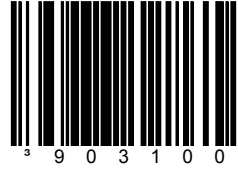
## SECTION A

## CONFIGURABLE CODE LENGTHS

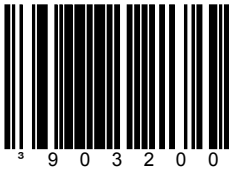
~ Code Length  
Lock #6



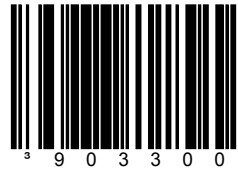
~ Code Type  
Lock #6



~ Code Length  
Lock #7

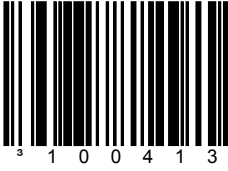


~ Code Type  
Lock #7

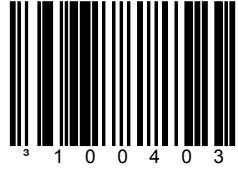




Enable RSS 14



\* Disable RSS 14



\* Transmit  
RSS 14 Check Digit



Do Not Transmit  
RSS 14 Check Digit

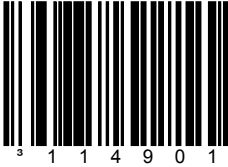


## SECTION A

## RSS 14 FEATURES

\* Transmit

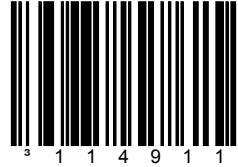
RSS 14 Application ID



Application identifier "01" is transmitted by default.

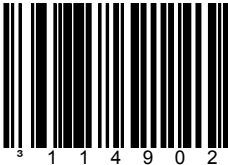
Do Not Transmit

RSS 14 Application ID



\* Transmit

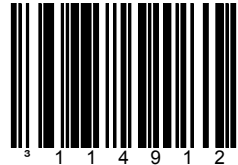
RSS 14 Symbology ID



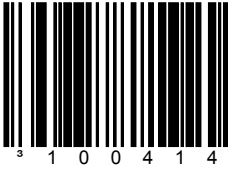
Symbology identifier "je0" is transmitted by default.

Do Not Transmit

RSS 14 Symbology ID



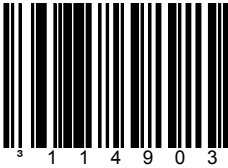
Enable RSS Limited



\* Disable RSS Limited



\* Transmit  
RSS Limited Check Digit



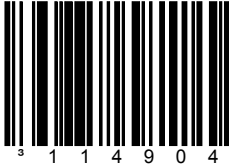
Do Not Transmit  
RSS Limited Check Digit



## SECTION A

## RSS LIMITED FEATURES

\* Transmit RSS Limited  
Application ID



Application identifier "01" is  
transmitted by default.

Do Not Transmit  
RSS Limited Application ID

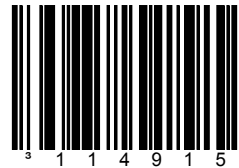


\* Transmit RSS Limited  
Symbology ID

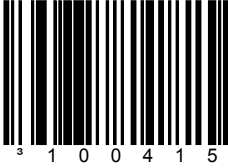


Symbology identifier "je0" is  
transmitted by default.

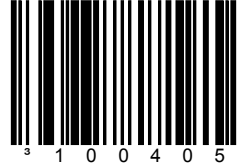
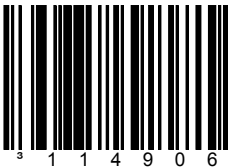
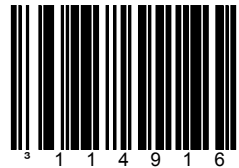
Do Not Transmit  
RSS Limited Symbology ID



Enable RSS Expanded



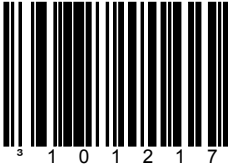
\* Disable RSS Expanded

\* Transmit RSS  
Expanded Symbology IDDo Not Transmit RSS  
Expanded Symbology ID

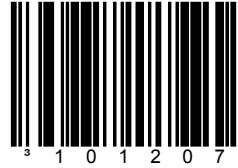
Symbology identifier "je0" is transmitted by default.



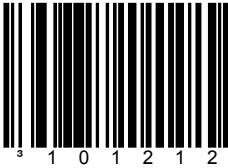
Enable Two Digit Supplements



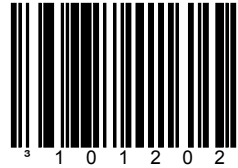
\* Disable Two Digit Supplements



\* Enable Two Digit Redundancy



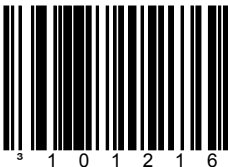
Disable Two Digit Redundancy



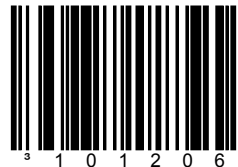
Twice before accepting data, the scanner will scan the bar code plus the two digit add on.

When scanned, will not implement the two digit redundancy feature.

Enable Five Digit Supplements



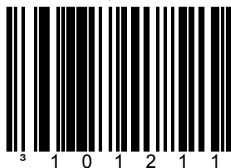
\* Disable Five Digit Supplements



## SECTION B

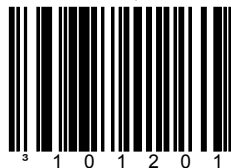
## SUPPLEMENTS/REDUNDANCY

Enable Five Digit  
Redundancy



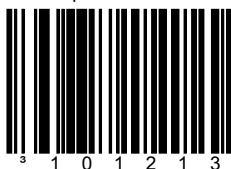
Twice before accepting  
data, the scanner will scan  
the bar code plus the five  
digit add on.

\* Disable Five Digit  
Redundancy



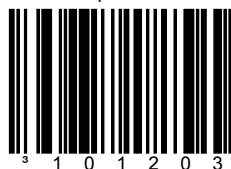
The scanner will not  
implement the five digit  
redundancy feature.

Supplements  
are Required



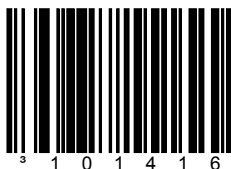
All UPC/EAN labels that are  
scanned must have a  
supplement.

\* Supplements are  
not Required

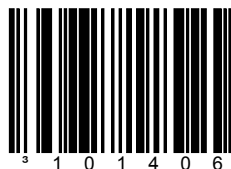


UPC/EAN labels do not  
require a supplement to be  
scanned.

Enable Remote  
Supplemental Requirement



\* Disable  
Remote Supplemental  
Requirement

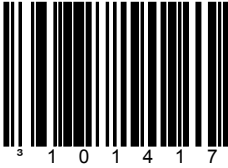




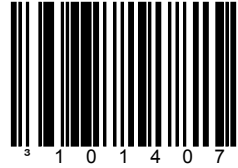
## SECTION B

## SUPPLEMENTS

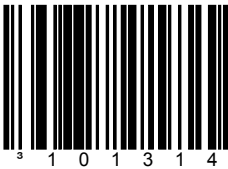
Enable Bookland (978)  
Supplement Requirement



\* Disable Bookland (978)  
Supplement Requirement

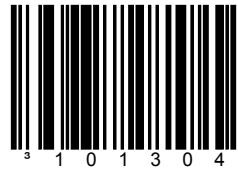


Enable 977 (2 digit)  
Supplemental Requirement



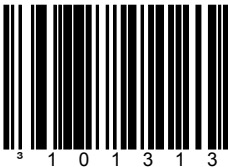
The scanner will require a 2 digit supplement be scanned when an EAN-13 code begins with 977.

\* Disable 977 (2 digit)  
Supplemental Requirement

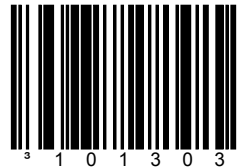


The scanner will not require a 2 digit supplement be scanned whenever an EAN-13 code begins with 977.

Enable 378/379 French  
Supplement Requirement



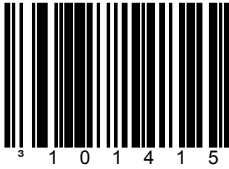
\* Disable 378/379 French  
Supplemental Requirement



## SECTION B

## SUPPLEMENTS

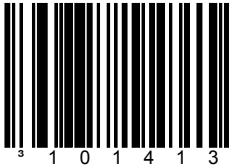
Enable 434/439 German  
Supplemental Requirement



\* Disable 434/439  
German Supplemental  
Requirement



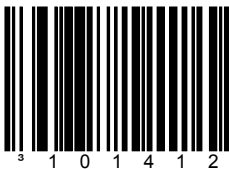
Enable 414/419 German  
Supplemental Requirement



\* Disable 414/419 German  
Supplemental Requirement



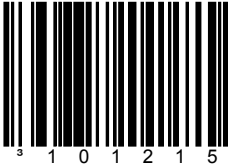
Enable # System 2  
Requires Supplements



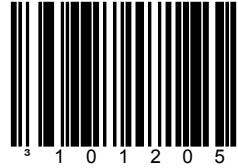
\* Disable # System 2  
Requires Supplements



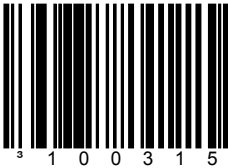
Enable # System 5  
Requires Supplements



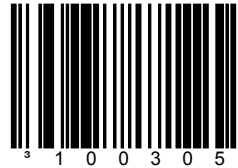
\* Disable # System 5  
Requires Supplements



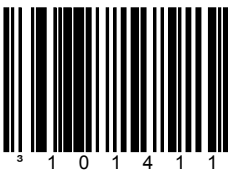
Enable Coupon  
Code 128



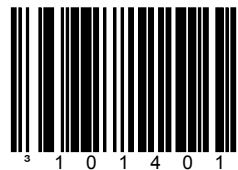
\* Disable Coupon  
Code 128



Enable Code 128 'JC1'  
Extended Code Format



\* Disable Code 128 'JC1'  
Extended Code Format



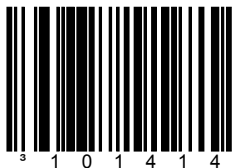
The scanner will transmit a 'JC1' at the beginning of the code 128 portion of the coupon code.

The scanner will not transmit a 'JC1' at the beginning of the code 128 portion of the coupon code.

## SECTION B

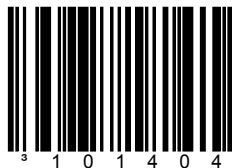
## SUPPLEMENTS

Enable 128 Group  
Separators



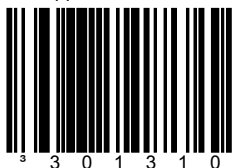
“GS” (1DH) character will be transmitted with coupon Code 128 codes.

\* Disable 128 Group  
Separators



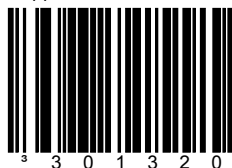
“GS” (1DH) character will not be transmitted with coupon Code 128 codes.

\* 100 msec to Find  
Supplemental



The scanner will allot 100 milliseconds to “find” an add on after a main UPC/EAN bar code has been scanned.

200 msec to Find  
Supplemental



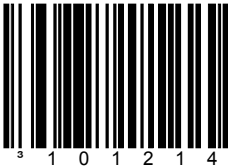
The scanner will allot 200 milliseconds to “find” an add on after a main UPC/EAN bar code has been scanned.

### 400 msec to Find Supplemental



The scanner will allot 400 milliseconds to “find” an add on after a main UPC/EAN bar code has been scanned.

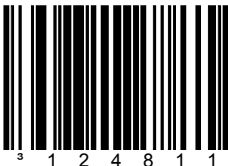
### Enable Code ID's with Supplements



### \* Disable Code ID's with Supplements

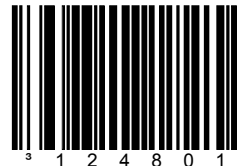


### Allow 2/5 on 977 Bar Code



This feature allows either 2 or 5 digit supplements if 977 mode is active.

### Allow 2 on 977 Bar Code

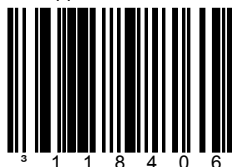


This feature allows 2 digit supplements if 977 mode is active.

SECTION B

SUPPLEMENTS

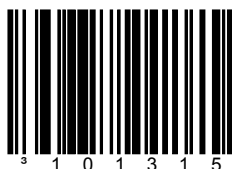
\* Beep Once on Supplements



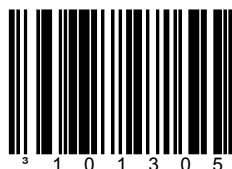
Beep twice on Supplements



Enable ISBN Check Digit Transmission

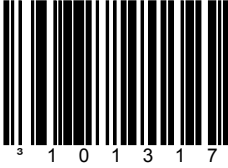


Disable ISBN Check Digit Transmission



This feature is not available with all models.

Enable Bookland to ISBN Conversion

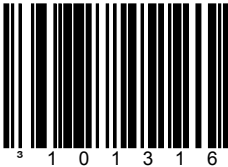


\* Disable Bookland to ISBN Conversion

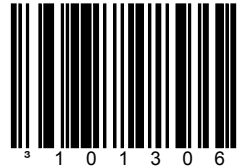


This feature is not available with all models.

Enable ISBN Re-Formatting



\* Disable ISBN Re-Formatting



This feature is not available with all models.

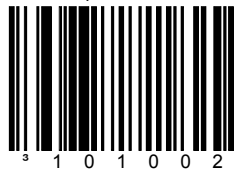
SECTION B

SUPPLEMENTS

Enable Number System 4  
Coupon Code 128

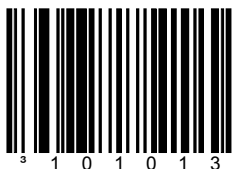


\* Disable Number System  
4 Coupon Code 128

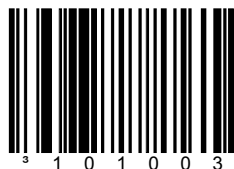


Supports Coupon Code 128  
for Number System 4 bar  
codes.

Enable UPC Discard

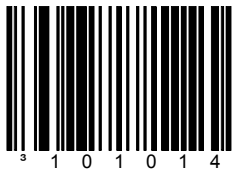


\* Disable UPC Discard

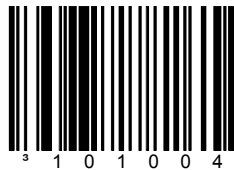


Supports UPC discard if the  
Code 128 portion of the  
Coupon Code 128 is  
scanned.

Allow Supplements and  
UPC in Same Line



Disable Supplements and  
UPC in Same Line



This feature requires  
2 digit supplements be  
enabled as well as  
required redundancy  
and supplements.



\* Enable RS-232



The scanner will work with RS-232  $\pm 12V$  serial output.

Load Keyboard Wedge Defaults



Scan this before selecting Normal or Stand Alone Mode.

Enable Light Pen/Wand Communication



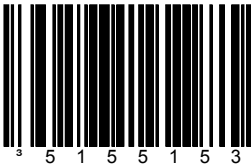
Use this option if a scanner is used in place of a light pen.

Enable Keyboard Wedge Emulation



Select if the scanner provides keyboard emulation by converting the scanned bar code data to the PC keyboard scan code equivalent.

Enable Stand-Alone Keyboard Scanner

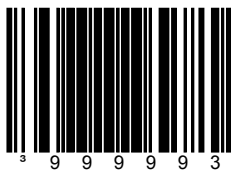


Allows the scanner to be used without an external keyboard.

## SECTION C

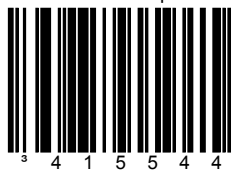
## COMMUNICATIONS

## Load OCIA Defaults

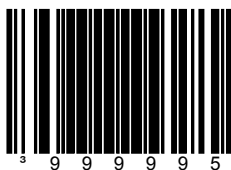


Scan this before selecting  
Enable OCIA output.

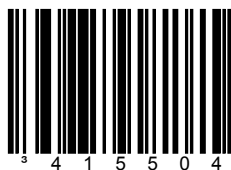
## Enable OCIA Output



Select this option if the  
communications  
requirement is an Optically  
Coupled Interface Adapter  
(OCIA). This is a docked  
(by the host) serial  
interface.

Load  
IBM 46xx Defaults

Scan this before selecting  
Enable IBM 46xx  
Communication

Enable IBM 46xx  
Communication

Select this option for IBM  
46xx SIOC/RS485  
communications.



Not all scanners  
support this interface.  
The correct interface  
board is required.

Enable  
Low Speed USB †



† Refer to Section P for full speed USB options.

Load  
Low Speed USB Defaults †

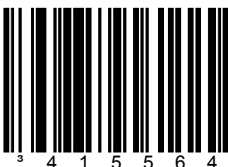


Enable  
No Communication Mode



Select this option if the scanner does not interface with the host device.

Reserved

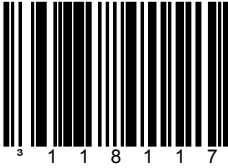


Reserved





Allow Configuration Mode  
on Power-Up



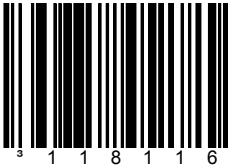
The scanner can only enter  
MetroSet® mode before any  
bar codes are scanned.

\* Allow Configuration  
Mode Anytime



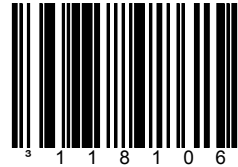
Allow MetroSet®  
configuration at any time.

Allow Configuration Codes  
on Power Up



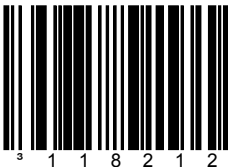
Once a product bar code is  
scanned after power-up, the  
scanner will not accept  
configuration bar codes.

\* Allow Configuration  
Codes Anytime

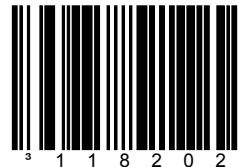


Allows scanning of  
configuration bar codes any  
time.

Enable  
Single Code Programming



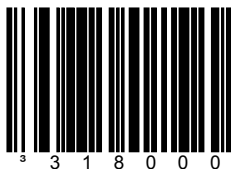
Disable  
Single Code Programming



## SECTION D

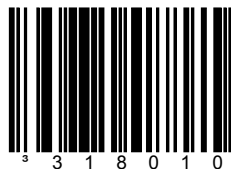
## SCAN BUFFERS

## \* 1 Scan Buffer



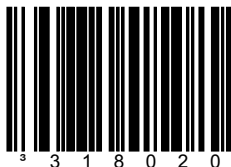
The scanner will scan one bar code in the scan field and not scan again until the bar code is removed from the scan field for the duration of the same symbol time out.

## 2 Scan Buffers



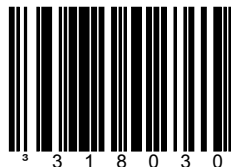
The scanner will scan 2 bar codes in the scan field one time each. These 2 bar codes will not be scanned again until they are removed from the scan field for the duration of the same symbol time out.

## 3 Scan Buffers



Same function as 2 Scan Buffers, but 3 bar codes are in the scan field.

## 4 Scan Buffers



Same function as 2 Scan Buffers, but 4 bar codes are in the scan field.

5 Scan Buffers



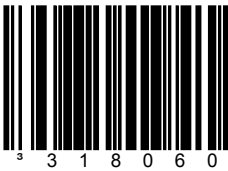
Same function as 2 Scan Buffers, but 5 bar codes are in the scan field.

6 Scan Buffers



Same function as 2 Scan Buffers, but 6 bar codes are in the scan field.

7 Scan Buffers



Same function as 2 Scan Buffers, but 7 bar codes are in the scan field.

8 Scan Buffers

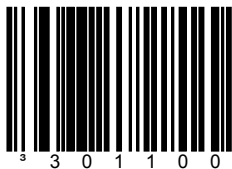


Same function as 2 Scan Buffers, but 8 bar codes are in the scan field.

## SECTION D

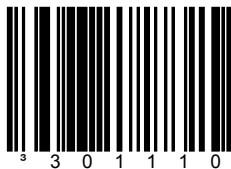
## REDUNDANT SCANS

\* 0 Redundant Scans



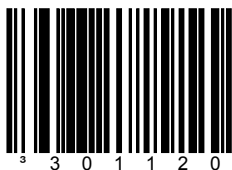
Requires 1 good decode for a "good scan".

1 Redundant Scans



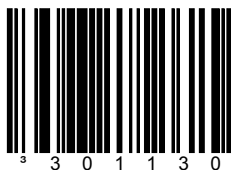
Requires 2 consecutive decodes of the same bar code data for a "good scan".

2 Redundant Scans



Requires 3 consecutive decodes of the same bar code data for a "good scan".

3 Redundant Scans



Requires 4 consecutive decodes of the same bar code data for a "good scan".



## 4 Redundant Scans



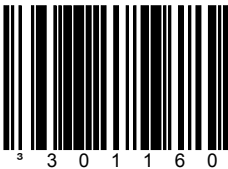
Requires 5 consecutive decodes of the same bar code data for a "good scan".

## 5 Redundant Scans



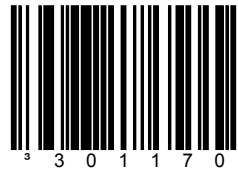
Requires 6 consecutive decodes of the same bar code data for a "good scan".

## 6 Redundant Scans



Requires 7 consecutive decodes of the same bar code data for a "good scan".

## 7 Redundant Scans

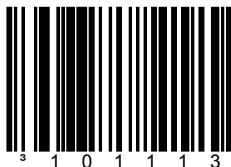


Requires 8 consecutive decodes of the same bar code data for a "good scan".

## SECTION D

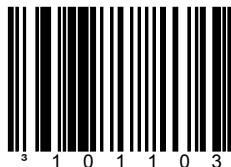
## MISCELLANEOUS DECODE FEATURES

## \* Enable MAJIC

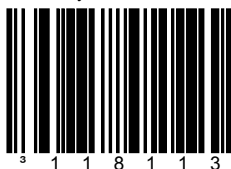


The Metrologic Algorithm for Joining Incomplete Codes (MAJIC) aids in deciphering damaged or incomplete bar codes. Enable for more aggressive decoding.

## Disable MAJIC



Disable this feature when bar codes are in good reading condition. This will speed up decoding and improve over all accuracy.

Optional  
Same Symbol Check

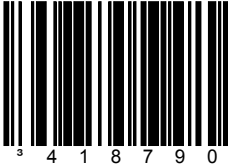
Requires 1 different character between successive bar codes to consider the bar code "new".

\* Normal  
Same Symbol Check

Requires 3 different characters between successive bar codes to consider the bar code "new".

**i** Do not change these settings unless instructed by a Metrologic representative.

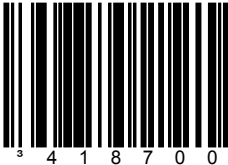
\* Optimize for  
Low Density Codes †



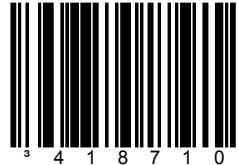
Optimize for  
High Density Codes †



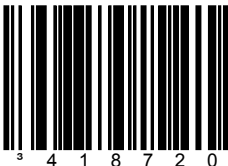
Fixed for  
High Density Codes †



Fixed for  
Medium Density Codes †



Fixed for  
Low Density Codes †



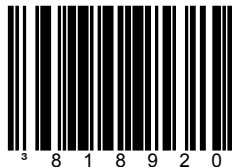
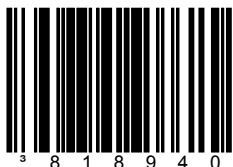
† For use with  
omnidirectional  
scanners only.

## SECTION D

## SAME SYMBOL TIME OUTS

These numbers determine the length of time before a bar code can be rescanned after it is removed from the scan field. Single code fixed settings in msec of No, 50, 100, 200, 500, 1200 (1.2 sec), 2000 (2.0 sec) and infinite are available. User configurable values can be set in user-configurable increments of 50 msec to 6350 msec (6.35 sec).

No Same Symbol Time Out

Same Symbol Time Out  
100 msecSame Symbol Time Out  
200 msec\* Same Symbol Time Out  
500 msec

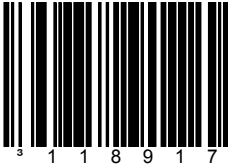
Same Symbol Time Out  
1200 msec



Same Symbol Time Out  
2000 msec



Infinite  
Same Symbol Time Out



The scanner will not  
repetitively scan the same  
bar code.



This option  
overrides the  
symbol rescan  
time-outs.

~ Variable  
Same Symbol Time Out

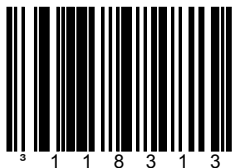


Using the Multi-Code  
Method (page x), scan this  
bar code and a code byte  
sequence from Section M to  
set the same symbol time-  
out duration. Values range  
from 001 to 127 (50 to 6350  
msecs).

## SECTION D

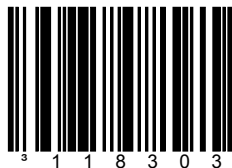
## LED OPTIONS

Flash Green LED if  
Rescan Allowed

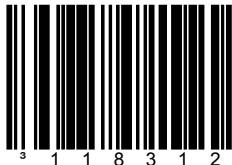


This indicates same symbol  
timeout has elapsed.

\* Do not flash Green LED  
if Rescan Allowed

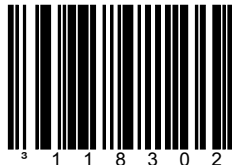


Reverse LED Functions



Red = Laser On  
Green = Good Read

\* Normal LED Functions



Green = Laser On  
Red = Good Read

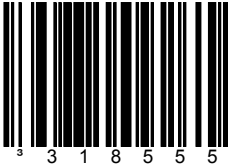
\* Normal Tone



Optional Tone 1



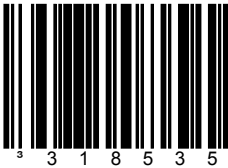
Optional Tone 2



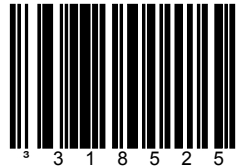
Optional Tone 3



Optional Tone 4



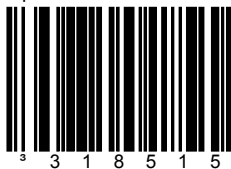
Optional Tone 5



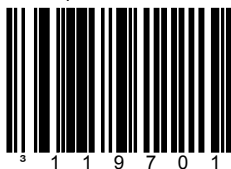
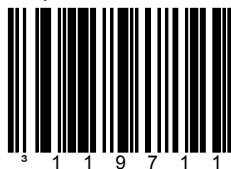
## SECTION D

## BEEPER OPTIONS

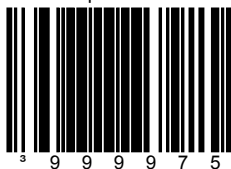
Optional Tone 6



No Beep

\* Enable Switch  
Beep Tones †† For MS7220 and MS7320  
series scanners.Disable Switch  
Beep Tones †

Next Beep Tone ††



†† For MS7600 Series only.

Next Volume ††

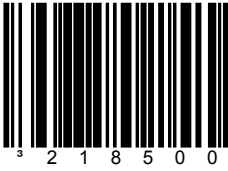




# SECTION D

# BEEPER OPTIONS

\* Loudest Volume ††

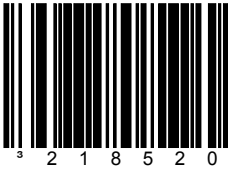


†† For the MS7600 series only.

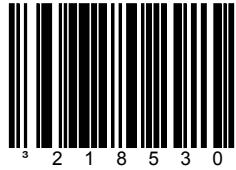
2<sup>nd</sup> Loudest Volume ††



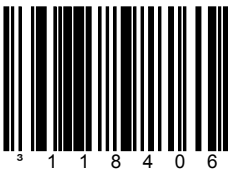
3<sup>rd</sup> Loudest Volume ††



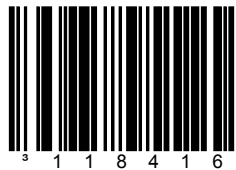
No Volume ††



\* Beep Once on  
Supplements



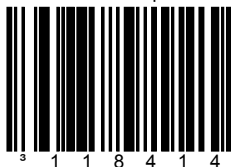
Beep Twice on  
Supplements



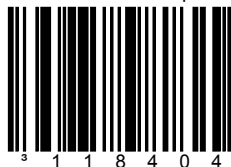
## SECTION D

## BEEPER OPTIONS

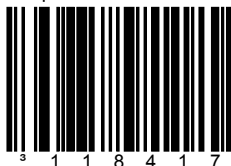
## Enable Fast Beep



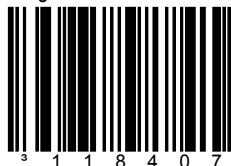
## \* Disable Fast Beep



## Beep on BEL Command

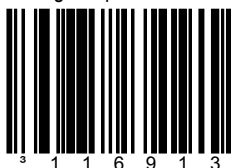


## \* Ignore BEL Command

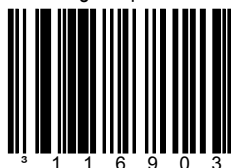


The scanner beeps when it receives a BEL character from the host. If a number is sent within 200 msec before the BEL character, then the scanner will beep that number of times.

## Enable Light Pen Toggle During Beep



## \* Disable Light Pen Toggle During Beep

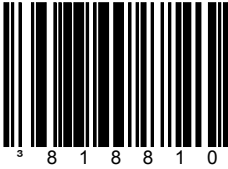


The scanner will beep and toggle the light pen data line on a successful decode. This drives a "good read" indicator.

## SECTION D INTER-CHARACTER DATA TRANSMISSION DELAYS

Use these codes to select the amount of delay between sending data characters and “Bar Code” records from the scanner to the host. This helps prevent the scanner from overflowing host input buffers.

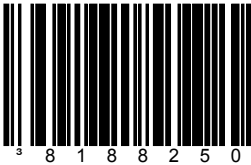
\* 1 msec  
Inter-Character Delay



10 msec  
Inter-Character Delay



25 msec  
Inter-Character Delay



~ Variable msec  
Inter-Character Delay



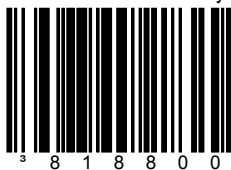
Scan this bar code and a sequence of code bytes in Section M to set the delay between characters sent to the host system. Delay range can be set from 1 to 255 msecs.

Refer to the *Multi-Code Configuration Method* on page x.

## SECTION D INTER-CHARACTER DATA TRANSMISSION DELAYS

---

No Inter-Character Delay



## INTER-RECORD DATA TRANSMISSION DELAYS

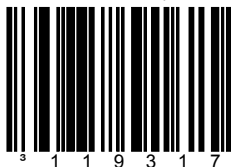
---

~ Variable

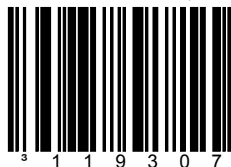
Inter-Record Delay



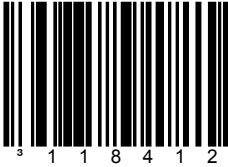
Turn Off Laser During  
Inter-Record Delay



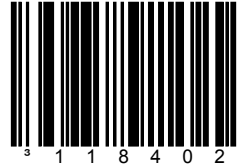
\* Leave Laser On During  
Inter-Record Delay



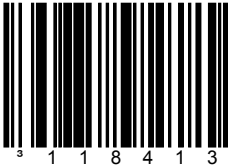
Enable  
Communications Time Outs



\* Disable Communications  
Time Outs

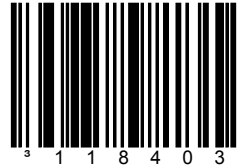


\* Beep Before Transmit



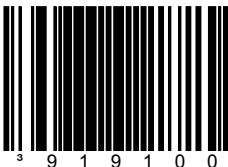
Scanner will beep before  
each label is transmitted.

Beep After Transmit

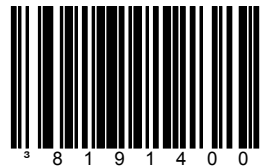


Scanner will beep after  
each label is transmitted.

~ Variable Communications  
Time Out



\* Default Communications  
Time Out (2 secs)

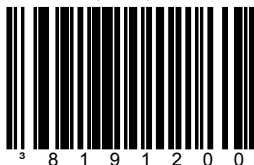


## SECTION D

## COMMUNICATION TIME OUT OPTIONS

Short Communications

Time Out (1 sec)

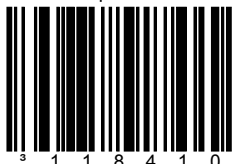


Long Communications

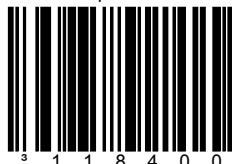
Time Out (4 secs)



Three Beeps on Time Out

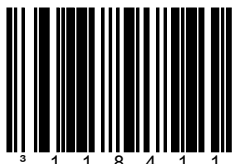


\* No Beeps on Time Out



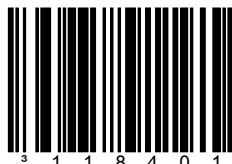
Razzberry Tone on

Time Out



\* No Razzberry Tone

on Time Out



Enable "D/E" Disable  
Command



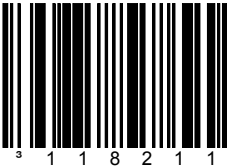
The scanner will disable scanning after it receives and ASCII "D" from the host device. It will enable scanning when it receives an ASCII "E".

\* Disable "D/E" Disable



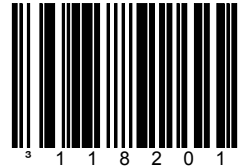
Do not monitor D/E  
commands.

Enable "Z/R" Type  
D/E Simulation



The scanner will disable scanning after it receives an ASCII "Z" from the host device. It will enable scanning when it receives an ASCII "R".

\* No "Z/R" Type  
D/E Simulation

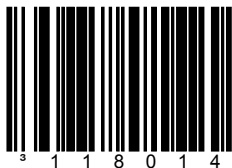


Do not monitor Z/R  
commands.

## SECTION D

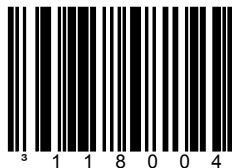
## HOST SCANNER COMMANDS

Enable "F/L" Laser Command



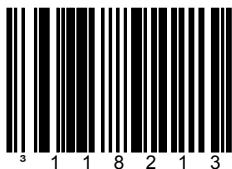
The scanner will turn off the laser after receiving an ASCII "F" character. The laser will turn on after it receives an ASCII "L" character.

\* Disable "F/L" Laser Command



Do not monitor "F/L" commands.

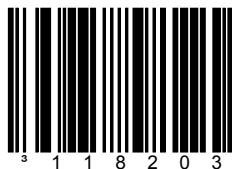
Motor "On/Off" Using M/O Commands †



The scanner will turn the motor OFF after it receives an ASCII "O" character. The motor will turn ON after the scanner receives an ASCII "M" character. †

† For use with omnidirectional scanners only.

\* Disable "M/O" Commands



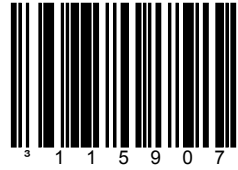
Do not monitor the M/O commands.



Enable I Command



Disable I Command



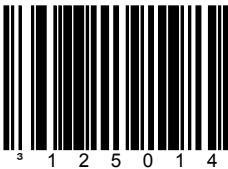
Enable i Command



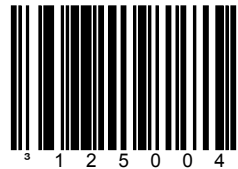
Disable i Command



Enable SI/SO Command



Disable SI/SO Command



## SECTION D

## HOST SCANNER COMMANDS

Use

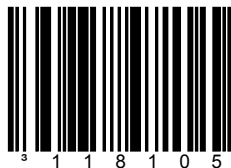
DTR Scan Disable



The scanner will monitor the DTR input to determine if scanning should be allowed. A +12V "active" level enables decoding. A -12V "inactive" level disables decoding.

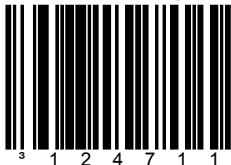
\* Do not use

DTR Scan Disable

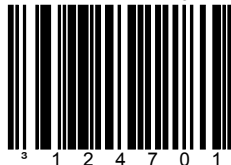


Do not monitor the DTR input.

Enable Pass Through

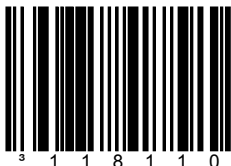


Disable Pass Through

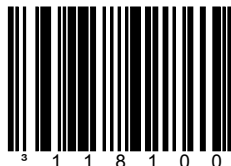


The AUX scanner must be configured for the same Baud rate as the host, with STX prefix, Nixdorf ID characters and CR Terminator enabled.

Activate on DC2 Character



\* Do Not Activate on DC2 Character



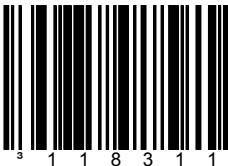
Transmit "NO READ" if  
DC2 Activated



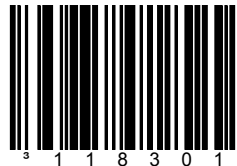
Do Not Transmit "NO  
READ" if DC2 Activated



No Green LED During  
"NO READ" Xmit



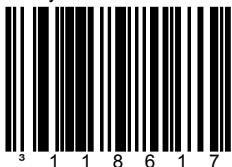
\* Green LED During  
"NO READ" Xmit



## SECTION D

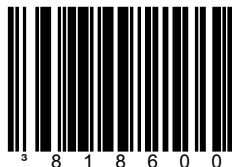
## POWER SAVE MODES

Always Power Save Mode†



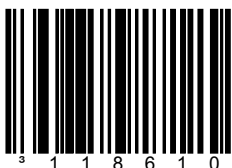
The scanner enters power save mode immediately after power-up and after each bar code scanned. †

No Power Save Mode†

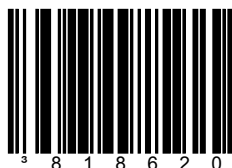


The scanner will never enter power save mode. †

† For use with omnidirectional scanners only.

Power Save Mode in  
1 minute †

The scanner enters power save mode when the scanner remains idle for 1 minute. †

Power Save Mode in  
2 minutes †

The scanner enters power save mode if the scanner remains idle for 2 minutes. †

Power Save in 5 Minutes †



The scanner enters power save mode if the scanner remains idle for 5 minutes. †

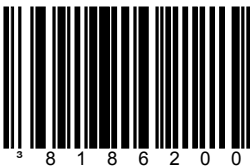
Power Save in 10 Minutes †



The scanner enters power save mode if the scanner remains idle for 10 minutes. †

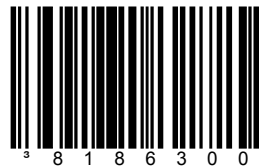
† For use with omnidirectional scanners only.

Power Save in 20 Minutes †



The scanner enters power save mode if the scanner remains idle for 20 min. †

Power Save in 30 Minutes †

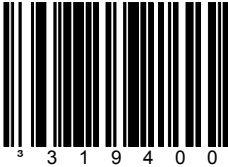


The scanner enters power save mode if the scanner remains idle for 30 min. †

## SECTION D

## POWER SAVE MODES

Default  
Power Save Mode ††



†† For MS7600, MS7220,  
and MS7320 series  
scanners only.

Blink  
Power Save Mode ††



Blinks the laser OFF & ON  
after a programmed period  
of non-use.

When the scanner  
recognizes a bar code it will  
exit the Blink mode.

Laser OFF  
Power Save Mode ††



Turns the laser OFF after a  
programmed period of non-  
use. ††

The MS7220 and MS7320  
will “wake” when the Multi-  
Function Button is pressed.

The MS7600 will “wake” if  
the IR detects movement.

Laser Motor OFF  
Power Save Mode ††



Turns the laser and motor  
OFF after a programmed  
period of non-use. ††

The MS7220 and MS7320  
will “wake” when the Multi-  
Function Button is pressed.

The MS7600 will “wake” if  
the IR detects movement.

Dual #1  
Power Save Mode ††

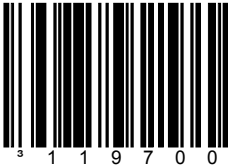


“Blinks” the laser OFF & ON after a programmed period of non-use then turns the laser and motor OFF at thirty-minute intervals.

The MS7220 and MS7320 will “wake” when the Multi-Function Button is pressed.

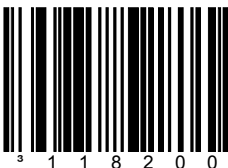
The MS7600 will “wake” if the IR detects movement.

\* Enable  
Power Save Switch



For MS7220 and MS7320 scanners only.

\* Enable Bar Code  
Absence Detection



†† For MS7600, MS7220, and MS7320 series scanners only.

Dual #2  
Power Save Mode ††

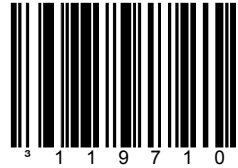


Turns the laser OFF after a programmed period of non-use then turns the motor OFF after thirty-minute intervals.

The MS7220 and MS7320 will “wake” when the Multi-Function Button is pressed.

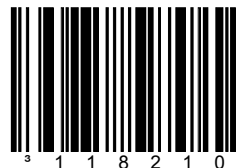
The MS7600 will “wake” if the IR detects movement.

Disable  
Power Save Switch



For MS7220 and MS7320 scanners only.

Disable Bar Code  
Absence Detection



## SECTION D

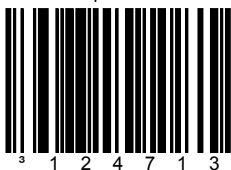
## JAPANESE DOUBLE FIELD SUPPORT

To support Japanese Double Field Bar Codes, first make sure you have your scanner programmed to the following settings.

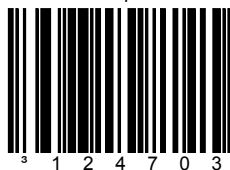
- Disable segmented decoding
- Enable 2 scan buffers
- Disable bar code absence detection
- Enable normal code selects

Then, scan the **Enable Japan 2 Field** bar code.

Enable Japan 2 Field



\* Disable Japan 2 Field



**Next**, select the matching bar codes that are used for double field symbols.

Note that only UPC/EAN bar codes are allowed in double field mode.

Select at least two characters for each bar code. The maximum is 4 upper and 4 lower bar codes.

**EXAMPLE****To select 54 as the first two characters in the Upper Code pair 1:**

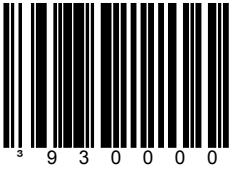
1. Scan the *Upper Code 1 Character 1* bar code (shown on page D-31)
2. Determine the correct Code Byte Value for the character 5 in 54  
(Refer to Section M's ASCII Reference Table on pages M-7 and M-8)
  - a. Scan Code Byte 0
  - b. Scan Code Byte 5
  - c. Scan Code Byte 3
3. Scan the *Upper Code 1 Character 2* bar code (shown on page D-31)
4. Determine the correct Code Byte Value for the character 4 in 54.
  - a. Scan Code Byte 0
  - b. Scan Code Byte 5
  - c. Scan Code Byte 2

**To select 18 as the first two characters in the Lower Code pair 1:**

1. Scan the *Lower Code 1 Character 1* bar code (shown on page D-31)
2. Determine the correct Code Byte Value for the character 1 in 18  
(refer to Section M's ASCII Reference Table)
  - a. Scan Code Byte 0
  - b. Scan Code Byte 4
  - c. Scan Code Byte 9
3. Scan the *Lower Code 1 Character 2* bar code (shown on page D-31)
4. Determine the correct Code Byte Value for the character 8 in 18.  
(Refer to Section M's ASCII Reference Table on pages M-7 and M-8)
  - a. Scan Code Byte 0
  - b. Scan Code Byte 5
  - c. Scan Code Byte 6



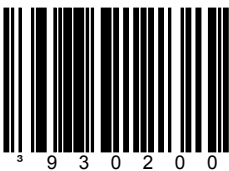
Upper Code 1 Character 1



Upper Code 1 Character 2



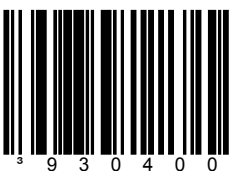
Lower Code 1 Character 1



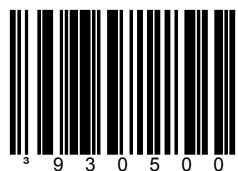
Lower Code 1 Character 2



Upper Code 2 Character 1



Upper Code 2 Character 2



## SECTION D

## JAPANESE DOUBLE FIELD SUPPORT

Lower Code 2 Character 1



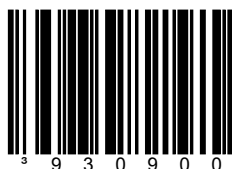
Lower Code 2 Character 2



Upper Code 3 Character 1



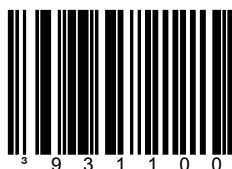
Upper Code 3 Character 2



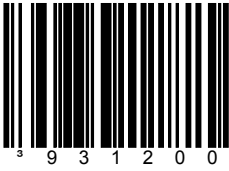
Lower Code 3 Character 1



Lower Code 3 Character 1



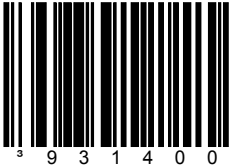
Upper Code 4 Character 1



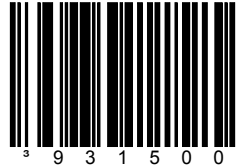
Upper Code 4 Character 2



Lower Code 4 Character 1



Lower Code 4 Character 2



## SECTION D

## JAPANESE DOUBLE FIELD SUPPORT

## Japanese Trial Time



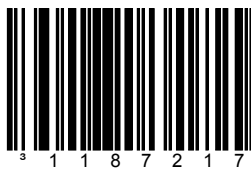
Scan the above bar code followed by the 3 code bytes in Section M that represent the timeout value desired if in special code select mode.

1 is equal to 100 milliseconds

**Example:**

If a 500 millisecond timeout is desired, scan the above code followed by code byte 0, code byte 0 and code byte 5.

## Enable Code Selects



## Enable Error Tone



Adds ability to sound RAZZ error tone when special code selects fail.

## \* Disable Error Tone



## Scanability ON



The scanner will enter scanability test mode.



**Do not enable unless instructed to by a Metrologic representative.**

## \* Scanability OFF



## Scan Count Mode ON

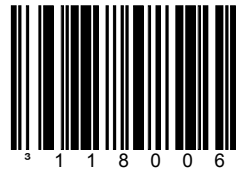


The scanner will enter scan count test mode and the scanner's firmware number will transmit to the host.



**Do not enable unless instructed to by a Metrologic representative.**

## \* Scan Count Mode OFF



## Temporary Symbologies



The *Temporary Symbologies* test code enables all major types of bar code symbologies, reduces the minimum number of characters required to 1, sets the minimum ITF characters required to 2, and adds the symbology name as a prefix to the transmission. This feature is disabled when power to the scanner is cycled OFF and ON.



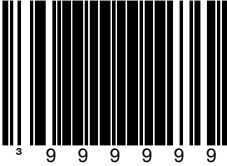
**Do not enable unless instructed to by a Metrologic representative**



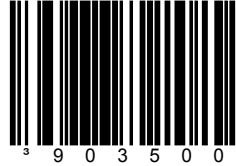


Scan the *Enter/Exit Configuration Mode* bar code before trying to set this feature. Please refer to the Multi-Code method on page x.

Enter/Exit  
Configuration Mode



~ Configurable Prefix  
Character #1



A prefix ID can be added and assigned for data transmission. Use this code with a 3-code byte sequence from Section M that represents the desired character.

~ Configurable Prefix  
Character #2



Assigns a 2<sup>nd</sup> configurable prefix character.

~ Configurable Prefix  
Character #3



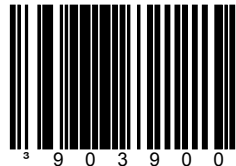
Assigns a 3<sup>rd</sup> configurable prefix character.

~ Configurable Prefix  
Character #4



Assigns a 4<sup>th</sup> configurable prefix character.

~ Configurable Prefix  
Character #5

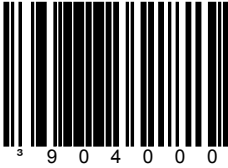


Assigns a 5<sup>th</sup> configurable prefix character.

SECTION E

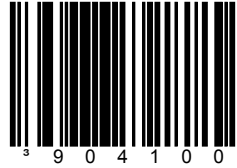
CONFIGURABLE PREFIXES, ALL DATA

~ Configurable Prefix  
Character #6



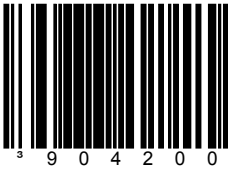
Assigns a 6<sup>th</sup> configurable prefix character.

~ Configurable Prefix  
Character #7



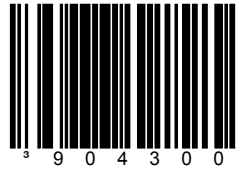
Assigns a 7<sup>th</sup> configurable prefix character.

~ Configurable Prefix  
Character #8



Assigns a 8<sup>th</sup> configurable prefix character.

~ Configurable Prefix  
Character #9

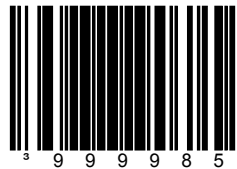


Assigns a 9<sup>th</sup> configurable prefix character.

~ Configurable Prefix  
Character #10



\* Clear all User  
Configurable Prefixes





## SECTION E CONFIGURABLE ID CHARACTERS, CODE SPECIFIC

---

\* Use Configurable Code ID Bytes as Prefixes



User configured, code specific ID bytes are transmitted before the data.



If using prefixes, user configured suffixes can not be used.

Use Configurable Code ID Bytes as Suffixes



User configured, code specific ID bytes are transmitted after the data.

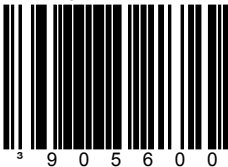


If using suffixes, user configured prefixes can not be used.

## IDENTIFIERS CHARACTER

---

~ Configurable UPC-A ID †



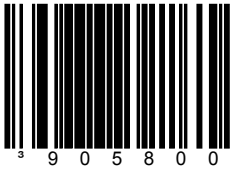
~ Configurable UPC-E ID †



† While using the Multi-Code method, scan this bar code followed by the 3 code byte codes in Section M that represent a unique ID character to be associated with this bar code type. (Refer to the *Multi-Code Method* on page x.)

**SECTION E CONFIGURABLE ID CHARACTERS, CODE SPECIFIC**

~ Configurable EAN-8 ID †



~ Configurable EAN-13 ID †



† While using the Multi-Code method, scan this bar code followed by the 3 code byte bar codes in Section M that represent a unique ID character to be associated with this bar code type. (Refer to the *Multi-Code Method* on page x.)

~ Configurable Code 39 ID †

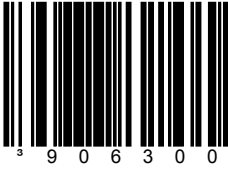


~ Configurable Code 128 ID †

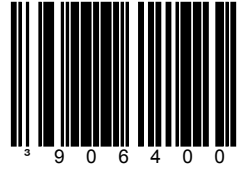


## SECTION E CONFIGURABLE ID CHARACTERS, CODE SPECIFIC

~ Configurable Code 93 ID †

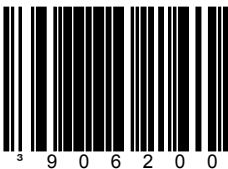


~ Configurable Code 11 ID †

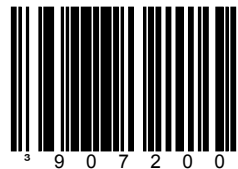


† While using the Multi-Code method, scan this bar code followed by the 3 code byte bar codes in Section M that represent a unique ID character to be associated with this bar code type. (Refer to the Multi-Code method on page x.)

~ Configurable Telepen ID †

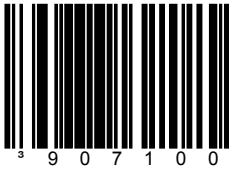


~ Configurable  
TRI-OPTIC ID †

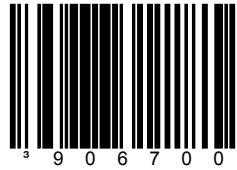


**SECTION E CONFIGURABLE ID CHARACTERS, CODE SPECIFIC**

~ Configurable  
Standard 2 of 5 ID †



~ Configurable  
Interleaved 2 of 5 ID †

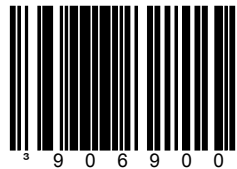


† While using the Multi-Code method, scan this bar code followed by the 3 code byte bar codes in Section M that represent a unique ID character to be associated with this bar code type. (Refer to the *Multi-Code method* on page x.)

~ Configurable  
Matrix 2 of 5 ID †

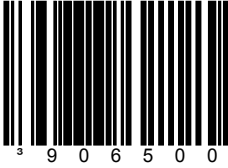


~ Configurable  
Airline 2 of 5 ID †



## SECTION E CONFIGURABLE ID CHARACTERS CODE SPECIFIC

~ Configurable  
MSI Plessey ID †

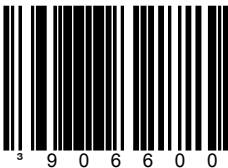


~ Configurable  
UK Plessey ID†

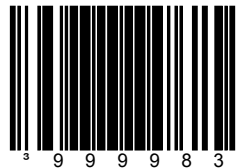


† While using the Multi-Code method, scan this bar code followed by the 3 code byte bar codes in Section M that represent a unique ID character to be associated with this bar code type. (Refer to the *Multi-Code method* on page x.)

~ Configurable  
Codabar ID †



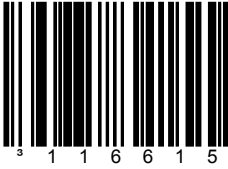
\* Clear all Configurable  
Code Specific ID's †



## SECTION E

## STANDARD PREFIX CHARACTERS

Enable STX Prefix



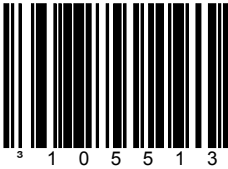
The scanner will transmit a **Start of TeXt** (ASCII 02H) before each bar code.

\* Disable STX Prefix

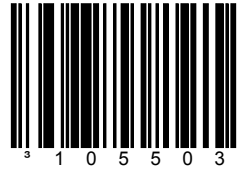


Will not transmit a **Start of TeXt** (ASCII 02H) before each bar code.

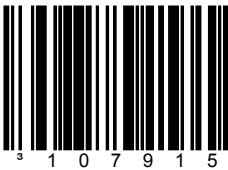
Enable Rockford-Thompson Mode



\* Disable Rockford-Thompson Mode

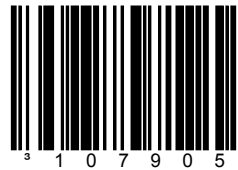


Enable AIM ID Characters



The scanner will transmit AIM symbology identifiers.

\* Disable AIM ID Characters



The scanner will not transmit AIM symbology identifiers.



Some scanner models may not support this feature.

## Enable UPC Prefix ID



When enabled, the scanner will transmit a prefix before any UPC/EAN bar code.

The prefixes are as follows:

- A (UPC-A),
- E0 (UPC-E),
- F (EAN-13), and
- FF (EAN-8).

## \* Disable UPC Prefix ID



Do not send prefix ID Characters with UPC/EAN codes.

## Enable NCR Prefix ID



When enabled, the scanner will transmit a prefix before the following code types.

The prefixes are as follows:

- A (UPC-A),
- E0 (UPC-E),
- FF (EAN-8),
- F (EAN-13),
- B1 (Code 39),
- B2 (ITF) and
- B3 (Code 128 & other codes).

## \* Disable NCR Prefix ID



## SECTION E

## STANDARD PREFIX CHARACTERS

Enable Nixdorf ID  
Characters



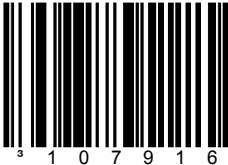
This option transmits code  
identifiers before each bar  
code for many  
Siemens/Nixdorf registers.

\* Disable Nixdorf ID  
Characters



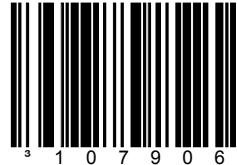
This option will not transmit  
Siemens/Nixdorf code  
identifiers.

Enable SANYO ID  
Characters



Transmit Sanyo ID  
Characters.

\* Disable SANYO ID  
Characters



Do not transmit Sanyo ID  
Characters.



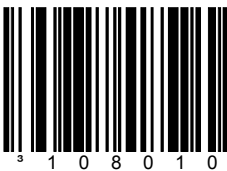
Enable TEC Register  
Format ID Characters



Disable TEC Register  
Format ID Characters



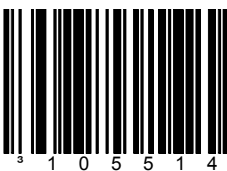
Enable TEC MA1530  
ID Characters



Disable TEC MA1530  
ID Characters



Enable Symbology Prefix



Disable Symbology Prefix



This option adds a symbology description in front of the bar code transmission.

Do not add a symbology description in front of the bar code transmission.

SECTION E

STANDARD PREFIX CHARACTERS

Enable Manufacturer ID Prefix



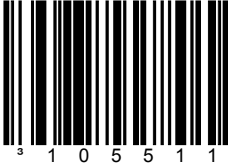
Transmits "METROLOGIC" before all bar code data to identify the scanner as a Metrologic Scanner.

\* Disable Manufacturer ID Prefix



The scanner will not transmit the manufacturer identification string.

Enable "C" Prefix



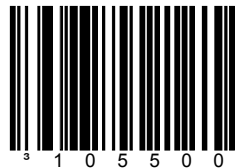
\* Disable "C" Prefix



Enable "\$" Prefix ID for UPC/EAN



\* Disable "\$" Prefix ID for UPC/EAN



Enable Tab Prefix



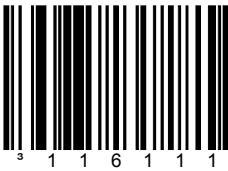
The scanner will transmit a TAB (ASCII 09H) before each bar code.

\* Disable Tab Prefix



The scanner will not transmit a TAB.

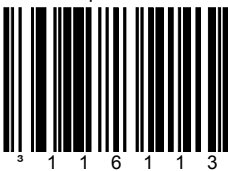
Enable SNI Beetle Mode



\* Disable SNI Beetle Mode



Enable Cipher 1021 IDs



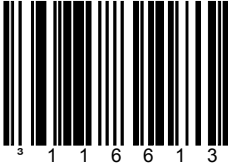
\* Disable Cipher 1021 IDs



## SECTION E

## STANDARD SUFFIX CHARACTERS

## \* Enable CR Suffix



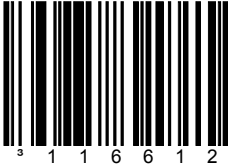
The scanner will transmit a **Carriage Return** after each bar code.

## Disable CR Suffix



The scanner will not transmit a **Carriage Return** after each bar code.

## \* Enable LF Suffix



The scanner will transmit a **Line Feed** after each bar code.

## Disable LF Suffix



The scanner will not transmit a **Line Feed** after each bar code.



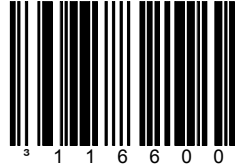
This feature is Disabled when keyboard wedge defaults are loaded.

## Enable Tab Suffix



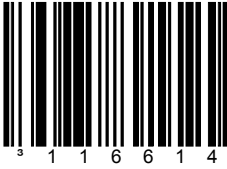
The scanner will transmit a **TAB (ASCII 09H)** after each bar code.

## \* Disable Tab Suffix



The scanner will not transmit a **TAB (ASCII 09H)** after each bar code.

## Enable ETX Suffix



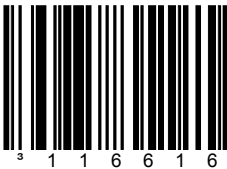
The scanner will transmit  
End of TeXt (ASCII 03H)  
after the bar code data.

## \* Disable ETX Suffix



The scanner will not  
transmit End of TeXt  
(ASCII 03H).

## Enable UPC Suffix ID

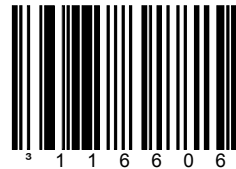


The scanner will transmit a  
suffix after any UPC/EAN  
bar code.

The suffixes are as follows:

- A (UPC-A),
- E (UPC-E),
- F (EAN-13) and
- F (EAN-8).

## \* Disable UPC Suffix ID



The scanner will not  
transmit a suffix after  
UPC/EAN bar codes.

## SECTION E

## LONGITUDINAL REDUNDANCY CHECK (LRC)

Enable Transmit of  
LRC Calculation



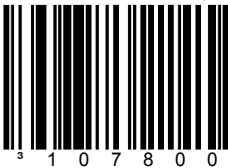
The scanner outputs an  
LRC check character after  
the bar code.

\* Disable Transmit of  
LRC Calculation



The scanner will not output  
an LRC (check character)  
after the bar code.

\* Start LRC on First Byte



The scanner will calculate  
the LRC check digit starting  
with the first character.

Start LRC on Second Byte



The scanner will calculate  
the LRC check digit starting  
with the second character.



Scan the *Enter/Exit Configuration Mode* bar code before trying to set this feature. Refer to the *Multi-Code Method* on page x.

Enter/Exit  
Configuration Mode



~ Configurable Suffix  
Character #1



A suffix ID can be added and assigned for data transmission. Use this code with a 3 code byte sequence from Section M that represents the desired character.

~ Configurable Suffix  
Character #2



Assigns a 2<sup>nd</sup> configurable suffix character.

~ Configurable Suffix  
Character #3



Assigns a 3<sup>rd</sup> configurable suffix character.

SECTION E

CONFIGURABLE SUFFIXES, ALL DATA

~ Configurable Suffix  
Character #4 †



Assigns a 4<sup>th</sup> configurable  
suffix character.

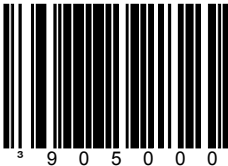
~ Configurable Suffix  
Character #5 †



Assigns a 5<sup>th</sup> configurable  
suffix character.

† While using the Multi-Code method,  
scan this bar code followed by the 3  
code byte bar codes in Section M  
that represents the desired  
character. (Refer to the *Multi-Code  
method* on page x.)

~ Configurable Suffix  
Character #6 †



Assigns a 6<sup>th</sup> configurable  
suffix character.

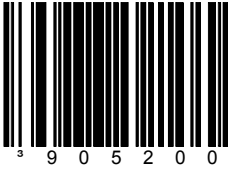
~ Configurable Suffix  
Character #7 †



Assigns 7<sup>th</sup> configurable  
suffix character.



~ Configurable Suffix  
Character #8 †



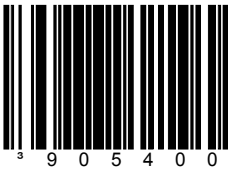
Assigns a 8<sup>th</sup> configurable  
suffix character.

~ Configurable Suffix  
Character #9 †



Assigns a 9<sup>th</sup> configurable  
suffix character.

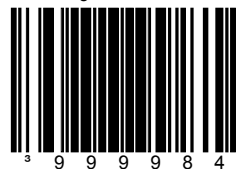
~ Configurable Suffix  
Character #10 †



Assigns a 10<sup>th</sup> configurable  
suffix character.

† While using the Multi-Code method, scan this bar code followed by the 3 code byte bar codes in Section M that represent the desired character. (Refer to the *Multi-Code method* on page x.)

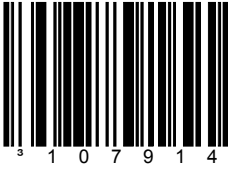
\* Clear All User  
Configurable Suffixes



SECTION E

SPECIAL FORMATS

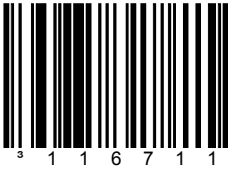
Enable SINEKO Mode



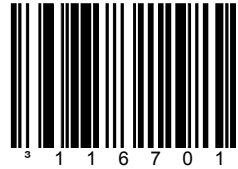
\* Disable SINEKO Mode



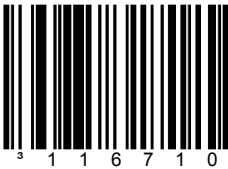
Enable Newcode  
Formatting Mode A



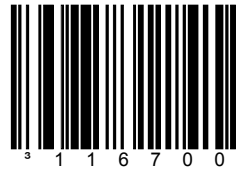
\* Disable Newcode  
Formatting Mode A



Enable Newcode  
Formatting Mode B



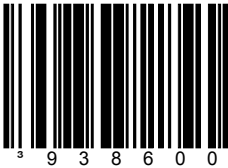
\* Disable Newcode  
Formatting Mode B



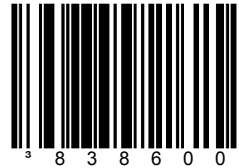
To replace a character:

1. Scan the *Enter/Exit Configuration Mode* bar code  
(located on page x, at the front of this guide)
2. Scan the *Character to Replace Code* (shown below)
3. Scan the ASCII Code Byte value of the character you wish to replace.  
(refer to the ASCII reference table in Section M)
4. Scan the *Replacement Character* bar code
5. Scan the ASCII Code Byte value of the replacement character.
6. Scan the *Enter/Exit Configuration Mode* bar code.  
(located on page x, at the front of this guide)

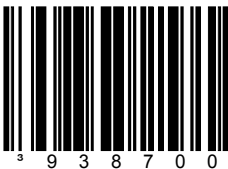
Character to Replace



No Replacement



Replacement Character





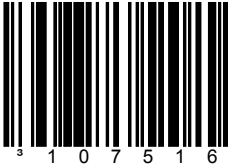
\* Transmit UPC-A  
Check Digit



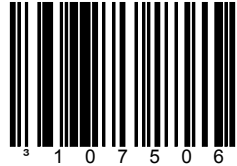
Do not Transmit  
UPC-A Check Digit



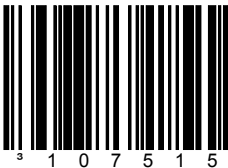
Transmit UPC-E  
Check Digit



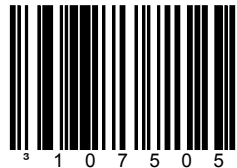
\* Do Not Transmit  
UPC-E Check Digit



Expand UPC-E to 12 Digits



\* Do Not Expand  
UPC-E To 12 Digits



Expand UPC-E bar codes to  
the 12 digit equivalent,  
UPC-A bar codes.

Do not expand UPC-E to  
the 12 digit equivalent,  
UPC-A bar code.

## SECTION F

## UPC/EAN

Convert UPC-A to EAN-13



The scanner converts UPC-A to EAN-13 by transmitting a leading zero before the bar code.

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



The scanner will not convert UPC-A to EAN-13.

Transmit Lead Zero  
on UPC-E



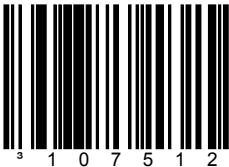
This option will transmit a zero before each UPC-E bar code.

Do Not Transmit  
Lead Zero on UPC-E



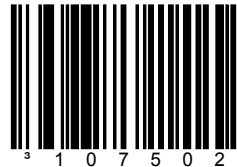
This option will not transmit a zero before each UPC-E bar code.

Convert EAN-8 to EAN-13



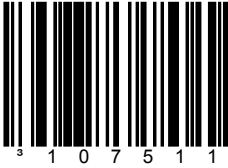
The scanner will transmit five zeros before the bar code to convert EAN-8 to EAN-13.

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



The scanner will not convert EAN-8 to EAN-13.

\* Transmit UPC-A  
Number System

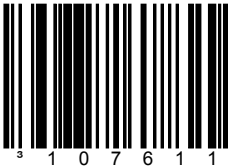


Do Not Transmit UPC-A  
Number System

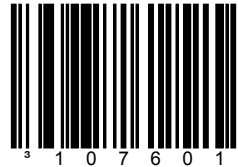


**i** Metrologic strongly discourages using this feature. Duplicate numbers may result in the database.

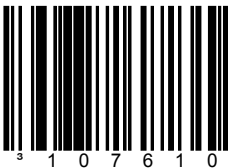
\* Transmit  
UPC-A MFR #



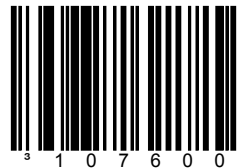
Do Not Transmit  
UPC-A MFR #



\* Transmit  
UPC-A ITEM #



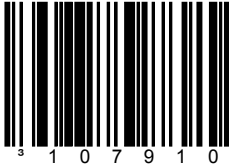
Do Not Transmit  
UPC-A ITEM #



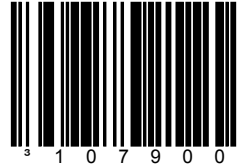
## SECTION F

## UPC/EAN

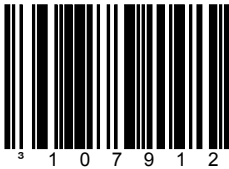
\* Transmit EAN-8  
Check Digit



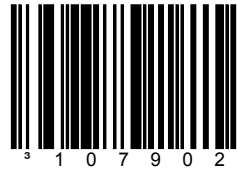
Do Not Transmit  
EAN-8 Check Digit



\* Transmit EAN-13  
Check Digit



Do Not Transmit  
EAN-13 Check Digit



GTIN-14 Format †



† For MS7220, MS7320 and MS7600 scanners only.

No GTIN-14 Format †



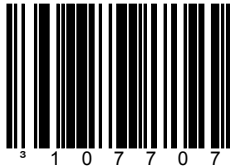


Transmit Codabar  
Start/Stop Characters



Transmits Codabar's  
start/stop characters before  
and after each bar code.

\* Do Not Transmit Codabar  
Start/Stop



Will not transmit Codabar's  
start/stop characters before  
and after each bar code.

## SECTION F

## CODABAR

Enable  
CLSI Editing

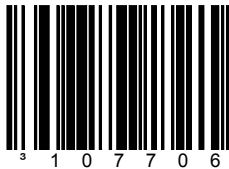


CLSI type editing will be done  
before the information is  
transmitted to the host.



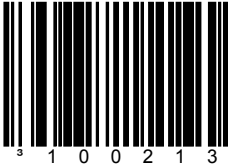
This option will only  
work with 14 digit  
Codabar type lengths.

\* Do Not Enable  
CLSI Editing



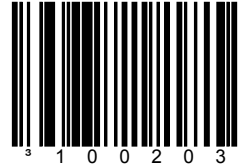
This option will not perform  
CLSI type editing before the  
information is transmitted to  
the host.

Enable MOD 43  
Check on Code 39



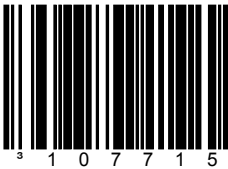
The scanner will only scan  
Code 39 bar codes that  
have a valid Modulo 43  
Check Digit.

\* Disable MOD 43 Check  
on Code 39



The scanner will not test  
Code 39 bar codes for a  
Modulo 43 Check Digit.

Transmit Mod 43  
Check Digit on Code 39



This feature works in  
conjunction with Mod 43  
Check on Code 39. Both  
must be enabled for this  
feature to work.

\* Do Not Transmit Mod 43  
Check Digit on Code 39



This option will not transmit  
Code 39's Mod 43 check  
character.

## SECTION F

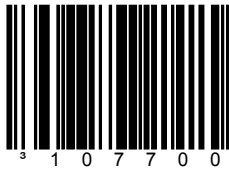
## CODE 39

Transmit Code 39 Start/Stop  
Characters



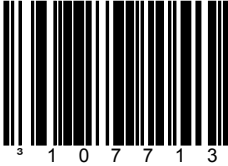
The scanner transmits Code  
39's start/stop characters before  
and after each bar code.

\* Do Not Transmit Code 39  
Start/Stop Characters



The scanner will not transmit  
Code 39's start/stop characters  
before and after each bar code.

Transmit  
Code 11 Check Digit



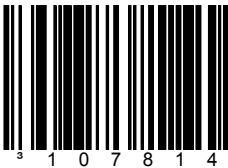
The scanner will transmit  
Code 11 check characters  
when used with the Enable  
Code 11 feature in  
Section A.

\* Do Not Transmit  
Code 11 Check Digit

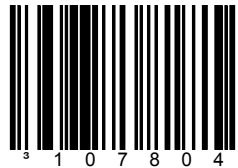


The scanner will not  
transmit Code 11 check  
characters.

Enable  
Convert Telepen ^L to E



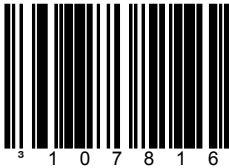
\* Disable  
Convert Telepen ^L to E



## SECTION F

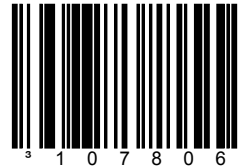
## PLESSEY

Transmit  
UK Plessey Check Digit



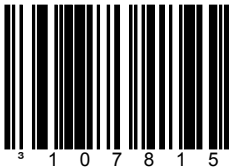
The scanner will transmit  
UK Plessey Check Digit  
characters when used with  
the Enable UK Plessey  
feature in Section A.

\* Do Not Transmit  
UK Plessey Check Digit



Will not transmit UK Plessey  
Check Digit characters.

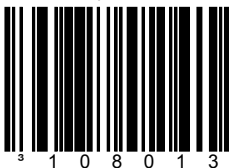
Enable  
UK Plessey Special Format



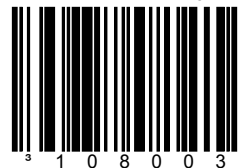
Disable  
UK Plessey Special Format



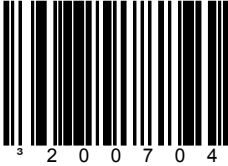
Handle Incorrect  
UK Plessey Stop Character



\* Normal UK Plessey Stop  
Character Handling

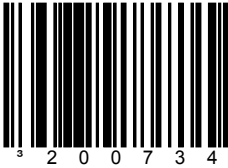


\* No MSI Plessey  
Check Digit



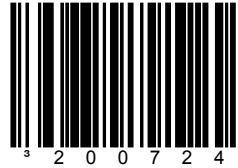
The scanner will not test  
MSI Plessey bar codes for a  
check digit.

Enable MSI Plessey MOD  
10/10 Check Digit



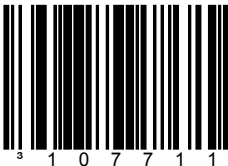
The scanner will test MSI  
Plessey bar codes for a  
double Modulo 10 check  
digit.

\* Enable MSI Plessey MOD  
10 Check Digit



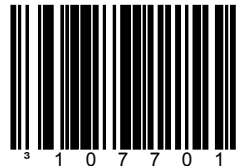
The scanner will test MSI  
Plessey bar codes for a  
single Modulo 10 check digit.

Transmit  
MSI Plessey Check Digit



This option works in  
conjunction with one or both  
of the Enabled MSI Plessey  
Mode options.

\* Do Not Transmit  
MSI Plessey Check Digit

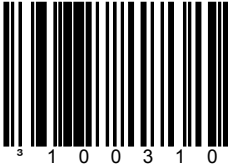


The scanner will not transmit  
MSI Plessey's check digit  
characters.

## SECTION F

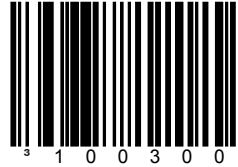
## 2 OF 5

Enable Mod 10  
Check on ITF



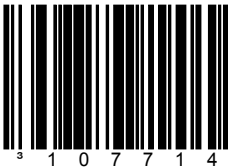
The scanner will only scan Interleaved 2 of 5 (ITF) bar codes that have a Modulo 10 check digit.

\* Disable MOD 10  
Check on ITF



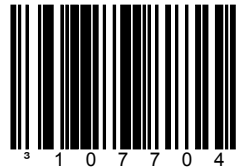
The scanner will not test Interleaved 2 of 5 (ITF) bar codes for a Modulo 10 check digit.

Transmit Mod 10  
Check Digit on ITF



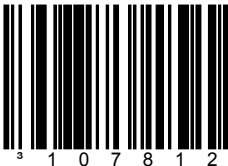
The scanner transmits Interleaved 2 of 5 (ITF) Mod 10 check character.

\* Do Not Transmit Mod 10  
Check Digit on ITF

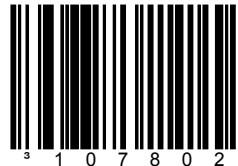


The scanner will not transmit Interleaved 2 of 5 (ITF) Mod 10 check digit character. This feature works in conjunction with Mod 10 check on ITF. Both must be enabled for this feature to work.

Transmit Matrix 2 of 5  
Check Digit



\* Do Not Transmit  
Matrix 2 of 5 Check Digit.





\* Enable RS-232 Mode



When enabled the scanner will work with RS-232  $\pm 12V$  serial output.

## SECTION G

## PARITY FEATURES

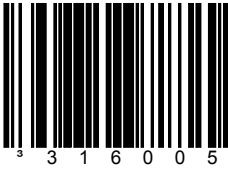


A parity bit is an extra data bit used to help catch data transmission errors. The scanner's parity must match the host's parity.

No Parity

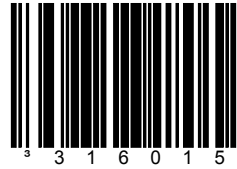


Odd Parity



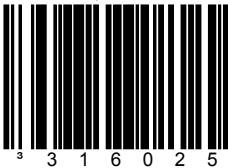
Select Odd Parity to set the parity bit to either 1 or 0 to ensure an odd number of bits are 1's.

\* Space Parity



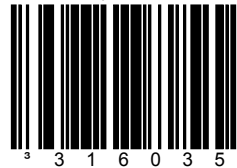
Select to set the parity bit always 0.

Even Parity



Select to set the parity bit to either 1 or 0 to ensure an even number of bits are 1's.

Mark Parity



Select to set the parity bit always 1.

## SECTION G

## BAUD RATES

\* 9600 BAUD Rate



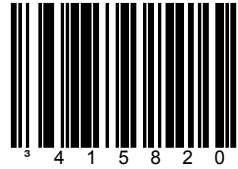
4800 BAUD Rate



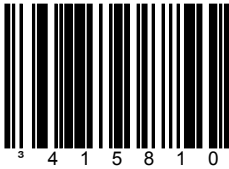
2400 BAUD Rate



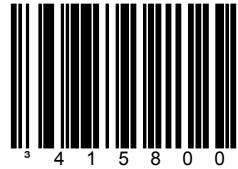
1200 BAUD Rate



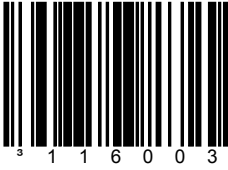
600 BAUD Rate



300 BAUD Rate



\* 7 Data Bits

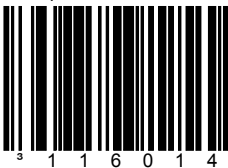


8 Data Bits

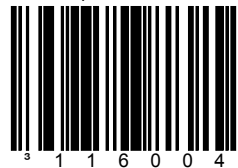


Number of data bits transmitted for each character.

1 Stop Bit



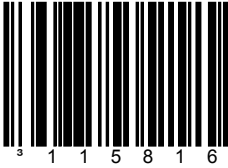
\* 2 Stop Bits



## SECTION G

## HARDWARE HANDSHAKING

Enable RTS/CTS  
Handshaking



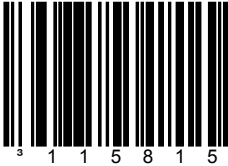
Output a **R**quest to **S**end (RTS) signal and wait for a **C**lear To **S**end (CTS) signal before transmitting data.

\* Disable RTS/CTS  
Handshaking



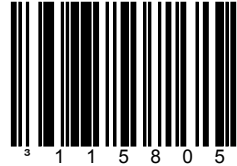
Do not use RTS/CTS handshaking.

\* Character RTS/CTS



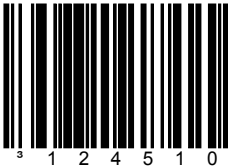
Activate/Deactivate RTS signal for each character.

Message RTS/CTS



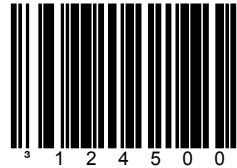
Activate RTS before sending the first character and leave it active until after the last character has been transmitted.

Invert RTS Polarity (RSV1)



+12V = Inactive  
-12V = Active

\* Standard RTS Polarity



Use standard RTS polarity  
-12V = Inactive  
+12V = Active

Invert CTS Polarity (RSV2)



+12V = Inactive, do not send

-12V = Active, OK to send

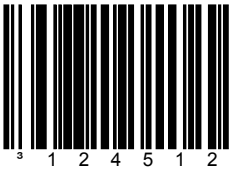
\* Standard CTS Polarity



-12V = Inactive, do not send

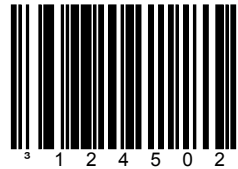
+12V = Active, OK to send

Activate RTS, Do Not wait for CTS (RSV3)



Activate RTS for transmission but do not wait for CTS to send.

\* Activate RTS, Wait for CTS



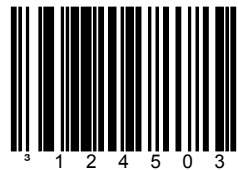
Wait for CTS after activating RTS.

Test CTS Not Present Before RTS (RSV4)



Do not activate RTS if CTS is already present.

\* Do Not Test for CTS Present Before RTS



Activate RTS without testing if CTS is already active.

## SECTION G

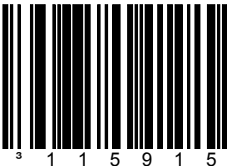
## HARDWARE HANDSHAKING

Enable DTR Support

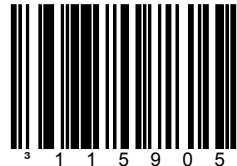


The scanner will stop scanning when the Data Terminal Ready (DTR) signal goes inactive.

\* Disable DTR Support

Enable  
RTS Counter Toggle

The scanner will toggle the RTS line on a good decode.

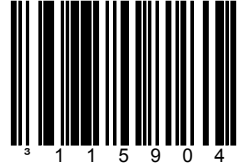
\* Disable  
RTS Counter Toggle

Enable XON/XOFF  
Handshaking



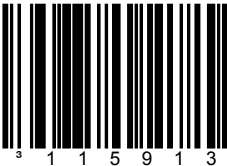
The scanner will stop transmission whenever an XOFF (ASCII 13H) is received. Transmission will resume after an XON (ASCII 11H) is received.

\* Disable XON/XOFF  
Handshaking



The scanner will not test for XON/XOFF.

Enable ACK/NAK

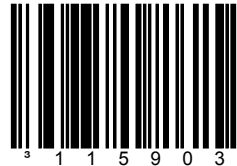


After transmitting data, wait for an ACK (06H) or a NAK (15H) response from the host.

If ACK is received, complete the communications cycle and look for more bar codes.

If NAK is received, retransmit the last set of bar code data and wait for ACK/NAK again.

\* Disable ACK/NAK



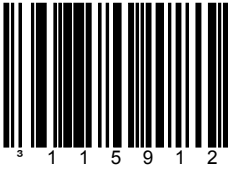
Do not support ACK/NAK handshaking.



## SECTION G

## SOFTWARE HANDSHAKING

## Enable O/N Handshaking



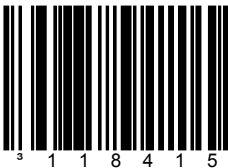
ACK/NAK handshaking (page G 9) must be enabled for this feature to work.

## Support BEL/CAN in ACK/NAK



When BEL (07H) is received, the scanner beeps 3 times and exits the communications loop. If a CAN (18H) is received, then the scanner will exit the communications loop, silently.

## Enable Razz Command

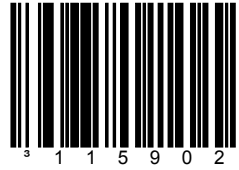


When a z is received, the scanner will RAZZ once. Multiple razzes can be sounded if the character before the z is a number and is sent within 1 second of the z.

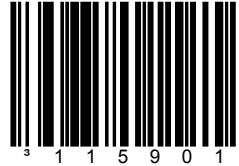


The normal BEL commands must be activated for feature.

## Disable O/N Handshaking

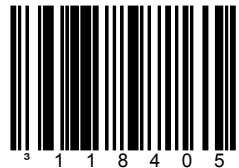


## \* Ignore BEL/CAN in ACK/NAK



Ignore BEL/CAN characters in communication loop.

## Disable Razz Command



Ignore z characters in communication loop.

Enable 5 Retries on  
ACK/NAK Time Out



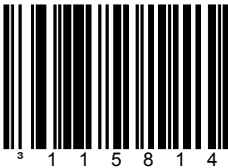
Allow up to 5 NAK  
retransmissions of the data  
before dropping out of the  
communications loop.

\* Disable 5 Retries on  
ACK/NAK Time Out



Do not limit retransmission  
to 5 NAK cycles.

Enable 5 NAK Retries



Disable 5 NAK Retries



## SECTION G

## MISCELLANEOUS

Enable French PC Term



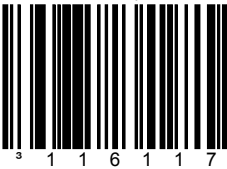
The scanner transmits PC type make/break scan codes instead of ASCII data characters. The scan codes match a WYSE French PC Terminal Emulation.

\* Disable French PC Term



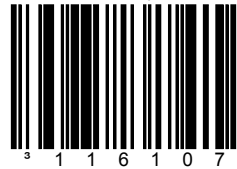
Do not transmit in French PC Term Mode.

Enable USA Wyse PC



Enables USA Wyse PC style keyboard PCTERM mode.

Disable USA Wyse PC



Disables USA Wyse PC style keyboard PCTERM mode.

### Load Keyboard Wedge Defaults



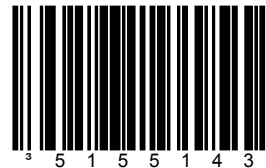
Loads default settings for keyboard wedge mode.

### Enable Stand-Alone Keyboard Emulation



Use this with special stand-alone models that are not cabled for an external keyboard. When the Stand-Alone Mode is enabled, the scanner will send keyboard "power on" information and configure hardware to simulate a constant keyboard connection.

### \* Enable Keyboard Wedge Emulation

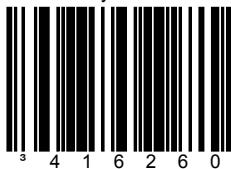


Use this with an external keyboard. Transmit in wedge mode to allow standard PC keyboards to communicate when no bar code data is available.

## SECTION H

## COUNTRY/SCAN CODE TABLE SELECTS

\* USA Keyboard



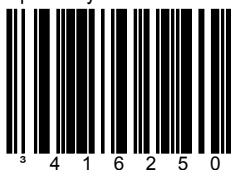
Enable USA Keyboard.

Switzerland Keyboard



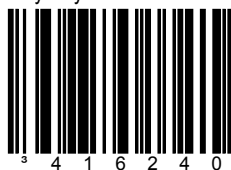
Enable Swiss Keyboard

Spain Keyboard



Enable Spanish Keyboard

Italy Keyboard



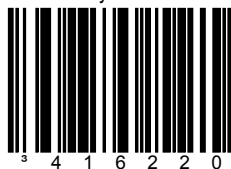
Enable Italian Keyboard

Germany Keyboard



Enable German Keyboard

France Keyboard



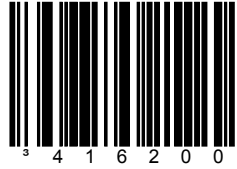
Enable French Keyboard

UK Keyboard



Enable UK Keyboard.

Belgium Keyboard



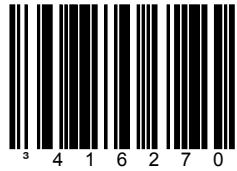
Enable Belgium Keyboard

Japanese Keyboard



Enable Japanese Keyboard

IBM 4700 Financial Keyboard



Enable IBM 4700 Financial Keyboard

Sweden/Finland Keyboard

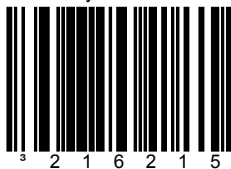


Enable Sweden/Finland Keyboard

## SECTION H

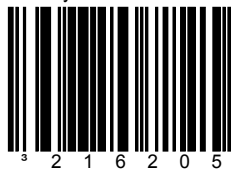
## KEYBOARD/SYSTEM TYPE

## \* AT Keyboard



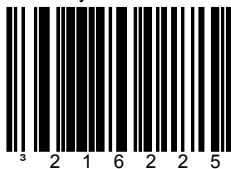
If using an AT computer, scan the above bar code. (Includes IBM PS/2 and compatible models 50, 55, 60, 80)

## XT Keyboard



If using an XT computer, scan the above bar code.

## PS/2 Keyboard



Scan the above code for PS/2 computer. (Includes IBM PC and compatible models 30, 70 and 8556)

## Terminal KB Emulation



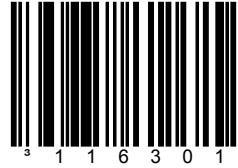
Scan the above code to enable terminal keyboard emulation mode.

Transmit  
Make Code Only



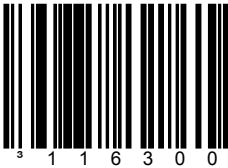
**i** Do not scan unless instructed by a Metrologic representative.

\* Transmit  
Make/Break Code



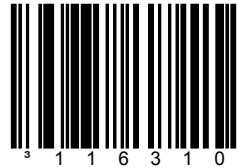
**i** Do not scan unless instructed by a Metrologic representative.

Do Not Transmit  
F0H Break Code



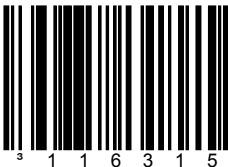
The scanner will not transmit the F0H in the break-code sequence.

\* Transmit  
F0H Break Code



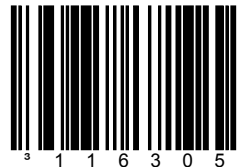
The scanner will transmit the F0H in the break-code sequence.

Transmit Cleanup Bit



Use for certain NEC computers.

\* Do Not Transmit  
Cleanup Bit





## SECTION H

## SPECIAL KEYBOARD FEATURES

## Enable Alt Mode



The scanner will duplicate the following keyboard sequence:

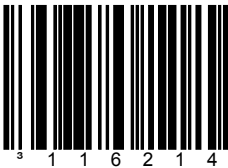
*Hold down ALT key and Type decimal number that corresponds to the appropriate character.*

## \* Disable Alt Mode



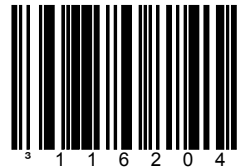
**i** Caution: If the host software application uses the right ALT key as a “Hot” key, ALT mode must be disabled.

## Enable Auto Detect Mode (AT/PS2)



Automatically detects caps lock status.

## \* Disable Auto Detect Mode (AT/PS2)



The Auto Detect Caps Lock feature is not supported.

Enable Caps Lock (XT)

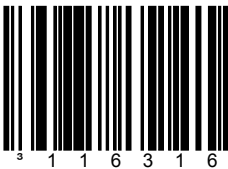


\* Disable Caps Lock (XT)

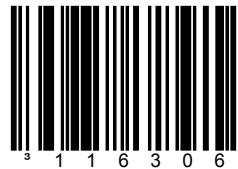


The Caps Lock feature is not supported.

Send Numbers as Keypad Data

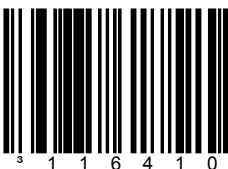


\* Send Numbers as Normal Data

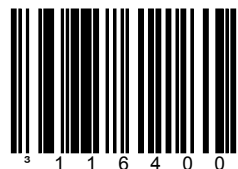


All data is sent as if it has been entered on a keypad.

Enable Reserved Feature



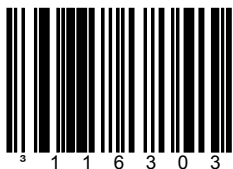
\* Disable Reserved Feature



## SECTION H

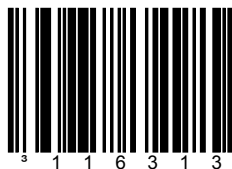
## SPECIAL KEYBOARD FEATURES

- \* Use Extended ASCII to Send Extended Key Codes



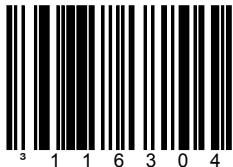
Use extended ASCII characters to send PC keyboard keys such as F1, F2, etc... See section M for details.

- Use Extended ASCII Characters as Extended ASCII

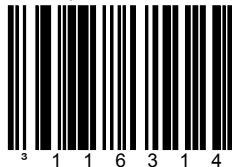


Transmit extended ASCII codes via ALT mode.

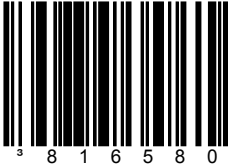
- \* Character KB Inhibit



- Message KB Inhibit



Inter-Scan Code Delay  
800 Microseconds

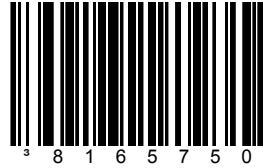


The time specified represents the amount of time between individual 9 bit-scan codes.



This parameter may need to be adjusted for operation with certain PC keyboard BIOS.

Inter-Scan Code Delay  
7.5 msec

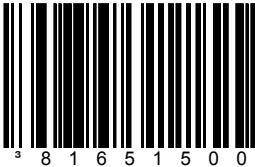


The time specified represents the amount of time between individual 9 bit-scan codes.



This parameter may need to be adjusted for operation with certain PC keyboard BIOS.

Inter-Scan Code Delay  
15 msec

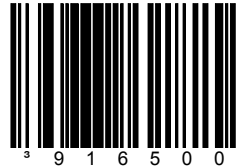


The time specified represents the amount of time between individual 9 bit-scan codes.



This parameter may need to be adjusted for operation with certain PC keyboard BIOS.

~ Variable Inter-Scan  
Code Delay msec



Refer to the Multi-Code Configuration method on page x.

## SECTION H

## CONTROL SETS

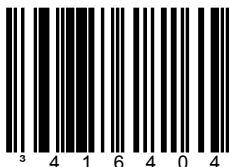
In general, standard bar code symbologies will only encode the ASCII character set. Function keys, arrow keys and many other “extended” keys on an IBM compatible keyboard do not translate to ASCII characters. One method of “bar coding” the extended keys is to substitute the extended key codes when a specific ASCII control character found in the bar code stream. The Control Sets are specific translation of the ASCII (HEX) set.

## CONTROL SET #1

Enable Control Set #1



Disable Control Set #1



ASCII (HEX)	ASCII Control	Extended Key
00H	Null	Numeric Keypad
01H	SOH	Num Lock
02H	STX	Down
03H	ETX	Numeric Keypad
04H	EOT	Insert
05H	ENQ	Delete
06H	ACK	System Request
07H	BEL	←
08H	BS	→
09H	TAB	Tab
0AH	LF	Caps Lock
0BH	VT	Shift Tab
0CH	FF	Alt
0DH	CR	Enter
0EH	SO	Control
0FH	SI	Up Arrow
10H	DLE	F1
11H	DC1	F2
12H	DC2	F3
13H	DC3	F4
14H	DC4	F5
15H	NAK	F6
16H	SYN	F7
17H	ETB	F8
18H	CAN	F9
19H	EM	F10
1AH	SUB	Home
1BH	ESC	Esc
1CH	FS	Page Up
1DH	GS	Page Down
1EH	RS	Print Screen
1FH	US	End

## SECTION H

**3151 TERMINAL KEYBOARD**

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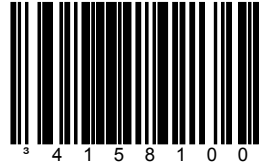
\* 3151 Terminal Keyboard





A "Baud" or "Baud Rate" is the speed at which data is transmitted. Select a Baud for the scanner that matches the host device.

115200 BAUD Rate



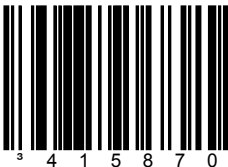
57600 BAUD Rate



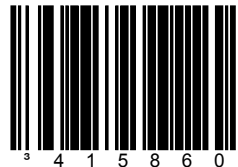
38400 BAUD Rate



19200 BAUD Rate



14400 BAUD Rate





Load OCIA Defaults



Enable OCIA

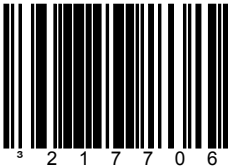


Select this option if communications require OCIA (**O**ptically **C**oupled **I**nterface **A**dapter).

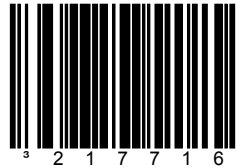


This serial interface is clocked by the host.

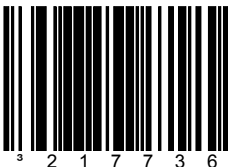
Enable DTS/Siemens



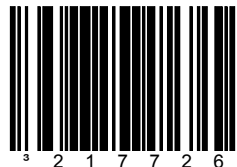
\* Enable DTS/Nixdorf



Enable NCR-S

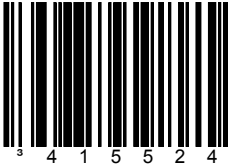


Enable NCR-F



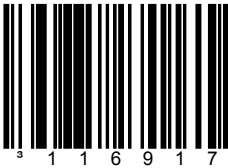


## Enable Light Pen Mode

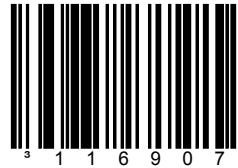


Select this option if the scanner will be used in place of a light pen. It provides light pen emulation of each bar code scanned.

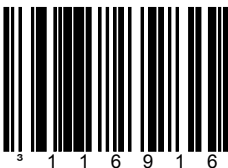
## \* Bars High



## Spaces High

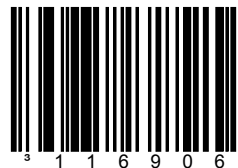


## Transmit Code 39



All bar codes will be decoded then transmitted as code 39 bar codes.

## \* Transmit as Scanned



All bar codes will be decoded and transmitted in their original symbology.

## SECTION J

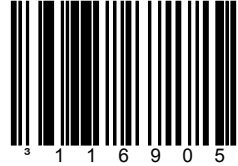
## LIGHT PEN/SET NARROW ELEMENT BORDER

Poll Light Pen Source



The scanner waits for an active source voltage before transmitting data.

\* Do Not  
Poll Light Pen Source

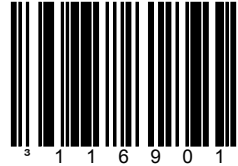
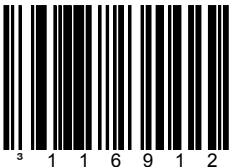


The scanner will not wait for an active source voltage before transmitting data.

Enable Light Pen  
Extra Toggle

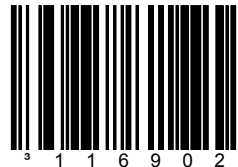
The scanner beeps and toggles the light pen data line with an extra data pulse to condition the decoder.

\* Disable Light Pen  
Extra Toggle

10x Narrow  
Element Border

This bar code allows the transmission of Light Pen/Wand emulation using a 10x border.

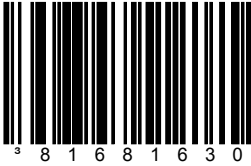
\* 50x Narrow  
Element Border



This bar code allows the transmission of Light Pen/Wand emulation using a 50x border.

## SECTION J SET NARROW ELEMENT WIDTH /LASER EMULATION

\* 1 ms  
Narrow Element Width



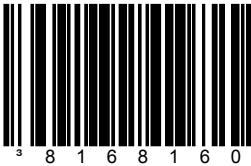
This option allows the transmission of Light/Pen Wand emulation a 1 ms narrow element width.

60  $\mu$ s  
Narrow Element Width



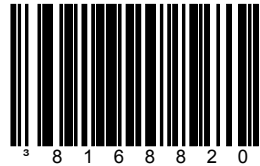
This transmits at 60  $\mu$ s narrow element width.

100  $\mu$ s  
Narrow Element Width



This transmits at 100  $\mu$ s narrow element width.

500  $\mu$ s  
Narrow Element Width



This transmits at 500  $\mu$ s narrow element width.

~ Variable  
Narrow Element Width †



† Refer to the Multi-Code Method on page x.

Laser Emulation



Sets the minimum x-dimension in 6  $\mu$ s increments. Scan this code followed by a 3 digit code byte sequence found in Section M. †



Load  
IBM 46xx Defaults



Load default format settings  
for IBM 46xx systems.

Enable IBM 46xx  
Communication



Select this option for IBM  
46xx SIOC/RS485  
communication.

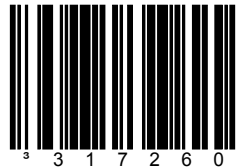


Not all scanners  
support this interface.  
The correct interface  
board is required.

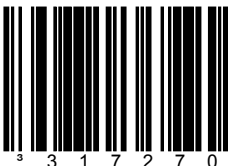
IBM Port 17B  
3687-2 In Counter



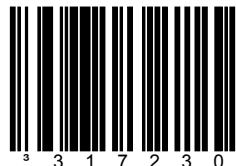
IBM Port 5B  
1520 HH Laser



\* IBM Port 9B  
4500 CCD HH BCR1



IBM Port 9B  
4501 CCD HH BCR2



## SECTION K

## IBM RESERVE CODES

IBM Reserve #1



IBM Reserve #2



IBM Reserve #3



IBM Reserve #5





User configurable prefixes, symbol length and other features that use these code bytes for configuration, require that the scanner be in configuration mode. Scan the Enter/Exit Configuration Mode bar code before starting the configuration cycle. Single code configuration mode does not work for these multi-code sequences.



## EXAMPLE

User configurable prefix/suffix characters (Section E) can be saved into the scanner by scanning the 3 digit decimal equivalent of the ASCII character into the appropriate character location with the code byte bar codes.

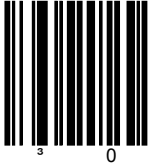
To add an asterisk (\*) as a prefix scan the following bar codes in order:

1. Enter/Exit Configuration Mode (3 beeps)
2. Configurable Prefix 1 (1 beep)
3. Code Byte 0 (1 beep)
4. Code Byte 4 (2 beeps)
5. Code Byte 2 (3 beeps)
6. Enter/Exit Configuration Mode (3 beeps)

## SECTION M

## CODE BYTES 0-5

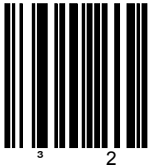
Code Byte 0



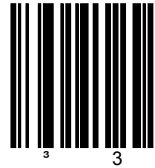
Code Byte 1



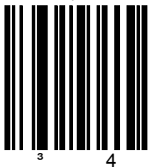
Code Byte 2



Code Byte 3



Code Byte 4



Code Byte 5



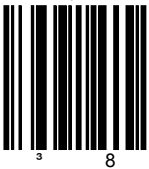
Code Byte 6



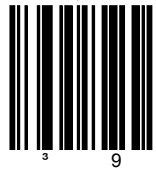
Code Byte 7



Code Byte 8



Code Byte 9



## SECTION M

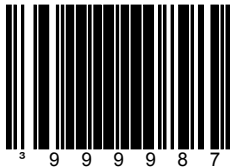
## RESERVED CODES

~ Enable Reserved Code



Contact a Metrologic customer service representative for additional details on this feature.

~ Disable Reserved Code



CODE BYTE	CODE TYPES
004	UPC-A
002	UPC-E
003	EAN-8
005	EAN-13
080	Code 39
081	Codabar
082	Interleaved 2 of 5
083	Code 128
084	Code 93
091	MSI Plessey
092	Code 11
093	Airline 2 of 5 (15 digits)
094	Matrix 2 of 5
095	Telepen
096	UK Plessey
098	Standard 2 of 5
097	Airline (13 digits)
099	TRI-OPTIC

## SECTION M

## ASCII REFERENCE TABLE

HEX VALUE	DECIMAL VALUE/ CODE BYTE VALUE	CHARACTER	CONTROL KEYBOARD EQUIVALENT
00	000	NUL	@
01	001	SOH	A
02	002	STX	B
03	003	ETX	C
04	004	EOT	D
05	005	ENQ	E
06	006	ACK	F
07	007	BEL	G
08	008	BS	H
09	009	HT	I
0A	010	LF	J
0B	011	VT	K
0C	012	FF	L
0D	013	CR	M
0E	014	SO	N
0F	015	SI	O
10	016	DLE	P
11	017	DC1	Q
12	018	DC2	R
13	019	DC3	S
14	020	DC4	T
15	021	NAK	U
16	022	SYN	V
17	023	ETB	W
18	024	CAN	X
19	025	EM	Y
1A	026	SUB	Z

HEX VALUE	DECIMAL VALUE/ CODE BYTE VALUE	CHARACTER	CONTROL KEYBOARD EQUIVALENT
1B	027	ESC	[
1C	028	FS	\
1D	029	GS	^
1E	030	RS	_
1F	031	US	
20	032	SP	space, blank
21	033	!	
22	034	"	
23	035	#	
24	036	\$	
25	037	%	
26	038	&	
27	039	'	apostrophe
28	040	(	
29	041	)	
2A	042	*	
2B	043	+	
2C	044	,	comma
2D	045	-	minus
2E	046	.	period
2F	047	/	
30	048	0	number zero
31	049	1	number one
32	050	2	
33	051	3	
34	052	4	
35	053	5	

## SECTION M

## ASCII REFERENCE TABLE

HEX VALUE	DECIMAL VALUE/ CODE BYTE VALUE	CHARACTER	CONTROL KEYBOARD EQUIVALENT
36	054	6	
37	055	7	
38	056	8	
39	057	9	
3A	058	:	
3B	059	;	
3C	060	<	less than
3D	061	+	
3E	062	>	greater than
3F	063	?	
40	064	@	shift P
41	065	A	
42	066	B	
43	067	C	
44	068	D	
45	069	E	
46	070	F	
47	071	G	
48	072	H	
49	073	I	letter I
4A	074	J	
4B	075	K	
4C	076	L	
4D	077	M	
4E	078	N	



HEX VALUE	DECIMAL VALUE/ CODE BYTE VALUE	CHARACTER	CONTROL KEYBOARD EQUIVALENT
4F	079	O	letter O
50	080	P	
51	081	Q	
52	082	R	
53	083	S	
54	084	T	
55	085	U	
56	086	V	
57	087	W	
58	088	X	
59	089	Y	
5A	090	Z	
5B	091	[	shift K
5C	092	\	shift L
5D	093	]	shift M
5E	094	^	↑, shift N
5F	095	_	←, shift O, underscore
60	096	`	accent grave
61	097	a	
62	098	b	
63	099	c	
64	100	d	
65	101	e	
66	102	f	
67	103	g	
68	104	h	
69	105	i	

## SECTION M

## ASCII REFERENCE TABLE

HEX VALUE	DECIMAL VALUE/ CODE BYTE VALUE	CHARACTER	CONTROL KEYBOARD EQUIVALENT
6A	106	j	
6B	107	k	
6C	108	l	
6D	109	m	
6E	110	n	
6F	111	o	
70	112	p	
71	113	q	
72	114	r	
73	115	s	
74	116	t	
75	117	u	
76	118	v	
77	119	w	
78	120	x	
79	121	y	
7A	122	z	
7B	123	{	
7C	124		vertical slash
7D	125	}	alt mode
7E	126	~	(alt mode)
7F	127	DEL	delete, rubout

KEY	AT SCAN CODE	PS2 SCAN CODE	3151	PREFIX/SUFFIX VALUE HEX = DECIMAL
↑	75H	48H	63H	80H = 128
↓	72H	50H	60H	81H = 129
→	74H	4DH	6AH	82H = 130
←	6BH	4BH	61H	83H = 131
Insert	70H	52H	67H	84H = 132
Delete	71H	53H	64H	85H = 133
Home	6CH	47H	6EH	86H = 134
End	69H	4FH	00H	87H = 135
Page Up	7DH	49H	00H	88H = 136
Page Down	7AH	51H	00H	89H = 137
Right Alt	11H	38H	00H	8AH = 138
Right Ctrl	14H	1DH	39H	8BH = 139
Reserved	00H	00H	00H	8CH = 140
Reserved	00H	00H	00H	8DH = 141
Numeric Keypad Enter	5AH	1CH	79H	8EH = 142
Numeric Keypad /	4AH	35H	00H	8FH = 143
F1	05H	3BH	07H	90H = 144
F2	06H	3CH	0FH	91H = 145
F3	04H	3DH	17H	92H = 146
F4	0CH	3EH	1FH	93H = 147
F5	03H	3FH	27H	94H = 148
F6	0BH	40H	2FH	95H = 149
F7	83H	41H	37H	96H = 150
F8	0AH	42H	3FH	97H = 151
F9	01H	43H	47H	98H = 152
F10	09H	44H	4FH	99H = 153
F11	78H	57H	56H	9AH = 154
F12	07H	58H	5EH	9BH = 155
Numeric +	79H	4EH	00H	9CH = 156

## SECTION M

## EXTENDED KEY CODE REFERENCE TABLE

KEY	AT SCAN CODE	PS2 SCAN CODE	3151	PREFIX/SUFFIX VALUE HEX = DECIMAL
Numeric -	7BH	4AH	7CH	9DH = 157
Numeric *	7CH	37H	00H	9EH = 158
Caps Lock	58H	3AH	14H	9FH = 159
Num Lock	77H	45H	00H	A0H = 160
Left ALT	11H	38H	00H	A1H = 161
Left CTRL	14H	1DH	11H	A2H = 162
Left Shift	12H	2AH	12H	A3H = 163
Right Shift	59H	36H	59H	A4H = 164
Print Screen	Multiple	00H	00H	A5H = 165
Tab	0DH	0FH	0DH	A6H = 166
Shift Tab	8DH	8FH	65H	A7H = 167
Enter	5AH	1CH	5AH	A8H = 168
ESC	76H	01H	08H	A9H = 169
Left ALT Make	11H	36H	00H	AAH = 170
Left ALT Break	11H	B6H	00H	ABH = 171
Left CTRL Make	14H	1DH	00H	ACH = 172
Left CTRL Break	14H	9DH	00H	ADH = 173
* Left ALT + 1 character	11H	36H	00H	AEH = 174
* Left CTRL + 1 character	14H	1DH	00H	AFH = 175
* Send			58H	C0H = 192
Clear			6FH	C1H = 193
Jump			76H	C2H = 194
Send Line			7EH	C3H = 195
Erase EOF			6DH	C4H = 196
Send - Make Only			58H	C5H = 197

\* Example:

1<sup>st</sup> Configurable Prefix = 174

2<sup>nd</sup> Configurable Prefix = 065

Scanner will transmit <left ALT Make> "A" <Left ALT Break>

Metrologic manufactures several scanners for OEM applications. These scanners may use a different set of defaults than the standard Metrologic factory defaults. Scanning the following bar codes will restore the default factory settings.

Enable Factory Defaults



Scan this code followed by the “Recall Defaults” code to enable and load Metrologic factory defaults.

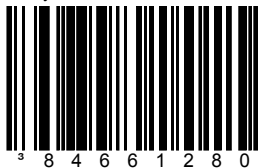
Recall Defaults



## SECTION N

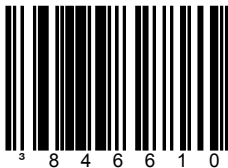
## CUSTOM DEFAULTS

## Ruby Verifone Defaults



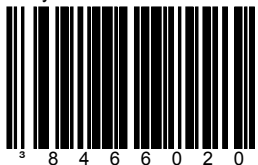
Scan this code followed by the “Recall Defaults” code to enable and load Ruby Verifone Defaults.

## RCH



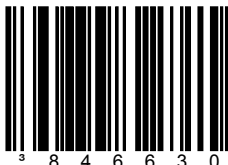
Scan this code followed by the “Recall Defaults” code to enable and load RCH Defaults.

## Sanyo



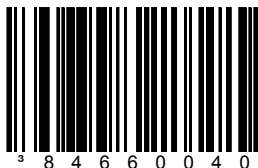
Scan this code followed by the “Recall Defaults” code to enable and load Sanyo Defaults.

## Gilbarco



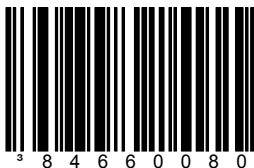
Scan this code followed by the “Recall Defaults” code to enable and load Gilbarco Defaults.

## ALT Defaults



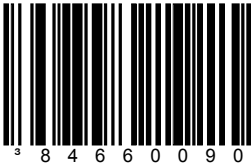
Scan this code followed by the “Recall Defaults” code to enable and load ALT Defaults.

## MS6750 Defaults



Scan this code followed by the “Recall Defaults” code to enable and load MS6750 Defaults.

German Post Defaults



Scan this code followed by the "Recall Defaults" code to enable and load German Post Defaults.

Custom Keyboard FR1



Custom Terminal FR1



## SECTION N

## SERIAL PROGRAM MODE

For Serial Program Mode, all commands must be framed by an STX (02 Hex) and ETX (03 Hex). To recall defaults:

1. Transmit <STX>999999<ETX> through the Serial Port. This will put the scanner in serial program mode. Scanning will be suspended and the scanner will respond with an ACK (06 Hex).
2. Transmit <STX>999998<ETX> through the Serial Port. This is the Recall Default bar code in the MetroSelect guide. The scanner will respond with an ACK (06 Hex).
3. Transmit <STX>999999<ETX> through the Serial Port. This will cause the scanner to exit program mode and save the new settings. The scanner will beep 3 times and send an ACK (06 Hex).

If at anytime, the scanner cannot recognize a command, it will respond with a NAK (15 Hex).

## SOFTWARE IDENTIFICATION

Software Number



The scanner will transmit its software revision when this feature is enabled.



\* Disable AUX Port



---

## AUX PORT AND SECONDARY DEVICE DATA FORMATS FOR THE MS7220, MS7320, MS7600 AND MS202X

---

Follow **Step 1** to configure the *auxiliary port* to accept a Metrologic scanner as the *secondary* scanner. Then follow **Step 2** to configure the *secondary* scanner to match the auxiliary port's data format.

If the secondary scanner is not a Metrologic scanner go to page 3 and follow the instructions under "When using a non-Metrologic RS-232 Device as a secondary".



The auxiliary input port's data format must match the main output format of the secondary scanner.

**Step 1:** Scan the following bar code to enable the *auxiliary port* on the MS7220/7320/7600.

AUX Port Data Format



*Continued on next page.*

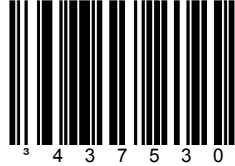
## SECTION O AUX PORT AND SECONDARY DEVICE DATA FORMATS FOR THE MS7220, MS7320, MS7600 AND MS202X

**Step 2:** Then scan the following bar codes, in order, to configure the *secondary* scanner.

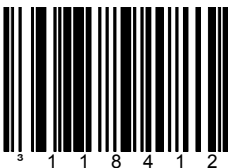
1. Enable AUX Output



2. Secondary Scanner Data Format



3. Enable Comm Timeouts



4. Turn OFF Auxiliary Scanner's Beeper (Optional)



## SECTION O **AUX PORT AND SECONDARY DEVICE DATA FORMATS**

### **FOR THE MS7220, MS7320, MS7600 AND MS202X**

#### **When using a non-Metrologic RS-232 device as a secondary:**

Scan the following bar code to enable the auxiliary port on the MS7220/7320/7600/202x.

AUX Port General RS-232 Format



The *auxiliary* input port's data format must match the main output format of the secondary device. The *secondary* device must be capable of RTS/CTS handshaking and have a carriage return (ASCII 0DH) terminator on the data.



The default settings for the *AUX Port General RS-232 Format* are:

- 38400 baud
- 7 data bits
- 2 stop bits
- Space parity

To change these settings refer to Section O, pages 5-8.

## SECTION O ADDITIONAL AUXILIARY PORT DATA FORMATS

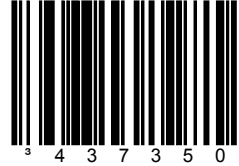


The auxiliary input port's data format must match the main output format of the secondary device.

Enable AUX Port with UPC  
Supplemental Data Format



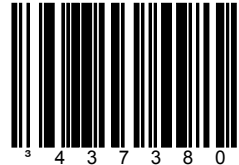
Enable AUX Port with Code  
Select Data Format



Enable AUX Port with Tech 7,  
8 Data Format



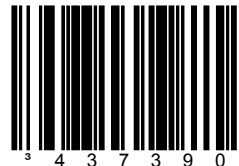
Enable AUX Port with  
Reserved 2 Data Format



Enable AUX Port  
with Reserved 3 Data Format



Enable AUX Port with  
Reserved 1 Data Format



Enable AUX Port with Stratos  
Decode Data Format



## SECTION O

## AUXILIARY PORT BAUD RATES

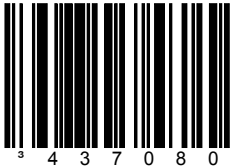
AUX 115200 Baud Rate



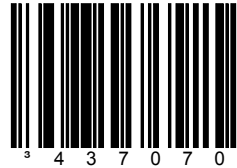
AUX 57600 Baud Rate



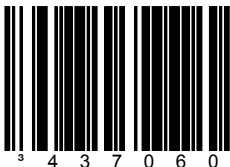
AUX 38400 Baud Rate



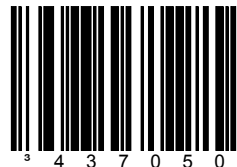
AUX 19200 Baud Rate



AUX 14400 Baud Rate



AUX 9600 Baud Rate



AUX 4800 Baud Rate



AUX 2400 Baud Rate



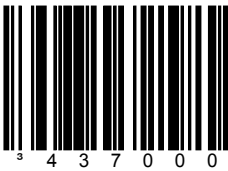
AUX 1200 Baud Rate



AUX 600 Baud Rate



AUX 300 Baud Rate



## SECTION O

## AUXILIARY PORT PARITY

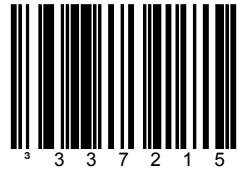
AUX No Parity



AUX Mark Parity



\* AUX Space Parity



AUX Even Parity



AUX Odd Parity

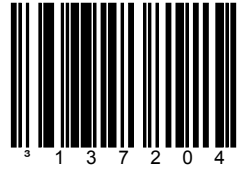




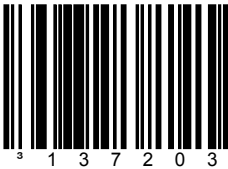
AUX 1 Stop Bit



\* AUX 2 Stop Bits



\* AUX 7 Data Bits



AUX 8 Data Bits



## SECTION O

## AUXILIARY RTS/CTS AND MODE 7

\* Enable AUX RTS/CTS Handshaking



Disable AUX RTS/CTS Handshaking



Message AUX RTS/CTS



\* Character AUX RTS/CTS



Enable AUX Port Mode 7



Disable AUX Port Mode 7



Mode 7 enables reception of prefix and suffix codes when AUX port RTS/CTS handshaking is disabled.

Enable  
AUX "D/E" Commands



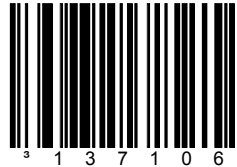
\* Disable  
AUX "D/E" Commands



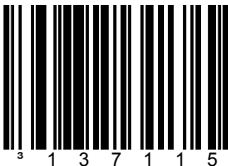
Enable AUX "F/L"  
Commands



\* Disable AUX "F/L"  
Commands



Enable AUX  
"M/O" Commands



\* Disable AUX  
"M/O" Commands



## SECTION O

## AUXILIARY XON/XOFF AND ACK/NAK

\* Enable AUX XON/XOFF Handshaking



Disable AUX XON/XOFF Handshaking



\* Enable AUX ACK/NAK Commands



Disable AUX ACK/NAK Commands



\* Normal  
AUX CTS Polarity



Flip  
AUX CTS Polarity



\* Normal  
AUX RTS Polarity



Flip  
AUX RTS Polarity



## AUXILIARY SAME SYMBOL TIMEOUT

\* AUX has  
Same Symbol Timeout



No AUX  
Same Symbol Timeout



This feature skips the same symbol timeout in the master when the auxiliary scanner scans (or repeats) faster than the same symbol timeout in the master scanner.

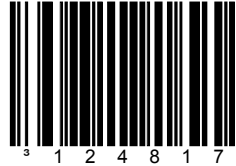


Metrologic recommends turning off the auxiliary scanner's beep if the *AUX Same Symbol Timeout* feature is disabled.

## SECTION O MAIN OUTPUT PORT AUXILIARY DATA FORMATS

When a scanner is used as a secondary scanner to another scanner's auxiliary input, the output data can be in one of the following formats.

Reserve Code 32



This is a quick method for setting reserve Code 32 in the secondary scanner using HoloTrak Decode Data Format.



**This code should not be used for the MS6720.**

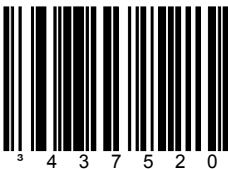
\* HoloTrak Decode Output  
AUX Data Format



UPC Supplemental Output  
AUX Data Format



Stratos Decode Output  
AUX Data Format



Code Select Output  
AUX Data Format



## SECTION O

## MAIN OUTPUT PORT AUXILIARY DATA FORMATS

---

TECH 7 & 8 Output AUX  
Data Format



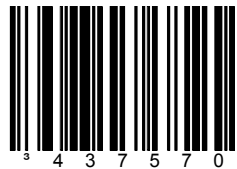
Reserved 1 Output AUX  
Data Format



Reserved 2 Output  
AUX Data Format



Reserved 3 Output  
AUX Data Format



## SECTION O

## INTER-CHARACTER DELAYS

No AUX Port  
Inter-Character Delays



\* 1 msec AUX Port  
Inter-Character Delay



10 msec AUX Port  
Inter-Character Delay



25 msec AUX Port  
Inter-Character Delay



~ Variable AUX Port  
Inter-Character Delay



The Delay between characters being sent out of the auxiliary port can be set in 1 millisecond increments by scanning the *Variable AUX Port Inter-character Delay* barcode followed by a 3 character sequence of code bytes that range from 001 to 255 milliseconds.

Refer to the *Multi-Code Configuration Method* on page x.



Enable Full Speed USB

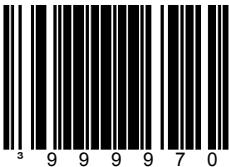


Adds the ability to encode scanner serial number in NOVRAM.

Full Speed USB Defaults



Load Integrated  
Full Speed USB Defaults



## SECTION P

## FULL SPEED USB

The following codes can be used if the *Full Speed USB Default* bar code has **not** been scanned.

Enable USB IBM ID



Disable USB IBM ID



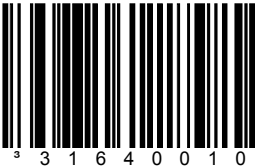
RS232 of USB Out



Normal USB Out

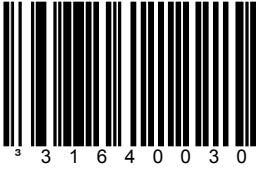


Scanner 4A00h Flatbed

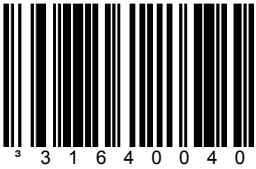


The following codes can be used if the *Full Speed USB Default* bar code has **not** been scanned.

Scanner 4B00h Handheld



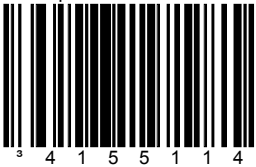
4A00h/6E00h  
Tabletop Scanner/Scale



---

**LOW SPEED USB**

Enable  
Low Speed USB



Load  
Low Speed USB Defaults

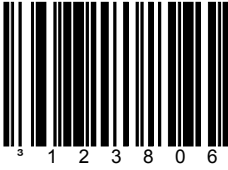




The following bar codes are specific to the IS3480 and MS3480 only.

**Button Modes**

\* Button click Pattern  
Switching Mode



Button Hold Pattern  
Switching Mode

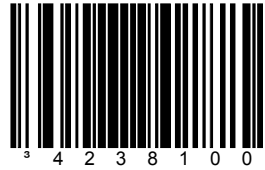


**Button Click Delay**

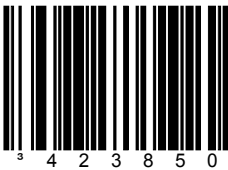
15 Second Time Out



\* 10 Second Time Out



5 Second Time Out



## SECTION R

## IS3480 / MS3480

The following bar codes are specific to the IS3480 and MS3480 only.

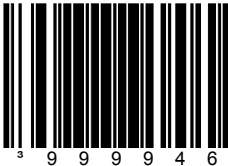
### Primary Scan Patterns

#### \* Primary Omni



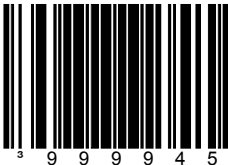
This bar code sets the **primary** pattern to all scan lines on for omnidirectional reading.

#### Primary Raster



This bar code sets the **primary** pattern to horizontal raster.

#### Primary Single-Line



This bar code sets the **primary** pattern to single-line for menu reading.

### Secondary Scan Patterns

#### Secondary Omni



This bar code sets the **secondary** pattern to all scan lines on for omnidirectional reading.

#### Secondary Raster



This bar code sets the **secondary** pattern to horizontal raster.

#### Secondary Single-Line

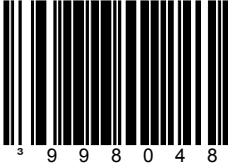


This bar code sets the **secondary** pattern to single-line for menu reading.

The following bar codes are specific to the IS3480 and MS3480 only.

### Sweet Spot Mode

Enable Sweet Spot Mode



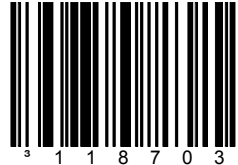
The sweet spot mode is used to determine where the maximum read rate point or "sweet spot" is located for a specific bar code type. Refer to the IS3480 Installation and User's Guide (MLPN 00-02026) for a complete description of the sweet spot mode.

### CodeGate®

\* Enable CodeGate

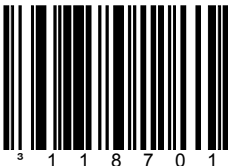


Disable CodeGate

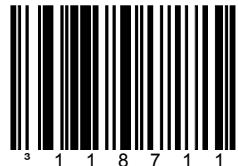


### Depth of Field

\* Normal Depth of Field



Reduced Depth of Field



SECTION R

**IS3480 / MS3480**

The following bar codes are specific to the IS3480 and MS3480 only.

**IR Activation**

IR Activation



\* Disable IR Activation

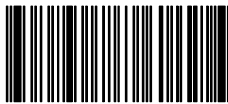






June 2004

Printed in the USA



00 - 02407D