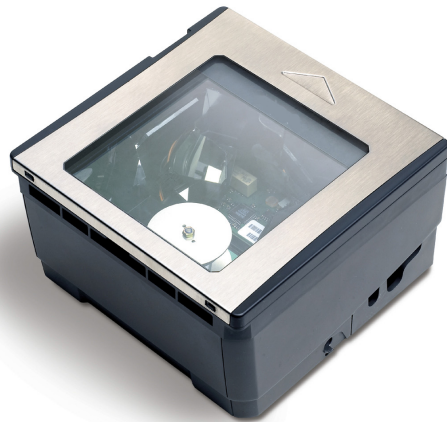


Magellan™ 2200VS and 2300HS

Enhanced



Product Reference Guide

Datalogic USA, Inc.

959 Terry Street
Eugene, OR 97402
USA
Telephone: (541) 683-5700
Fax: (541) 345-7140

© 2008-2017 Datalogic S.p.A. and its Group companies

An Unpublished Work - All rights reserved. No part of the contents of this documentation or the procedures described therein may be reproduced or transmitted in any form or by any means without prior written permission of Datalogic S.p.A. or its subsidiaries or affiliates ("Datalogic" or "Datalogic USA, Inc."). Owners of Datalogic products are hereby granted a non-exclusive, revocable license to reproduce and transmit this documentation for the purchaser's own internal business purposes. Purchaser shall not remove or alter any proprietary notices, including copyright notices, contained in this documentation and shall ensure that all notices appear on any reproductions of the documentation. Should future revisions of this manual be published, you can acquire printed versions by contacting your Datalogic representative. Electronic versions may either be downloadable from the Datalogic website (www.datalogic.com) or provided on appropriate media. If you visit our website and would like to make comments or suggestions about this or other Datalogic publications, please let us know via the "Contact Datalogic" page.

Disclaimer

Datalogic has taken reasonable measures to provide information in this manual that is complete and accurate, however, Datalogic reserves the right to change any specification at any time without prior notice. Datalogic and the Datalogic logo are registered trademarks of Datalogic S.p.A. in many countries, including the U.S.A. and the E.U. All other brand and product names may be trademarks of Datalogic S.p.A. or of Datalogic Group companies, registered in many countries, including the U.S. and the E.U. All other brand and product names may be trademarks of their respective owners.

Magellan is a trademark of Datalogic S.p.A. or of Datalogic Group companies, registered in many countries, including the U.S. and the E.U. All-Weighs, FirstStrike, SmartSentry, SurroundScan, and ScaleSentry are trademarks of Datalogic S.p.A. or of Datalogic Group companies, registered in the U.S.

Patents

See www.patents.datalogic.com for patent list.



Table of Contents

INTRODUCTION	1
Manual Overview	1
How to Use This Manual	2
Scanner Features	3
Connectors	4
Physical Parameters	5
Scanning	5
AC Adapter	5
Electrical Specifications	6
Labeling	9
Agency Compliances	11
Bar Codes Supported	12
Retail Codes	12
Industrial Codes	12
Dual Bar Codes for Japan (2 label read)	13
SITE PREPARATION AND INSTALLATION	15
Unpacking	15
Operational Verification	15
Installation: Model 2200VS	17
Installation: Model 2300HS	20
OPERATION AND MAINTENANCE	23
Scanning Items: Model 2200VS	23
Scanning Items: Model 2300HS	25
Operational Controls	26
Operational Modes	26
Power-Up/Selftest & Pre-Operation	26
Operating Mode	27
Additional Functions	28
Programming	28
Scanner Diagnostic Mode	28
Scanner Reset	29
Operational Maintenance	29
Cleaning	29
PROBLEM ISOLATION	31
Diagnostic Procedures	32
Error Codes	33

Flowcharts	34
PROGRAMMING	37
Introduction to Label Programming	37
Understanding the Basics	37
Integrating the Scanner With Your Host System	38
Customizing Your Scanner's Operation	38
Programming Overview	40
Programming via Handheld Device	40
What Is Programming Mode?	41
Entering and Exiting Programming Mode.	41
Programming Session	42
LED and Beeper Indicators	46
If You Make a Mistake...	46
Return to Factory Settings	46
Test Mode	47
General Scanner Features	48
Scanner Button Options	48
Double Read Timeout	50
Laser Timeout	52
Motor Timeout	54
Label Gone Timeout	57
Auxiliary Port Mode	60
Auxiliary Port Baud Rate	62
Productivity Index Reporting (PIR)/Cashier Training (CT)	66
Indication Features	67
Green LED Idle State	67
Power-up Beep Control	68
Good Read Beep Control	69
Good Read Beep Frequency	70
Good Read Beep Length	72
Good Read Beep Volume	73
Good Read When to Indicate	75
EAS Features	78
EAS Active State	78
EAS Timeout	79
Interface Related Features	80
Interface Type	80
Maximum Host-Transmitted Message Length	100
Number of Host Transmission Buffers	101
AIM ID	102
Label ID Control	104
Global Prefix	106
Global Suffix	108
Case Conversion	110

IBM Features	112
IBM Interface Options	112
IBM Number of Host Resets	113
IBM Transmit Labels in Code 39 Format	114
IBM Label Slicing Control	115
IBM Maximum Label Slice Length	116
USB-OEM Scanner Device Type	117
RS-232 Features	118
RS-232 Baud Rate	118
RS-232 Number of Data Bits	122
RS-232 Number of Stop Bits	123
RS-232 Parity	124
RS-232 Hardware Control	126
RS-232 Intercharacter Delay	128
RS-232 Software Flow Control	129
RS-232 Host Echo	130
RS-232 Host Echo Quiet Interval	131
RS-232 Ignore Host Commands	132
RS-232 TTL	133
RS-232 TTL Invert	134
RS-232 ICL DC1 Character Delay Enable	135
RS-232 Beep on ASCII BEL	136
RS-232 Beep on Not on File	137
RS-232 ACK NAK Enable	138
RS-232 ACK Character	140
RS-232 NAK Character	141
RS-232 Retry on ACK NAK Timeout	142
RS-232 ACK NAK Timeout Value	143
RS-232 ACK NAK Retry Count	144
RS-232 ACK NAK Error Handling	145
RS-232 Indicate Transmission Failure	147
Single Cable RS-232 Options	148
Single Cable Pacesetter Plus Enable	149
Single Cable RS-232 RTS CTS Selection	150
Single Cable RS-232 Use BCC	153
Single Cable RS-232 Use ACK/NAK	154
Single Cable RS-232 Use STX	155
Set Single Cable RS-232 STX Character	156
Set Single Cable RS-232 ETX Character	157
Keyboard Wedge/USB Keyboard Features	158
Keyboard Interface — Keyboard Layout	158
Keyboard Interface Quiet Interval	167
Keyboard Interface Caps Lock State	168
Keyboard Interface — Keyboard Simulation	170

Keyboard Interface — Control Characters	171
Keyboard Interface — Intercharacter Delay	173
Symbology Programming	174
Coupon Control	174
UPC-A Enable	176
UPC-A Number System Character Transmission	177
UPC-A Check Character Transmission	178
Expand UPC-A to EAN-13	179
UPC-A Label ID	180
UPC-A 2-Digit Supplemental Label ID	181
UPC-A 5-Digit Supplemental Label ID	182
UPC-A 128 Supplemental Label ID	183
UPC-A Minimum Reads	184
UPC-E Enable	186
UPC-E Number System Character Transmission	187
UPC-E Check Character Transmission	188
Expand UPC-E to UPC-A	189
Expand UPC-E to EAN-13	190
UPC-E Label ID	191
UPC-E 2-Digit Supplemental Label ID	192
UPC-E 5-Digit Supplemental Label ID	193
UPC-E 128 Supplemental Label ID	194
UPC-E Minimum Reads	195
EAN-13 Enable	197
EAN-13 First Character Transmission	198
EAN-13 Check Character Transmission	199
EAN-13 ISBN Conversion Enable	200
EAN 13 Label ID	201
EAN-13 2-Digit Supplemental Label ID	202
EAN-13 5-Digit Supplemental Label ID	203
EAN-13 128 Supplemental Label ID	204
EAN-13 Minimum Reads	205
Bookland Label ID	207
EAN-8 Enable	208
EAN-8 Check Character Transmission	209
Expand EAN-8 to EAN-13	210
EAN-8/JAN-8 Guard Insertion	211
EAN-8/JAN-8 Guard Substitution	212
EAN-8/JAN-8 Both Guards Substitution	213
EAN-8 Stitch Exact Label Halves	214
EAN-8 Stitch Unlike Label Halves	215
EAN 8 Label ID	216
EAN-8 2-Digit Supplemental Label ID	217
EAN-8 5-Digit Supplemental Label ID	218

EAN-8 128 Supplemental Label ID	219
EAN-8 Decoding Levels	220
EAN-8 Minimum Reads	223
EAN-8 Minimum Segment Length	225
Other UPC/EAN Options	231
Price Weight Check	231
In-Store Label Minimum Reads	234
Enable EAN Two Label	236
EAN Two Label Combined Transmission	237
UPC/EAN Guard Insertion	238
UPC/EAN Stitch Exact Label Halves	239
UPC/EAN Stitch Unlike Label Halves	240
UPC/EAN Character Reconstruction	241
EAN Two Label Minimum Reads	242
UPC/EAN Correlation	244
UPC/EAN Minimum Segment Length	245
Addons	250
Addon Timer	254
2-Digit Add-ons Minimum Reads	255
5-Digit Add-ons Minimum Reads	257
Code 128 Add-ons Minimum Reads	259
GTIN Enable	261
GTIN Label ID	262
GTIN 2-Digit Supplemental Label ID	263
GTIN 5-Digit Supplemental Label ID	264
GTIN Code 128 Supplemental Label ID	265
DataBar Omnidirectional Enable	266
DataBar Omnidirectional/EAN-128 Emulation	267
DataBar Omnidirectional Label ID	268
DataBar Omnidirectional Minimum Reads	269
DataBar Expanded Enable	271
DataBar Expanded EAN-128 Emulation	272
DataBar Expanded Label ID	273
DataBar Expanded Length Control	274
DataBar Expanded Length 1	275
DataBar Expanded Length 2	276
DataBar Expanded Minimum Reads	277
Code 39 Enable	279
Code 39 Start Stop Character Transmission	280
Code 39 Check Character Calculation	281
Code 39 Check Character Transmission	282
Code 39 Full ASCII	283
Code 39 Label ID	284
Code 39 Require Quiet Zones	285

Code 39 Length Control	286
Code 39 Length 1	287
Code 39 Length 2	288
Code 39 Correlation	289
Code 39 Stitching	290
Code 39 Minimum Reads	291
Pharmacode 39 Enable	293
Pharmacode 39 Start Stop Character Transmission	294
Pharmacode 39 Check Character Transmission	295
Pharmacode 39 Label ID	296
Code 128 Enable	297
Code 128 Transmit Function Characters	298
Convert Code 128 to Code 39	299
Code 128 Label ID	300
Code 128 Length Control	301
Code 128 Length 1	302
Code 128 Length 2	303
Code 128 Correlation	304
Code 128 Stitching	305
Code 128 Minimum Reads	306
EAN-128 Enable	308
EAN-128 Label ID	309
Interleaved 2 of 5 (I 2 of 5) Enable	310
I 2 of 5 Check Character Calculation	311
I 2 of 5 Check Character Transmission	312
I 2 of 5 Label ID	313
I 2 of 5 Length Control	314
I 2 of 5 Length 1	315
I 2 of 5 Length 2	316
I 2 of 5 Correlation	317
I 2 of 5 Stitching	318
I 2 of 5 Minimum Reads	319
Standard 2 of 5 (Std 2 of 5) Enable	321
Standard 2 of 5 Check Character Calculation	322
Standard 2 of 5 Check Character Transmission	323
Standard 2 of 5 Label ID	324
Standard 2 of 5 Length Control	325
Standard 2 of 5 Length 1	326
Standard 2 of 5 Length 2	327
Standard 2 of 5 Correlation	328
Standard 2 of 5 Stitching	329
Standard 2 of 5 Minimum Reads	330
Codabar Enable	332
Codabar Start Stop Character Transmission	333

Codabar Start Stop Character Set	334
Codabar Start Stop Character Match	336
Codabar Check Character Calculation	337
Codabar Check Character Transmission	338
Codabar Label ID	339
Codabar Require Quiet Zones	340
Codabar Length Control	341
Codabar Length 1	342
Codabar Length 2	343
Codabar Correlation	344
Codabar Stitching	345
Codabar Minimum Reads	346
Code 93 Enable	348
Code 93 Label ID	349
Code 93 Length Control	350
Code 93 Length 1	351
Code 93 Length 2	352
Code 93 Correlation	353
Code 93 Stitching	354
Code 93 Minimum Reads	355
MSI/Plessey Enable	357
MSI/Plessey Check Character Calculation	358
MSI/Plessey Number of Check Characters	359
MSI/Plessey Check Character Transmission	360
MSI/Plessey Label ID	361
MSI/Plessey Length Control	362
MSI/Plessey Length 1	363
MSI/Plessey Length 2	364
MSI/Plessey Correlation	365
MSI/Plessey Stitching	366
MSI/Plessey Minimum Reads	367
LED/BEEPER INDICATIONS & CONTROLS 369	
Volume/Tone Push Button	369
Green LED Indicator	371
CABLE INFORMATION 373	
Introduction	373
General Specifications	373
Auxiliary Port	374
External Handheld Input	374
KEYPAD 375	
HOST COMMANDS 383	
Accepting Commands from an RS-232 Scanner Host	383

Handheld Data Format Requirements	403
Handheld Data Format Requirements General	403
Datalogic Handheld Data Format Requirements	403
AIM Formats	409
KEYBOARD FUNCTION KEY MAPPINGS	415
Keyboard Model Cross Reference	415



Chapter 1

Introduction

This Product Reference Guide contains comprehensive instructions on how to install the scanner, how to program it using special programming feature bar code labels, and advanced user information as described in the following overview.

Manual Overview

Chapter 1, Introduction, presents the manual's contents, describes features and specifications, provides regulatory and safety information, and lists the bar code symbologies the scanner will read.

Chapter 2, Site Preparation and Installation, supplies physical dimensions for the scanner and its most common accessories, and details counter preparation and installation. Cable routing, connection and testing are also explained in this section.

Chapter 3, Operation and Maintenance, describes use and maintenance; providing details about operator controls, programming and diagnostic modes. Scanner routine maintenance is outlined in this section as well.

Chapter 4, Problem Isolation, provides an outline of three scanner test modes: Selftest, Operational Tests and Diagnostic Tests. Descriptions of the error indications if the scanner detects a system problem and troubleshooting flowcharts to aid in problem resolution are also presented.

Chapter 5, Programming, details procedures and provides custom barcodes for setting programmable scanner features. This section is organized by the categories: General Features, Interface Related Features and Symbology Related Features.

Appendix A, LED/Beeper Indications & Controls, lists the various functions and indications of the scanner control panel features.

Appendix B, Cable Information, outlines wire requirements, connector specifications and pinout details for associated product cabling.

Appendix C, Keypad, furnishes bar codes representing the digits and characters required to enter extended programming data needed during certain programming sessions.

Appendix D, **Host Commands**, contains a partial listing of available host commands that can be used with a compatible host interface.

Appendix E, **Factory Defaults**, is a listing of standard factory defaults for the various programmable features.




Appendix F, **Handheld Data Format Requirements**, provides application notes to describe the general format of data that can be accepted by the scanner through the auxiliary port as transmitted from a handheld scanner.

Appendix G, **Keyboard Function Key Mappings**, summarizes the keyboard models, their defined protocol, scancode set, and function key maps.

How to Use This Manual

You'll find it helpful to familiarize yourself with the first section of this manual, since it provides both a general description of the product's features and an overview of the manual's contents and organization. Reference the other sections as required for information about scanner installation, operation, maintenance and bar code programming.

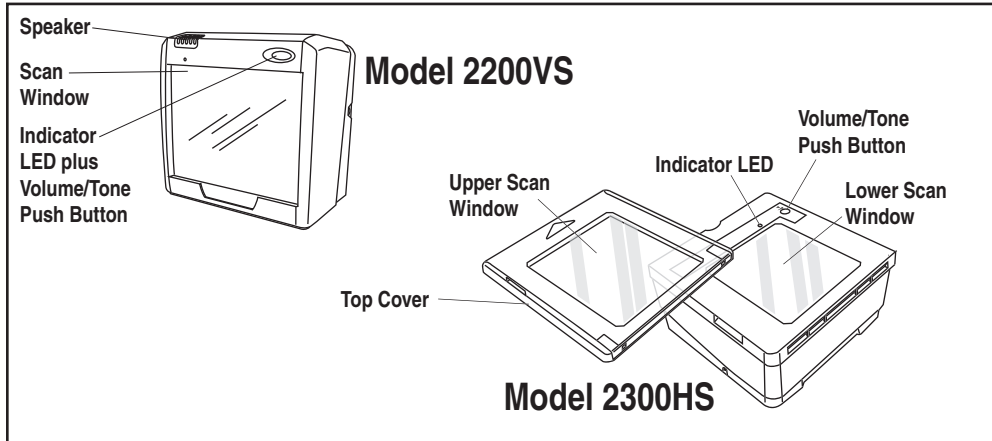
Manual Conventions

 NOTE	'NOTE' blocks contain information that is helpful and recommended. They provide information that is critical to operations and/or procedures described in this manual.
	'CAUTION' blocks inform you that proper handling (adherence to the procedures described) is required to avoid damage to equipment and/or property.
	'WARNING' blocks alert you to potential physical harm or injury. These statements do not include potentially fatal hazards, which would be designated as 'DANGER' blocks. Use of this product does not warrant the need for a DANGER block.

Scanner Features

Controls, indicators and other features are shown in Figure 1.

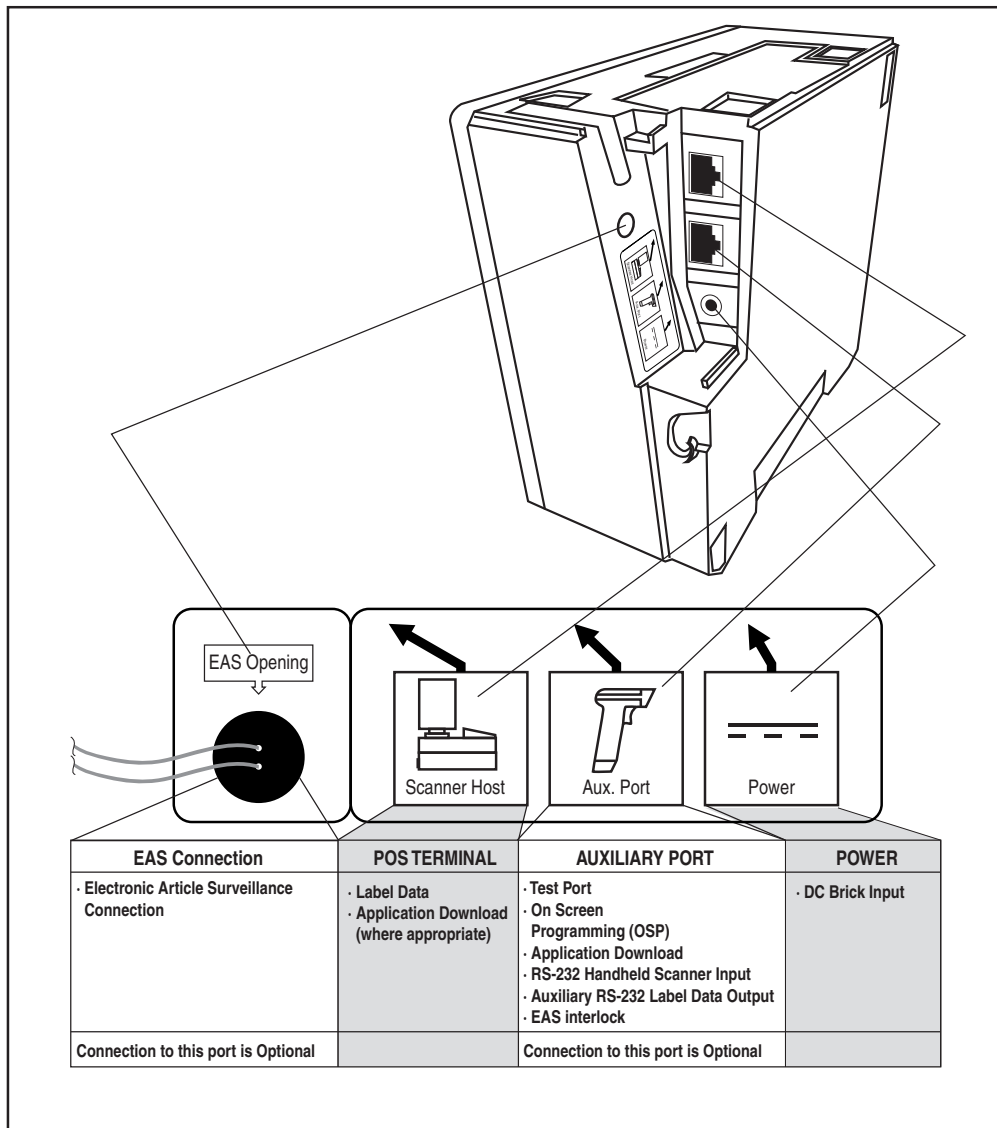
Figure 1. Scanner Features



Connectors

The appearance of the connector panel will vary depending upon the factory options purchased with your model.

Figure 2. Connector Panel



Physical Parameters

This section provides specifications for performance, environmental and electrical parameters. Reference the second section of this manual, *Site Preparation and Installation*, for physical measurements of all models and some accessories.

Scanning

The scanner has a scan zone immediately in front of (or above) the scan window where the scanner projects laser light in order to scan items. Scan lines form a zone where bar code labels are read. Refer to the *Operation and Maintenance* section of this manual for more details about the topic: *Scanning Items: Model 2200VS*.

AC Adapter

Figure 3 is an illustration of the AC/DC Adapter .

Figure 3. AC/DC Adapter

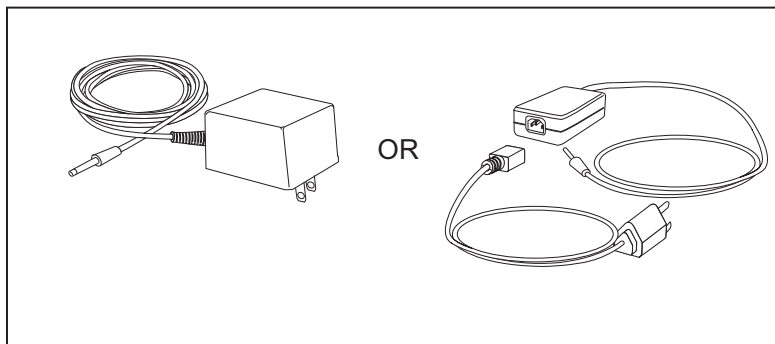
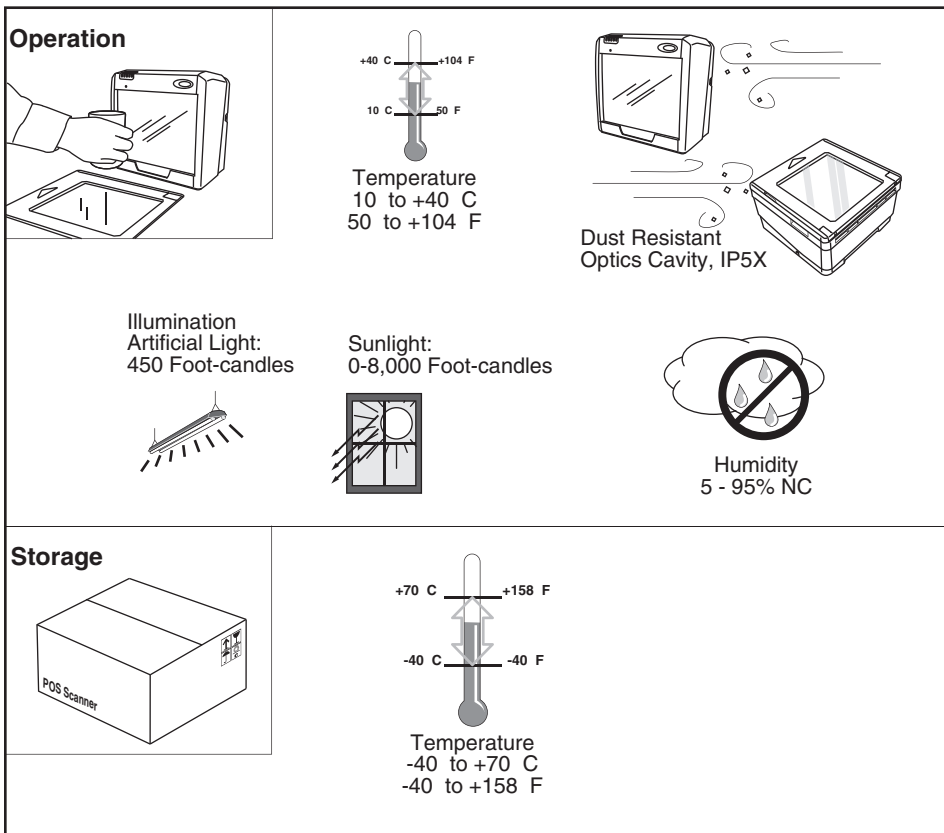


Figure 4. Environmental Specifications



Electrical Specifications

Before installation, always verify that the site's electrical service meets the scanner's requirements. The scanner has been engineered for compatibility with most international electrical systems. Verify that the power source will supply "clean" electrical power to the equipment; that is, it must be free of excess electrical noise. If the adapter will not plug into your AC power receptacle, the model shipped is not compatible with your electrical system. Please contact your distributor immediately to receive the necessary information and components to ensure electrical compatibility.

**CAUTION**

Safe operation of your scanner or scanner requires properly grounded electrical outlets. Be sure to have a qualified electrician certify the earth-ground connection on circuits which will be used to power the unit.

**NOTE**

The scanner is powered on/off by connecting/disconnecting its AC power supply.

Laser safety requirements are based on IEC Standard Publication 60825-1 (2007) and CDRH 21CFR, Chapter 1, Subchapter J and (CDRH) Laser Product Performance Standard, User information [1040.10(h)1]:

- User Maintenance. No user maintenance of the system other than cleaning of the scan window(s) is required.
- Radiant Energy. The scanner is an IEC Class 1 and CDRH IIa laser product. The system uses two embedded Class 3R Visible Laser Diodes (VLDs) operating at 650.0 nm, in an opto-mechanical scanner, resulting in less than 3.1 μW radiated power as observed through a 7mm aperture averaged over 10 seconds. Maximum emitted peak output power at the window is 850 μW , pulse duration is 92 μs . No attempt should be made by the user to remove the protective housing of the scanner.
- Laser Light Viewing. The scan window is the only aperture through which laser light may be observed in this product.

Exposure to the light emitted from the scan window(s) has been shown not to be harmful. The safety record of bar code scanning is perfect after millions of hours of use worldwide. This safe and efficient use of laser technology has gained wide acceptance in industries throughout the world.

Operators and installers of the unit should observe the following cautions and warnings:



CAUTION

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

The use of optical instruments with the scanner will increase eye hazard. (Optical instruments include binoculars, microscopes, telescopes and magnifying glasses. This does not include eyeglasses worn by the user).

To prevent exposure to laser light, do not remove the protective housing of the scanner. There are no user-serviceable parts inside the unit.

Safety precautions to be taken:



CAUTION

No adjustments or alteration of the scanner housing are to be attempted by the user.

The failure of the facet wheel motor while the unit is continuing to emit a laser beam causes the emission levels to exceed those for inherently safe operation. The unit has safeguards to prevent this occurrence. If, however, a stationary laser beam is ever emitted, the failing unit should be disconnected from its power supply until repaired by a qualified technician.



WARNING

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his or her own expense.

This Class B digital apparatus complies with Canadian ICES-0003.
Cet appareil numérique de la Classe B est conforme à la norme NMB-0003 du Canada.

Labeling

Regulatory, reference and safety labeling for both models is shown in Figure 5 and Figure 6.

Figure 5. Labeling: Model 2200VS

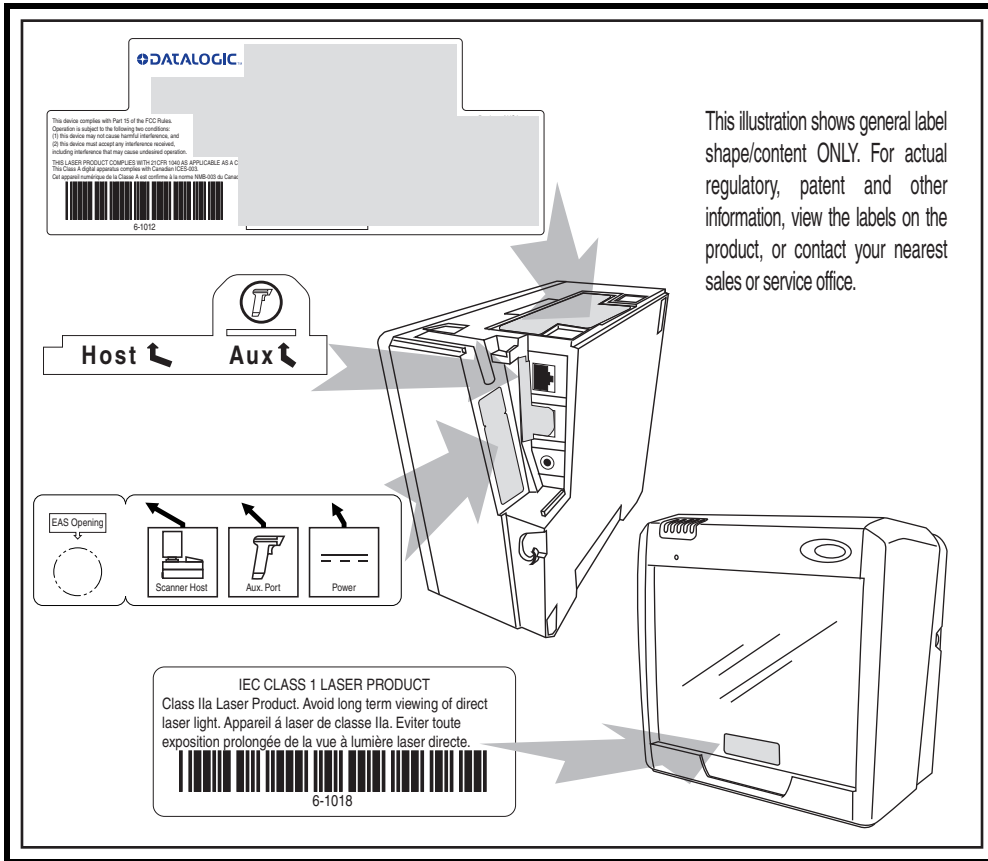
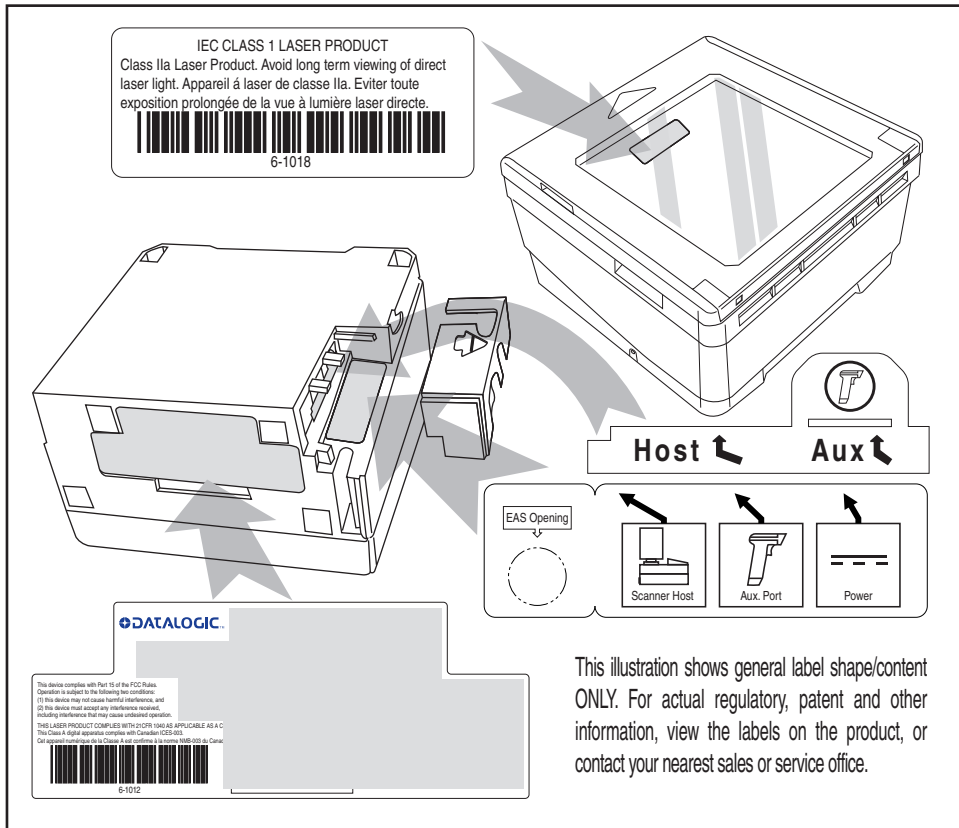


Figure 6. Labeling: Model 2300HS



Agency Compliances

The scanner meets or exceeds the requirements for its device type as set forth by the following agencies and regulations:

COUNTRY	COMPLIANCE	COMMENTS
Electrical United States	UL 1950	TÜV NRTL
Canada	CAN/CSA C22.2 No. 1950	TÜV NRTL
World	IEC60950 -1:2005	TÜV CB
Emissions United States	47CFR Part 15J	FCC
Canada	ICES-0003	Class B
Europe	EN 55022	Class B
Australia/N Zealand	AS/NZ 3548	Class B
Japan	VCCI	Class B
Taiwan	CNS 13438	Class B
Safety & Emissions	EMC Directive 2004/108/ EC(2004)	CE Mark
	Low Voltage 2006/95/EEC	CE Mark
Laser Safety United States	CDRH, 21CFR Part 1040	CDRH Class IIa laser device
Canada	same as CDRH	SGM-1 specification
Australia	AS 2211	Class 1
Europe	IEC 60825-1	Class 1

Contact Datalogic™ for a complete listing of approvals for other countries.

Bar Codes Supported

The scanner can read/decode the following bar code types (symbolologies):

Retail Codes

- UPC Versions A & E with full expansion E to A, plus A and E to 13 capability
- UPC Supplementals and Add-ons (Bookland & Coupon code, UPC two character supplemental encodation and UPC five character supplemental encodation and supplemental C128) with support for conditional add-ons
- DataBar Omnidirectional (formerly RSS-14)
- DataBar Expanded (formerly RSS Expanded) maximum characters 74 numeric or 41 alpha
- DataBar Stacked Omnidirectional (formerly RSS-14 Stacked)
- EAN 8 & 13 with full expansion 8 to 13
- JAN 8 & 13 with full expansion 8 to 13
- UCC/EAN 128
- Italian Pharmacode (Code 39)
- Support GTIN

Industrial Codes

- Code 39
- Code 39 full ASCII
- Code 128 (including conversion to Code 39)
- Code 93
- Interleaved 2 of 5 (I 2 of 5)
- Standard 2 of 5
- Codabar
- MSI/Plessey

Dual Bar Codes for Japan (2 label read)



NOTE

The following qualifications apply to Dual Bar Codes for Japan:

- Two label combined transmission
- Two label global midamble (see [Chapter 5, Programming](#), for more details)
- Two label flag is set by selecting any 4 digits as the flag

NOTES



Chapter 2

Site Preparation and Installation

This chapter outlines the procedures for unpacking the scanner, verifying function, preparing the countertop or wall, routing cables, and installing the scanner.

Unpacking

To unpack the unit:

- Inspect the package for signs of damage that may have occurred during shipping. If damage is found, report it to your carrier immediately.
- Lift any accessories from the box, including the AC/DC Power Supply, and the Quick Reference Guide.
- Familiarize yourself with the Quick Reference Guide. Leave the guide at the checkstand when the installation is complete.
- Remove the protective packing and carefully lift the scanner from the carton. Be sure to save the box and all packing material. In the event of failure, the unit must be returned to the factory in its original packaging.

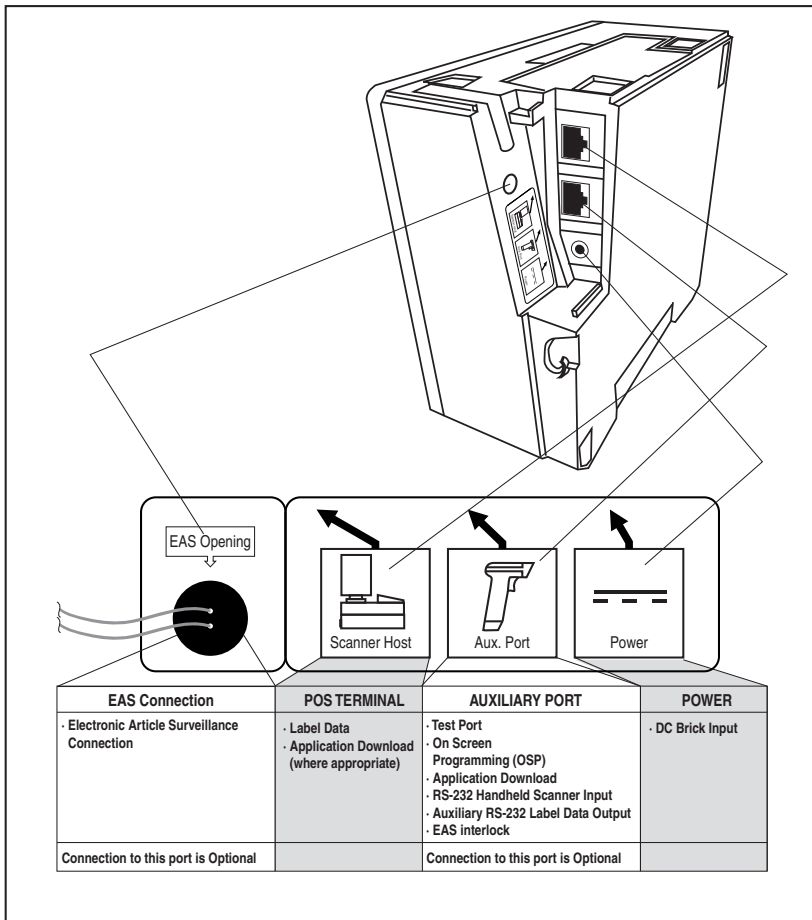
Proceed to the [Operational Verification](#) instructions below.

Operational Verification

Follow these steps to ensure that your unit has arrived undamaged and is fully functional before installing it in the counter and connecting it to your POS system:

1. [2200VS scanners ONLY] Remove the mounting bracket.
2. Plug the connector from the AC/DC Adapter into the scanner (see [Figure 7](#)).

Figure 7. Scanner Connections



3. Plug the AC Adapter into an AC power outlet.
4. The scanner should beep to indicate it has passed the power-up Selftest routine, and the green LED (lamp) will light continuously, indicating the scanner is ready to scan.



NOTE

Reference Chapter 4, Problem Isolation if the scanner does not perform as expected.

5. Scan a few known-good bar code labels to verify operation. Upon reading each bar code, the scanner should beep once and flash its green LED.

**NOTE**

Your scanner may only read one or two bar codes when not connected to a host terminal, requiring that you reset the scanner before it will read again. This is normal, as some interface types require the scanner to “buffer” (store) data until the terminal signals its readiness to accept the data.

Once you're satisfied of the scanner's operation, disconnect power and proceed to the installation instructions.

Installation: Model 2200VS

The Magellan® 2200VS scanner can either be used “freestanding,” or can be conveniently mounted to a countertop or wall using the mounting bracket. Provide a secure installation as described below.

1. Determine the best location for scanner installation. Some considerations are:
 - Cable routing to and from the scanner: Can cables and connected devices be routed in such a way as to be protected from damage or tampering? Depending on your installation, it may be necessary to drill a 1-1/4” (3.2cm) hole in the countertop or wall.
 - Mounting stability. Avoid placing the scanner in such a way as to subject it to excess vibration, bumping, spillage, etc.
 - Peripheral connections from the scanner, such as a hand-held device.
2. Determine if a cable-routing hole is necessary. If so, hold the scanner or mounting bracket in the desired, installed position to determine the center of the hole. Mark the center and drill a 1-1/4” (3.2cm) hole.
3. Secure the mount to the counter or wall using two #6 (3.5mm) pan head screws (see [Figure 8d](#)). If the scanner is to be used “freestanding” (not attached), remove the mounting bracket (if installed) to take advantage of the non-skid pads located on the bottom of the scanner.

-
4. Remove the Connector Cover and connect the cables to the scanner. Reference [Figure 8a](#) and [Figure 7](#).
 5. Route the cables as shown in [Figure 8b](#) or [Figure 8c](#).
 6. Switch the terminal OFF.
 7. Connect the interface cable to the terminal.
 8. Connect the AC Adapter to the AC outlet.
 9. Switch the terminal ON.
 10. Verify operation by scanning a few known-good bar code labels. The scanner should now be communicating the bar code data to the POS terminal.

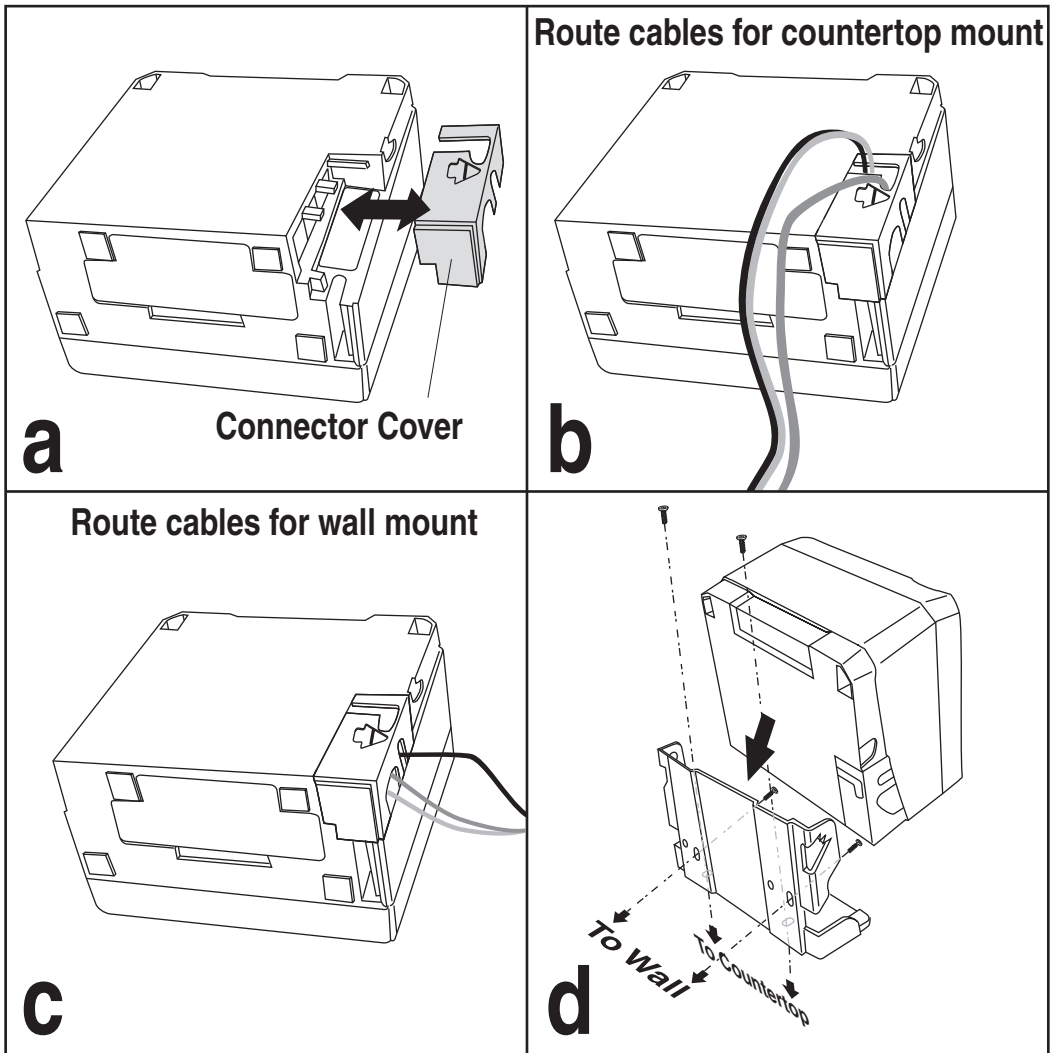


Reference Chapter 4, Problem Isolation if the scanner does not perform as expected.

NOTE

11. Slide the scanner into its mount until it's fully seated; taking care to guide cables so they won't be pinched or trapped between assemblies. Reference [Figure 8d](#).
- This completes the installation instructions.

Figure 8. Magellan® 2200VS Installation



Installation: Model 2300HS

The Magellan® 2300HS scanner is mounted flush with the countertop to promote comfortable and ergonomic slide-through scanning. Installation as described below.

1. Determine the best location for scanner. Some considerations are:
 - Proximity to the user. Verify that checkstand features allow the unit to be within easy reach of the user, without interfering with cash drawers or other equipment.
 - Cable routing to and from the scanner: Can cables and connected devices be routed in such a way as to be protected from damage or tampering?
 - Mounting stability. Avoid placing the scanner in such a way as to subject it to excess vibration, bumping, spillage, etc.
 - Peripheral connections from the scanner, such as a hand-held device.
2. The countertop must be modified to accept the scanner. At the time of this writing, three options are available.
 - [Figure 9a](#) shows the dimensions for the opening and other details if a shelf is to be built to support the unit.
 - [Figure 9b](#) details the cutout dimensions if an adapter fixture holding the scanner will rest with its rim above the countertop.
 - [Figure 9c](#) provides dimensions if an adapter fixture holding the scanner will be recessed to be flush with the countertop.
3. Remove the Connector Cover, then connect and route the cables at the scanner. Reference [Figure 10](#).
4. Seat the scanner or in the countertop opening (or adapter).
5. Switch the terminal OFF.
6. Connect the interface cable to the terminal.
7. Connect the scanner's AC Adapter to the AC outlet.

8. Switch the terminal ON.

Figure 9. Countertop Modification Options

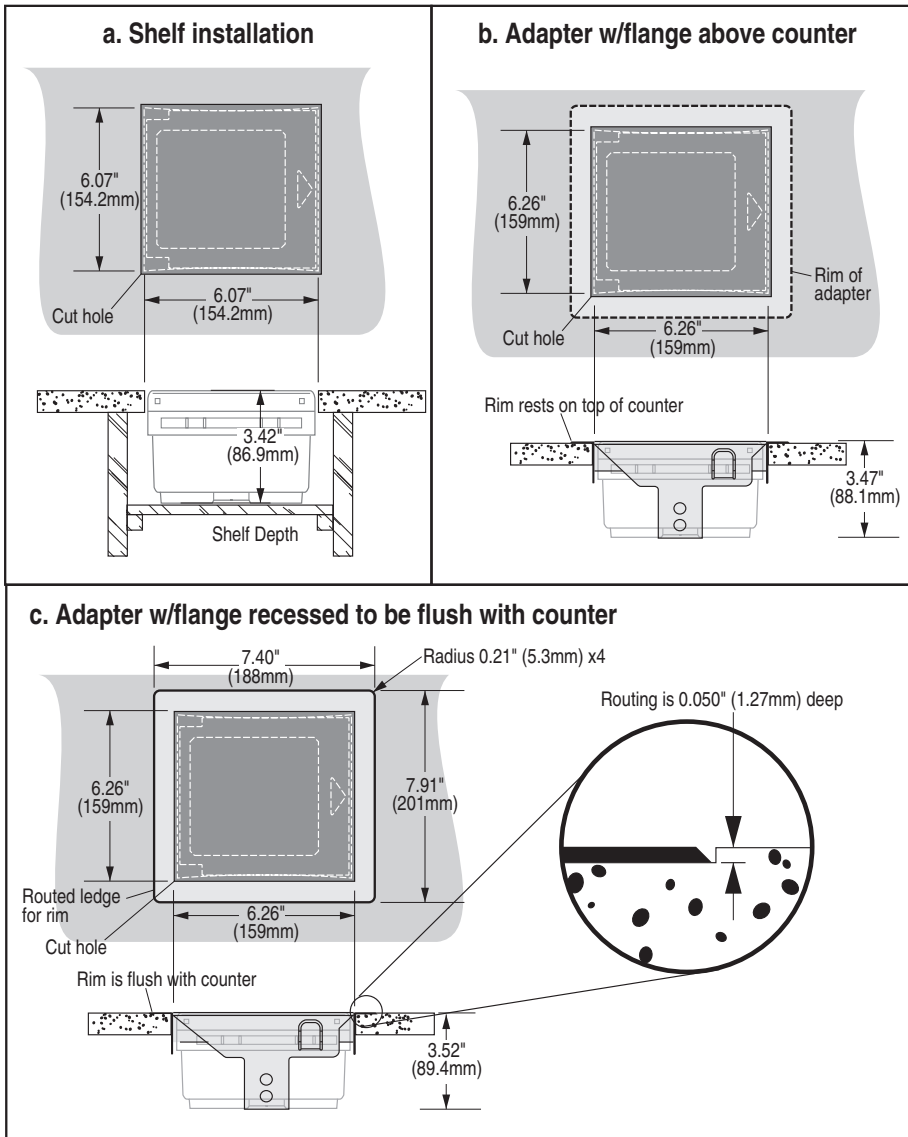
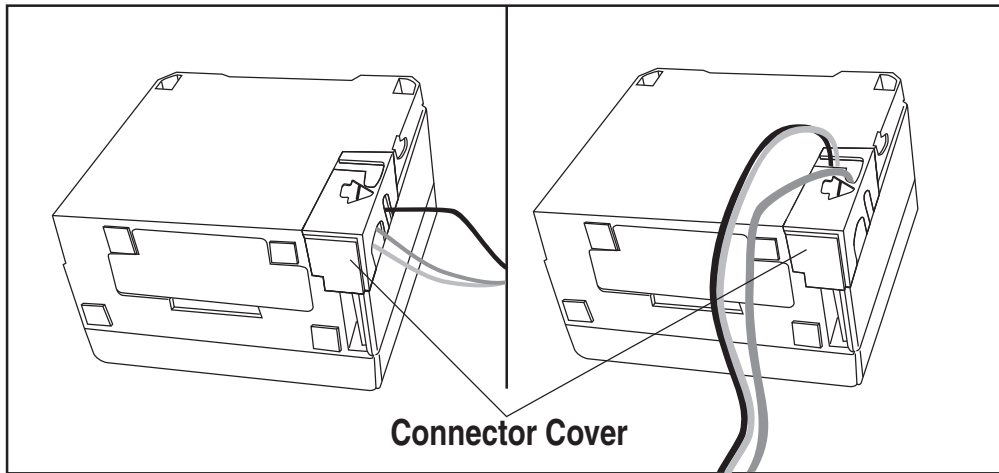


Figure 10. Magellan® 2300HS Cable Routing Options



9. Verify operation by scanning a few known-good bar code labels. The scanner should now be communicating the bar code data to the POS terminal.



Reference Chapter 4, Problem Isolation if the scanner does not perform as expected.

NOTE

This completes the installation instructions for this model.



Chapter 3

Operation and Maintenance

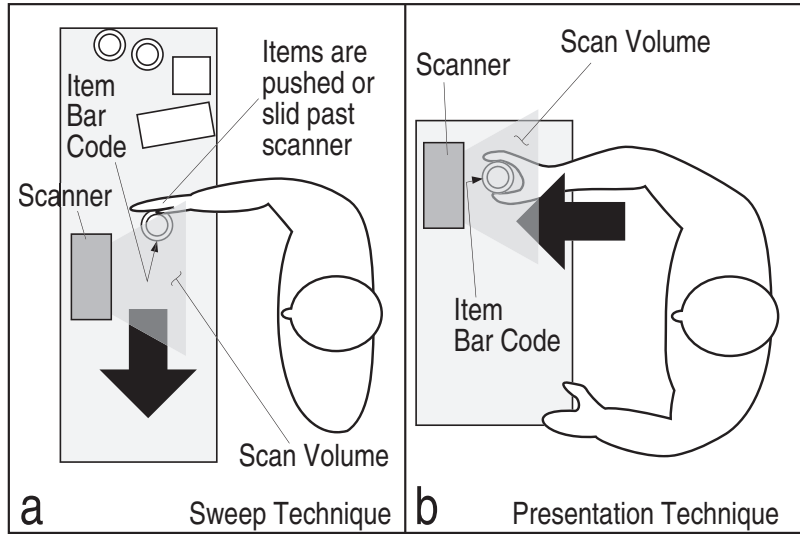
The information contained in this section describes how to operate and maintain the scanner. Topics include scanning tips, and scan window cleaning and replacement.

Scanning Items: Model 2200VS

Item bar codes are scanned by either...

- sliding or pushing items through the scan volume in a right-to-left or left-to-right motion (see Figure 11a). This is known as “Sweep” scanning, and is the best choice for high throughput super- and hypermarket installations where it is necessary to minimize the need to grip or lift items.
- moving the bar code directly toward the scan window to be read (see Figure 11b). This “Presentation” technique is most often used in low throughput variety, convenience market and pharmacy applications where usable countertop space is at a premium and “Sweep” scanning is not possible.

Figure 11. Sweep and Presentation Scanning Technique



Scanning Items: Model 2300HS

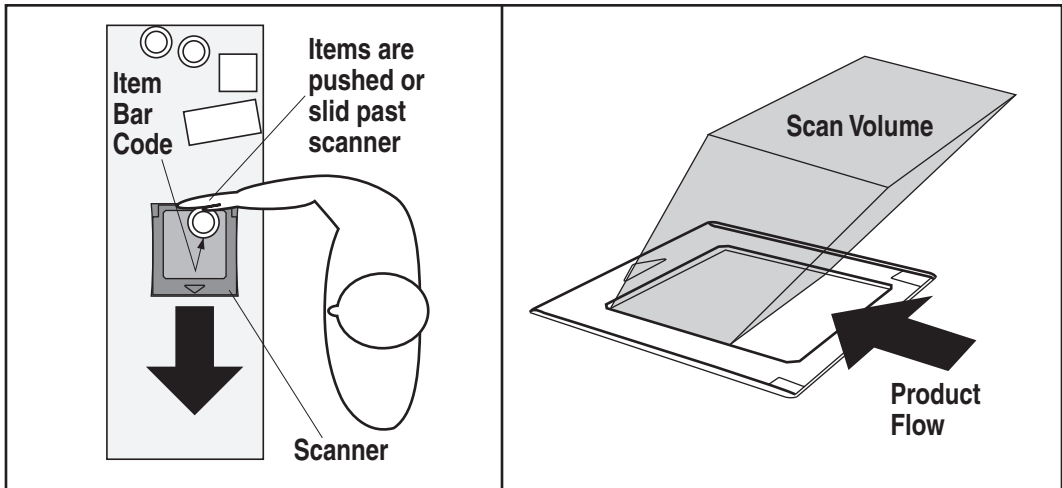
The scanner is mounted so its scan window is flush with the countertop. This allows for maximum working space, and also permits the user to slide items over its surface without having to grasp or pick them up. Bar codes are effortlessly scanned when swept through the zone projected from the substantial scan window as shown in Figure 11a.



NOTE

Facing bar code labels in the direction of scanning, or toward the scan window will optimize the scan rate. The arrow on the scanner's top cover indicates the direction scanned items should be moved (see Figure 11b).

Figure 12. Operating the Scanner



Operational Controls

The function of scanner controls and indicators is listed in [Appendix A, LED/Beeper Indications & Controls](#). Turn to that appendix for full details.

Operational Modes

The scanner features a number of modes that are important to both the user and the system support personnel. These modes can be combined into three groups: pre-operational, operational; and additional functions. The following text describes these modes, what they mean, and how and when they are seen.

Power-Up/Selftest & Pre-Operation

Pre-Operation describes those steps that must be successfully completed before the scanner sounds the initial good read tone and illuminates the LED (lamp) indicating readiness for operation. These steps include Power-Up Selftest, Error Reporting, and Operational Configuration.

Power-Up/Selftest

Power-Up Selftest begins when power is applied. The scanner's software immediately begins the testing sequence to verify that all systems are functioning properly. This routine, which only takes a few seconds, checks all the functions of the scanner and interface prior to indicating that it is ready for operation.



NOTE

A tone indicating Selftest is complete is a configurable feature. See the topic Power-up Beep Control in Chapter 5 of this manual.

Error Reporting

If a fatal error is detected during Selftest or operation, the scanner will not advance to Normal Operation Mode. Selftest diagnostics will cause the scanner to sound a long, low tone. When this occurs, error codes may be accessed by momentarily pressing the Volume/Tone Push Button. The beeper and LED will then emit a coded series of indications to assist the repair technician in identifying the failed component. If an error is indicated, make note of the tones heard/LED flashes. A table containing a listing of the error codes is included in [Chapter 4](#).

Operational Configuration

Once Selftest diagnostics have been successfully run, a tone is emitted (if configured to do so, and the unit enters an operational configuration state. The scanner will automatically load your specific interface settings which are required to communicate with the host system.

No bar code label can be in the scan volume while the unit is in this state. Progress is halted until the label has been removed, thereby ensuring that no extraneous bar code data is sent to the host. When the scanner completes its Selftest successfully, it emits a tone (when configured to do so) and enters Operating Mode.

Operating Mode

Operating Mode includes Normal Operation (scanning) and Sleep Mode. These two modes are most commonly observed by the user/operator.

Normal Operation

This condition is indicated by the green light being on dim and steady.



LED indications are configurable. Your scanner may not be programmed to operate in the standard manner described above.

NOTE

Once the scanner enters Normal Operation, it begins a countdown sequence. If there is no activity during a preset period of time (also called time-out¹), the unit will shut off the laser and/or motor in order to prolong the life of the electrical and mechanical components. Once the scanner has timed out, it enters Sleep Mode.

Sleep Mode

After the scanner has been left idle for a preset period of time, the laser and/or motor automatically turns off (goes to sleep). This state is called Sleep Mode, and is indicated by a “slow” blink of the green light (blinking at a 2-second rate). To wake up the unit, press the Volume/Tone Push Button, wave your hand in front of the scan window, or scan an item using an attached auxiliary scanner (if

-
1. ‘Timeout’ and ‘Sleep Mode’ time delays are programmable features that can be selected through use of the programming bar codes included in [Chapter 5](#).

present). The scanner will recognize these signals as a wake-up call and instantly return to Normal Operation.

Additional Functions

Additional scanner functions include programming, running scanner diagnostics, or initiating a reset.

Programming

Scanners are typically programmed at the factory to settings specified by the customer. Generally, POS system interface and bar code symbologies are pre-configured to operate in the target environment. [Chapter 5](#) contains the necessary instructions, bar codes, and descriptions to program/reprogram scanner settings.

Scanner Diagnostic Mode

While in Scanner Diagnostic Mode, continuous scanning of labels is allowed, permitting the user to scan an unlimited number of bar codes while troubleshooting problems. Under normal operation, the scanner stores label data, awaiting the signal which transmits it to the host. When the scanner is not connected to a host, it may read and store only up to two labels, then quit reading until power is cycled (clearing the memory). This mode of operation removes this limitation.

To place the scanner in Scanner Diagnostic Mode, press the Volume/Tone Push Button for approximately four seconds. While pressing the button, the scanner will first sound three tones, wait a few seconds, then sound six rapid tones; after which you should immediately release the button.

To exit Scanner Diagnostic Mode, cycle power to the scanner or press and hold the Volume/Tone Push Button for eight seconds to reset the scanner. See the topic, Scanner Reset, below for more information about scanner resets.

Turn to [Chapter 4](#) for a description of error codes resulting from diagnostics.

Scanner Reset

As with any electronic equipment, it is sometimes necessary to reset the electronics. The reset procedure allows you to initiate a reset command to the scanner. This may be necessary if the POS terminal has been switched off or the store system has been reset while the unit is on. Reset can also be used to initiate and run the scanner's internal Selftest routine.

Pressing and holding the Volume/Tone Push Button for approximately eight seconds initiates a reset, which is sounded by a rapid number of beeps. If the motor had been spinning, the lamps will blink while the motor spins down. At that point, the motor will spin back up and the scanner will continue to run the Selftest diagnostics. For more information, see the topic, Power-Up/Selftest & Pre-Operation, earlier in this chapter.

Operational Maintenance

The scanner will provide dependable service for many years. The following maintenance procedures will keep it operating at peak performance.

Cleaning

Clean the exterior surface of the scan window at least twice daily with a nonabrasive, mild, water-based glass cleaner and paper towels or lint-free cleaning tissues. Textured plastic surfaces and stainless steel can also be cleaned using these cleaning agents.

NOTES



Chapter 4

Problem Isolation

In the event of a suspected functional problem, use the troubleshooting references provided in this section. This useful information will help you identify and resolve the cause of the problem. The scanner incorporates features that indicate when a problem occurs. The scanner may:

- emit a series of tones
- flash the LED (lamp)

Three error reporting modes are used: Power-Up Selftest, Operational tests and Diagnostic tests. These test sequences are explained on the following pages.

Power-Up Selftest

The Power-up Selftest is a pre-operational series of tests that must be successfully completed before the scanner indicates readiness for operation. This pre-operational period is the time between power-up and normal operation during which the motor comes up-to-speed and software, firmware and hardware are being tested. These tests ensure that all subsystems are fully functional before turning on the Visible Laser Diode (VLD). Refer to [Chapter 3, Operational Modes](#), for a more detailed description of this and other scanner modes.

Operational Tests

These are the tests that run continually during Normal Operation and Sleep Mode. Firmware checks all subsystems, accessory connections as well as the POS interface to verify everything is operating normally. If a problem is detected at any time, a long, low tone is sounded and operation may be halted. If you press the Volume/Tone Push Button at that time, a series of tones will be sounded in concert with LED flashes.

Diagnostic Tests

See [Chapter 3, Scanner Diagnostic Mode](#) for details about running diagnostic tests for the scanner. If a problem is discovered during

diagnostics, the scanner will provide feedback about the source of the problem. The remainder of this section describes these failure indications and includes troubleshooting flowcharts to help isolate the problem.

Diagnostic Procedures

Your Point-Of-Sale (POS) system may contain many components that operate as a system. Since almost all scanner problems are caused by either the scanner, POS terminal or communication links between them, troubleshooting flowcharts provided in this chapter focus on these components. Additionally, the AC/DC Power Supply and scanner cables are potential problems addressed.

The flowcharts provided here walk you through a diagnostic process that will isolate the failed component and instruct as to the corrective action required. Since internal scanner components cannot be replaced by an operator or installer, most functional errors will require the assistance of a trained technical support person. However, if the problem is caused by faulty cable, or power supply, you can fix the problem by replacing the defective component and complete the installation.

Error Codes

If an error is detected, the scanner will sound a long low tone (for three seconds) and flash its LED, indicating a failure. When this occurs, press the Volume/Tone Push button to hear the error code. If it is configured to do so, the scanner will sound a series of beeps corresponding to the error code and/or flash its LED simultaneous to the beeps. The table below describes what these codes mean and what action should be taken for each.



When troubleshooting, always remember to check all cable connections first before proceeding with other problem isolation steps.

NOTE

Error Beep	Probable Cause	Corrective Action
Beeper 'Chirp'	Configuration	No POS interface has been selected (Null interface). See Chapter 5, Interface Type to select the required interface using programming bar codes.
1	Configuration Error	See Chapter for details about configuring the scanner using programming bar codes.
2	Interface Board	Unplug unit and call technical support personnel.
3	Motor	
4	Laser	
6	Digital Board	
10	Button Module	
11	Hardware ID	
14	CPLD ID	

Flowcharts

The problem isolation flowcharts on the following pages allow you to identify and troubleshoot problems with your system.

Figure 13. Problem Isolation: Start

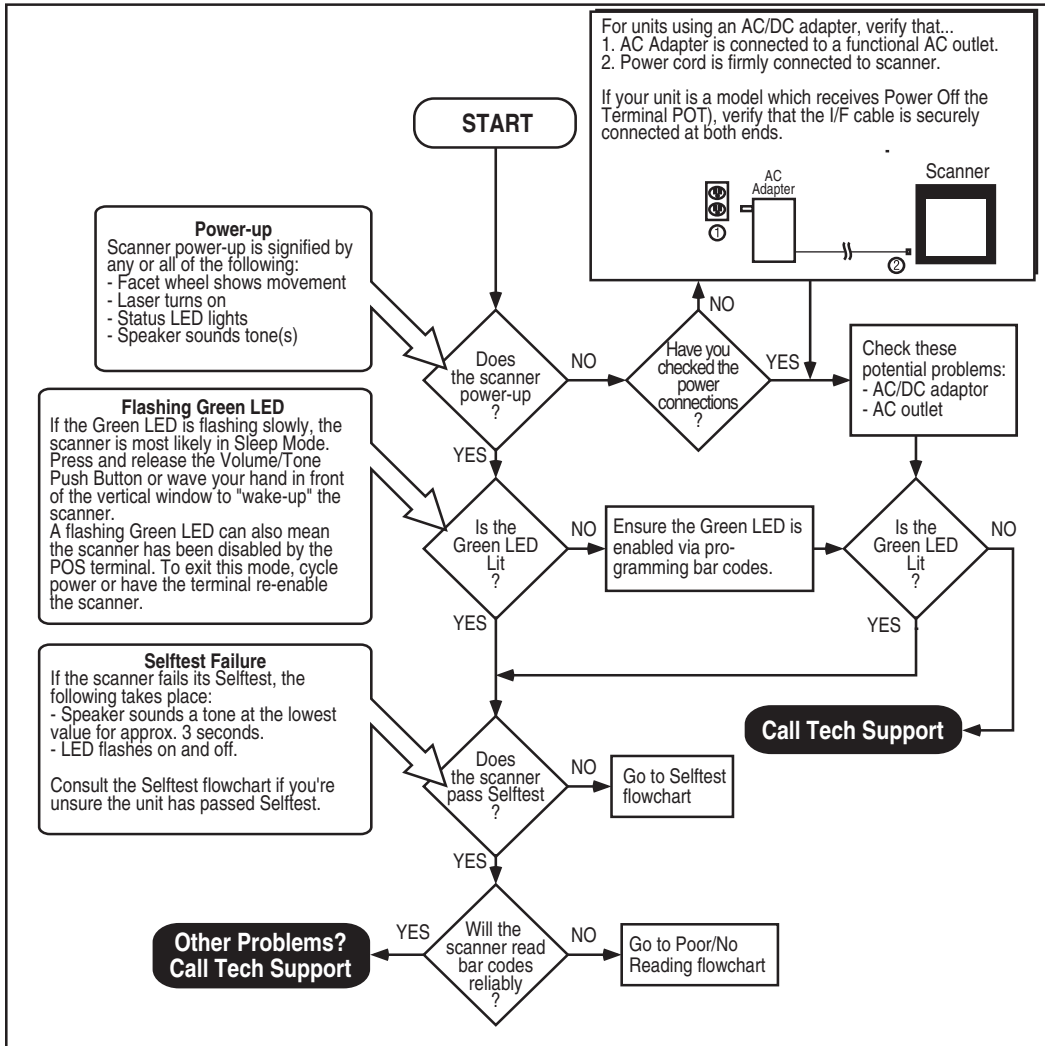


Figure 14. Problem Isolation: Selftest

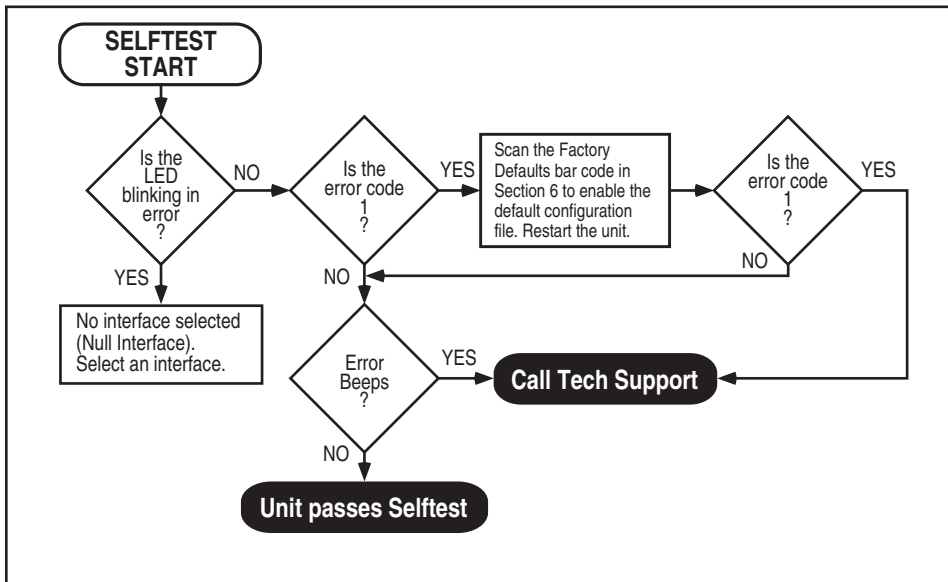
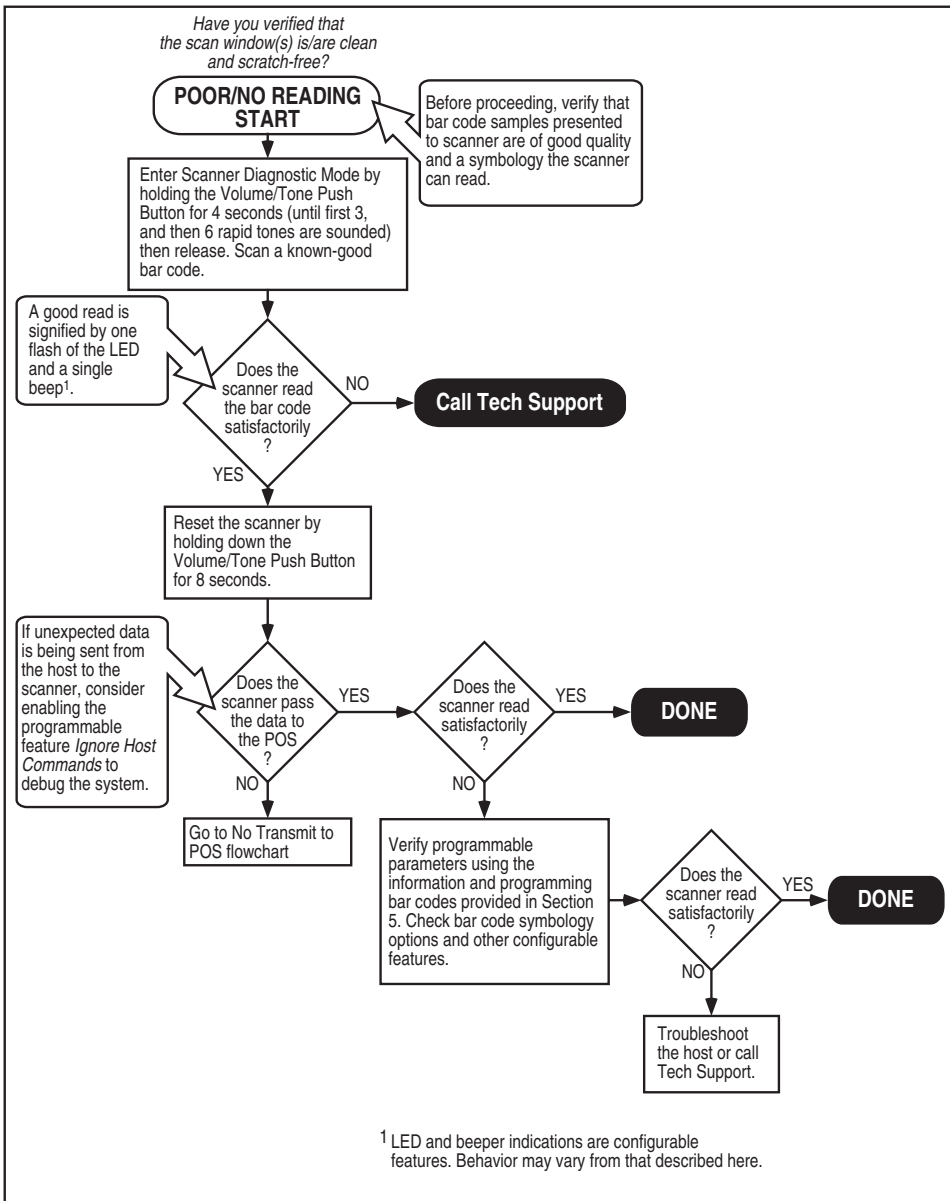


Figure 15. Problem Isolation: Poor/No Reading





Chapter 5

Programming

Introduction to Label Programming

The programming bar code labels contained in this manual will allow you to customize and configure features and settings for your scanner. To ensure full compatibility and proper function, use only the programming bar codes in this manual and other product-specific publications to program scanner features.

This manual has been developed to make it quick and easy for users of all levels to find the information needed to understand and configure features. The following descriptions will help you to determine where to go from here.

Understanding the Basics

If you have little or no prior experience with programming using bar code labels, you should review the first few pages of this chapter to familiarize yourself with the basics of scanner programming before performing any changes to your configuration.

Integrating the Scanner With Your Host System

Your scanner **MUST** be equipped with the correct hardware (interface board, cable, etc.) to properly communicate with your host system. Contact your dealer for information if you have questions about your scanner's hardware compatibility.

You may also want to contact the dealer or your system administrator if you have no record of how your scanner was pre-programmed at the factory. Scanners are typically programmed with the default settings for specific interface types; however, your scanner may have been custom configured with settings that are unique to your company or application.

Once you know the scanner's current settings, you can determine what changes will be required to allow communication with your host system and/or optional features you choose to modify to customize your installation. After recording the modifications needed, finish reading this chapter, then turn to the appropriate page and follow the instructions to program the scanner.

When all scanner features are programmed to your satisfaction, the scanner is ready to be placed into operation.

Customizing Your Scanner's Operation

Most scanner programming falls within three general categories:

- [General Scanner Features on page 48](#) — are features common to all interface types. Examples include beeper adjustments such as volume and length, read verification settings, etc.
- [EAS Features on page 78](#) — control the settings for interfacing with the [optional] EAS device.
- [Interface Related Features on page 80](#) — are the mandatory settings necessary to allow communication with your host terminal. Examples of these settings are: RS-232 baud rate and parity.



CAUTION

It is possible, via programming bar codes, to change the interface type (for example: from RS-232 to IBM Port 17). Great care should be taken to select the correct interface type, since you can cause damage to the scanner and/or POS terminal by attempting to change to an incompatible interface. ALWAYS make interface selections with the host cable DISCONNECTED.

**NOTE**

Ensure that your planned modifications are compatible with the current interface. For example, baud rate selections are only valid in the RS-232 interface. The scanner will sound an error tone when scanning programming labels for features invalid to the current interface group.

- [Symbology Programming on page 174](#) — gives the scanner the capability to autodiscriminate as few as one, or as many as all available symbologies. For optimal scanner performance enable only those symbologies required. Additionally the scanner may be programmed with the standard options available for the various symbologies, such as check digit, minimum label length, fixed and variable length bar codes, etc. If you experience difficulties, have questions or require additional information, contact your local distributor, or call your dealer or sales representative.

Programming Overview

The scanner's programmable feature settings can be modified to accommodate your system's unique requirements. These settings can be communicated to the scanner in one of three ways:

1. Commands can be sent directly from the host. A limited set of host commands are available. Refer to [Appendix D](#) for more details or contact Tech Support.
2. Programming bar code labels can also be used to modify the scanner's programmable settings. This manual provides the bar code labels and instructions necessary to configure the scanner's features and options.



NOTE

When you program the scanner using any of the methods above, the scanner will store the changes until reprogrammed or returned to factory defaults.

Programming via Handheld Device

The scanner can also accept programming via its auxiliary port using a handheld scanning device. Eligible handheld devices must have the ability to transmit Code 128 function codes such as the programming bar codes presented in this manual. Datalogic models QuickScan[®] 1000 and QuickScan[®] 6000 support this functionality. Handheld data format requirements (baud rate, parity, etc.) are presented in [Appendix F](#) of this manual. Additionally the programmable feature, [Auxiliary Port Mode](#) on page 60, must be set to "External Handheld Input" to allow operation.

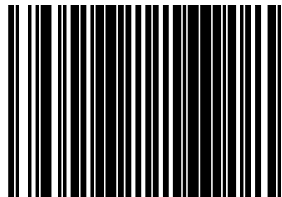
What Is Programming Mode?

Programming Mode is a state in which the scanner must be placed in order to accept commands via programming bar code labels. When programming using the bar code labels in this manual, the scanner is typically placed in Programming Mode by scanning the SWITCH label.

While in the Programming Mode, the scanner only recognizes ONLY the special programming bar codes contained in this programming guide. See [Appendix A](#) for information about scanner indications while in Programming Mode.

Entering and Exiting Programming Mode.

Use the bar code label below to enter and exit ('switch" into and out of) Programming Mode.



SWITCH LABEL

Programming Session

A typical programming session is conducted as follows:

1. Scan the SWITCH bar code to place the scanner in Programming Mode. Depending upon its current programming, the scanner may emit a beep or beeps, indicating it has read the bar code and the scanner (top) green LED will flash on and off slowly while the scanner remains in Programming Mode. Normal scanning functions are disabled.
2. Scan the programming bar code(s) that is (are) specially encoded to make the desired changes. With few exceptions¹, the scanner will emit a triple beep each time you scan a valid programming bar code.



NOTE

Not all features are available for all interfaces and the scanner will sound an error tone when scanning programming bar codes for features invalid to the current interface. Only features supported by the currently active interface will be implemented.



NOTE

If a bar code is scanned that changes the scanner's interface, all previous configuration items scanned in the programming session are lost.

Additionally, when programming a feature requiring you to scan single digits to set a multi-digit number, such as Minimum Label Length, scanning the SWITCH bar code (or any item tag/item value bar code) before completing all input will result in an error tone and cause the scanner to exit Programming Mode. Under these circumstances, the current feature you were trying to set is thrown out; any previous bar codes scanned during the session will take effect.

-
1. Some features, such as Minimum Label Length, require you to select the label's length by scanning a series of single-digit bar codes. A single 'good read' beep is sounded when scanning these single digits in Programming Mode. Only the final required digit in the sequence will produce a triple beep when scanned, indicating a successfully programmed feature.

**NOTE**

It is recommended that programming sessions be limited to one feature at a time. Should you make a mistake in the programming sequence, it can be difficult to discover where an error has been made if several features are programmed at once. Additionally, it can be confusing to determine which features may or may not have been successfully set following such a session.

3. Scan the SWITCH bar code to save any new settings and exit Programming Mode. The scanner will sound a beep and reset upon exiting Programming Mode, and the green LED will return to its usual state (on steady or off).

The scanner will exit Programming Mode under the following conditions:

- the programming sequence has been completed or the SWITCH bar code is scanned
 - five minutes have passed without scanning activity. Any data programmed during the current session will be ignored¹, and the scanner will reset and revert to its condition previous to initiating the exited session.
 - power is disconnected. Disconnecting power during Programming Mode, before scanning the SWITCH bar code, will cause all new settings to be ignored. On power-up, the scanner will return to previous settings.
4. Maintain a good record of all changes made to ensure that you know if the original factory settings have been changed.

1. Exception: If an interface bar code had been read while in Programming Mode, the scanner will operate on the default settings for the new interface.

Programming Sequence

To modify a scanner feature (item), the programming bar codes contained in this manual must be scanned in a given sequence depending upon the feature being programmed (as shown in Table 1). There are three possible programming sequences:



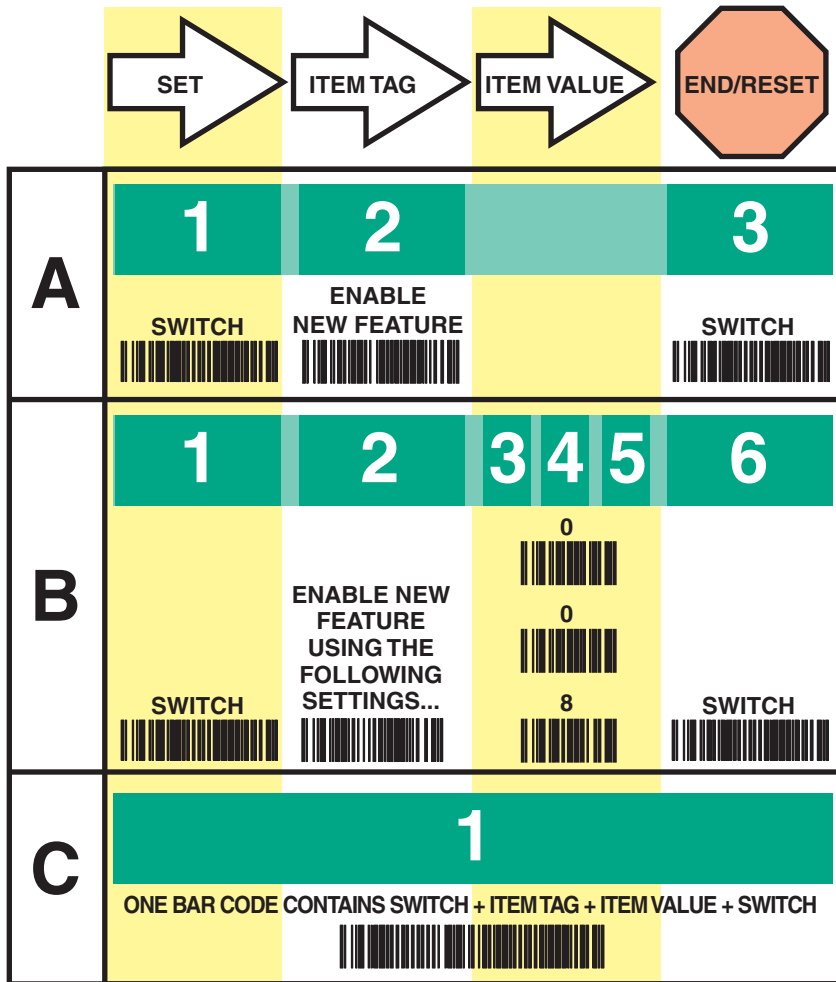
NOTE

If the scanner's interface type must be changed, always be sure that interface configuration is the FIRST item scanned during a programming session. (Selecting an interface type resets ALL other configuration items to the factory default for that interface type.)

- A. Programming sample A (the most commonly used format) demonstrates how three bar codes are scanned in sequence to do the following:
 1. Place the scanner in Programming Mode (SWITCH bar code).
 2. Scan the Item Tag¹ that will enable the new feature.
 3. End the programming session and reset the scanner (SWITCH bar code).
- B. Sample B provides an example of a programming feature requiring the entry of a range value. Like sample A, the scanner is placed in Programming Mode and an Item Tag¹ is scanned. Then, a value must be entered before ending the programming session. In the example, three digits must be scanned from the number pad in [Appendix C](#). This type of format, requiring several bar codes, is necessary to allow flexible programming for item values with larger numeric ranges.
- C. The programming sequence shown in example C requires scanning of a single, extended length bar code. This special programming bar code contains all the data necessary to enter Programming Mode, set the Item Tag¹ and Item Value, and exit Programming Mode (all in one step).

1. An 'Item Tag' is a term used to describe an assigned number, which is encoded in a programming bar code, that toggles (selects, enables, disables, etc.) a specific programming feature.

Table 1. Programming Sequence



LED and Beeper Indicators

The scanner provides a set of indicators that verify/announce the various scanner functions.

If You Make a Mistake...

If, during a programming session, you find that you are unsure of the scanner's settings or wish to reset the scanner's configuration, use the Return to Factory Settings label below to return the scanner's configuration to the factory settings. Scanning this label will also reset any changes made during previous programming sessions.

Return to Factory Settings

Scan this bar code to return the scanner to the default settings configured at the factory for the currently active interface. This bar code is typically used to return the scanner to a "known" operating state when the present programming status is not known, faulty, or suspect.



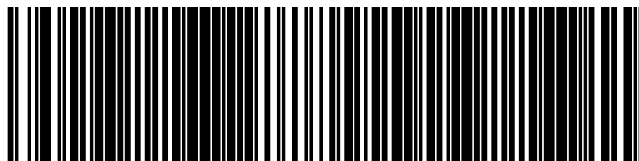
CAUTION



NOTE

Use this bar code with caution, since it will reset ALL features that may have been programmed since the scanner's installation.

DO NOT scan the SWITCH bar code before and after scanning this bar code, as the bar code below automatically enters and exits Programming Mode as a part of its function. If this bar code is scanned following a SWITCH bar code, it will simply cause the scanner to exit Programming Mode without making changes.



RETURN TO FACTORY SETTINGS

Test Mode

Use this feature to place the scanner into a testing, or “demo” mode. This special mode disables the scanner interface, meaning that bar code data is not sent out to the host via the scanner interface. This allows the bar code to be scanned continuously without requiring a response from the POS terminal.

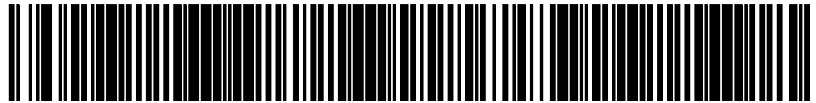
To return the scanner to normal function, scan the **TEST MODE = DISABLE** on page 47 bar code below.



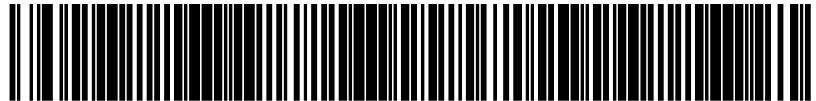
NOTE

DO NOT scan the SWITCH bar code before and after scanning the bar codes on this page.

Scanning the TEST MODE = DISABLE on page 47 bar code sets the Double Read Timeout to 600ms.



TEST MODE = DISABLE



TEST MODE = ENABLE

General Scanner Features

Scanner Button Options

Allows configuration of the scanner (volume) button to different modes of operation.

- Disable Scanner Button — Disables all button functions
- Enable Standard Functions — Enables volume, tone, and reset.
- Enable Reset Only — The button's sole function will be to reset the scanner.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan your selection from the bar codes below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



SCANNER BUTTON OPTIONS = DISABLE SCANNER BUTTON

Scanner Button Options (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



SCANNER BUTTON OPTIONS = ENABLE STANDARD FUNCTIONS



SCANNER BUTTON OPTIONS = ENABLE RESET ONLY

Double Read Timeout

The Double Read Timeout feature sets a time limit that determines how much time must pass before reading the same label again (e.g. two identical items in succession).

To set the Double Read Timeout:

1. Scan the SWITCH bar code.
2. Scan your selection from the bar codes below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



NOTE

If the incidence of multiple reads is not acceptable, increase the Double Read Timeout setting to a higher value.



DOUBLE READ TIMEOUT = 400ms



DOUBLE READ TIMEOUT = 600ms

Double Read Timeout (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



DOUBLE READ TIMEOUT = 800ms



DOUBLE READ TIMEOUT = 1 SECOND

Laser Timeout

The laser timeout feature sets the time for switching the visible laser diodes (VLDs) off if the scanner is idle. Using this feature can prolong the life of the VLDs.

To set the Laser Timeout:

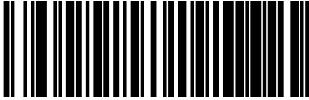
1. Scan the SWITCH bar code.
2. Scan your selection from the bar codes below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



LASER TIMEOUT = 5 MINUTES

Laser Timeout (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



LASER TIMEOUT = 10 MINUTES



LASER TIMEOUT = 15 MINUTES

Motor Timeout

The Motor Timeout feature sets the time for automatically switching the motor off when the scanner is not in use.



NOTE

Laser safety requires that the laser switch off before the motor. If you set the motor timeout shorter than the laser timeout, the motor and the laser will both shut off when the motor timeout expires.

To set the Motor Timeout:

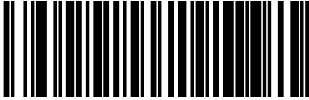
1. Scan the SWITCH bar code.
2. Scan your selection from the bar codes below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



MOTOR TIMEOUT = 5 MINUTES

Motor Timeout (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



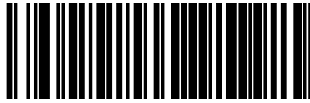
MOTOR TIMEOUT = 10 MINUTES



MOTOR TIMEOUT = 15 MINUTES

Motor Timeout (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



MOTOR TIMEOUT = 30 MINUTES



MOTOR TIMEOUT = 60 MINUTES

Label Gone Timeout

Specifies the amount of time that data segments are stored by the software before being discarded if a label has not been successfully decoded during the current “label in volume session,” which is defined as the time between when the label gone time is first started until the label gone timer expires.

To set the Label Gone Timeout:

1. Scan the SWITCH bar code.
2. Scan your selection from the bar codes below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



Label Gone Timeout (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



LABEL GONE TIMEOUT = 160 mS



LABEL GONE TIMEOUT = 250 mS

Label Gone Timeout (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



LABEL GONE TIMEOUT = 500 mS



LABEL GONE TIMEOUT = 1 Second

Auxiliary Port Mode

Selects the usage for the scanner's optional auxiliary port. The choices listed below are mutually exclusive (only one option can be active at a time).

- Disabled — Port is inactive
- External Handheld Input — Supports Datalogic® handheld scanners (QuickScan 1000, QuickScan 6000, PowerScan) as well as other models such as the Symbol® HotShot. Call your dealer for more information about supported devices.



NOTE

Cable pinout information for the Auxiliary Port is provided in Appendix B of this manual. A connected handheld scanner must be configured to transmit data as outlined in Appendix F.

- PIR/CT — PIR (Productivity Index Reporting) is a value-added feature which allows the scanner to provide information to an external computer indicating how easy the label was to read. CT (Checker Training) is also a value-added feature which allows the scanner to provide feedback to the cashier on how to scan in a more ergonomic fashion

To set this feature:

1. Scan the SWITCH bar code.
2. Scan your selection from the bar codes below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



AUXILIARY PORT MODE = DISABLE

Auxiliary Port Mode (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



AUXILIARY PORT MODE = EXTERNAL HANDHELD INPUT



AUXILIARY PORT MODE = PIR/CT

Auxiliary Port Baud Rate

Specifies the baud rate of the auxiliary port when operating in PIR/CT mode.



NOTE

PIR/CT is a value-added feature which may not have been activated on your model.

To specify the Auxiliary Port Baud Rate:

1. Scan the SWITCH bar code.
2. Scan the desired baud rate from the bar codes below and on the immediately following pages. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



AUXILIARY PORT BAUD RATE = 1200



AUXILIARY PORT BAUD RATE = 2400

Auxiliary Port Baud Rate (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



Auxiliary Port Baud Rate (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



RS-232 BAUD RATE = 19200



RS-232 BAUD RATE = 38400

Auxiliary Port Baud Rate (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



Productivity Index Reporting (PIR)/Cashier Training (CT)

When PIR/CT is enabled, label quality data is appended to decoded data before being presented to the POS. The PIR feature allows the scanner to provide information to an external computer indicating how easy the label was to read. CT allows the scanner to provide feedback to the cashier on how to scan in a more ergonomic fashion.



NOTE

This value-added feature is a factory-programmed option. Contact your dealer for information about upgrading your system to include this advanced capability.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan your selection from the bar codes below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



PIR/CT = DISABLE



PIR/CT = ENABLE

Indication Features

Green LED Idle State

This feature specifies the state of the green scanner LED when the scanner is idle and ready to read a label. Options are:

- Off
- On dim

To set the LED Idle State:

1. Scan your selection from the bar codes below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
2. Complete the programming sequence by scanning the SWITCH bar code.



GREEN LED IDLE STATE = OFF



GREEN LED IDLE STATE = ON DIM

Power-up Beep Control

Specifies the type of audible indication that is made when entering scanner-active mode on power-up. Choices are:

- No beep
- One beep
- Three beeps

To set the Power-up Beep:

1. Scan the SWITCH bar code.
2. Scan your selection from the three bar codes below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



POWER-UP BEEP = OFF



POWER-UP BEEP = ONE BEEP

Good Read Beep Control

This feature enables/disables scanner beep upon successfully decoding of a label.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan your selection from the two bar codes below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



Good Read Beep Frequency

Adjusts the scanner's good read beep to sound at low, medium, or high frequency (controls the beeper's pitch/tone).

- Low = 660 Hz
- Medium = 860 Hz
- High = 1050 Hz

To set the Good Read Beep Frequency:

1. Scan the SWITCH bar code.
2. Scan your selection from the three bar codes below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



GOOD READ BEEP FREQUENCY = LOW

Good Read Beep Frequency (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



GOOD READ BEEP FREQUENCY = MEDIUM



GOOD READ BEEP FREQUENCY = HIGH

Good Read Beep Length

Specifies the duration of a good read beep.

To set the good read beep length:

1. Scan the SWITCH bar code.
2. Scan the bar code, [SET GOOD READ BEEP LENGTH on page 72](#). You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the desired good read beep length setting. The selectable range is 1–255, which is the timeout in 10–millisecond increments. Pad all single and double digit numbers with leading zeroes to yield a three–digit entry (001–255).

Examples:

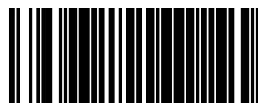
001 = 10ms

005 = 50ms

040 = 400ms

250 = 2,500ms (2.5 seconds)

4. The scanner will automatically exit Programming Mode when the appropriate amount of digits have been scanned



SET GOOD READ BEEP LENGTH

Good Read Beep Volume

Selects the beeper volume upon a good read beep. There are five selectable volumes, with each volume increment adding approximately five decibels to the previous level:

- 0 = Lowest Volume
- 1 = Medium-Low Volume
- 2 = Medium Volume
- 3 = Highest Volume

To set the Good Read Beep Volume:

1. Scan the SWITCH bar code.
2. Scan your selected volume bar code from this or the following pages. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



GOOD READ BEEP VOLUME = LOWEST

Good Read Beep Volume (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



GOOD READ BEEP VOLUME = MEDIUM LOW



GOOD READ BEEP VOLUME = MEDIUM

Good Read Beep Volume (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



GOOD READ BEEP VOLUME = HIGHEST

Good Read When to Indicate

This feature specifies when the scanner will provide indication (beep and/or flash its green LED) upon successfully reading a bar code.

- Good Read = Indicate after decode
- Good Read = Indicate after transmit
- Good Read = Indicate after CTS goes inactive, then active



NOTE

The “Indicate after CTS goes inactive...” mode applies to RS-232 STD and RS-232 WN interfaces only. If set to this mode in other interfaces, “Indicate after decode” mode will be implemented.

To set the Good Read When to Indicate feature:

1. Scan the SWITCH bar code.
2. Scan the desired mode bar code from this page. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



GOOD READ = INDICATE AFTER DECODE

Good Read When to Indicate (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



GOOD READ = INDICATE AFTER TRANSMIT



GOOD READ = INDICATE AFTER CTS GOES INACTIVE, THEN ACTIVE
(RS-232 ONLY)

EAS Features

EAS Active State

Specifies the active state polarity of EAS (Electronic Article Surveillance); the inactive state is its opposite polarity. EAS output goes active during the good read indication of a bar code, allowing the EAS device to deactivate a tag on the product.

To set the EAS Active State:

1. Scan the SWITCH bar code.
2. Scan your selection from the bar codes below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



EAS ACTIVE STATE = ACTIVE LOW



EAS ACTIVE STATE = ACTIVE HIGH

EAS Timeout

Specifies the amount of time that an EAS (Electronic Article Surveillance) signal is held in its active state for a good read indication.

To set the EAS Timeout:

1. Scan the SWITCH bar code.
2. Scan the bar code, [SET EAS TIMEOUT on page 79](#) below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the desired EAS Timeout duration. The selectable range is 0–255, which is the timeout in 10–millisecond increments. Pad all single and double digit numbers with leading zeroes to yield a three–digit entry (000–255).

Examples:

000 = EAS timeout disabled

001 = 10ms

005 = 50ms

040 = 400ms

250 = 2,500ms (2.5 seconds)



NOTE

A setting of 0 (000) disables this feature.

4. Scan the SWITCH bar code to exit Programming Mode.



Interface Related Features

Interface Type

Specifies the current scanner interface. Selections are:

INTERFACE (I/F) TYPE	I/F I.D. NUMBER	INTERFACE (I/F) TYPE	I/F I.D. NUMBER
RS-232 Standard	05	Keyboard Wedge A	25
RS-232 Wincor-Nixdorf	12	Keyboard Wedge B	26
RS-232 Single Cable	20	Keyboard Wedge C	27
USB-OEM	45	Keyboard Wedge D	28
IBM Port 17	04	Keyboard Wedge E	29
IBM Port 5B	08	Keyboard Wedge F	2A
IBM Port 9B	23	Keyboard Wedge G	31
USB Keyboard	35	Keyboard Wedge H	32
		Keyboard Wedge I	33
NOT USER-SELECTABLE		Keyboard Wedge J	34
Null Interface			

Interface Type (continued)



NOTE

A new scanner may have been shipped from the factory with a Null Interface (no interface type selected) to ensure system compatibility at installation. In this case, the correct Interface Type programming bar code must be scanned first before the scanner can be used with a POS system.



NOTE

If the scanner's interface type must be changed, always be sure that interface configuration is the FIRST item scanned during a programming session. (Selecting an interface type resets ALL other configuration items to the factory default for that interface type.)



CAUTION

To select the desired interface:

Great care should be taken to select the correct interface type, since you can cause damage to the scanner and/or POS terminal by attempting to change to an incompatible interface. ALWAYS make interface selections with the host cable DISCONNECTED.



NOTE

When an interface is selected, the scanner loads the factory configuration for that interface as the selection is made, erasing any and all custom configuration that may have previously been done.

1. Disconnect current interface cable(s) if currently connected.
2. Scan the SWITCH bar code
3. Scan the bar code representing the appropriate interface located on the following pages. You'll need to cover any unused bar codes adjacent to and on any facing pages to ensure the scanner reads only the bar code you intend to scan.

Interface Type (continued)

4. Complete the programming sequence by scanning the SWITCH bar code.



NOTE

Once the correct interface has been set, it will be necessary to proceed to the appropriate pages in this manual that select parameters and options for that interface. For example, if RS-232 is selected, turn to the pages in this manual headed as features specific to the RS-232 interface.

5. Connect new interface cable(s).

RS-232 Interface Selection

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



CAUTION

Great care should be taken to select the correct interface type, since you can cause damage to the scanner and/or POS terminal by attempting to change to an incompatible interface. ALWAYS make interface selections with the host cable DISCONNECTED.



INTERFACE TYPE = RS-232 STANDARD

RS-232 Wincor-Nixdorf Interface Selection

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



CAUTION

Great care should be taken to select the correct interface type, since you can cause damage to the scanner and/or POS terminal by attempting to change to an incompatible interface. ALWAYS make interface selections with the host cable DISCONNECTED.



INTERFACE TYPE = RS-232 WINCOR-NIXDORF

RS-232 Single Cable Interface Selection

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



CAUTION

Great care should be taken to select the correct interface type, since you can cause damage to the scanner and/or POS terminal by attempting to change to an incompatible interface. ALWAYS make interface selections with the host cable DISCONNECTED.



NOTE

Single cable installations require connection at the POS Terminal (host) port.



INTERFACE TYPE = RS-232 SINGLE CABLE

USB-OEM Interface Selection

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



CAUTION

Great care should be taken to select the correct interface type, since you can cause damage to the scanner and/or POS terminal by attempting to change to an incompatible interface. ALWAYS make interface selections with the host cable DISCONNECTED.



NOTE

Single cable installations require connection at the POS Terminal (host) port.



INTERFACE TYPE = USB-OEM

IBM Port 17 Interface Selection

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



CAUTION

Great care should be taken to select the correct interface type, since you can cause damage to the scanner and/or POS terminal by attempting to change to an incompatible interface. ALWAYS make interface selections with the host cable DISCONNECTED.



NOTE

Single cable installations require connection at the POS Terminal (host) port.



INTERFACE TYPE = IBM PORT 17

IBM Port 5B Interface Selection

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



CAUTION

Great care should be taken to select the correct interface type, since you can cause damage to the scanner and/or POS terminal by attempting to change to an incompatible interface. ALWAYS make interface selections with the host cable DISCONNECTED.



INTERFACE TYPE = IBM PORT 5B

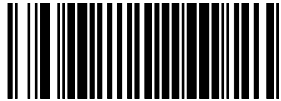
IBM Port 9B Interface Selection

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



CAUTION

Great care should be taken to select the correct interface type, since you can cause damage to the scanner and/or POS terminal by attempting to change to an incompatible interface. ALWAYS make interface selections with the host cable DISCONNECTED.



INTERFACE TYPE = IBM PORT 9B

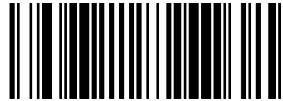
USB Keyboard Interface Selection

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



CAUTION

Great care should be taken to select the correct interface type, since you can cause damage to the scanner and/or POS terminal by attempting to change to an incompatible interface. ALWAYS make interface selections with the host cable DISCONNECTED.



INTERFACE TYPE = USB KEYBOARD

Keyboard Wedge A Interface Selection

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



CAUTION

Great care should be taken to select the correct interface type, since you can cause damage to the scanner and/or POS terminal by attempting to change to an incompatible interface. ALWAYS make interface selections with the host cable DISCONNECTED.



INTERFACE TYPE = KEYBOARD WEDGE A

Keyboard Wedge B Interface Selection

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



CAUTION

Great care should be taken to select the correct interface type, since you can cause damage to the scanner and/or POS terminal by attempting to change to an incompatible interface. ALWAYS make interface selections with the host cable DISCONNECTED.



INTERFACE TYPE = KEYBOARD WEDGE B

Keyboard Wedge C Interface Selection

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



CAUTION

Great care should be taken to select the correct interface type, since you can cause damage to the scanner and/or POS terminal by attempting to change to an incompatible interface. ALWAYS make interface selections with the host cable DISCONNECTED.



INTERFACE TYPE = KEYBOARD WEDGE C

Keyboard Wedge D Interface Selection

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



CAUTION

Great care should be taken to select the correct interface type, since you can cause damage to the scanner and/or POS terminal by attempting to change to an incompatible interface. ALWAYS make interface selections with the host cable DISCONNECTED.



INTERFACE TYPE = KEYBOARD WEDGE D

Keyboard Wedge E Interface Selection

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



CAUTION

Great care should be taken to select the correct interface type, since you can cause damage to the scanner and/or POS terminal by attempting to change to an incompatible interface. ALWAYS make interface selections with the host cable DISCONNECTED.



INTERFACE TYPE = KEYBOARD WEDGE E

Keyboard Wedge F Interface Selection

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



CAUTION

Great care should be taken to select the correct interface type, since you can cause damage to the scanner and/or POS terminal by attempting to change to an incompatible interface. ALWAYS make interface selections with the host cable DISCONNECTED.



INTERFACE TYPE = KEYBOARD WEDGE F

Keyboard Wedge G Interface Selection

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



CAUTION

Great care should be taken to select the correct interface type, since you can cause damage to the scanner and/or POS terminal by attempting to change to an incompatible interface. ALWAYS make interface selections with the host cable DISCONNECTED.



INTERFACE TYPE = KEYBOARD WEDGE G

Keyboard Wedge H Interface Selection

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



CAUTION

Great care should be taken to select the correct interface type, since you can cause damage to the scanner and/or POS terminal by attempting to change to an incompatible interface. ALWAYS make interface selections with the host cable DISCONNECTED.



INTERFACE TYPE = KEYBOARD WEDGE H

Keyboard Wedge I Interface Selection

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



CAUTION

Great care should be taken to select the correct interface type, since you can cause damage to the scanner and/or POS terminal by attempting to change to an incompatible interface. ALWAYS make interface selections with the host cable DISCONNECTED.



INTERFACE TYPE = KEYBOARD WEDGE I

Keyboard Wedge J Interface Selection

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



CAUTION

Great care should be taken to select the correct interface type, since you can cause damage to the scanner and/or POS terminal by attempting to change to an incompatible interface. ALWAYS make interface selections with the host cable DISCONNECTED.



INTERFACE TYPE = KEYBOARD WEDGE J

Maximum Host-Transmitted Message Length

Specifies the maximum number of data characters allowed in messages transmitted to the host.

To set the Maximum Host-Transmitted Message Length:

1. Scan the SWITCH bar code.
2. Scan the bar code, **SET MAXIMUM HOST-TRANSMITTED MESSAGE LENGTH** on page 100 below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in **Appendix C** that represent the desired maximum host-transmitted message length. The selectable range is 0-249 data characters. (Labels that are longer than this length are not read.) Pad all single and double digit numbers with leading zeroes to yield a three-digit entry (000-249).



NOTE

If this configuration item is set to 0 (000), there is no general length limit imposed on data being transmitted to the host.

4. The scanner will automatically exit Programming Mode when the appropriate amount of digits have been scanned



SET MAXIMUM HOST-TRANSMITTED MESSAGE LENGTH

Number of Host Transmission Buffers

Specifies the number of host transmission(s) that may be buffered. By buffering data from a bar code, the scanner can continue to read a new bar code while the old one is being transmitted to the host. Selecting `BUFFERS = 1` means that the first bar code must be transmitted before a new one can be read. A selection of `BUFFERS = 2` means that a new bar code can be read while data from the first bar code is transmitted. When the feature, [Good Read Beep Control on page 69](#), is enabled, the scanner will beep when the data is placed in a transmission buffer.

When a `DISABLE SCANNER` command is received from the host, the scanner will continue to transmit all data that is buffered.

To select the Number of Host Transmission Buffers:

1. Scan the SWITCH bar code.
2. Scan bar code below representing the desired setting. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



NUMBER OF HOST TRANSMISSION BUFFERS = 1



NUMBER OF HOST TRANSMISSION BUFFERS = 2

AIM ID

AIM label identifiers (as opposed to custom characters you select yourself as with label identifiers) can be included with scanned bar code data. AIM label identifiers consist of three characters as follows:

- A close brace character (ASCII '['), followed by...
- A code character (see the table below), followed by
- A modifier character (the modifier character is symbol dependent)

SYMBOLGY	CHAR	SYMBOLGY	CHAR
UPC/EAN	E	MSI/Plessey	M
Code 39	A	PDF 417	L
Codabar	F	DataBar Omnidirectional, DataBar Expanded (RSS)	e
Interleaved.2 of 5	I	Standard 2 of 5	S
Code 93	G	ISBN	X ^a
Code 128/EAN 128	C		

a. ISBN (X with a 0 modifier character)

dent)

Figure 16. AIM ID



AIM ID (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



AIM ID: DISABLE



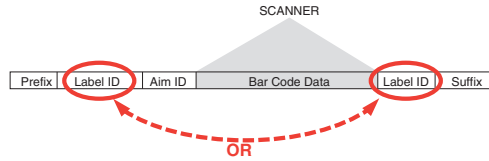
AIM ID: ENABLE

Label ID Control

A Label ID is a customizable code of up to two ASCII characters (00–FF), used to identify a bar code (symbology) type, available for all except IBM interfaces. It can be appended previous to or following the transmitted bar code data depending upon how this option is enabled. This feature provides options for configuring custom Label IDs individually per symbology. If you wish to program the scanner to always include an industry standard label identifier for ALL symbology types, see the previous feature, [AIM ID on page 102](#).

To configure a Label ID:

1. Scan the SWITCH bar code.
2. Select Label ID position as either BEFORE or AFTER by scanning the appropriate bar code.
3. Turn to the [Symbology Programming on page 174](#) section, locate and scan the appropriate bar code to select the symbology for which you wish to configure a custom Label ID, for example: [Code 39 Label ID on page 284](#).
4. Determine the desired character(s) (you may choose either one or two) which will represent the Label ID for the selected symbology. Next, turn to the [ASCII Character Set on page 1](#) on the inside back cover of this manual and find the equivalent hex digits associated with your choice of Label ID. For example, if you wish to select an equal sign (=) as a Label ID, the chart indicates its associated hex characters as 3D.
5. Turn to [Appendix C](#) and scan the bar codes representing the hex characters determined in the previous step. For the example given, the characters '3' and 'D' would be scanned to select an equal sign (=). If a two-character Label ID is desired, for example an equal sign and the letter C (=C), scan '3', 'D', '4' and '3' to select them.
6. Scan the SWITCH bar code to exit Label ID entry.
7. Scan the SWITCH bar code once again to exit programming mode.

Figure 17. Label ID Position Options

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



Label ID Control (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



LABEL ID TRANSMISSION: AFTER BAR CODE DATA

Global Prefix

This feature specifies the prefix that is added to beginning of label transmission.

To specify the Global Prefix Character(s):

1. Scan the SWITCH bar code.
2. Scan the bar code, [SET GLOBAL PREFIX on page 107](#) below. You'll need to cover any unused bar codes to ensure the scanner reads only the bar code you intend to scan.
3. Scan the appropriate characters/digits from the keypad in [Appendix C](#) that represent the hex designation for the desired character(s). A table containing the [ASCII Character Set on page 1](#) and their corresponding Hex Values is available in the inside back cover of this manual. ASCII parameters must be input by scanning a pair of hexadecimal digits for each character. Thus, to set a two-character value of AB, bar codes containing the digits '4', '1', '4', and '2' must be scanned. The selectable range for this option is any hex value from 00 to FF. Up to 20 hex pairs can be designated.



NOTE

To specify "no Global Prefix," scan 00.

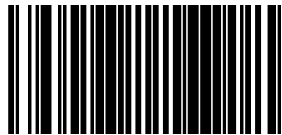
4. If designating the full 20 hex pairs, the scanner will automatically exit Programming Mode when the appropriate amount of digits have been scanned. If designating less than 20 hex pairs, you can end the programming sequence early by scanning the [TERMINATE SEQUENCE on page 107](#) bar code.

5. Complete the programming sequence by scanning the SWITCH bar code.

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



SET GLOBAL PREFIX



TERMINATE SEQUENCE

Global Suffix

This feature specifies the suffix that is added to end of a label transmission. Three standard options are available below. Contact your dealer for other alternate settings for this feature.

- No Global Suffix
- CR — Carriage Return
- CR LF — Carriage Return, Line Feed

To set the Global Suffix:

1. Scan the SWITCH bar code.
2. Scan your selection from the bar codes below.
3. Complete the programming sequence by scanning the SWITCH bar code.



GLOBAL SUFFIX = NO GLOBAL SUFFIX

Global Suffix (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



GLOBAL SUFFIX = CR



GLOBAL SUFFIX = CR LF

Case Conversion

Changes the case of all alphabetic characters to upper or lower case.

Choices are:

- No case conversion
- Upper case
- Lower case

To configure this feature:

1. Scan the SWITCH bar code.
2. Scan your selection from the case conversion bar codes below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



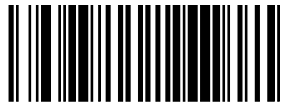
CASE CONVERSION = NO CASE CONVERSION

Case Conversion (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



CASE CONVERSION = UPPER CASE



CASE CONVERSION = LOWER CASE

IBM Features

IBM Interface Options

IBM interfaces offer specific control over interaction with certain devices.



NOTE

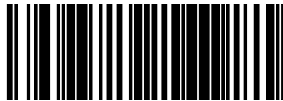
The USB-OEM interface provides its own set of options. Refer to the feature, USB-OEM Scanner Device Type on page 117, in this chapter.

Options for this feature are as follows:

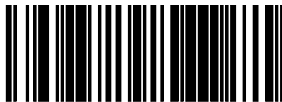
- FULL host interface support — Accepts scanner configuration host commands.
- Ignore host interface configuration of scanner — Ignores all scanner configuration host commands.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan your selection from the bar codes below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



IBM INTERFACE OPTION = FULL HOST INTERFACE SUPPORT



IBM INTERFACE OPTION = IGNORE HOST I/F CONFIG OF SCANNER

IBM Number of Host Resets

Specifies how many consecutive resets are processed before the scanner starts a five-second period during which a user is allowed to enter label-programming mode and configure the scanner.

To set the number of host resets:

1. Scan the SWITCH bar code.
2. Scan the bar code, [SET IBM NUMBER OF HOST RESETS](#) on page 113. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the desired number of host resets. The selectable range is 1–15 resets. Pad all single and double digit numbers with leading zeroes to yield a three-digit entry (001–015).

Examples:

001 = 1 reset

005 = 5 resets

011 = 11 resets

4. The scanner will automatically exit Programming Mode when the appropriate amount of digits have been scanned



SET IBM NUMBER OF HOST RESETS

IBM Transmit Labels in Code 39 Format

This feature enables/disables scanner's ability to set a symbology identifier for a specified label to Code 39 before transmitting that label data to an IBM host. This applies to: Code 128, Code 93 and Codabar for IBM Port 5B; Code 93 and Codabar for IBM Port 9B.



NOTE

When enabled, this feature has no effect on IBM Port 17.

To enable/disable the IBM Transmit Labels in Code 39 Format feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



IBM TRANSMIT LABELS IN CODE 39 FORMAT = DISABLE



IBM TRANSMIT LABELS IN CODE 39 FORMAT = ENABLE

IBM Label Slicing Control

Enables/disables the slicing of IBM-46XX host transmission data into multiple pieces when a label is longer than the length specified by [IBM Maximum Label Slice Length on page 116](#).

Options are:

- Disable Label Slicing — Send data to host in one piece.
- Enable Label Slicing — Slice the host data into multiple pieces when necessary.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan your selection from the bar codes below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



IBM LABEL SLICING CONTROL = DISABLE LABEL SLICING



IBM LABEL SLICING CONTROL = ENABLE LABEL SLICING

IBM Maximum Label Slice Length

Specifies the maximum allowable length of host transmit data in each sliced frame.



NOTE

This setting only applies when IBM Label Slicing Control on page 115 is enabled.

1. Scan the SWITCH bar code.
2. Scan the bar code below, **SET IBM MAXIMUM LABEL SLICE LENGTH on page 116**. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in **Appendix C** that represent the desired slice length. The selectable range is a length from 14 to 246. Pad all single and double digit numbers with leading zeroes to yield a three-digit entry (014-100).
4. The scanner will automatically exit Programming Mode when the appropriate amount of digits have been scanned.



SET IBM MAXIMUM LABEL SLICE LENGTH

USB-OEM Scanner Device Type

The IBM-USB protocol allows for the scanner to be identified as one of two different types of barcode scanners. Depending on what other scanners you may already have connected to a USB POS, you may need to change this setting to enable all scanners to communicate. Options are:

- Table Top Scanner
- Handheld Scanner

To set this feature:

1. Scan the SWITCH bar code.
2. Scan your selection from the bar codes below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



USB-OEM SCANNER DEVICE TYPE = TABLE TOP SCANNER



USB-OEM SCANNER DEVICE TYPE = HANDHELD SCANNER

RS-232 Features

RS-232 Baud Rate

This feature selects the baud rate required for sending and receiving data.



NOTE

Single cable interfaces are limited to Baud Rate selections up to 19200. They cannot communicate at Baud Rates of 38400 and up.

To specify the RS-232 Baud Rate:

1. Scan the SWITCH bar code.
2. Scan the desired baud rate from the bar codes below and on the immediately following pages. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



RS-232 BAUD RATE = 1200



RS-232 BAUD RATE = 2400

RS-232 Baud Rate (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



RS-232 Baud Rate (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



RS-232 BAUD RATE = 19200



RS-232 BAUD RATE = 38400

RS-232 Baud Rate (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



RS-232 Number of Data Bits

Specifies number of data bits required for sending and receiving data.



NOTE

8 data bits with 2 stop bits and parity enabled is not a valid configuration.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code below representing the desired Data Bit setting. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



RS-232 NUMBER OF DATA BITS = 7



RS-232 NUMBER OF DATA BITS = 8

RS-232 Number of Stop Bits

Specifies number of stop bits required for sending and receiving data.



NOTE

8 data bits with 2 stop bits and parity enabled is not a valid configuration.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code below representing the desired Stop Bit setting. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



RS-232 NUMBER OF STOP BITS = 1



RS-232 NUMBER OF STOP BITS = 2

RS-232 Parity

Specifies parity required for sending and receiving data.



NOTE

8 data bits with 2 stop bits and parity enabled is not a valid configuration.

Options for this setting are:

- RS-232 PARITY = NONE on page 124
- RS-232 PARITY = EVEN on page 125
- RS-232 PARITY = ODD on page 125

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code below or on the following pages representing the desired Parity setting. You'll need to cover any unused bar codes, as well as facing pages to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



RS-232 PARITY = NONE

RS-232 Parity (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



RS-232 PARITY = EVEN



RS-232 PARITY = ODD

RS-232 Hardware Control

Enables/disables use of the RS-232 CTS signal for flow control and/or scan control.

Options are:

- Disable — The scanner transmits to the host regardless of any activity on the CTS line.
- Enable CTS Flow Control — The CTS signal controls transmission of data to the host.
- Enable CTS Scan Control — The CTS line must be active for scanner to read and transmit data. While the CTS line is inactive, scanner remains in a host-disabled state; following a successful label transmission, the CTS signal must transition to inactive and then to active to enable scanning for the next label.
- Enable Magellan SL CTS scan control — Emulates default Magellan SL setting for this feature.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan bar code below or from the following page for the desired setting. You'll need to cover any unused bar codes on facing pages to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



RS-232 HARDWARE CONTROL = DISABLE

RS-232 Hardware Control (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



RS-232 HARDWARE CONTROL = ENABLE CTS FLOW CONTROL



RS-232 HARDWARE CONTROL = ENABLE CTS SCAN CONTROL

RS-232 Hardware Control (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



RS-232 HARDWARE CONTROL = ENABLE MGL SL CTS SCAN CONTROL

RS-232 Intercharacter Delay

Specifies delay between the end of one character and the beginning of the next in 10-millisecond increments.

To set the RS-232 Intercharacter Delay:

1. Scan the SWITCH bar code.
2. Scan the bar code below, [SET RS-232 INTERCHARACTER DELAY on page 128](#). You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the desired delay. The selectable range is 0–100, which is the delay in 10-millisecond increments. Pad all single and double digit numbers with leading zeroes to yield a three-digit entry (000–100).
Examples:
001 = 10ms
005 = 50ms
040 = 400ms
100 = 1,000ms (1 second)
4. The scanner will automatically exit Programming Mode when the appropriate amount of digits have been scanned.

SET RS-232 INTERCHARACTER DELAY



RS-232 Software Flow Control

Enables/disables RS-232 Flow Control using XON/ XOFF characters.



NOTE

This item will be ignored when the feature, RS-232 NAK Character on page 141, is enabled

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



RS-232 SOFTWARE FLOW CONTROL = DISABLE



RS-232 SOFTWARE FLOW CONTROL = ENABLE

RS-232 Host Echo

When enabled, this feature passes all data through the scanner to the host as it comes in. This feature is used for applications where “daisy chaining” of RS-232 devices onto the same cable is necessary. If, for example, one of the devices in the chain is a terminal where someone is entering data while another person is simultaneously scanning a bar code requiring transmission to the host, the scanner will wait for the RS-232 channel to be quiet for a specified period of time (set via [RS-232 Host Echo Quiet Interval on page 131](#)). The scanner can be set to observe this delay before sending its data in order to avoid RS-232 transmission conflicts.



NOTE

When RS-232 Host Echo is enabled, the following features are ignored: RS-232 Software Flow Control on page 129 and RS-232 ACK NAK Enable on page 138 as well as all other ACK/ NAK related operations, plus processing of RS-232 host commands.

To enable/disable this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You’ll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



RS-232 Host Echo Quiet Interval

This setting specifies the time interval of RS-232 channel inactivity which must transpire before the scanner will break the host echo loop to transmit the bar code data that has just been scanned to the host.

- 0 - 100 = Time in 10-millisecond increments.

To set the Host Echo Quiet Interval:

1. Scan the SWITCH bar code.
2. Scan the bar code below, [SET RS-232 HOST ECHO QUIET INTERVAL on page 131](#). You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the desired timeout. The selectable range is 0-100, which is the timeout in 10-millisecond increments. Pad all single and double digit numbers with leading zeroes to yield a three-digit entry (000-100).

Examples:

001 = 10ms

005 = 50ms

040 = 400ms

100 = 1,000ms (1 second)

4. The scanner will automatically exit Programming Mode when the appropriate amount of digits have been scanned.



SET RS-232 HOST ECHO QUIET INTERVAL

RS-232 Ignore Host Commands

When set to ignore host commands, the scanner will ignore all host commands except for the minimum set necessary to keep the interface active, and transmit labels. For normal operation of the interface, disable this feature.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan your selection from the bar codes below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



RS-232 IGNORE HOST COMMANDS =
NORMAL (DO NOT IGNORE HOST COMMANDS)



RS-232 IGNORE HOST COMMANDS = ENABLE

RS-232 TTL

Specifies whether RS-232 interface provides TTL levels on the output pins TxD and RTS.

Choices are:

- Normal RS-232 levels
- TTL levels

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code below which represents the desired setting for this feature. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



RS-232 LEVELS = NORMAL RS-232



RS-232 LEVELS = TTL

RS-232 TTL Invert

Enables/disables inversion of TTL.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code below which represents the desired setting for this feature. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



RS-232 TTL INVERT = NO INVERT



RS-232 TTL INVERT = INVERT

RS-232 ICL DC1 Character Delay Enable

Enables/disables the ability of the scanner to delay a DC1 response for 40 milliseconds.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code below which represents the desired setting for this feature. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



RS-232 ICL DC1 CHARACTER DELAY = DISABLE



RS-232 ICL DC1 CHARACTER DELAY = ENABLE

RS-232 Beep on ASCII BEL

Enables/disables ability of scanner to beep (sound a good read tone) on receiving an ASCII BEL (07 hex).

- Disable
- Enable

To enable/disable this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



RS-232 BEEP ON ASCII BEL = DISABLE



RS-232 BEEP ON ASCII BEL = ENABLE

RS-232 Beep on Not on File

Select for the host to beep (or not) when a not-on-file condition is detected by the host. This feature is also applicable to single cable RS-232.



RS-232 BEEP ON NOT ON FILE = DISABLE



RS-232 BEEP ON NOT ON FILE = ENABLE

RS-232 ACK NAK Enable

This enables/disables the ability of the scanner to support the RS-232 ACK/NAK protocol. When configured, the scanner and/or host sends an “ACK” when it receives data properly, and sends “NAK” when the data is in error. Selections for this option are:

- Disable
- Label Transmission — the scanner expects an ACK/NAK response from the host when a label is sent
- Host Acknowledgement — Enabled for Host Commands (the scanner will respond with ACK/NAK when the host sends a command)
- Label & Host — Enabled for both Label Transmission & Host Commands

To select the option for RS-232 ACK NAK Enable:

1. Scan the SWITCH bar code.
2. Scan the desired option from bar codes below and on the following page. You’ll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



RS-232 ACK NAK = DISABLE



RS-232 ACK/NAK = LABEL TRANSMISSION

RS-232 ACK NAK Enable (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



RS-232 ACK/NAK = HOST ACKNOWLEDGEMENT



RS-232 ACK/NAK = LABEL & HOST

RS-232 ACK Character

This feature specifies which ASCII character will be used as an ACK character.



NOTE

DO NOT set this feature to use previously defined characters such as XON, XOFF or host commands as this will conflict with normal operation of these characters. 8-bit data is not recognized when the feature, RS-232 Number of Data Bits on page 122, is set to 7 data bits.

To specify the RS-232 ACK Character:

1. Scan the SWITCH bar code.
2. Scan the bar code, [SET RS-232 ACK CHARACTER on page 140](#) below. You'll need to cover any unused bar codes on this and the facing page to ensure the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the hex designation for the desired character. A table containing the [ASCII Character Set on page 1](#) and their corresponding Hex Values is available in the inside back cover of this manual. ASCII parameters must be input by scanning a pair of hexadecimal digits for the desired character. For example, if ASCII "A" were the desired ACK character, you would scan the digits "4", then "1" (the ASCII corresponding hex value).
4. The scanner will automatically exit Programming Mode when the appropriate amount of digits/characters have been scanned.



SET RS-232 ACK CHARACTER

RS-232 NAK Character

This feature specifies which ASCII character will be used as a NAK character.

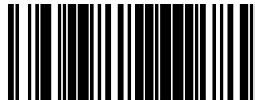


NOTE

DO NOT set this feature to use previously defined characters such as XON, XOFF or host commands as this will conflict with normal operation of these characters. 8-bit data is not recognized when the feature, RS-232 Number of Data Bits on page 122, is set to 7 data bits.

To specify the RS-232 NAK Character:

1. Scan the SWITCH bar code.
2. Scan the bar code, [SET RS-232 NAK CHARACTER on page 141](#) below. You'll need to cover any unused bar codes on this and the facing page to ensure the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the hex designation for the desired character. A table containing the [ASCII Character Set on page 1](#) and their corresponding Hex Values is available in the inside back cover of this manual. ASCII parameters must be input by scanning a pair of hexadecimal digits for the desired character. For example, if ASCII "A" were the desired NAK character, you would scan the digits "4", then "1" (the ASCII corresponding hex value).
4. The scanner will automatically exit Programming Mode when the appropriate amount of digits/characters have been scanned.



SET RS-232 NAK CHARACTER

RS-232 Retry on ACK NAK Timeout

This option specifies the action scanner performs on expiration of the RS-232 ACK NAK Timeout Value on page 143.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



RS-232 RETRY ON ACK NAK TIMEOUT = DISABLE



RS-232 RETRY ON ACK NAK TIMEOUT = ENABLE

RS-232 ACK NAK Timeout Value

This item specifies the time the scanner will wait for an ACK character from the host following a label transmission.

- 0 = Infinite timeout
- 1 – 75 = Timeout in 200-millisecond increments

To set the ACK NAK Timeout Value:

1. Scan the SWITCH bar code.
2. Scan the bar code below, [SET RS-232 ACK NAK TIMEOUT VALUE on page 143](#). You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the desired timeout. A setting of 0 specifies an infinite timeout. The remaining selectable range is 1–75, which is the timeout in 200-millisecond increments. Pad all single digit numbers with leading zeroes to yield a three-digit entry (000–075).

Examples:

000 = Infinite timeout

001 = 200ms

005 = 1,000ms (1 second)

040 = 8,000ms (8 seconds)

075 = 15,000ms (15 seconds)

4. The scanner will automatically exit Programming Mode when the appropriate amount of digits have been scanned.



SET RS-232 ACK NAK TIMEOUT VALUE

RS-232 ACK NAK Retry Count

This feature sets the number of times for the scanner to retry a label transmission under a retry condition.

To set the RS-232 ACK NAK Retry Count:

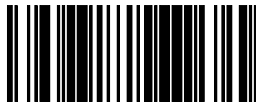
1. Scan the SWITCH bar code.
2. Scan the bar code, [SET RS-232 ACK NAK RETRY COUNT on page 144](#) below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the desired number. The selectable range is 0–255 resets. Pad all single and double digit numbers with leading zeroes to yield a three-digit entry (000–255).



NOTE

A setting of 255 specifies "retry forever."

4. The scanner will automatically exit Programming Mode when the appropriate amount of digits have been scanned.



SET RS-232 ACK NAK RETRY COUNT

RS-232 ACK NAK Error Handling

This item specifies the method the scanner will use to handle errors detected while waiting to receive the ACK character from the host. Errors include unrecognized host commands and communication errors such as parity or framing errors.

- Ignore Errors (recommended setting)
- Assume ACK (risk of lost label data)
- Assume NAK (risk of duplicate label)

To select the option for RS-232 ACK NAK Error Handling:

1. Scan the SWITCH bar code.
2. Scan the desired option from the bar codes below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



RS-232 ACK NAK ERROR HANDLING = IGNORE ERRORS

RS-232 ACK NAK Error Handling (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



RS-232 ACK NAK ERROR HANDLING = ASSUME ACK



RS-232 ACK NAK ERROR HANDLING = ASSUME NAK

RS-232 Indicate Transmission Failure

Enables/disables an audible error indication upon a transmission failure.



RS-232 INDICATE TRANSMISSION FAILURE = DISABLE



RS-232 INDICATE TRANSMISSION FAILURE = ENABLE

Single Cable RS-232 Options

The RS-232 Single Cable interface shares some configuration options with other RS-232 interfaces. Rather than repeat them in this chapter as Single Cable options, please find them referenced as follows:

- “RS-232 Baud Rate” on page 118
- “RS-232 Number of Data Bits” on page 122
- “RS-232 Number of Stop Bits” on page 123
- “RS-232 Parity” on page 124
- “RS-232 Software Flow Control” on page 129
- “RS-232 Beep on Not on File” on page 137
- “RS-232 Beep on Not on File” on page 137

Single Cable Pacesetter Plus Enable

Enables/disables the scanner's ability to send Pacesetter Plus information as trailers to UPC/EAN label data.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



SINGLE CABLE PACESETTER PLUS = DISABLE



SINGLE CABLE PACESETTER PLUS = ENABLE

Single Cable RS-232 RTS CTS Selection

Specifies how RTS and CTS are used to control the data flow. RTS is controlled by the Scanner and can be continuously held high/low, or can be asserted during label transmission. The scanner looks at CTS, as the configuration values state, to determine when to send label data.

Choices are:

- Option 0 = RTS is held in low state and CTS is ignored
- Option 1 = RTS is held in high state and CTS is ignored
- Option 2 = Assert RTS and wait for CTS to be asserted
- Option 3 = Assert RTS and ignore CTS
- Option 4 = RTS held low, wait for CTS to be asserted
- Option 5 = RTS held high, wait for CTS to be asserted

To set this feature:

1. Scan the SWITCH bar code.
2. Scan a bar code below or on the following pages representing the desired option. You'll need to cover any unused bar codes, as well as facing pages to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



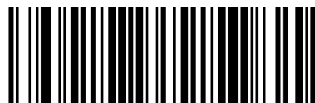
Single Cable RS-232 RTS CTS Selection (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



Single Cable RS-232 RTS CTS Selection (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



RTS CTS SELECTION = OPTION 4



RTS CTS SELECTION = OPTION 5

Single Cable RS-232 Use BCC

Enables/disables the ability of the scanner to use BCC.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



SINGLE CABLE RS-232 USE BCC = DISABLE



SINGLE CABLE RS-232 USE BCC = ENABLE

Single Cable RS-232 Use ACK/NAK

Enables/disables the ability of the scanner to use ACK/NAK.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



SINGLE CABLE RS-232 USE ACK/NAK = DISABLE



SINGLE CABLE RS-232 USE ACK/NAK = ENABLE

Single Cable RS-232 Use STX

Enables/disables the ability of the scanner to use STX.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



SINGLE CABLE RS-232 USE STX = DISABLE



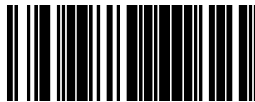
SINGLE CABLE RS-232 USE STX = ENABLE

Set Single Cable RS-232 STX Character

This feature selects the STX character.

To specify the STX Character:

1. Scan the SWITCH bar code.
2. Scan the bar code, [SET SINGLE CABLE RS-232 STX CHARACTER on page 156](#) below. You'll need to cover any unused bar codes on this and the facing page to ensure the scanner reads only the bar code you intend to scan.
3. Scan the appropriate characters/digits from the keypad in [Appendix C](#) that represent the decimal designation for the desired character. A table containing the [ASCII Character Set on page 1](#) and their corresponding decimal values is available in the inside back cover of this manual. ASCII parameters must be input by scanning decimal digits for each character. Pad all numbers with leading zeroes to yield a three-digit entry (001–127). Thus, to set a single character value of A, bar codes containing the digits '0', '6' and '5' must be scanned. The selectable range for this option is any decimal value from 001 to 127.
4. The scanner will automatically exit Programming Mode when the appropriate amount of digits have been scanned.



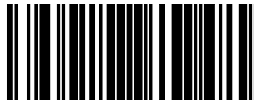
SET SINGLE CABLE RS-232 STX CHARACTER

Set Single Cable RS-232 ETX Character

Allows selection of the ETX character.

To specify the ETX Character:

1. Scan the SWITCH bar code.
2. Scan the bar code, **SET SINGLE CABLE RS-232 ETX CHARACTER** on page 157 below. You'll need to cover any unused bar codes on this and the facing page to ensure the scanner reads only the bar code you intend to scan.
3. Scan the appropriate characters/digits from the keypad in **Appendix C** that represent the decimal designation for the desired character. A table containing the **ASCII Character Set on page 1** and their corresponding decimal values is available in the inside back cover of this manual. ASCII parameters must be input by scanning decimal digits for each character. Pad all numbers with leading zeroes to yield a three-digit entry (001–127). Thus, to set a single character value of A, bar codes containing the digits '0', '6' and '5' must be scanned. The selectable range for this option is any decimal value from 001 to 127.
4. The scanner will automatically exit Programming Mode when the appropriate amount of digits have been scanned.



SET SINGLE CABLE RS-232 ETX CHARACTER

Keyboard Wedge/USB Keyboard Features

Features listed in this section apply to both the Keyboard Wedge and USB Keyboard interfaces unless otherwise noted.

Keyboard Interface — Keyboard Layout

This feature specifies the country/language to be supported by the keyboard.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the appropriate country bar code from the following pages. You'll need to cover any unused bar codes on that and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



Keyboard Interface — Keyboard Layout (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



KEYBOARD LAYOUT = BRITAIN



KEYBOARD LAYOUT = DENMARK

Keyboard Interface — Keyboard Layout (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



KEYBOARD LAYOUT = FRANCE



KEYBOARD LAYOUT = GERMANY

Keyboard Interface — Keyboard Layout (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



Keyboard Interface — Keyboard Layout (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



KEYBOARD LAYOUT = PORTUGAL



KEYBOARD LAYOUT = SPAIN

Keyboard Interface — Keyboard Layout (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



Keyboard Interface — Keyboard Layout (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



KEYBOARD LAYOUT = JAPANESE 106 KEY



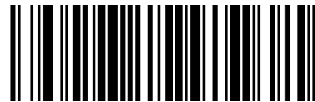
KEYBOARD LAYOUT = HUNGARY

Keyboard Interface — Keyboard Layout (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



KEYBOARD LAYOUT = CZECH REPUBLIC



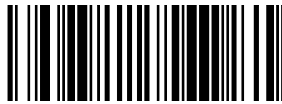
KEYBOARD LAYOUT = SLOVAKIA

Keyboard Interface — Keyboard Layout (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



KEYBOARD LAYOUT = ROMANIA



KEYBOARD LAYOUT = CROATIA

Keyboard Interface — Keyboard Layout (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



Keyboard Interface Quiet Interval

Specifies amount of time to look for keyboard activity before scanner breaks keyboard connection in order to transmit data to host. To set the Keyboard Interface Quiet Interval:

1. Scan the SWITCH bar code.
2. Scan the bar code below, [SET KEYBOARD INTERFACE QUIET INTERVAL on page 167](#). You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the desired delay. The selectable range is 1–100, which is the interval duration in 10–millisecond increments. Pad all single and double digit numbers with leading zeroes to yield a three–digit entry (001–100).

Examples:

001 = 10ms

005 = 50ms

040 = 400ms

100 = 1,000ms (1 second)

4. The scanner will automatically exit Programming Mode when the appropriate amount of digits have been scanned.



Keyboard Interface Caps Lock State

Specifies the format in which the scanner sends character data..

Choices are:

- CAPS LOCK OFF — send character data in normal format.
- CAPS LOCK ON — send character data in reverse case.
- SHIFT LOCK ON — send character data in shifted case. This option only applies to Wedge G. For other interface this setting results in a CAPS LOCK OFF functionality.
- CAPS LOCK COMPENSATION MODE — This only applies to the USB Keyboard Interface. For other interfaces, this setting results in a CAPS LOCK OFF functionality.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



CAPS LOCK STATE = OFF



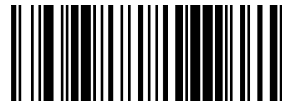
CAPS LOCK STATE = CAPS LOCK ON

Keyboard Interface Caps Lock State (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



CAPS LOCK STATE = SHIFT LOCK ON



CAPS LOCK STATE = CAPS LOCK COMPENSATION MODE

Keyboard Interface — Keyboard Simulation

Enables/disables ability of scanner to perform host communications normally performed by attached keyboard.



NOTE

This feature does not apply to the USB Keyboard interface.

All PCs check the keyboard status during the power-on Selftest. It is recommended that you enable this function if you are working without a keyboard installation. It simulates keyboard timing and passes the keyboard status to the PC during power-on.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



KEYBOARD SIMULATION = DISABLE



KEYBOARD SIMULATION = ENABLE

Keyboard Interface — Control Characters

Specifies how the scanner transmits ASCII control characters to the host.



NOTE

This feature does not apply to the USB Keyboard interface.

Choices are:

- Disable Control Characters
- Enable transmission of control characters to host
- Send characters between 00H and 1FH according to a special function–key mapping table. (This is used to send keys that are not in the normal ASCII set; a unique set is provided for each available scancode set. Reference [Appendix G, Keyboard Function Key Mappings](#).)

To set this feature:

1. Scan the SWITCH bar code.
2. Scan your choice from the Control Characters feature bar codes below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



CONTROL CHARACTERS = DISABLE

Keyboard Interface — Control Characters (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



CONTROL CHARACTERS = ENABLE TRANSMISSION OF CTL CHARACTERS



CONTROL CHARACTERS = ENABLE FUNCTION KEY MAPPING

Keyboard Interface — Intercharacter Delay

Sets the delay between the end of one character and the beginning of the next, in 10 millisecond increments.

To specify the intercharacter delay:

1. Scan the SWITCH bar code.
2. Scan the bar code below, **SET KEYBOARD WEDGE INTERCHARACTER DELAY** on page 173. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the desired delay. The selectable range is 0–100, which is the delay in 10-millisecond increments. Pad all single and double digit numbers with leading zeroes to yield a three-digit entry (000–100).

Examples:

001 = 10ms

005 = 50ms

040 = 400ms

100 = 1,000ms (1 second)

4. The scanner will automatically exit Programming Mode when the appropriate amount of digits have been scanned.



SET KEYBOARD WEDGE INTERCHARACTER DELAY

Symbology Programming



NOTE

If the scanner's interface type must be changed, always be sure that interface configuration is the **FIRST** item scanned during a programming session. (Selecting an interface type resets **ALL** other configuration items — including symbology programming — to the factory default for that interface type.)

Coupon Control

Used to control the method of processing coupon labels.

Options are:

- Disable coupon decoding
- Enable UPC/EAN coupon decoding
- Enable RSS coupon decoding

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



Coupon Control (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



COUPON CONTROL = ENABLE UPC/EAN COUPON DECODING



COUPON CONTROL = ENABLE DATABAR COUPON DECODING

UPC-A Enable

Enables/disables the ability of the scanner to decode UPC-A labels.
To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



UPC-A = DISABLE



UPC-A = ENABLE

UPC-A Number System Character Transmission

Enables/disables transmission of a UPC-A number system character.



NOTE

This feature MUST be enabled for IBM interfaces for proper function.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



UPC-A NUMBER SYSTEM CHARACTER TRANSMISSION = DISABLE



UPC-A NUMBER SYSTEM CHARACTER TRANSMISSION = ENABLE

UPC-A Check Character Transmission

Enables/disables transmission of a UPC-A check character.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



UPC-A CHECK CHARACTER TRANSMISSION = DISABLE



UPC-A CHECK CHARACTER TRANSMISSION = ENABLE

Expand UPC-A to EAN-13

Enables/disables expansion of UPC-A labels to EAN/JAN-13.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



EXPAND UPC-A TO EAN/JAN-13 = DISABLE



EXPAND UPC-A TO EAN/JAN-13 = ENABLE

UPC-A Label ID

This feature specifies a UPC-A label ID to be added to bar code data.

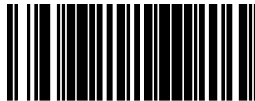


NOTE

The programming feature, Label ID Control, designates whether the Label ID is transmitted as a prefix or suffix or if Label ID is disabled.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, [SET UPC-A LABEL ID on page 180](#) below. You'll need to cover any unused bar codes on this and the facing page to ensure the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the desired Label ID characters; entered as two hex pairs. A table containing the [ASCII Character Set on page 1](#) and their corresponding Hex Values is available in the inside back cover of this manual. ASCII parameters must be input by scanning a pair of hexadecimal digits for each character. Thus, to set a two-character value of AB, bar codes containing the digits '4', '1', '4', and '2' must be scanned. The selectable range for this option is any hex value from 00 to FF.
4. Complete the programming sequence by scanning the SWITCH bar code.



SET UPC-A LABEL ID

UPC-A 2-Digit Supplemental Label ID

This feature specifies a UPC-A 2-Digit Supplemental label ID to be added to bar code data.



NOTE

The programming feature, Label ID Control, designates whether the Label ID is transmitted as a prefix or suffix or if Label ID is disabled.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, [SET UPC-A 2-DIGIT SUPPLEMENTAL LABEL ID on page 181](#) below. You'll need to cover any unused bar codes on this and the facing page to ensure the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the desired Label ID characters; entered as two hex pairs. A table containing the [ASCII Character Set on page 1](#) and their corresponding Hex Values is available in the inside back cover of this manual. ASCII parameters must be input by scanning a pair of hexadecimal digits for each character. Thus, to set a two-character value of AB, bar codes containing the digits '4', '1', '4', and '2' must be scanned. The selectable range for this option is any hex value from 00 to FF.
4. Complete the programming sequence by scanning the SWITCH bar code.



SET UPC-A 2-DIGIT SUPPLEMENTAL LABEL ID

UPC-A 5-Digit Supplemental Label ID

This feature specifies a UPC-A 5-Digit Supplemental label ID to be added to bar code data.

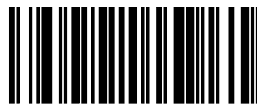


NOTE

The programming feature, Label ID Control, designates whether the Label ID is transmitted as a prefix or suffix or if Label ID is disabled.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, **SET UPC-A 5-DIGIT SUPPLEMENTAL LABEL ID** on page 182 below. You'll need to cover any unused bar codes on this and the facing page to ensure the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in **Appendix C** that represent the desired Label ID characters; entered as two hex pairs. A table containing the **ASCII Character Set on page 1** and their corresponding Hex Values is available in the inside back cover of this manual. ASCII parameters must be input by scanning a pair of hexadecimal digits for each character. Thus, to set a two-character value of AB, bar codes containing the digits '4', '1', '4', and '2' must be scanned. The selectable range for this option is any hex value from 00 to FF.
4. Complete the programming sequence by scanning the SWITCH bar code.



SET UPC-A 5-DIGIT SUPPLEMENTAL LABEL ID

UPC-A 128 Supplemental Label ID

This feature specifies a UPC-A 128 Supplemental label ID to be added to bar code data.

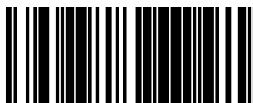


NOTE

The programming feature, Label ID Control, designates whether the Label ID is transmitted as a prefix or suffix or if Label ID is disabled.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, [SET UPC-A 128 SUPPLEMENTAL LABEL ID on page 183](#) below. You'll need to cover any unused bar codes on this and the facing page to ensure the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the desired Label ID characters; entered as two hex pairs. A table containing the [ASCII Character Set on page 1](#) and their corresponding Hex Values is available in the inside back cover of this manual. ASCII parameters must be input by scanning a pair of hexadecimal digits for each character. Thus, to set a two-character value of AB, bar codes containing the digits '4', '1', '4', and '2' must be scanned. The selectable range for this option is any hex value from 00 to FF.
4. Complete the programming sequence by scanning the SWITCH bar code.



SET UPC-A 128 SUPPLEMENTAL LABEL ID

UPC-A Minimum Reads

Specifies the minimum number of consecutive times a UPC-A label must be decoded before it is accepted as a good read.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code representing the desired option below or on the following pages. You'll need to cover any unused bar codes on facing pages to ensure that the scanner reads only the bar code you intend to scan.

Complete the programming sequence by scanning the SWITCH bar code.



UPC-A MINIMUM READS = 1



UPC-A MINIMUM READS = 2

UPC-A Minimum Reads (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



UPC-E Enable

Enables/disables the ability of the scanner to decode UPC-E labels.
To set this feature:

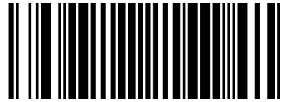
1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



UPC-E Number System Character Transmission

Enables/disables transmission of a UPC-E number system character.
To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



UPC-E NUMBER SYSTEM CHARACTER TRANSMISSION = DISABLE



UPC-E NUMBER SYSTEM CHARACTER TRANSMISSION = ENABLE

UPC-E Check Character Transmission

Enables/disables transmission of a UPC-E check character.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



UPC-E CHECK CHARACTER TRANSMISSION = DISABLE



UPC-E CHECK CHARACTER TRANSMISSION = ENABLE

Expand UPC-E to UPC-A

Enables/disables expansion of UPC-E labels to UPC-A.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



EXPAND UPC-E TO UPC-A = DISABLE



EXPAND UPC-E TO UPC-A = ENABLE

Expand UPC-E to EAN-13

Enables/disables expansion of UPC-E labels to EAN/JAN-13.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



EXPAND UPC-E TO EAN/JAN-13 = DISABLE



EXPAND UPC-E TO EAN/JAN-13 = ENABLE

UPC-E Label ID

This feature specifies a UPC-E label ID to be added to bar code data.

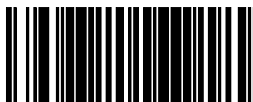


NOTE

The programming feature, Label ID Control, designates whether the Label ID is transmitted as a prefix or suffix or if Label ID is disabled.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, [SET UPC-E LABEL ID on page 191](#) below. You'll need to cover any unused bar codes on this and the facing page to ensure the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the desired Label ID characters; entered as two hex pairs. A table containing the [ASCII Character Set on page 1](#) and their corresponding Hex Values is available in the inside back cover of this manual. ASCII parameters must be input by scanning a pair of hexadecimal digits for each character. Thus, to set a two-character value of AB, bar codes containing the digits '4', '1', '4', and '2' must be scanned. The selectable range for this option is any hex value from 00 to FF.
4. Complete the programming sequence by scanning the SWITCH bar code.



SET UPC-E LABEL ID

UPC-E 2-Digit Supplemental Label ID

This feature specifies a UPC-E 2-Digit Supplemental label ID to be added to bar code data.



NOTE

The programming feature, Label ID Control, designates whether the Label ID is transmitted as a prefix or suffix or if Label ID is disabled.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, [SET UPC-E 2-DIGIT SUPPLEMENTAL LABEL ID on page 192](#) below. You'll need to cover any unused bar codes on this and the facing page to ensure the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the desired Label ID characters; entered as two hex pairs. A table containing the [ASCII Character Set on page 1](#) and their corresponding Hex Values is available in the inside back cover of this manual. ASCII parameters must be input by scanning a pair of hexadecimal digits for each character. Thus, to set a two-character value of AB, bar codes containing the digits '4', '1', '4', and '2' must be scanned. The selectable range for this option is any hex value from 00 to FF.
4. Complete the programming sequence by scanning the SWITCH bar code.



SET UPC-E 2-DIGIT SUPPLEMENTAL LABEL ID

UPC-E 5-Digit Supplemental Label ID

This feature specifies a UPC-E 5-Digit Supplemental label ID to be added to bar code data.

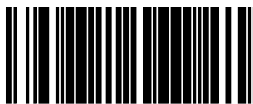


NOTE

The programming feature, Label ID Control, designates whether the Label ID is transmitted as a prefix or suffix or if Label ID is disabled.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, [SET UPC-E 5-DIGIT SUPPLEMENTAL LABEL ID on page 193](#) below. You'll need to cover any unused bar codes on this and the facing page to ensure the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the desired Label ID characters; entered as two hex pairs. A table containing the [ASCII Character Set on page 1](#) and their corresponding Hex Values is available in the inside back cover of this manual. ASCII parameters must be input by scanning a pair of hexadecimal digits for each character. Thus, to set a two-character value of AB, bar codes containing the digits '4', '1', '4', and '2' must be scanned. The selectable range for this option is any hex value from 00 to FF.
4. Complete the programming sequence by scanning the SWITCH bar code.



SET UPC-E 5-DIGIT SUPPLEMENTAL LABEL ID

UPC-E 128 Supplemental Label ID

This feature specifies a UPC-E 128 Supplemental label ID to be added to bar code data.

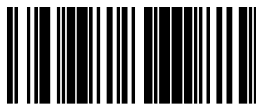


NOTE

The programming feature, Label ID Control, designates whether the Label ID is transmitted as a prefix or suffix or if Label ID is disabled.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, [SET UPC-E 128 SUPPLEMENTAL LABEL ID on page 194](#) below. You'll need to cover any unused bar codes on this and the facing page to ensure the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the desired Label ID characters; entered as two hex pairs. A table containing the [ASCII Character Set on page 1](#) and their corresponding Hex Values is available in the inside back cover of this manual. ASCII parameters must be input by scanning a pair of hexadecimal digits for each character. Thus, to set a two-character value of AB, bar codes containing the digits '4', '1', '4', and '2' must be scanned. The selectable range for this option is any hex value from 00 to FF.
4. Complete the programming sequence by scanning the SWITCH bar code.



SET UPC-E 128 SUPPLEMENTAL LABEL ID

UPC-E Minimum Reads

Specifies the minimum number of consecutive times a UPC-E label must be decoded before it is accepted as a good read.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code representing the desired option below or on the following pages. You'll need to cover any unused bar codes on facing pages to ensure that the scanner reads only the bar code you intend to scan.

Complete the programming sequence by scanning the SWITCH bar code.



UPC-E Minimum Reads (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



EAN-13 Enable

Enables/disables the ability of the scanner to decode EAN/JAN-13 labels.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



EAN-13 First Character Transmission

Enables/disables transmission of EAN/JAN-13 first character.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



EAN-13 FIRST CHARACTER TRANSMISSION = DISABLE



EAN-13 FIRST CHARACTER TRANSMISSION = ENABLE

EAN-13 Check Character Transmission

Enables/disables transmission of an EAN/JAN-13 check character.
To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



EAN-13 CHECK CHARACTER TRANSMISSION = DISABLE



EAN-13 CHECK CHARACTER TRANSMISSION = ENABLE

EAN-13 ISBN Conversion Enable

Enables/disables conversion of EAN/JAN-13 labels starting with 978 to Bookland ISBN labels.



NOTE

If any add-on information is present on the label prior to the conversion to ISBN, the add-on data will be discarded. Only the base label will be converted.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



EAN-13 ISBN Conversion= DISABLE



EAN-13 ISBN Conversion = ENABLE

EAN 13 Label ID

This feature specifies an EAN 13 label ID to be added to bar code data.

To set this feature:

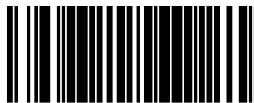


NOTE

The programming feature, Label ID Control, designates whether the Label ID is transmitted as a prefix or suffix or if Label ID is disabled.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, [SET EAN 13 LABEL ID on page 201](#) below. You'll need to cover any unused bar codes on this and the facing page to ensure the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the desired Label ID characters; entered as two hex pairs. A table containing the [ASCII Character Set on page 1](#) and their corresponding Hex Values is available in the inside back cover of this manual. ASCII parameters must be input by scanning a pair of hexadecimal digits for each character. Thus, to set a two-character value of AB, bar codes containing the digits '4', '1', '4', and '2' must be scanned. The selectable range for this option is any hex value from 00 to FF.
4. Complete the programming sequence by scanning the SWITCH bar code.



SET EAN 13 LABEL ID

EAN-13 2-Digit Supplemental Label ID

This feature specifies an EAN-13 2-Digit Supplemental label ID to be added to bar code data.

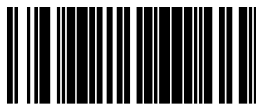


NOTE

The programming feature, Label ID Control, designates whether the Label ID is transmitted as a prefix or suffix or if Label ID is disabled.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, [SET EAN-13 2-DIGIT SUPPLEMENTAL LABEL ID on page 202](#) below. You'll need to cover any unused bar codes on this and the facing page to ensure the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the desired Label ID characters; entered as two hex pairs. A table containing the [ASCII Character Set on page 1](#) and their corresponding Hex Values is available in the inside back cover of this manual. ASCII parameters must be input by scanning a pair of hexadecimal digits for each character. Thus, to set a two-character value of AB, bar codes containing the digits '4', '1', '4', and '2' must be scanned. The selectable range for this option is any hex value from 00 to FF.
4. Complete the programming sequence by scanning the SWITCH bar code.



SET EAN-13 2-DIGIT SUPPLEMENTAL LABEL ID

EAN-13 5-Digit Supplemental Label ID

This feature specifies an EAN-13 5-Digit Supplemental label ID to be added to bar code data.

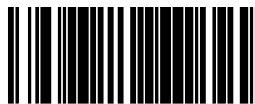


NOTE

The programming feature, Label ID Control, designates whether the Label ID is transmitted as a prefix or suffix or if Label ID is disabled.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, [SET EAN-13 5-DIGIT SUPPLEMENTAL LABEL ID on page 203](#) below. You'll need to cover any unused bar codes on this and the facing page to ensure the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the desired Label ID characters; entered as two hex pairs. A table containing the [ASCII Character Set on page 1](#) and their corresponding Hex Values is available in the inside back cover of this manual. ASCII parameters must be input by scanning a pair of hexadecimal digits for each character. Thus, to set a two-character value of AB, bar codes containing the digits '4', '1', '4', and '2' must be scanned. The selectable range for this option is any hex value from 00 to FF.
4. Complete the programming sequence by scanning the SWITCH bar code.



SET EAN-13 5-DIGIT SUPPLEMENTAL LABEL ID

EAN-13 128 Supplemental Label ID

This feature specifies an EAN-13 128 Supplemental label ID to be added to bar code data.

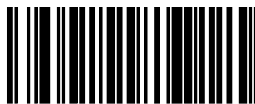


NOTE

The programming feature, Label ID Control, designates whether the Label ID is transmitted as a prefix or suffix or if Label ID is disabled.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, **SET EAN-13 128 SUPPLEMENTAL LABEL ID = DISABLE** on page 204 below. You'll need to cover any unused bar codes on this and the facing page to ensure the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in **Appendix C** that represent the desired Label ID characters; entered as two hex pairs. A table containing the **ASCII Character Set on page 1** and their corresponding Hex Values is available in the inside back cover of this manual. ASCII parameters must be input by scanning a pair of hexadecimal digits for each character. Thus, to set a two-character value of AB, bar codes containing the digits '4', '1', '4', and '2' must be scanned. The selectable range for this option is any hex value from 00 to FF.
4. Complete the programming sequence by scanning the SWITCH bar code.



SET EAN-13 128 SUPPLEMENTAL LABEL ID = DISABLE

EAN-13 Minimum Reads

Specifies the minimum number of consecutive times an EAN-13 label must be decoded before it is accepted as a good read.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code representing the desired option below or on the following pages. You'll need to cover any unused bar codes on facing pages to ensure that the scanner reads only the bar code you intend to scan.

Complete the programming sequence by scanning the SWITCH bar code.



EAN-13 MINIMUM READS = 1



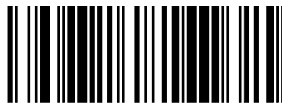
EAN-13 MINIMUM READS = 2

EAN-13 Minimum Reads (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



EAN-13 MINIMUM READS = 3



EAN-13 MINIMUM READS = 4

Bookland Label ID

This feature specifies a Bookland label ID to be added to bar code data.



NOTE

The programming feature, Label ID Control, designates whether the Label ID is transmitted as a prefix or suffix or if Label ID is disabled.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, [SET BOOKLAND LABEL ID on page 207](#) below. You'll need to cover any unused bar codes on this and the facing page to ensure the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the desired Label ID characters; entered as two hex pairs. A table containing the [ASCII Character Set on page 1](#) and their corresponding Hex Values is available in the inside back cover of this manual. ASCII parameters must be input by scanning a pair of hexadecimal digits for each character. Thus, to set a two-character value of AB, bar codes containing the digits '4', '1', '4', and '2' must be scanned. The selectable range for this option is any hex value from 00 to FF.
4. Complete the programming sequence by scanning the SWITCH bar code.



SET BOOKLAND LABEL ID

EAN-8 Enable

Enables/disables the ability of the scanner to decode EAN/JAN-8 labels.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



EAN-8 Check Character Transmission

Enables/disables transmission of an EAN/JAN-8 check character.
To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



EAN-8 CHECK CHARACTER TRANSMISSION = DISABLE



EAN-8 CHECK CHARACTER TRANSMISSION = ENABLE

Expand EAN-8 to EAN-13

Enables/disables expansion of EAN/JAN-8 labels to EAN/JAN-13.
To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



EXPAND EAN/JAN-8 TO EAN/JAN-13 = DISABLE



EXPAND EAN/JAN-8 TO EAN/JAN-13 = ENABLE

EAN-8/JAN-8 Guard Insertion

Enables/Disables the ability of the scanner to insert a guard pattern into an otherwise complete EAN-8 segment it has received.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



EAN-8/JAN-8 GUARD INSERTION = DISABLE



EAN-8/JAN-8 GUARD INSERTION = ENABLE

EAN-8/JAN-8 Guard Substitution

Enables/disables the ability of the scanner to substitute a guard pattern for even-parity 6 when an EAN-8/JAN-8 label is presented. To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



EAN-8/JAN-8 GUARD SUBSTITUTION = DISABLE



EAN-8/JAN-8 GUARD SUBSTITUTION = ENABLE

EAN-8/JAN-8 Both Guards Substitution

Enables/disables the ability of the scanner to find an EAN/JAN8 guard pattern in cases where the EAN/JAN8 margin makes the guard look like a character.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



EAN-8/JAN-8 BOTH GUARDS SUBSTITUTION = DISABLE



EAN-8/JAN-8 BOTH GUARDS SUBSTITUTION = ENABLE

EAN-8 Stitch Exact Label Halves

When enabled, this allows the scanner the ability to stitch exact EAN-8 label halves with no overlapping characters.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



EAN-8 STITCH EXACT LABEL HALVES = DISABLE



EAN-8 STITCH EXACT LABEL HALVES = ENABLE

EAN-8 Stitch Unlike Label Halves

When enabled, this allows the scanner the ability to stitch two EAN-8 label halves together that may contain differing characters.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



EAN-8 STITCH UNLIKE LABEL HALVES = DISABLE



EAN-8 STITCH UNLIKE LABEL HALVES = ENABLE

EAN 8 Label ID

This feature specifies an EAN 8 label ID to be added to bar code data.

To set this feature:

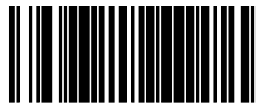


NOTE

The programming feature, Label ID Control, designates whether the Label ID is transmitted as a prefix or suffix or if Label ID is disabled.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, [SET EAN 8 LABEL ID on page 216](#) below. You'll need to cover any unused bar codes on this and the facing page to ensure the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the desired Label ID characters; entered as two hex pairs. A table containing the [ASCII Character Set on page 1](#) and their corresponding Hex Values is available in the inside back cover of this manual. ASCII parameters must be input by scanning a pair of hexadecimal digits for each character. Thus, to set a two-character value of AB, bar codes containing the digits '4', '1', '4', and '2' must be scanned. The selectable range for this option is any hex value from 00 to FF.
4. Complete the programming sequence by scanning the SWITCH bar code.



SET EAN 8 LABEL ID

EAN-8 2-Digit Supplemental Label ID

This feature specifies an EAN-8 2-Digit Supplemental label ID to be added to bar code data.

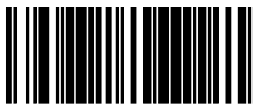


NOTE

The programming feature, Label ID Control, designates whether the Label ID is transmitted as a prefix or suffix or if Label ID is disabled.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, [SET EAN-8 2-DIGIT SUPPLEMENTAL LABEL ID on page 217](#) below. You'll need to cover any unused bar codes on this and the facing page to ensure the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the desired Label ID characters; entered as two hex pairs. A table containing the [ASCII Character Set on page 1](#) and their corresponding Hex Values is available in the inside back cover of this manual. ASCII parameters must be input by scanning a pair of hexadecimal digits for each character. Thus, to set a two-character value of AB, bar codes containing the digits '4', '1', '4', and '2' must be scanned. The selectable range for this option is any hex value from 00 to FF.
4. Complete the programming sequence by scanning the SWITCH bar code.



SET EAN-8 2-DIGIT SUPPLEMENTAL LABEL ID

EAN-8 5-Digit Supplemental Label ID

This feature specifies an EAN-8 5-Digit Supplemental label ID to be added to bar code data.

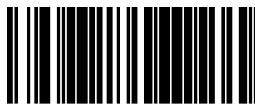


NOTE

The programming feature, Label ID Control, designates whether the Label ID is transmitted as a prefix or suffix or if Label ID is disabled.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, [SET EAN-8 5-DIGIT SUPPLEMENTAL LABEL ID on page 218](#) below. You'll need to cover any unused bar codes on this and the facing page to ensure the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the desired Label ID characters; entered as two hex pairs. A table containing the [ASCII Character Set on page 1](#) and their corresponding Hex Values is available in the inside back cover of this manual. ASCII parameters must be input by scanning a pair of hexadecimal digits for each character. Thus, to set a two-character value of AB, bar codes containing the digits '4', '1', '4', and '2' must be scanned. The selectable range for this option is any hex value from 00 to FF.
4. Complete the programming sequence by scanning the SWITCH bar code.



SET EAN-8 5-DIGIT SUPPLEMENTAL LABEL ID

EAN-8 128 Supplemental Label ID

This feature specifies an EAN-8 128 Supplemental label ID to be added to bar code data.

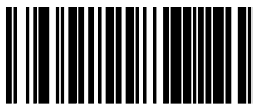


NOTE

The programming feature, Label ID Control, designates whether the Label ID is transmitted as a prefix or suffix or if Label ID is disabled.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, [SET EAN-8 128 SUPPLEMENTAL LABEL ID on page 219](#) below. You'll need to cover any unused bar codes on this and the facing page to ensure the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the desired Label ID characters; entered as two hex pairs. A table containing the [ASCII Character Set on page 1](#) and their corresponding Hex Values is available in the inside back cover of this manual. ASCII parameters must be input by scanning a pair of hexadecimal digits for each character. Thus, to set a two-character value of AB, bar codes containing the digits '4', '1', '4', and '2' must be scanned. The selectable range for this option is any hex value from 00 to FF.
4. Complete the programming sequence by scanning the SWITCH bar code.



SET EAN-8 128 SUPPLEMENTAL LABEL ID

EAN-8 Decoding Levels

Decoding levels allow the decoder to be set to perform at one of four selectable levels:

- Very Conservative — Slower scan time, virtually eliminates misreads. The most secure setting.
- Slightly More Aggressive — Faster scanning, more aggressive, yet minimizes misreads.
- Moderately Aggressive — Even faster scanning, even more aggressive.
- Very Aggressive — Fastest scan speed, most aggressive.



CAUTION

Use caution when setting this feature, as the aggressive settings for this feature allow a higher potential for misreads.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code representing the desired option on the following pages. You'll need to cover any unused bar codes on facing pages to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



NOTE

It is important to note that the default for this feature is the "Slightly More Aggressive" setting. For default settings for other features, see Appendix E.

EAN-8 Decoding Levels (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



EAN-8 DECODING LEVELS = VERY CONSERVATIVE



EAN-8 DECODING LEVELS = SLIGHTLY MORE AGGRESSIVE

EAN-8 Decoding Levels (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



EAN-8 DECODING LEVELS = MODERATELY AGGRESSIVE



EAN-8 DECODING LEVELS = VERY AGGRESSIVE

EAN-8 Minimum Reads

Specifies the minimum number of consecutive times an EAN-8 label must be decoded before it is accepted as a good read.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code representing the desired option below or on the following pages. You'll need to cover any unused bar codes on facing pages to ensure that the scanner reads only the bar code you intend to scan.

Complete the programming sequence by scanning the SWITCH bar code.



EAN-8 Minimum Reads (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



EAN-8 Minimum Segment Length

Specifies the minimum number of characters necessary in an EAN-8/JAN-8 label segment in order for the scanner to accept a label for decoding. Selectable from 5 to 15 characters.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code representing the desired option below or on the following pages. You'll need to cover any unused bar codes on facing pages to ensure that the scanner reads only the bar code you intend to scan.

Complete the programming sequence by scanning the SWITCH bar code.



EAN-8 MINIMUM SEGMENT LENGTH = 5 CHARACTERS



EAN-8 MINIMUM SEGMENT LENGTH = 6 CHARACTERS

EAN-8 Minimum Segment Length (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



EAN-8 MINIMUM SEGMENT LENGTH = 7 CHARACTERS



EAN-8 MINIMUM SEGMENT LENGTH = 8 CHARACTERS

EAN-8 Minimum Segment Length (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



EAN-8 MINIMUM SEGMENT LENGTH = 9 CHARACTERS



EAN-8 MINIMUM SEGMENT LENGTH = 10 CHARACTERS

EAN-8 Minimum Segment Length (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



EAN-8 MINIMUM SEGMENT LENGTH = 11 CHARACTERS



EAN-8 MINIMUM SEGMENT LENGTH = 12 CHARACTERS

EAN-8 Minimum Segment Length (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



EAN-8 MINIMUM SEGMENT LENGTH = 13 CHARACTERS



EAN-8 MINIMUM SEGMENT LENGTH = 14 CHARACTERS

EAN-8 Minimum Segment Length (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



EAN-8 MINIMUM SEGMENT LENGTH = 15 CHARACTERS

Other UPC/EAN Options

The following pages contain other selectable features for UPC/EAN symbologies:

- [Price Weight Check on page 231](#)
- [In-Store Label Minimum Reads on page 234](#)
- [Enable EAN Two Label on page 236](#)
- [EAN Two Label Minimum Reads on page 242](#)
- [Addons on page 250](#)

Price Weight Check

Enables/disables calculation and verification of price/weight check digits. Applies to all UPC-A and EAN/JAN-13 labels with eligible¹ Number System/First Character digits.

Options are:

- Disable
- 4-digit price/weight
- 5-digit price/weight
- 4-digit European price/weight
- 5-digit European price/weight

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code representing the desired option below or on the following pages. You'll need to cover any unused bar codes on facing pages to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



1. Price Weight Check generally applies to UPC-A labels with a Number System Digit of 2 and EAN/JAN-13 labels with a First Character of 2. There are a total of six flag digits corresponding to the six types. Checking applies depending upon which type is enabled.

Price Weight Check (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



PRICE WEIGHT CHECK = 4-DIGIT PRICE/WEIGHT



PRICE WEIGHT CHECK = 5-DIGIT PRICE/WEIGHT

Price Weight Check (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



PRICE WEIGHT CHECK = 4-DIGIT EUROPEAN PRICE/WEIGHT



PRICE WEIGHT CHECK = 5-DIGIT EUROPEAN PRICE/WEIGHT

In-Store Label Minimum Reads

Specifies the minimum number of consecutive times an In-Store¹ label must be decoded before it is accepted as a good read.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code representing the desired option below or on the following pages. You'll need to cover any unused bar codes on facing pages to ensure that the scanner reads only the bar code you intend to scan.

Complete the programming sequence by scanning the SWITCH bar code.



IN-STORE MINIMUM READS = 1



IN-STORE MINIMUM READS = 2

-
1. Instore labels are defined as UPC-A labels with a number-system character of 2 or 4 as well as EAN-8 and EAN-13 labels with a Flag1 character of 2 or an EAN-13 label starting with the three characters '980'.

In-Store Label Minimum Reads (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



IN-STORE MINIMUM READS = 3



IN-STORE MINIMUM READS = 4

Enable EAN Two Label

Enables/disables the ability of the scanner to decode EAN two-label pairs.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



NOTE

Contact Customer Support for details about advanced programming for this feature.



EAN Two Label Combined Transmission

Enables/disables the transmitting of an EAN two label pair as one label.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



NOTE

Contact Customer Support for details about advanced programming for this feature.



EAN TWO LABEL COMBINED TRANSMISSION = DISABLE



EAN TWO LABEL COMBINED TRANSMISSION = ENABLE

UPC/EAN Guard Insertion

Enables/Disables the ability of the scanner to insert either a missing leading or trailing guard on an otherwise complete UPC-A/EAN-13 segment it has received.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



UPC/EAN GUARD INSERTION = DISABLE



UPC/EAN GUARD INSERTION = ENABLE

UPC/EAN Stitch Exact Label Halves

When enabled, this allows the scanner the ability to stitch exact UPC-A / EAN-13 label halves with no overlapping characters.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



UPC/EAN STITCH EXACT LABEL HALVES = DISABLE



UPC/EAN STITCH EXACT LABEL HALVES = ENABLE

UPC/EAN Stitch Unlike Label Halves

When enabled, this allows the scanner the ability to stitch two UPC-A / EAN-13 label halves together that may contain differing characters.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



UPC/EAN STITCH UNLIKE LABEL HALVES = DISABLE



UPC/EAN STITCH UNLIKE LABEL HALVES = ENABLE

UPC/EAN Character Reconstruction

Enables/Disables character reconstruction on UPC/EAN labels.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



UPC/EAN CHARACTER RECONSTRUCTION = DISABLE



UPC/EAN CHARACTER RECONSTRUCTION = ENABLE

EAN Two Label Minimum Reads

Specifies the minimum number of consecutive times an EAN Two Label bar code must be decoded before it is accepted as a good read.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code representing the desired option below or on the following pages. You'll need to cover any unused bar codes on facing pages to ensure that the scanner reads only the bar code you intend to scan.

Complete the programming sequence by scanning the SWITCH bar code.



EAN TWO LABEL MINIMUM READS = 1



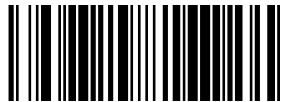
EAN TWO LABEL MINIMUM READS = 2

EAN Two Label Minimum Reads (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



EAN TWO LABEL MINIMUM READS = 3



EAN TWO LABEL MINIMUM READS = 4

UPC/EAN Correlation

This feature enables/disables character correlation for UPC/EAN.
To set this feature:

1. Scan the SWITCH bar code.
2. Scan your selection from the bar codes below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.

Complete the programming sequence by scanning the SWITCH bar code.



UPC/EAN CORRELATION = DISABLE



UPC/EAN CORRELATION = ENABLE

UPC/EAN Minimum Segment Length

Specifies the minimum number of characters necessary in a UPC/EAN/JAN label segment in order for the scanner to accept a label for decoding. Selectable from 5 to 15 characters.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code representing the desired option below or on the following pages. You'll need to cover any unused bar codes on facing pages to ensure that the scanner reads only the bar code you intend to scan.

Complete the programming sequence by scanning the SWITCH bar code.



UPC/EAN MINIMUM SEGMENT LENGTH = 5 CHARACTERS



UPC/EAN MINIMUM SEGMENT LENGTH = 6 CHARACTERS

UPC/EAN Minimum Segment Length (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



UPC/EAN MINIMUM SEGMENT LENGTH = 7 CHARACTERS



UPC/EAN MINIMUM SEGMENT LENGTH = 8 CHARACTERS

UPC/EAN Minimum Segment Length (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



UPC/EAN MINIMUM SEGMENT LENGTH = 9 CHARACTERS



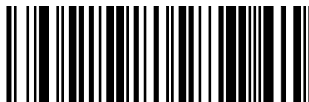
UPC/EAN MINIMUM SEGMENT LENGTH = 10 CHARACTERS

UPC/EAN Minimum Segment Length (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



UPC/EAN MINIMUM SEGMENT LENGTH = 11 CHARACTERS



UPC/EAN MINIMUM SEGMENT LENGTH = 12 CHARACTERS

UPC/EAN Minimum Segment Length (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



UPC/EAN MINIMUM SEGMENT LENGTH = 13 CHARACTERS



UPC/EAN MINIMUM SEGMENT LENGTH = 14 CHARACTERS

UPC/EAN Minimum Segment Length (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



UPC/EAN MINIMUM SEGMENT LENGTH = 15 CHARACTERS

Addons

Add-ons (or supplemental characters) are commonly added to the end of UPC/EAN bar codes. The scanner will read the add-ons if they are enabled and in the field of view. Three add-on types are supported: 2-digit, 5-digit and Code 128 add-ons. Supported options are:

None — This option directs the scanner to ignore add-on portion of a UPC/EAN bar code but still read the main portion of the bar code.

2 Digits — The scanner will optionally read 2-digit add-ons with the UPC/EAN label.

5 Digits — The scanner will optionally read 5-digit add-ons with the UPC/EAN label.

Code 128 Add-on — The scanner will optionally read Code 128 add-ons with the UPC/EAN label.



Contact Customer Support for advanced programming of optional and conditional add-ons.

NOTE

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code representing the desired option on this and the following page. You'll need to cover any unused bar codes on facing pages to ensure that the scanner reads only the bar code you intend to scan.

3. Complete the programming sequence by scanning the SWITCH bar code.

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



OPTIONAL 2-DIGIT ADD-ONS = DISABLE



OPTIONAL 2-DIGIT ADD-ONS = ENABLE

Addons (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



OPTIONAL 5-DIGIT ADD-ONS = DISABLE



OPTIONAL 5-DIGIT ADD-ONS = ENABLE

Addons (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



OPTIONAL CODE 128 ADD-ONS = DISABLE



OPTIONAL CODE 128 ADD-ONS = ENABLE

Addon Timer

When addons have been selected as optional, this feature sets the duration of time that the scanner can unsuccessfully look for an addon before proceeding to read a bar code. Timer duration is specified in 10ms increments.

To set the Addon Timer:

1. Scan the SWITCH bar code.
2. Scan the bar code, [SET ADDON TIMER DURATION on page 254](#) below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the desired Addon Timer Duration. The selectable range is 1–10, which is the timeout in 10-millisecond increments. Pad all single and double digit numbers with leading zeroes to yield a three-digit entry (001–010).

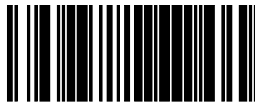
Examples:

001 = 10ms

003 = 30ms

008 = 80ms

Complete the programming sequence by scanning the SWITCH bar code.



SET ADDON TIMER DURATION

2-Digit Add-ons Minimum Reads

Specifies the minimum number of times a 2-digit add-on must be read before it is marked as valid and then combined with a base label.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code representing the desired option below or on the following pages. You'll need to cover any unused bar codes on facing pages to ensure that the scanner reads only the bar code you intend to scan.

Complete the programming sequence by scanning the SWITCH bar code.



2-DIGIT ADD-ONS MINIMUM READS = 1



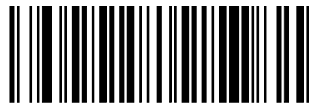
2-DIGIT ADD-ONS MINIMUM READS = 2

2-Digit Add-ons Minimum Reads (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



2-DIGIT ADD-ONS MINIMUM READS = 3



2-DIGIT ADD-ONS MINIMUM READS = 4

5-Digit Add-ons Minimum Reads

Specifies the minimum number of times a 5-digit add-on must be read before it is marked as valid and then combined with a base label.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code representing the desired option below or on the following pages. You'll need to cover any unused bar codes on facing pages to ensure that the scanner reads only the bar code you intend to scan.

Complete the programming sequence by scanning the SWITCH bar code.



5-DIGIT ADD-ONS MINIMUM READS = 1



5-DIGIT ADD-ONS MINIMUM READS = 2

5-Digit Add-ons Minimum Reads (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



5-DIGIT ADD-ONS MINIMUM READS = 3



5-DIGIT ADD-ONS MINIMUM READS = 4

Code 128 Add-ons Minimum Reads

Specifies the minimum number of times a Code 128 addon must be read before it is marked as valid and then combined with a base label.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code representing the desired option below or on the following pages. You'll need to cover any unused bar codes on facing pages to ensure that the scanner reads only the bar code you intend to scan.

Complete the programming sequence by scanning the SWITCH bar code.



CODE 128 ADD-ONS MINIMUM READS = 1



CODE 128 ADD-ONS MINIMUM READS = 2

Code 128 Add-ons Minimum Reads (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



CODE 128 ADD-ONS MINIMUM READS = 3



CODE 128 ADD-ONS MINIMUM READS = 4

GTIN Enable

Enables/Disables the ability to convert UPCE, UPCA, EAN8, and EAN13 labels into the GTIN 14-character format.



NOTE

If add-on information is present on the base label prior to the conversion taking place, the add-on information will be appended to the converted GTIN bar code.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



GTIN Label ID

This feature specifies a GTIN label ID to be added to bar code data when GTIN conversion is enabled.

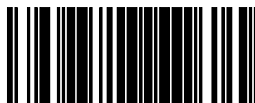


NOTE

The programming feature, Label ID Control, designates whether the Label ID is transmitted as a prefix or suffix or if Label ID is disabled.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, [SET GTIN LABEL ID on page 262](#) below. You'll need to cover any unused bar codes on this and the facing page to ensure the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the desired Label ID characters; entered as two hex pairs. A table containing the [ASCII Character Set on page 1](#) and their corresponding Hex Values is available in the inside back cover of this manual. ASCII parameters must be input by scanning a pair of hexadecimal digits for each character. Thus, to set a two-character value of AB, bar codes containing the digits '4', '1', '4', and '2' must be scanned. The selectable range for this option is any hex value from 00 to FF (for each of the two characters).
4. Complete the programming sequence by scanning the SWITCH bar code.



SET GTIN LABEL ID

GTIN 2-Digit Supplemental Label ID

This feature specifies a GTIN label ID to be added to bar code data when GTIN conversion is enabled and 2-digit supplemental add-on bar code labels are converted.



NOTE

The programming feature, Label ID Control, designates whether the Label ID is transmitted as a prefix or suffix or if Label ID is disabled.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, [SET GTIN 2-DIGIT SUPPLEMENTAL LABEL ID on page 263](#) below. You'll need to cover any unused bar codes on this and the facing page to ensure the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the desired Label ID characters; entered as two hex pairs. A table containing the [ASCII Character Set on page 1](#) and their corresponding Hex Values is available in the inside back cover of this manual. ASCII parameters must be input by scanning a pair of hexadecimal digits for each character. Thus, to set a two-character value of AB, bar codes containing the digits '4', '1', '4', and '2' must be scanned. The selectable range for this option is any hex value from 00 to FF (for each of the two characters).
4. Complete the programming sequence by scanning the SWITCH bar code.



SET GTIN 2-DIGIT SUPPLEMENTAL LABEL ID

GTIN 5-Digit Supplemental Label ID

This feature specifies a GTIN label ID to be added to bar code data when GTIN conversion is enabled and 5-digit supplemental add-on bar code labels are converted.

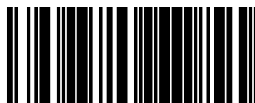


NOTE

The programming feature, Label ID Control, designates whether the Label ID is transmitted as a prefix or suffix or if Label ID is disabled.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, [SET GTIN 5-DIGIT SUPPLEMENTAL LABEL ID on page 264](#) below. You'll need to cover any unused bar codes on this and the facing page to ensure the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the desired Label ID characters; entered as two hex pairs. A table containing the [ASCII Character Set on page 1](#) and their corresponding Hex Values is available in the inside back cover of this manual. ASCII parameters must be input by scanning a pair of hexadecimal digits for each character. Thus, to set a two-character value of AB, bar codes containing the digits '4', '1', '4', and '2' must be scanned. The selectable range for this option is any hex value from 00 to FF (for each of the two characters).
4. Complete the programming sequence by scanning the SWITCH bar code.



SET GTIN 5-DIGIT SUPPLEMENTAL LABEL ID

GTIN Code 128 Supplemental Label ID

This feature specifies a GTIN label ID to be added to bar code data when GTIN conversion is enabled and Code 128 supplemental add-on bar code labels are converted



NOTE

The programming feature, Label ID Control, designates whether the Label ID is transmitted as a prefix or suffix or if Label ID is disabled.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, [SET GTIN CODE 128 SUPPLEMENTAL LABEL ID on page 265](#) below. You'll need to cover any unused bar codes on this and the facing page to ensure the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the desired Label ID characters; entered as two hex pairs. A table containing the [ASCII Character Set on page 1](#) and their corresponding Hex Values is available in the inside back cover of this manual. ASCII parameters must be input by scanning a pair of hexadecimal digits for each character. Thus, to set a two-character value of AB, bar codes containing the digits '4', '1', '4', and '2' must be scanned. The selectable range for this option is any hex value from 00 to FF (for each of the two characters).
4. Complete the programming sequence by scanning the SWITCH bar code.



SET GTIN CODE 128 SUPPLEMENTAL LABEL ID

DataBar Omnidirectional Enable

Enables/disables the ability of the scanner to decode DataBar Omnidirectional labels.

This value-added feature is a factory-programmed option. Contact your dealer for information about upgrading your system to include this advanced capability.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



DataBar Omnidirectional = DISABLE



DataBar Omnidirectional = ENABLE

DataBar Omnidirectional/EAN-128 Emulation

Enables/disables the ability of DataBar Omnidirectional to be transmitted as EAN-128.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



DataBar Omnidirectional/EAN-128 EMULATION = DISABLE



DataBar Omnidirectional/EAN-128 EMULATION = ENABLE

DataBar Omnidirectional Label ID

This feature specifies an DataBar Omnidirectional label ID to be added to bar code data.

To set this feature:



NOTE

The programming feature, Label ID Control, designates whether the Label ID is transmitted as a prefix or suffix or if Label ID is disabled.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, [SET DataBar Omnidirectional LABEL ID on page 268](#) below. You'll need to cover any unused bar codes on this and the facing page to ensure the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the desired Label ID characters; entered as two hex pairs. A table containing the [ASCII Character Set on page 1](#) and their corresponding Hex Values is available in the inside back cover of this manual. ASCII parameters must be input by scanning a pair of hexadecimal digits for each character. Thus, to set a two-character value of AB, bar codes containing the digits '4', '1', '4', and '2' must be scanned. The selectable range for this option is any hex value from 00 to FF.
4. Complete the programming sequence by scanning the SWITCH bar code.



SET DataBar Omnidirectional LABEL ID

DataBar Omnidirectional Minimum Reads

Specifies the minimum number of consecutive times an DataBar Omnidirectional label must be decoded before it is accepted as a good read.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code representing the desired option below or on the following pages. You'll need to cover any unused bar codes on facing pages to ensure that the scanner reads only the bar code you intend to scan.

Complete the programming sequence by scanning the SWITCH bar code.



DataBar Omnidirectional MINIMUM READS = 1



DataBar Omnidirectional MINIMUM READS = 2

DataBar Omnidirectional Minimum Reads (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



DataBar Omnidirectional MINIMUM READS = 3



DataBar Omnidirectional MINIMUM READS = 4

DataBar Expanded Enable

Enables/disables the ability of the scanner to decode DataBar Expanded labels.



NOTE

This value-added feature is a factory-programmed option. Contact your dealer for information about upgrading your system to include this advanced capability.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



DataBar Expanded = DISABLE



DataBar Expanded = ENABLE

DataBar Expanded EAN-128 Emulation

Enables/disables EAN-128 emulation for DataBar Expanded.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



DataBar Expanded/EAN-128 EMULATION = DISABLE



DataBar Expanded/EAN-128 EMULATION = ENABLE

DataBar Expanded Label ID

This feature specifies an DataBar Expanded label ID to be added to bar code data.

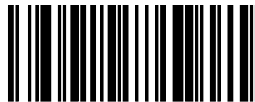


NOTE

The programming feature, Label ID Control, designates whether the Label ID is transmitted as a prefix or suffix or if Label ID is disabled.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, [SET DataBar Expanded LABEL ID on page 273](#) below. You'll need to cover any unused bar codes on this and the facing page to ensure the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the desired Label ID characters; entered as two hex pairs. A table containing the [ASCII Character Set on page 1](#) and their corresponding Hex Values is available in the inside back cover of this manual. ASCII parameters must be input by scanning a pair of hexadecimal digits for each character. Thus, to set a two-character value of AB, bar codes containing the digits '4', '1', '4', and '2' must be scanned. The selectable range for this option is any hex value from 00 to FF.
4. Complete the programming sequence by scanning the SWITCH bar code.



SET DataBar Expanded LABEL ID

DataBar Expanded Length Control

This feature specifies either variable-length or fixed-length decoding for DataBar Expanded.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan your selection from the bar codes below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



NOTE

You must now set the features DataBar Expanded Length 1 on page 275 **and** DataBar Expanded Length 2 on page 276.



DataBar Expanded LENGTH CONTROL = VARIABLE-LENGTH



DataBar Expanded LENGTH CONTROL = FIXED-LENGTH

DataBar Expanded Length 1

Length 1 is the minimum label length if in variable length mode, or the first fixed length if in fixed length mode (see [DataBar Expanded Length Control on page 274](#)). Length includes the barcode's check and data characters.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, [SET DataBar Expanded LENGTH 1 on page 275](#) below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the desired label length. The selectable range for this option is 01 to 74. Pad all single digit numbers with a leading zero to yield a two-digit entry (01–74).
4. Complete the programming sequence by scanning the SWITCH bar code.



SET DataBar Expanded LENGTH 1

DataBar Expanded Length 2

Length 2 is the maximum label length if in variable length mode, or the second fixed length if in fixed length mode (see [DataBar Expanded Length Control on page 274](#)). Length includes the bar-code's check and data characters.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, [SET DataBar Expanded LENGTH 2 on page 276](#) below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the desired label length. A setting of 00 will ignore this length (only one fixed length), otherwise, the selectable range for this option is 01 to 74. Pad all single digit numbers with a leading zero to yield a two-digit entry (01–74).
4. Complete the programming sequence by scanning the SWITCH bar code.



SET DataBar Expanded LENGTH 2

DataBar Expanded Minimum Reads

Specifies the minimum number of consecutive times an DataBar Expanded label must be decoded before it is accepted as a good read.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code representing the desired option below or on the following pages. You'll need to cover any unused bar codes on facing pages to ensure that the scanner reads only the bar code you intend to scan.

Complete the programming sequence by scanning the SWITCH bar code.



DataBar Expanded MINIMUM READS = 1



DataBar Expanded MINIMUM READS = 2

DataBar Expanded Minimum Reads (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



DataBar Expanded MINIMUM READS = 3



DataBar Expanded MINIMUM READS = 4

Code 39 Enable

Enables/disables the ability of the scanner to decode Code 39 labels.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



Code 39 Start Stop Character Transmission

Enables/disables transmission of Code 39 start and stop characters.



NOTE

This feature applies only when Code 39 Check Character Calculation on page 281 is enabled.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



CODE 39 START STOP CHARACTER TRANSMISSION = DISABLE



CODE 39 START STOP CHARACTER TRANSMISSION = ENABLE

Code 39 Check Character Calculation

Enables/disables calculation and verification of an optional Code 39 check character. When disabled, any check character in label is treated as a data character.



NOTE

If check calculation is disabled, the risk is increased that a misread can occur.

In particular, if you are using variable length stitching, it is important to use check character calculation to prevent misreads.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



CODE 39 CHECK CHARACTER CALCULATION = DISABLE



CODE 39 CHECK CHARACTER CALCULATION = ENABLE

Code 39 Check Character Transmission

Enables/disables transmission of optional Code 39 check character.
To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



CODE 39 CHECK CHARACTER TRANSMISSION = DISABLE



CODE 39 CHECK CHARACTER TRANSMISSION = ENABLE

Code 39 Full ASCII

Enables/disables the ability of the scanner to translate to Code 39 full ASCII labels.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



Code 39 Label ID

This feature specifies a Code 39 label ID to be added to bar code data.

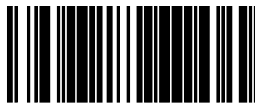


NOTE

The programming feature, Label ID Control, designates whether the Label ID is transmitted as a prefix or suffix or if Label ID is disabled.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, [SET CODE 39 LABEL ID](#) on [page 284](#) below. You'll need to cover any unused bar codes on this and the facing page to ensure the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the desired Label ID characters; entered as two hex pairs. A table containing the [ASCII Character Set on page 1](#) and their corresponding Hex Values is available in the inside back cover of this manual. ASCII parameters must be input by scanning a pair of hexadecimal digits for each character. Thus, to set a two-character value of AB, bar codes containing the digits '4', '1', '4', and '2' must be scanned. The selectable range for this option is any hex value from 00 to FF.
4. Complete the programming sequence by scanning the SWITCH bar code.



SET CODE 39 LABEL ID

Code 39 Require Quiet Zones

When enabled, this feature requires that quiet zones (margins) be present for Code 39 labels. When disabled, quiet zones are optional.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



CODE 39 REQUIRE QUIET ZONES = DISABLE



CODE 39 REQUIRE QUIET ZONES = ENABLE

Code 39 Length Control

This feature specifies whether variable-length or fixed-length decoding will be set for Code 39.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan your selection from the bar codes below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



NOTE

You must now set the features Code 39 Length 1 on page 287 **and** Code 39 Length 2 on page 288.

When using variable length stitching, it is important to enable Code 39 Check Character Calculation on page 281 **to prevent misreads.**



CODE 39 LENGTH CONTROL = VARIABLE-LENGTH



CODE 39 LENGTH CONTROL = FIXED-LENGTH

Code 39 Length 1

Length 1 is the minimum label length if in variable length mode, or the first fixed length if in fixed length mode (see [Code 39 Length Control on page 286](#)). Length includes the barcode's check and data characters.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, [SET CODE 39 LENGTH 1 on page 287](#) below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the desired label length. The selectable range for this option is 01 to 50. Pad all single digit numbers with a leading zero to yield a two-digit entry (01–50).
4. Complete the programming sequence by scanning the SWITCH bar code.



SET CODE 39 LENGTH 1

Code 39 Length 2

Length 2 is the maximum label length if in variable length mode, or the second fixed length if in fixed length mode (see [Code 39 Length Control on page 286](#)). Length includes the barcode's check and data characters.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, [SET CODE 39 LENGTH 2 on page 288](#) below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the desired fixed label length. A setting of 00 will ignore this length (only one fixed length), otherwise, the selectable range for this option is 01 to 50. Pad all single digit numbers with a leading zero to yield a two-digit entry (01–50).
4. Complete the programming sequence by scanning the SWITCH bar code.



Code 39 Correlation

This feature enables/disables character correlation for Code 39.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan your selection from the bar codes below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.

Complete the programming sequence by scanning the SWITCH bar code.



CODE 39 CORRELATION = DISABLE



CODE 39 CORRELATION = ENABLE

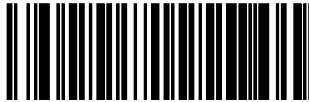
Code 39 Stitching

Enables/disables stitching for Code 39 labels. When parts of a Code 39 bar code are presented to the scanner with this feature enabled, the bar code parts will be assembled by the scanner's software, and the data will be decoded if all bar code proofing requirements are met.

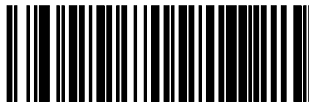
To set this feature:

1. Scan the SWITCH bar code.
2. Scan your selection from the bar codes below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.

Complete the programming sequence by scanning the SWITCH bar code.



CODE 39 STITCHING = DISABLE



CODE 39 STITCHING = ENABLE

Code 39 Minimum Reads

Specifies the minimum number of consecutive times a Code 39 label must be decoded before it is accepted as a good read.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code representing the desired option below or on the following pages. You'll need to cover any unused bar codes on facing pages to ensure that the scanner reads only the bar code you intend to scan.

Complete the programming sequence by scanning the SWITCH bar code.



Code 39 Minimum Reads (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



CODE 39 MINIMUM READS = 3



CODE 39 MINIMUM READS = 4

Pharmacode 39 Enable

Enables/disables the ability of the scanner to decode Italian Pharmacode 39 labels.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



Pharmacode 39 Start Stop Character Transmission

Enables/ disables transmission of start and stop characters for Pharmacode 39.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



PHARMACODE 39 START STOP CHARACTER TRANSMISSION = DISABLE



PHARMACODE 39 START STOP CHARACTER TRANSMISSION = ENABLE

Pharmacode 39 Check Character Transmission

Enables/disables transmission of Pharmacode 39 check character.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



PHARMACODE 39 CHECK CHARACTER TRANSMISSION = DISABLE



PHARMACODE 39 CHECK CHARACTER TRANSMISSION = ENABLE

Pharmacode 39 Label ID

This feature specifies a Pharmacode 39 label ID to be added to bar code data.

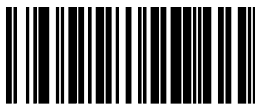


NOTE

The programming feature, Label ID Control, designates whether the Label ID is transmitted as a prefix or suffix or if Label ID is disabled.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, [SET PHARMACODE 39 LABEL ID on page 296](#) below. You'll need to cover any unused bar codes on this and the facing page to ensure the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the desired Label ID characters; entered as two hex pairs. A table containing the [ASCII Character Set on page 1](#) and their corresponding Hex Values is available in the inside back cover of this manual. ASCII parameters must be input by scanning a pair of hexadecimal digits for each character. Thus, to set a two-character value of AB, bar codes containing the digits '4', '1', '4', and '2' must be scanned. The selectable range for this option is any hex value from 00 to FF.
4. Complete the programming sequence by scanning the SWITCH bar code.



SET PHARMACODE 39 LABEL ID

Code 128 Enable

Enables/disables¹ the ability of the scanner to decode Code 128 labels.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



1. Exception: The Code 128 symbology is always enabled with regard to scanning/reading the special C128 programming bar codes provided in this manual.

Code 128 Transmit Function Characters

Enables/disables transmission of Code 128 function characters 1, 2, 3, and 4.



NOTE

Disabled is the recommended setting for all interfaces.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



CODE 128 TRANSMIT FUNCTION CHARACTERS = DISABLE



CODE 128 TRANSMIT FUNCTION CHARACTERS = ENABLE

Convert Code 128 to Code 39

Enables/disables conversion of Code 128 labels to Code 39.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



CONVERT CODE 128 TO CODE 39 = DISABLE



CONVERT CODE 128 TO CODE 39 = ENABLE

Code 128 Label ID

This feature specifies a Code 128 label ID to be added to bar code data..

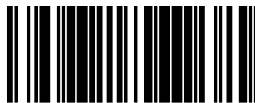


NOTE

The programming feature, Label ID Control, designates whether the Label ID is transmitted as a prefix or suffix or if Label ID is disabled.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, [SET CODE 128 LABEL ID on page 300](#) below. You'll need to cover any unused bar codes on this and the facing page to ensure the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the desired Label ID characters; entered as two hex pairs. A table containing the [ASCII Character Set on page 1](#) and their corresponding Hex Values is available in the inside back cover of this manual. ASCII parameters must be input by scanning a pair of hexadecimal digits for each character. Thus, to set a two-character value of AB, bar codes containing the digits '4', '1', '4', and '2' must be scanned. The selectable range for this option is any hex value from 00 to FF.
4. Complete the programming sequence by scanning the SWITCH bar code.



SET CODE 128 LABEL ID

Code 128 Length Control

This feature specifies whether variable-length or fixed-length decoding will be set for Code 128.

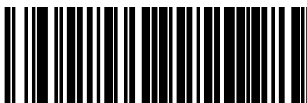
To set this feature:

1. Scan the SWITCH bar code.
2. Scan your selection from the bar codes below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



NOTE

You must now set the features Code 128 Length 1 on page 302 **and** Code 128 Length 2 on page 303.



CODE 128 LENGTH CONTROL = VARIABLE-LENGTH



CODE 128 LENGTH CONTROL = FIXED-LENGTH

Code 128 Length 1

Length 1 is the minimum label length if in variable length mode, or the first fixed length if in fixed length mode (see [Code 128 Length Control on page 301](#)). Length includes the barcode's check and data characters.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, [SET CODE 128 LENGTH 1 on page 302](#) below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the desired label length. The selectable range for this option is 01 to 80. Pad all single digit numbers with a leading zero to yield a two-digit entry (01–80).
4. Complete the programming sequence by scanning the SWITCH bar code.



SET CODE 128 LENGTH 1

Code 128 Length 2

Length 2 is the maximum label length if in variable length mode, or the second fixed length if in fixed length mode (see [Code 128 Length Control on page 301](#)). Length includes the barcode's check and data characters.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, [SET CODE 128 LENGTH 2 on page 303](#) below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the desired label length. A setting of 00 will ignore this length (only one fixed length), otherwise, the selectable range for this option is 01 to 80. Pad all single digit numbers with a leading zero to yield a two-digit entry (01–80).
4. Complete the programming sequence by scanning the SWITCH bar code.



Code 128 Correlation

This feature enables/disables character correlation for Code 128.
To set this feature:

1. Scan the SWITCH bar code.
2. Scan your selection from the bar codes below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.

Complete the programming sequence by scanning the SWITCH bar code.



CODE 128 CORRELATION = DISABLE



CODE 128 CORRELATION = ENABLE

Code 128 Stitching

Enables/disables stitching for Code 128 labels. When parts of a Code 128 bar code are presented to the scanner with this feature enabled, the bar code parts will be assembled by the scanner's software, and the data will be decoded if all bar code proofing requirements are met.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan your selection from the bar codes below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.

Complete the programming sequence by scanning the SWITCH bar code.



Code 128 Minimum Reads

Specifies the minimum number of consecutive times a Code 128 label must be decoded before it is accepted as a good read.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code representing the desired option below or on the following pages. You'll need to cover any unused bar codes on facing pages to ensure that the scanner reads only the bar code you intend to scan.

Complete the programming sequence by scanning the SWITCH bar code.



CODE 128 MINIMUM READS = 1



CODE 128 MINIMUM READS = 2

Code 128 Minimum Reads (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



EAN-128 Enable

Enables/disables the ability of the scanner to decode EAN-128 labels. When disabled, EAN128 labels are transmitted in Code128 data format. When enabled, EAN128 labels are transmitted in EAN128 data format

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



EAN-128 = DISABLE



EAN-128 = ENABLE

EAN-128 Label ID

This feature specifies an EAN-128 label ID to be added to bar code data..

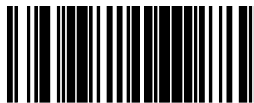


NOTE

The programming feature, Label ID Control, designates whether the Label ID is transmitted as a prefix or suffix or if Label ID is disabled.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, [SET EAN-128 LABEL ID on page 309](#) below. You'll need to cover any unused bar codes on this and the facing page to ensure the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the desired Label ID characters; entered as two hex pairs. A table containing the [ASCII Character Set on page 1](#) and their corresponding Hex Values is available in the inside back cover of this manual. ASCII parameters must be input by scanning a pair of hexadecimal digits for each character. Thus, to set a two-character value of AB, bar codes containing the digits '4', '1', '4', and '2' must be scanned. The selectable range for this option is any hex value from 00 to FF.
4. Complete the programming sequence by scanning the SWITCH bar code.



SET EAN-128 LABEL ID

Interleaved 2 of 5 (I 2 of 5) Enable

Enables/disables the ability of the scanner to decode Interleaved 2 of 5 labels.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



I 2 of 5 Check Character Calculation

Enables/disables calculation and verification of an optional Interleaved 2 of 5 check character.



NOTE

If check character calculation is disabled, the risk is increased that a misread can occur. When disabled, any check characters in a bar code are treated as data characters.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



I 2 of 5 CHECK CHARACTER CALCULATION = DISABLE



I 2 of 5 CHECK CHARACTER CALCULATION = ENABLE

I 2 of 5 Check Character Transmission

Enables/disables transmission of an optional Interleaved 2 of 5 check character.



NOTE

This feature applies only when I 2 of 5 Check Character Calculation on page 311 is enabled.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



I 2 of 5 CHECK CHARACTER TRANSMISSION = DISABLE



I 2 of 5 CHECK CHARACTER TRANSMISSION = ENABLE

I 2 of 5 Label ID

This feature specifies an I 2 of 5 label ID to be added to bar code data..

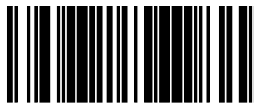


NOTE

The programming feature, Label ID Control, designates whether the Label ID is transmitted as a prefix or suffix or if Label ID is disabled.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, [SET I 2 of 5 LABEL ID on page 313](#) below. You'll need to cover any unused bar codes on this and the facing page to ensure the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the desired Label ID characters; entered as two hex pairs. A table containing the [ASCII Character Set on page 1](#) and their corresponding Hex Values is available in the inside back cover of this manual. ASCII parameters must be input by scanning a pair of hexadecimal digits for each character. Thus, to set a two-character value of AB, bar codes containing the digits '4', '1', '4', and '2' must be scanned. The selectable range for this option is any hex value from 00 to FF.
4. Complete the programming sequence by scanning the SWITCH bar code.



SET I 2 of 5 LABEL ID

I 2 of 5 Length Control

This feature specifies whether variable-length or fixed-length decoding will be set for I 2 of 5.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan your selection from the bar codes below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



NOTE

You must now set the features I 2 of 5 Length 1 on page 315 and I 2 of 5 Length 2 on page 316.



I 2 OF 5 LENGTH CONTROL = VARIABLE-LENGTH



I 2 OF 5 LENGTH CONTROL = FIXED-LENGTH

I 2 of 5 Length 1

Length 1 is the minimum label length if in variable length mode, or the first fixed length if in fixed length mode (see [I 2 of 5 Length Control on page 314](#)). Length includes the barcode's check and data characters.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, [SET I 2 of 5 LENGTH 1 on page 315](#) below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the desired label length. The selectable range for this option is 02 to 50, even numbers only. Pad all single digit numbers with a leading zero to yield a two-digit entry (02–50).
4. Complete the programming sequence by scanning the SWITCH bar code.



SET I 2 of 5 LENGTH 1

I 2 of 5 Length 2

Length 2 is the maximum label length if in variable length mode, or the second fixed length if in fixed length mode (see [I 2 of 5 Length Control on page 314](#)). Length includes the barcode's check and data characters.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, [SET I 2 of 5 LENGTH 2 on page 316](#) below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the desired label length. A setting of 00 will ignore this length (only one fixed length), otherwise, the selectable range for this option is 02 to 50, even numbers only. Pad all single digit numbers with a leading zero to yield a two-digit entry (02–50).
4. Complete the programming sequence by scanning the SWITCH bar code.



SET I 2 of 5 LENGTH 2

I 2 of 5 Correlation

This feature enables/disables character correlation for I 2 of 5.
To set this feature:

1. Scan the SWITCH bar code.
2. Scan your selection from the bar codes below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.

Complete the programming sequence by scanning the SWITCH bar code.



I 2 of 5 CORRELATION = DISABLE



I 2 of 5 CORRELATION = ENABLE

I 2 of 5 Stitching

Enables/disables stitching for I 2 of 5 labels. When parts of an I 2 of 5 bar code are presented to the scanner with this feature enabled, the bar code parts will be assembled by the scanner's software, and the data will be decoded if all bar code proofing requirements are met.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan your selection from the bar codes below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



NOTE

I 2 of 5 Stitching operates using fixed lengths ONLY. I 2 of 5 Length 1 on page 315 **and/or** I 2 of 5 Length 2 on page 316 **must be properly configured for stitching to work.**



I 2 OF 5 STITCHING = DISABLE



I 2 OF 5 STITCHING = ENABLE

I 2 of 5 Minimum Reads

Specifies the minimum number of consecutive times an I 2 of 5 label must be decoded before it is accepted as a good read.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code representing the desired option below or on the following pages. You'll need to cover any unused bar codes on facing pages to ensure that the scanner reads only the bar code you intend to scan.

Complete the programming sequence by scanning the SWITCH bar code.



I 2 of 5 Minimum Reads (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



1 2 of 5 MINIMUM READS = 3



1 2 of 5 MINIMUM READS = 4

Standard 2 of 5 (Std 2 of 5) Enable

Enables/disables the ability of the scanner to decode Standard 2 of 5 labels.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



Standard 2 of 5 Check Character Calculation

Enables/disables calculation and verification of an optional Standard 2 of 5 check character.



NOTE

If check character calculation is disabled, the risk is increased that a misread can occur. When disabled, any check characters in a bar code are treated as data characters.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



STANDARD 2 of 5 CHECK CHARACTER CALCULATION = DISABLE



STANDARD 2 of 5 CHECK CHARACTER CALCULATION = ENABLE

Standard 2 of 5 Check Character Transmission

Enables/disables transmission of an optional Standard 2 of 5 check character.



NOTE

This feature applies only when Standard 2 of 5 Check Character Calculation on page 322 is enabled.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



STANDARD 2 of 5 CHECK CHARACTER TRANSMISSION = DISABLE



STANDARD 2 of 5 CHECK CHARACTER TRANSMISSION = ENABLE

Standard 2 of 5 Label ID

This feature specifies a Standard 2 of 5 label ID to be added to bar code data..



NOTE

The programming feature, Label ID Control, designates whether the Label ID is transmitted as a prefix or suffix or if Label ID is disabled.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, [SET STANDARD 2 of 5 LABEL ID on page 324](#) below. You'll need to cover any unused bar codes on this and the facing page to ensure the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the desired Label ID characters; entered as two hex pairs. A table containing the [ASCII Character Set on page 1](#) and their corresponding Hex Values is available in the inside back cover of this manual. ASCII parameters must be input by scanning a pair of hexadecimal digits for each character. Thus, to set a two-character value of AB, bar codes containing the digits '4', '1', '4', and '2' must be scanned. The selectable range for this option is any hex value from 00 to FF.
4. Complete the programming sequence by scanning the SWITCH bar code.



SET STANDARD 2 of 5 LABEL ID

Standard 2 of 5 Length Control

This feature specifies whether variable-length or fixed-length decoding will be set for Standard 2 of 5.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan your selection from the bar codes below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



NOTE

You must now set Standard 2 of 5 Length 1 on page 326 **and** Standard 2 of 5 Length 2 on page 327.



STANDARD 2 OF 5 LENGTH CONTROL = VARIABLE-LENGTH



STANDARD 2 OF 5 LENGTH CONTROL = FIXED-LENGTH

Standard 2 of 5 Length 1

Length 1 is the minimum label length if in variable length mode, or the first fixed length if in fixed length mode (see [Standard 2 of 5 Length Control on page 325](#)). Length includes the barcode's check and data characters.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, [SET STANDARD 2 OF 5 LENGTH 1 on page 326](#) below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the desired label length. The selectable range for this option is 01 to 50. Pad all single digit numbers with a leading zero to yield a two-digit entry (01–50).
4. Complete the programming sequence by scanning the SWITCH bar code.



SET STANDARD 2 OF 5 LENGTH 1

Standard 2 of 5 Length 2

Length 2 is the maximum label length if in variable length mode, or the second fixed length if in fixed length mode (see [Standard 2 of 5 Length Control on page 325](#)). Length includes the barcode's check and data characters.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, [SET STANDARD 2 OF 5 LENGTH 2 on page 327](#) below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the desired label length. A setting of 00 will ignore this length (only one fixed length), otherwise, the selectable range for this option is 01 to 50. Pad all single digit numbers with a leading zero to yield a two-digit entry (01–50).
4. Complete the programming sequence by scanning the SWITCH bar code.



SET STANDARD 2 OF 5 LENGTH 2

Standard 2 of 5 Correlation

This feature enables/disables character correlation for Standard 2 of 5.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan your selection from the bar codes below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.

Complete the programming sequence by scanning the SWITCH bar code.



STANDARD 2 of 5 CORRELATION = DISABLE



STANDARD 2 of 5 CORRELATION = ENABLE

Standard 2 of 5 Stitching

Enables/disables stitching for Standard 2 of 5 labels. When parts of a Standard 2 of 5 bar code are presented to the scanner with this feature enabled, the bar code parts will be assembled by the scanner's software, and the data will be decoded if all bar code proofing requirements are met.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan your selection from the bar codes below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



NOTE

Standard 2 of 5 Stitching operates using fixed lengths ONLY. Standard 2 of 5 Length 1 and/or Standard 2 of 5 Length 2 must be properly configured for stitching to work.



I 2 OF 5 STITCHING = DISABLE



I 2 OF 5 STITCHING = ENABLE

Standard 2 of 5 Minimum Reads

Specifies the minimum number of consecutive times a Standard 2 of 5 label must be decoded before it is accepted as a good read.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code representing the desired option below or on the following pages. You'll need to cover any unused bar codes on facing pages to ensure that the scanner reads only the bar code you intend to scan.

Complete the programming sequence by scanning the SWITCH bar code.



STANDARD 2 of 5 MINIMUM READS = 1



STANDARD 2 of 5 MINIMUM READS = 2

Standard 2 of 5 Minimum Reads (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



STANDARD 2 of 5 MINIMUM READS = 3



STANDARD 2 of 5 MINIMUM READS = 4

Codabar Enable

Enables/disables the ability of the scanner to decode Codabar labels.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



Codabar Start Stop Character Transmission

Enables/disables transmission of Codabar start and stop characters.
To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



CODABAR START STOP CHARACTER TRANSMISSION = DISABLE



CODABAR START STOP CHARACTER TRANSMISSION = ENABLE

Codabar Start Stop Character Set

This feature selects the format of transmitted Codabar start/stop characters.

Options are:

- ABCD/TN* E
- ABCD/ABCD
- abcd/tn* e
- abcd/abcd

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code below or from the following page representing the desired option. You'll need to cover any unused bar codes and facing pages to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



CODABAR START STOP CHARACTER = ABCD/TN* E



CODABAR START STOP CHARACTER = ABCD/ABCD

Codabar Start Stop Character Set (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



CODABAR START STOP CHARACTER = abcd/tn* e



CODABAR START STOP CHARACTER = abcd/abcd

Codabar Start Stop Character Match

Enables/disables the requirement that start and stop characters match.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



CODABAR START STOP CHARACTER MATCH = DISABLE



CODABAR START STOP CHARACTER MATCH = ENABLE

Codabar Check Character Calculation

Enables/disables calculation and verification of an optional Codabar check character.



NOTE

If check character calculation is disabled, the risk is increased that a misread can occur. When disabled, any check characters in a bar code are treated as data characters.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



CODABAR CHECK CHARACTER CALCULATION = DISABLE



CODABAR CHECK CHARACTER CALCULATION = ENABLE

Codabar Check Character Transmission

Enables/disables transmission of an optional Codabar check character.



NOTE

Applies only when Codabar Check Character Calculation on page 337 **is enabled.**

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



CODABAR CHECK CHARACTER TRANSMISSION = DISABLE



CODABAR CHECK CHARACTER TRANSMISSION = ENABLE

Codabar Label ID

This feature specifies a Codabar label ID to be added to bar code data.

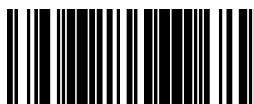


NOTE

The programming feature, Label ID Control, designates whether the Label ID is transmitted as a prefix or suffix or if Label ID is disabled.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, [SET CODABAR LABEL ID on page 339](#) below. You'll need to cover any unused bar codes on this and the facing page to ensure the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the desired Label ID characters; entered as two hex pairs. A table containing the [ASCII Character Set on page 1](#) and their corresponding Hex Values is available in the inside back cover of this manual. ASCII parameters must be input by scanning a pair of hexadecimal digits for each character. Thus, to set a two-character value of AB, bar codes containing the digits '4', '1', '4', and '2' must be scanned. The selectable range for this option is any hex value from 00 to FF.
4. Complete the programming sequence by scanning the SWITCH bar code.



SET CODABAR LABEL ID

Codabar Require Quiet Zones

When enabled, this feature requires that quiet zones (margins) be present for Codabar labels. When disabled, quiet zones are optional.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



CODABAR REQUIRE QUIET ZONES = DISABLE



CODABAR REQUIRE QUIET ZONES = ENABLE

Codabar Length Control

This feature specifies whether variable-length or fixed-length decoding will be set for Codabar.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan your selection from the bar codes below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



NOTE

You must now set the features Codabar Length 1 on page 342 **and** Codabar Length 2 on page 343.



CODABAR LENGTH CONTROL = VARIABLE-LENGTH



CODABAR LENGTH CONTROL = FIXED-LENGTH

Codabar Length 1

Length 1 is the minimum label length if in variable length mode, or the first fixed length if in fixed length mode (see [Codabar Length Control on page 341](#)). Length includes the barcode's check and data characters.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, [SET CODABAR LENGTH 1 on page 342](#) below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the desired label length. The selectable range for this option is 03 to 50. Pad all single digit numbers with a leading zero to yield a two-digit entry (03–50).
4. Complete the programming sequence by scanning the SWITCH bar code.



Codabar Length 2

Length 2 is the maximum label length if in variable length mode, or the second fixed length if in fixed length mode (see [Codabar Length Control on page 341](#)). Length includes the barcode's check and data characters.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, [SET STANDARD 2 OF 5 LENGTH 2 on page 327](#) below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the desired label length. A setting of 00 will ignore this length (only one fixed length), otherwise, the selectable range for this option is 03 to 50. Pad all single digit numbers with a leading zero to yield a two-digit entry (03–50).
4. Complete the programming sequence by scanning the SWITCH bar code.



Codabar Correlation

This feature enables/disables character correlation for Codabar.
To set this feature:

1. Scan the SWITCH bar code.
2. Scan your selection from the bar codes below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.

Complete the programming sequence by scanning the SWITCH bar code.



CODABAR CORRELATION = DISABLE



CODABAR CORRELATION = ENABLE

Codabar Stitching

Enables/disables stitching for Codabar labels. When parts of a Codabar bar code are presented to the scanner with this feature enabled, the bar code parts will be assembled by the scanner's software, and the data will be decoded if all bar code proofing requirements are met.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan your selection from the bar codes below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.

Complete the programming sequence by scanning the SWITCH bar code.



NOTE

Codabar Stitching operates using fixed lengths ONLY. Codabar Length 1 on page 342 **and/or** Codabar Length 2 on page 343 **must be properly configured for stitching to work.**



CODABAR STITCHING = DISABLE



CODABAR STITCHING = ENABLE

Codabar Minimum Reads

Specifies the minimum number of consecutive times a Codabar label must be decoded before it is accepted as a good read.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code representing the desired option below or on the following pages. You'll need to cover any unused bar codes on facing pages to ensure that the scanner reads only the bar code you intend to scan.

Complete the programming sequence by scanning the SWITCH bar code.



CODABAR MINIMUM READS = 1



CODABAR MINIMUM READS = 2

Codabar Minimum Reads (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



Code 93 Enable

Enables/disables the ability of the scanner to decode Code 93 labels.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



Code 93 Label ID

This feature specifies a Code 93 label ID to be added to bar code data..

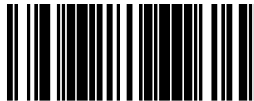


NOTE

The programming feature, Label ID Control, designates whether the Label ID is transmitted as a prefix or suffix or if Label ID is disabled.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, [SET CODE 93 LABEL ID on page 349](#) below. You'll need to cover any unused bar codes on this and the facing page to ensure the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the desired Label ID characters; entered as two hex pairs. A table containing the [ASCII Character Set on page 1](#) and their corresponding Hex Values is available in the inside back cover of this manual. ASCII parameters must be input by scanning a pair of hexadecimal digits for each character. Thus, to set a two-character value of AB, bar codes containing the digits '4', '1', '4', and '2' must be scanned. The selectable range for this option is any hex value from 00 to FF.
4. Complete the programming sequence by scanning the SWITCH bar code.



SET CODE 93 LABEL ID

Code 93 Length Control

This feature specifies whether variable-length or fixed-length decoding will be set for Code 93.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan your selection from the bar codes below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



NOTE

You must now set the features Code 93 Length 1 on page 351 **and** Code 93 Length 2 on page 352.



CODE 93 LENGTH CONTROL = VARIABLE-LENGTH



CODE 93 LENGTH CONTROL = FIXED-LENGTH

Code 93 Length 1

Length 1 is the minimum label length if in variable length mode, or the first fixed length if in fixed length mode (see [Code 93 Length Control on page 350](#)). Length includes the barcode's check and data characters.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, [SET CODE 93 LENGTH 1 on page 351](#) below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the desired label length. The selectable range for this option is 01 to 50. Pad all single digit numbers with a leading zero to yield a two-digit entry (01–50).
4. Complete the programming sequence by scanning the SWITCH bar code.



SET CODE 93 LENGTH 1

Code 93 Length 2

Length 2 is the maximum label length if in variable length mode, or the second fixed length if in fixed length mode (see [Code 93 Length Control on page 350](#)). Length includes the barcode's check and data characters.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, [SET CODE 93 LENGTH 2 on page 352](#) below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the desired label length. A setting of 00 will ignore this length (only one fixed length), otherwise, the selectable range for this option is 01 to 50. Pad all single digit numbers with a leading zero to yield a two-digit entry (01–50).
4. Complete the programming sequence by scanning the SWITCH bar code.



Code 93 Correlation

This feature enables/disables character correlation for Code 93.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan your selection from the bar codes below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.

Complete the programming sequence by scanning the SWITCH bar code.



CODE 93 CORRELATION = DISABLE



CODE 93 CORRELATION = ENABLE

Code 93 Stitching

Enables/disables stitching for Code 93 labels. When parts of a Code 93 bar code are presented to the scanner with this feature enabled, the bar code parts will be assembled by the scanner's software, and the data will be decoded if all bar code proofing requirements are met.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan your selection from the bar codes below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.

Complete the programming sequence by scanning the SWITCH bar code.



CODE 93 STITCHING = DISABLE



CODE 93 STITCHING = ENABLE

Code 93 Minimum Reads

Specifies the minimum number of consecutive times a Code 93 label must be decoded before it is accepted as a good read.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code representing the desired option below or on the following pages. You'll need to cover any unused bar codes on facing pages to ensure that the scanner reads only the bar code you intend to scan.

Complete the programming sequence by scanning the SWITCH bar code.



Code 93 Minimum Reads (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



CODE 93 MINIMUM READS = 3



CODE 93 MINIMUM READS = 4

MSI/Plessey Enable

Enables/disables the ability of the scanner to decode MSI/Plessey labels.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



MSI/Plessey Check Character Calculation

Enables/disables calculation and verification of optional MSI/Plessey check characters.



NOTE

If check character calculation is disabled, the risk is increased that a misread can occur. When disabled, any check characters in a bar code are treated as data characters.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



MSI/PLESSEY CHECK CHARACTER CALCULATION = DISABLE



MSI/PLESSEY CHECK CHARACTER CALCULATION = ENABLE

MSI/Plessey Number of Check Characters

Specifies number of MSI/Plessey check characters to be calculated and verified.

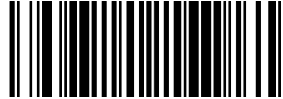


NOTE

Check characters are always modulus 10.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code below representing the desired number of MSI/Plessey check characters to be calculated and verified. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



MSI/PLESSEY NUMBER OF CHECK CHARACTERS = 1



MSI/PLESSEY NUMBER OF CHECK CHARACTERS = 2

MSI/Plessey Check Character Transmission

Enables/disables transmission of optional MSI/Plessey check characters.



NOTE

This feature applies only when MSI/Plessey Check Character Calculation on page 358 is enabled.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



MSI/PLESSEY CHECK CHARACTER TRANSMISSION = DISABLE



MSI/PLESSEY CHECK CHARACTER TRANSMISSION = ENABLE

MSI/Plessey Label ID

This feature specifies an MSI/Plessey label ID to be added to bar code data.



NOTE

The programming feature, Label ID Control, designates whether the Label ID is transmitted as a prefix or suffix or if Label ID is disabled.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, [SET MSI/PLESSEY LABEL ID on page 361](#) below. You'll need to cover any unused bar codes on this and the facing page to ensure the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the desired Label ID characters; entered as two hex pairs. A table containing the [ASCII Character Set on page 1](#) and their corresponding Hex Values is available in the inside back cover of this manual. ASCII parameters must be input by scanning a pair of hexadecimal digits for each character. Thus, to set a two-character value of AB, bar codes containing the digits '4', '1', '4', and '2' must be scanned. The selectable range for this option is any hex value from 00 to FF.
4. Complete the programming sequence by scanning the SWITCH bar code.



SET MSI/PLESSEY LABEL ID

MSI/Plessey Length Control

This feature specifies whether variable-length or fixed-length decoding will be set for MSI/Plessey.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan your selection from the bar codes below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



NOTE

You must now set the features MSI/Plessey Length 1 on page 363 **and** MSI/Plessey Length 2 on page 364.



MSI/PLESSEY LENGTH CONTROL = VARIABLE-LENGTH



MSI/PLESSEY LENGTH CONTROL = FIXED-LENGTH

MSI/Plessey Length 1

Length 1 is the minimum label length if in variable length mode, or the first fixed length if in fixed length mode (see [MSI/Plessey Length Control on page 362](#)). Length includes the barcode's check and data characters.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, [SET MSI/PLESSEY LENGTH 1 on page 363](#) below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the desired label length. The selectable range for this option is 04 to 16. Pad all single digit numbers with a leading zero to yield a two-digit entry (04–16).
4. Complete the programming sequence by scanning the SWITCH bar code.



MSI/Plessey Length 2

Length 2 is the maximum label length if in variable length mode, or the second fixed length if in fixed length mode (see [Code 93 Length Control on page 350](#)). Length includes the barcode's check and data characters.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, [SET CODE 93 LENGTH 2 on page 352](#) below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in [Appendix C](#) that represent the desired label length. A setting of 00 will ignore this length (only one fixed length), otherwise, the selectable range for this option is 04 to 16. Pad all single digit numbers with a leading zero to yield a two-digit entry (04–16).
4. Complete the programming sequence by scanning the SWITCH bar code.



MSI/Plessey Correlation

This feature enables/disables character correlation for MSI/Plessey.
To set this feature:

1. Scan the SWITCH bar code.
2. Scan your selection from the bar codes below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.

Complete the programming sequence by scanning the SWITCH bar code.



MSI/PLESSEY CORRELATION = DISABLE



MSI/PLESSEY CORRELATION = ENABLE

MSI/Plessey Stitching

Enables/disables stitching for MSI/Plessey labels. When parts of an MSI/Plessey bar code are presented to the scanner with this feature enabled, the bar code parts will be assembled by the scanner's software, and the data will be decoded if all bar code proofing requirements are met.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan your selection from the bar codes below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.



NOTE

MSI/Plessey Stitching operates using fixed lengths ONLY. MSI/Plessey Length 1 on page 363 **and/or** MSI/Plessey Length 2 on page 364 **must be properly configured for stitching to work.**



MSI/PLESSEY STITCHING = DISABLE



MSI/PLESSEY STITCHING = ENABLE

MSI/Plessey Minimum Reads

Specifies the minimum number of consecutive times an MSI/Plessey label must be decoded before it is accepted as a good read.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code representing the desired option below or on the following pages. You'll need to cover any unused bar codes on facing pages to ensure that the scanner reads only the bar code you intend to scan.

Complete the programming sequence by scanning the SWITCH bar code.



MSI/PLESSEY MINIMUM READS = 1



MSI/PLESSEY MINIMUM READS = 2

MSI/Plessey Minimum Reads (continued)

Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



MSI/PLESSEY MINIMUM READS = 3



MSI/PLESSEY MINIMUM READS = 4

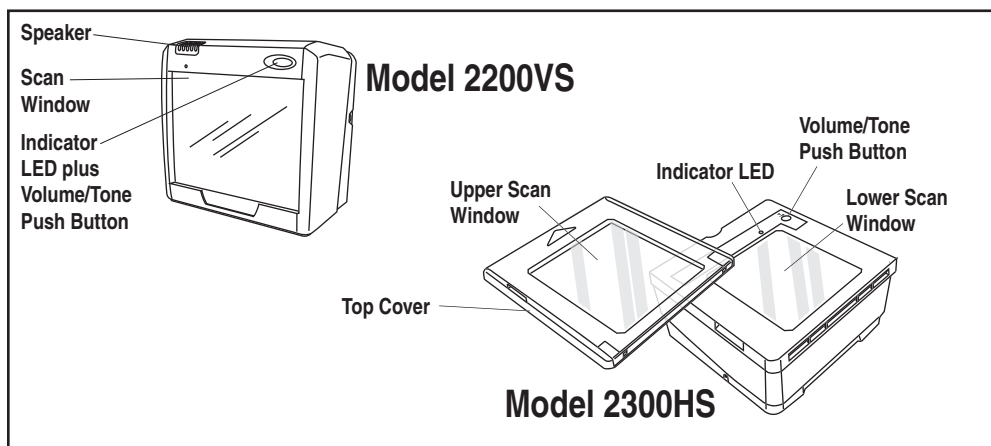


Appendix A

LED/Beeper Indications & Controls

Figure A-1 shows the operator's controls and indicators for both models. The descriptions following identify the use or function of each component.

Figure A-1. Scanner Controls and Indicators



Volume/Tone Push Button

The Volume/Tone Push Button also performs multiple functions depending upon the duration of time it is pressed:



NOTE








Volume changes made using the Volume/Tone Push Button are lost when the scanner is powered-down and are reset to the configured setting. If you wish to permanently change the volume, use the special programming labels in the Product Reference Guide.

PRESS DURATION	FUNCTION	COMMENT
Momentary (when scanner is asleep)	Wakes scanner from Sleep Mode	Alternatively, the scanner can be awakened by: - Moving an object through the scan zone. - Scanning with an attached auxiliary scanner.
Momentary (when scanner is awake)	Increments volume	Press the push button momentarily to increase speaker volume. When the loudest volume is reached, a repeated press of the push button cycles volume back to the lowest setting, then volume increases on subsequent press(es). Four volume levels are available.
Hold, then release when the beeper sounds	Increments tone	Press the push button for approximately 2 seconds, then release. Each time this is done, the beeper will sound at one of three tones. Stop when the desired tone (high, medium or low) is sounded.
4 Seconds	Scanner Diagnostics Mode ^a	This mode allows system support personnel to troubleshoot problems with the scanner and is used to determine if it can read bar codes. Press the button for eight seconds or cycle power to exit Scanner Diagnostics Mode and reset the scanner.
8 Seconds	Resets Scanner ^b	Only system support personnel should perform a reset.

- a. By standard default, this function is normally disabled to prevent accidental activation by users.
- b. Users should not perform scanner resets except under the direction of trained systems support personnel.

Green LED Indicator

The green LED indicates scanner status as shown in the table below.

LED INDICATION	DURATION	COMMENT
Scanner Active ^a (Normal Mode)	Scanner (Green) LED on steady and dim 	The scanner is ready for operation. Scanning is immediately available.
Good Read Indication ^a	Scanner (Green) LED - bright flash 	Indicates a bar code has been read and decoded.
Program Mode Indication	Scanner (Green) LED - Continuous flashing 	Indicates the scanner is in Label Programming Mode. Cycle power to exit Programming Mode.
Sleep Mode Indication	Scanner (Green) LED flashes slowly 	The scanner motor and/or laser have automatically switched off and the unit has entered Sleep Mode due to extended inactivity.
Host Disabled	Scanner (Green) LED 1-second off, 1/10-second on 	Host has disabled scanning.
Field Replaceable Unit (FRU) Warning (Error Mode)	Audible low tone 1 second. LED flashes continuously. 	Serves notice that a fatal FRU failure has been detected. Call systems support for service.
FRU Indication	Scanner (Green) LED flashes a coded sequence in concert with the speaker. 	Occurs ONLY upon Volume/Tone button push following a FRU warning. Enables service technicians to identify FRU failures.
a. Certain functions of the LED are selectable to be enabled or disabled. Your scanner may not be programmed to display all indications.		

NOTES



Appendix B

Cable Information

Introduction

The following pages contain pinout information, enabling you to create an auxiliary port cable for use in interconnecting the scanner to an external handheld scanner.

General Specifications

Wire Requirements

- Cable length should not exceed 15 feet.
- Wire gauge = Standard for RJ-45 connectors (28–26 AWG).
- If run exceeds 15 feet, we recommend 26 AWG wire size.

Auxiliary Port

External Handheld Input

Connector Hardware

RJ45, 10 Position

Cable Pinout

PIN #	FUNCTION	DESCRIPTION
1	DTR	Data Terminal Ready
2	CTS in	Clear To Send (input)
3	N/C	No Connection - Reserved
4	RTS out	Request To Send (output)
5	RxD in	Receive Data (Input)
6	TxD out	Transmit Data (output)
7	~EAS_GOOD READ	Special use Good Read
8	+5V out (250mA max)	+5V out
9	GND	Signal Ground
10	SPKR OUT	Speaker Out

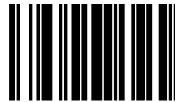


Appendix C

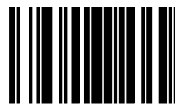
Keypad

Use the bar codes in this section to enter numbers and characters as you would select digits/characters from a keypad.

Scan your selection from the bar codes below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



0



1

Use the bar codes in this section to enter numbers and characters as you would select digits/characters from a keypad.

Scan your selection from the bar codes below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



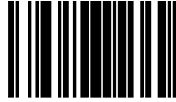
2



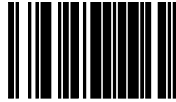
3

Use the bar codes in this section to enter numbers and characters as you would select digits/characters from a keypad.

Scan your selection from the bar codes below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



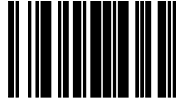
4



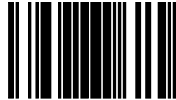
5

Use the bar codes in this section to enter numbers and characters as you would select digits/characters from a keypad.

Scan your selection from the bar codes below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



6



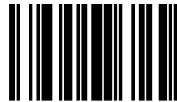
7

Use the bar codes in this section to enter numbers and characters as you would select digits/characters from a keypad.

Scan your selection from the bar codes below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



8



9

Use the bar codes in this section to enter numbers and characters as you would select digits/characters from a keypad.

Scan your selection from the bar codes below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



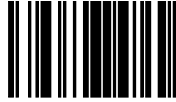
A



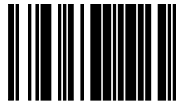
B

Use the bar codes in this section to enter numbers and characters as you would select digits/characters from a keypad.

Scan your selection from the bar codes below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



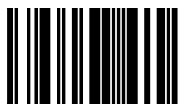
C



D

Use the bar codes in this section to enter numbers and characters as you would select digits/characters from a keypad.

Scan your selection from the bar codes below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.



E



F



Appendix D

Host Commands

Accepting Commands from an RS-232 Scanner Host

The scanner responds to the following RS-232 commands:

COMMAND	ASCII	HEX	COMMENT
Enable Scanner	E	0x45	
Disable Scanner	D	0x44	
Reset Scanner	R	0x52	
Not On File Indication	F	0x46	Long series of beeps
Beep Good Read Tone	B	0x42	Beeps if Good Read Beep is enabled
Force Good Read Tone		0x01	Beeps regardless of beep setting
Bel		0x07	Force Good Read Tone
Identification request	i	0x69	Returns long response ^a
Health request	h	0x68	Returns long response ^a
Status request	s	0x73	Returns long response ^a

a. Call Tech Support for information.

If one of the above commands is received, the scanner will perform the steps indicated for the command. Host commands for other interfaces is also available. Contact Tech Support for more details.

NOTES



Appendix E

Factory Defaults

The following table provides a listing of the most common factory settings for the interfaces shown.

Table 2. Factory Default Settings

	RS-232	Wincor-Nixdorf	RS-232 Single Cable	Keybd. Wedge	IBM	IBM USB
Scanner Button Options	Enable Std Functions	Enable Std Functions	Enable Std Functions	Enable Std Functions	Enable Std Functions	Enable Std Functions
Double Read Timeout	400ms	400ms	400ms	400ms	400ms	400ms
Laser Timeout	5 min.	5 min.	5 min.	5 min.	5 min.	5 min.
Motor Timeout	10 min.	10 min.	10 min.	10 min.	10 min.	10 min.
Label Gone Timeout	160 msec	160 msec	160 msec	160 msec	160 msec	160 msec
Auxiliary Port Mode	Disable	Enable Handheld	Disable	Disable	Disable	Disable
Auxiliary Port Baud Rate	19200	19200	19200	19200	19200	19200
Productivity Index Reporting (PIR)/Cashier Training (CT)	Disable	Disable	Disable	Disable	Disable	Disable

	RS-232	Wincor-Nixdorf	RS-232 Single Cable	Keybd. Wedge	IBM	IBM USB
Green LED Idle State	On dim	On dim	On dim	On dim	On dim	On dim
Power-up Beep Control	1 beep	1 beep	1 beep	1 beep	1 beep	1 beep
Good Read Beep Control	Enable	Enable	Enable	Enable	Enable	Enable
Good Read Beep Frequency	Medium	Medium	Medium	Medium	Medium	Medium
Good Read Beep Length	80ms	80ms	80ms	80ms	80ms	80ms
Good Read Beep Volume	High	High	High	High	High	High
Good Read When to Indicate	After decode	After decode	After decode	After decode	After decode	After decode
EAS Active State	Low	Low	Low	Low	Low	Low
EAS Timeout	20ms	20ms	20ms	20ms	20ms	20ms
Maximum Host-Transmitted Message Length	No limit	No limit	No limit	No limit	No limit	No limit
Number of Host Transmission Buffers	2 buffers	1 buffer	2 buffers	2 buffers	1 buffer	1 buffer
AIM ID	Disable	Disable	Disable	Disable		
Label ID Control	Enable as prefix	Enable as prefix	Enable as prefix	Enable as prefix		
Global Prefix	00 (""')	00 (""')	00 (""')	00 (""')		

	RS-232	Wincor-Nixdorf	RS-232 Single Cable	Keybd. Wedge	IBM	IBM USB
Global Suffix	OD00 (<CR>)	OD00 (<CR>)	00 ("")	OD00 (<CR>)		
Case Conversion	No conversion	No conversion	No conversion	No conversion	No conversion	No conversion
IBM Interface Options			10 (custom options)		Full Host Interface Support	Full Host Interface Support
IBM Number of Host Resets					6	6
IBM Transmit Labels in Code 39 Format					Disable	Disable
IBM Label Slicing Control					Slice when nec.	Slice when nec.
IBM Maximum Label Slice Length					64	64
USB-OEM Scanner Device Type						Table top scanner
RS-232 Baud Rate	9600	9600	9600			
RS-232 Number of Data Bits	8 data bits	8 data bits	7 data bits			
RS-232 Number of Stop Bits	1 stop bit	1 stop bit	1 stop bit			
RS-232 Parity	None	Odd	Odd			
RS-232 Hardware Control	Disable	Enable CTS flow				

	RS-232	Wincor-Nixdorf	RS-232 Single Cable	Keybd. Wedge	IBM	IBM USB
RS-232 Intercharacter Delay	None	None				
RS-232 Software Flow Control	Disable	Disable	Disable			
RS-232 Host Echo	Disable	Disable				
RS-232 Host Echo Quiet Interval	10ms	10ms				
RS-232 Ignore Host Commands	Do not ignore	Do not ignore	Do not ignore	Do not ignore	Do not ignore	Do not ignore
RS-232 TTL	Normal RS-232	Normal RS-232				
RS-232 TTL Invert	No invert	No invert				
RS-232 ICL DC1 Character Delay Enable	Disable	Disable				
RS-232 Beep on ASCII BEL	Disable	Disable				
RS-232 Beep on Not on File	Enable	Enable	Enable			
RS-232 ACK NAK Enable	Disable	Disable				
RS-232 ACK Character	ACK	ACK				
RS-232 NAK Character	NAK	NAK				
RS-232 Retry on ACK NAK Timeout	Enable	Enable				

	RS-232	Wincor-Nixdorf	RS-232 Single Cable	Keybd. Wedge	IBM	IBM USB
RS-232 ACK NAK Timeout Value	200ms	200ms				
RS-232 ACK NAK Retry Count	3 resets	3 resets				
RS-232 ACK NAK Error Handling	Ignore errors	Ignore errors				
RS-232 Indicate Transmission Failure	Enable	Enable				
Single Cable Pacesetter Plus Enable			Disable			
Single Cable RS-232 RTS CTS Selection			Option 5			
Single Cable RS-232 Use BCC			Disable			
Single Cable RS-232 Use ACK/NAK			Disable			
Single Cable RS-232 Use STX			Enable			
Set Single Cable RS-232 STX Character			S			
Set Single Cable RS-232 ETX Character			CR			
Keyboard Interface — Keyboard Layout			US			

	RS-232	Wincor-Nixdorf	RS-232 Single Cable	Keybd. Wedge	IBM	IBM USB
Keyboard Interface Quiet Interval			100 ms			
Keyboard Interface Caps Lock State			Caps lock OFF			
Keyboard Interface — Keyboard Simulation			Disable			
Keyboard Interface — Control Characters			Disable			
Keyboard Interface — Intercharacter Delay			10 msec			
Coupon Control	Disable	Disable	Disable	Disable	Disable	Disable
UPC-A Enable	Enable	Enable	Enable	Enable	Enable	Enable
UPC-A Number System Character Transmission	Enable	Enable	Enable	Enable	Enable	Enable
UPC-A Check Character Transmission	Enable	Enable	Disable	Enable	Enable	Enable
Expand UPC-A to EAN-13	Disable	Enable	Disable	Disable	Disable	Disable
UPC-A Label ID	A	A	A	A		
UPC-A 2-Digit Supplemental Label ID	A	A	A	A		

	RS-232	Wincor-Nixdorf	RS-232 Single Cable	Keybd. Wedge	IBM	IBM USB
UPC-A 5-Digit Supplemental Label ID	A	A	A	A		
UPC-A 128 Supplemental Label ID	A	A	A	A		
UPC-A Minimum Reads	1	1	1	1	1	1
UPC-E Enable	Enable	Enable	Enable	Enable	Enable	Enable
UPC-E Number System Character Transmission	Enable	Enable	Enable	Enable	Enable	Enable
UPC-E Check Character Transmission	Disable	Disable	Disable	Disable	Enable	Enable
Expand UPC-E to UPC-A	Disable	Disable	Disable	Disable	Disable	Disable
Expand UPC-E to EAN-13	Disable	Disable	Disable	Disable	Disable	Disable
UPC-E Label ID	E	C	E	E		
UPC-E 2-Digit Supplemental Label ID	E	C	E	E		
UPC-E 5-Digit Supplemental Label ID	E	C	E	E		
UPC-E 128 Supplemental Label ID	E	C	E	E		
UPC-E Minimum Reads	2	2	2	2	2	2

	RS-232	Wincor-Nixdorf	RS-232 Single Cable	Keybd. Wedge	IBM	IBM USB
EAN-13 Enable	Enable	Enable	Enable	Enable	Enable	Enable
EAN-13 First Character Transmission	Enable	Enable	Enable	Enable	Enable	Enable
EAN-13 Check Character Transmission	Enable	Enable	Disable	Enable	Enable	Enable
EAN-13 ISBN Conversion Enable	Disable	Disable	Disable	Disable	Disable	Disable
EAN 13 Label ID	F	A	F	F		
EAN-13 2-Digit Supplemental Label ID	F	A	F	F		
EAN-13 5-Digit Supplemental Label ID	F	A	F	F		
EAN-13 128 Supplemental Label ID	F	A	F	F		
EAN-13 Minimum Reads	1	1	1	1	1	1
Bookland Label ID	I	A	I	I		
EAN-8 Enable	Enable	Enable	Enable	Enable	Enable	Enable
EAN-8 Check Character Transmission	Enable	Enable	Disable	Enable	Enable	Enable
Expand EAN-8 to EAN-13	Disable	Disable	Disable	Disable	Disable	Disable

	RS-232	Wincor-Nixdorf	RS-232 Single Cable	Keybd. Wedge	IBM	IBM USB
EAN-8/JAN-8 Guard Insertion	Disable	Disable	Disable	Disable	Disable	Disable
EAN-8/JAN-8 Guard Substitution	Enable	Enable	Enable	Enable	Enable	Enable
EAN-8/JAN-8 Both Guards Substitution	Disable	Disable	Disable	Disable	Disable	Disable
EAN-8 Stitch Exact Label Halves	Disable	Disable	Disable	Disable	Disable	Disable
EAN-8 Stitch Unlike Label Halves	Disable	Disable	Disable	Disable	Disable	Disable
EAN 8 Label ID	FF	B	FF	FF		
EAN-8 2-Digit Supplemental Label ID	FF	B	FF	FF		
EAN-8 5-Digit Supplemental Label ID	FF	B	FF	FF		
EAN-8 128 Supplemental Label ID	FF	B	FF	FF		
EAN-8 Decoding Levels	1 (Very Conservative)	1 (Very Conservative)	1 (Very Conservative)	1 (Very Conservative)	1 (Very Conservative)	1 (Very Conservative)
EAN-8 Minimum Reads	2	1	2	2	2	2
EAN-8 Minimum Segment Length	8	8	8	8	8	8

	RS-232	Wincor-Nixdorf	RS-232 Single Cable	Keybd. Wedge	IBM	IBM USB
Price Weight Check	Disable	Disable	Disable	Disable	Disable	Disable
In-Store Label Minimum Reads	2	2	2	2	2	2
Enable EAN Two Label	Disable	Disable	Disable	Disable	Disable	Disable
EAN Two Label Combined Transmission	Disable	Disable	Disable	Disable	Disable	Disable
UPC/EAN Guard Insertion	Disable	Disable	Disable	Disable	Disable	Disable
UPC/EAN Stitch Exact Label Halves	Disable	Disable	Disable	Disable	Disable	Disable
UPC/EAN Stitch Unlike Label Halves	Disable	Disable	Disable	Disable	Disable	Disable
UPC/EAN Character Reconstruction	Disable	Disable	Disable	Disable	Disable	Disable
EAN Two Label Minimum Reads	1	1	1	1	1	1
UPC/EAN Correlation	Disable	Disable	Disable	Disable	Disable	Disable
UPC/EAN Minimum Segment Length	5	5	5	5	5	5
Addon Timer	70mS	70mS	70mS	70mS	70mS	70mS
2-Digit Add-ons Minimum Reads	2	2	2	2	2	2

	RS-232	Wincor-Nixdorf	RS-232 Single Cable	Keybd. Wedge	IBM	IBM USB
5-Digit Add-ons Minimum Reads	1	1	1	1	1	1
Code 128 Add-ons Minimum Reads	1	1	1	1	1	1
GTIN Enable	Disable	Disable	Disable	Disable	Disable	
GTIN Label ID	G	G	G	G		
GTIN 2-Digit Supplemental Label ID	G2	G2	G2	G2		
GTIN 5-Digit Supplemental Label ID	G5	G5	G5	G5		
GTIN Code 128 Supplemental Label ID	G8	G8	G8	G8		
DataBar Omnidirectional Enable	Disable	Disable	Disable	Disable	Disable	Disable
DataBar Omnidirectional/EAN-128 Emulation	Disable	Disable	Disable	Disable	Disable	Disable
DataBar Omnidirectional Label ID	R4	E	R4	R4		
DataBar Omnidirectional Minimum Reads	1	1	1	1	1	1
DataBar Expanded Enable	Disable	Disable	Disable	Disable	Disable	Disable
DataBar Expanded EAN-128 Emulation	Disable	Disable	Disable	Disable	Disable	Disable

	RS-232	Wincor-Nixdorf	RS-232 Single Cable	Keybd. Wedge	IBM	IBM USB
DataBar Expanded Label ID	RX	E	RX	RX		
DataBar Expanded Length Control	Variable	Variable	Variable	Variable	Variable	Variable
DataBar Expanded Length 1	1	1	1	1	1	1
DataBar Expanded Length 2	74	74	74	74	74	74
DataBar Expanded Minimum Reads	1	1	1	1	1	1
Code 39 Enable	Enable	Disable	Enable	Enable	Enable	Enable
Code 39 Start Stop Character Transmission	Disable	Disable	Disable	Disable	Disable	Disable
Code 39 Check Character Calculation	Disable	Disable	Disable	Disable	Disable	Disable
Code 39 Check Character Transmission	Enable	Enable	Enable	Enable	Enable	Enable
Code 39 Full ASCII	Disable	Disable	Disable	Disable	Disable	Disable
Code 39 Label ID	*	M	B1	*		
Code 39 Require Quiet Zones	Disable	Disable	Disable	Disable	Disable	Disable
Code 39 Length Control	Variable	Variable	Variable	Variable	Variable	Variable
Code 39 Length 1	2	2	2	2	2	2

	RS-232	Wincor-Nixdorf	RS-232 Single Cable	Keybd. Wedge	IBM	IBM USB
Code 39 Length 2	50	50	50	50	50	50
Code 39 Correlation	Disable	Disable	Disable	Disable	Disable	Disable
Code 39 Stitching	Enable	Enable	Enable	Enable	Enable	Enable
Code 39 Mini- minimum Reads	1	1	1	1	1	1
Pharmacode 39 Enable	Disable	Disable	Disable	Disable	Disable	Disable
Pharmacode 39 Start Stop Character Transmission	Disable	Disable	Disable	Disable	Disable	Disable
Pharmacode 39 Check Character Transmission	Enable	Enable	Enable	Enable	Enable	Enable
Pharmacode 39 Label ID	A	A	A	A		
Code 128 Enable	Enable	Enable	Enable	Enable	Enable	Enable
Code 128 Transmit Function Characters	Disable	Disable	Disable	Disable	Disable	Disable
Convert Code 128 to Code 39	Disable	Disable	Disable	Disable	Disable	Disable
Code 128 Label ID	#	K	B3	#		
Code 128 Length Control	Variable	Variable	Variable	Variable	Variable	Variable
Code 128 Length 1	1	1	1	1	1	1

	RS-232	Wincor-Nixdorf	RS-232 Single Cable	Keybd. Wedge	IBM	IBM USB
Code 128 Length 2	80	80	80	80	80	80
Code 128 Correlation	Disable	Disable	Disable	Disable	Disable	Disable
Code 128 Stitching	Disable	Disable	Disable	Disable	Disable	Disable
Code 128 Minimum Reads	1	1	1	1	1	1
EAN-128 Enable	Disable	Disable	Disable	Disable	Disable	Disable
EAN-128 Label ID	None	P	None	None		
Interleaved 2 of 5 (1 2 of 5) Enable	Disable	Disable	Disable	Disable	Disable	Disable
1 2 of 5 Check Character Calculation	Disable	Disable	Disable	Disable	Disable	Disable
1 2 of 5 Check Character Transmission	Enable	Enable	Enable	Enable	Enable	Enable
1 2 of 5 Label ID	i	l	B2	i		
1 2 of 5 Length Control	Variable	Variable	Variable	Variable	Variable	Variable
1 2 of 5 Length 1	6	6	6	6	6	6
1 2 of 5 Length 2	50	50	50	50	50	50
1 2 of 5 Correlation	Disable	Disable	Disable	Disable	Disable	Disable
1 2 of 5 Stitching	Disable	Disable	Disable	Disable	Disable	Disable
1 2 of 5 Minimum Reads	1	1	1	1	1	1

	RS-232	Wincor-Nixdorf	RS-232 Single Cable	Keybd. Wedge	IBM	IBM USB
Standard 2 of 5 (Std 2 of 5) Enable	Disable	Disable	Disable	Disable	Disable	Disable
Standard 2 of 5 Check Character Calculation	Disable	Disable	Disable	Disable	Disable	Disable
Standard 2 of 5 Check Character Transmission	Enable	Enable	Enable	Enable	Enable	Enable
Standard 2 of 5 Label ID	S	H	S	S		
Standard 2 of 5 Length Control	Variable	Variable	Variable	Variable	Variable	Variable
Standard 2 of 5 Length 1	8	8	8	8	8	8
Standard 2 of 5 Length 2	50	50	50	50	50	50
Standard 2 of 5 Correlation	Disable	Disable	Disable	Disable	Disable	Disable
Standard 2 of 5 Stitching	Disable	Disable	Disable	Disable	Disable	Disable
Standard 2 of 5 Minimum Reads	1	1	1	1	1	1
Codabar Enable	Disable	Disable	Disable	Disable	Disable	Disable
Codabar Start Stop Character Transmission	Disable	Enable	Disable	Disable	Disable	Disable
Codabar Start Stop Character Set	abcd/ abcd	abcd/ abcd	abcd/ abcd	abcd/ abcd	abcd/ abcd	abcd/ abcd

	RS-232	Wincor-Nixdorf	RS-232 Single Cable	Keybd. Wedge	IBM	IBM USB
Codabar Start Stop Character Match	Disable	Disable	Disable	Disable	Disable	Disable
Codabar Check Character Calculation	Disable	Disable	Disable	Disable	Disable	Disable
Codabar Check Character Transmission	Enable	Enable	Enable	Enable	Enable	Enable
Codabar Label ID	%	N	%	%		
Codabar Require Quiet Zones	Enable	Enable	Enable	Enable	Enable	Enable
Codabar Length Control	Variable	Variable	Variable	Variable	Variable	Variable
Codabar Length 1	3	3	3	3	3	3
Codabar Length 2	50	50	50	50	50	50
Codabar Correlation	Disable	Disable	Disable	Disable	Disable	Disable
Codabar Stitching	Disable	Disable	Disable	Disable	Disable	Disable
Codabar Minimum Reads	1	1	1	1	1	1
Code 93 Enable	Disable	Disable	Disable	Disable	Disable	Disable
Code 93 Label ID	&	L	&	&		
Code 93 Length Control	Variable	Variable	Variable	Variable	Variable	Variable
Code 93 Length 1	1	1	1	1	1	1
Code 93 Length 2	50	50	50	50	50	50

	RS-232	Wincor-Nixdorf	RS-232 Single Cable	Keybd. Wedge	IBM	IBM USB
Code 93 Correlation	Disable	Disable	Disable	Disable	Disable	Disable
Code 93 Stitching	Enable	Enable	Enable	Enable	Enable	Enable
Code 93 Minimum Reads	1	1	1	1	1	1
MSI/Plessey Enable	Disable	Disable	Disable	Disable		
MSI/Plessey Check Character Calculation	Enable	Enable	Enable	Enable		
MSI/Plessey Number of Check Characters	1 check char	1 check char	1 check char	1 check char		
MSI/Plessey Check Character Transmission	Enable	Enable	Enable	Enable		
MSI/Plessey Label ID	@	0	@	@		
MSI/Plessey Length Control	Variable	Variable	Variable	Variable		
MSI/Plessey Length 1	4	4	4	4		
MSI/Plessey Length 2	16	16	16	16		
MSI/Plessey Correlation	Disable	Disable	Disable	Disable		
MSI/Plessey Stitching	Disable	Disable	Disable	Disable		

	RS-232	Wincor-Nixdorf	RS-232 Single Cable	Keybd. Wedge	IBM	IBM USB
MSI/Plessey Mini- mum Reads	1	1	1	1		



Appendix F

Handheld Data Format Requirements

This appendix provides application notes to describe the general format of data that can be accepted by the scanner through the auxilliary port as transmitted from a handheld scanner.

Handheld Data Format Requirements General

- 9600 bps, 8 data bits, 2 stop bits, no parity.
- RTS is used to "bracket" the data received from the handheld: RTS must be asserted high during data transmission, and de-asserted after label transmission is complete. No other flow control mechanisms are required or supported. The de-assertion of the RTS signal must occur no later than 50 milliseconds from the complete transmission of the last character of the transmitted data.
- The time between character transmission can be no longer than 50 milliseconds.
- Symbologies requiring fixed lengths (UPC/EAN) will enforce length requirements for validation of the label.
- Handheld scanner will be required to transmit start and stop characters for Codabar and Code 39 labels.
- Appropriate industrial length requirements will be enforced (if configured) for validation of the label.
- Maximum label lengths will be enforced for label validation (i.e. labels longer than the maximum label size will not be validated).
- Standard Datalogic formats generally use a single prefix character. The specific formats are provided below.

Datalogic Handheld Data Format Requirements

The following sections describe label transmission formats that are typically observed in factory configurations of Datalogic handheld scanners.

DataBar Omnidirectional

- Prefix must be ASCII characters 'R4'
- Check character must be included in label
- Application identifier "01" must follow the prefix and precede the base label
- Label length excluding prefix characters must be 16 characters.
- Example: 'R40101044123456789'

DataBar Expanded

- Prefix must be ASCII characters 'R4'
- Check character must be included in label

UPC-A

- System number must be included in label data.
- Check digit must be included in label data and is assumed to be correct.
- Prefix must be an ASCII character 'A' – total length including prefix must be 13.
- Example: 'A060992011187'.

UPC-A with 2-Digit Supplemental

- System number must be included in label data.
- Check digit must be included in label data and is assumed to be correct.
- Supplemental data is appended to base label.
- Prefix must be an ASCII character 'A' – total length including prefix must be 15.
- Example: 'A06099201118712'.

UPC-A with 5-Digit Supplemental

- System number must be included in label data
- Check digit must be included in label data and is assumed to be correct
- Prefix must be an ASCII character 'A' – total length including prefix must be 18
- Example: 'A06099201118712345'

UPC-A with Code 128 Supplemental

- System number must be included in label data.
- Check digit must be included in label data and is assumed to be correct.
- Supplemental data is appended to base label.

- Prefix must be an ASCII character 'A' – total length including prefix must be greater or equal to 19 (Code 128 Supplemental codes are variable length having a minimum of 2 data characters).
- Characters immediately following base label must be of the form '8100', '8101' or '8102'.
- Example: 'A0609920111878100000951'.

UPC-E

- System number must be included in label data
- Check digit must be included in label data and is assumed to be correct
- Prefix must be an ASCII character 'E' – total length including prefix must be 9
- Example: 'E09988750'

UPC-E with 2-Digit Supplemental

- System number must be included in label data.
- Check digit must be included in label data and is assumed to be correct.
- Supplemental data is appended to base label.
- Prefix must be an ASCII character 'E' – total length including prefix must be 11.
- Example: 'E0998875012'.

UPC-E with 5-Digit Supplemental

- System number must be included in label data.
- Check digit must be included in label data and is assumed to be correct.
- Prefix must be an ASCII character 'E' – total length including prefix must be 14.
- Example: 'E0998875012345'.

UPC-E with Code 128 Supplemental

- System number must be included in label data.
- Check digit must be included in label data and is assumed to be correct.
- Supplemental data is appended to base label.
- Prefix must be an ASCII character 'E' – total length including prefix must be greater or equal to 15 (code 128 Supplemental codes are variable length having a minimum of 2 data characters).

-
- Characters immediately following base label must be of the form '8100', '8101' or '8102'.
 - Example: 'E099887508101000951'.

EAN-8

- Check digit must be included in label data and is assumed to be correct
- Prefix must be an ASCII characters 'FF' – total length including prefix must be 10
- Example: 'FF00210126'

EAN-8 with 2-Digit Supplemental

- Check digit must be included in label data and is assumed to be correct.
- Supplemental data is appended to base label.
- Prefix must be an ASCII characters 'FF' – total length including prefix must be 12.
- Example: 'FF0021012612'.

EAN-8 with 5-Digit Supplemental

- Check digit must be included in label data and is assumed to be correct.
- Prefix must be an ASCII characters 'FF' – total length including prefix must be 15.
- Example: 'FF0021012612345'.

EAN-8 with Code 128 Supplemental

- Check digit must be included in label data and is assumed to be correct.
- Supplemental data is appended to base label.
- Prefix must be an ASCII characters 'FF' – total length including prefix must be greater than 16 (code 128 Supplemental codes are variable length having a minimum of 2 data characters).
- Characters immediately following base label must be of the form '8100', '8101' or '8102'.
- Example: 'FF002101268102000951'.

EAN-13

- Check digit must be included in label data and is assumed to be correct
- Prefix must be an ASCII character 'F'– total length including prefix must be 14

- Example: 'F1101234567891'

EAN-13 with 2-Digit Supplemental

- Check digit must be included in label data and is assumed to be correct
- Supplemental data is appended to base label
- Prefix must be an ASCII character 'F'– total length including prefix must be 16
- Example: 'F110123456789112'

EAN-13 with 5-Digit Supplemental

- Check digit must be included in label data and is assumed to be correct.
- Prefix must be an ASCII character 'F'– total length including prefix must be 19.
- Example: 'F110123456789112345'.

EAN-13 with Code 128 Supplemental

- Check digit must be included in label data and is assumed to be correct
- Supplemental data is appended to base label
- Prefix must be an ASCII character 'F'– total length including prefix must be greater or equal to 20 (code 128 Supplemental codes are variable length having a minimum of 2 data characters)
- Characters immediately following base label must be of the form '8100', '8101' or '8102'
- Example: 'F11012345678918100000951'

Code 39

- Check character must be included in label data.
- Label length including start, stop and check characters and excluding prefix character must meet requirements imposed by the main scanner's fixed or variable label length control for this symbology type.
- Start and stop characters "*" must be included in label.
- Prefix must be an ASCII character '*'.
- Example : '**Code 39.TEST*'

Code 39-Pharmacode

- Check character must be included in label data.

-
- Label length including start, stop and check characters and excluding prefix character must meet requirements imposed by the main scanner's fixed or variable label length control for this symbology type.
 - Start and stop characters "*" must be included in label.
 - Prefix must be an ASCII character 'p'.
 - Example: 'p*123456789*'.

I 2 of 5

- Check character must be included in label data.
- Label length including check characters and excluding prefix character must meet requirements imposed by the main scanner's fixed or variable label length control for this symbology type.
- Prefix must be an ASCII character 'i'.
- Example: 'i0123456789'.

Standard 2 of 5

- Check character must be included in label data.
- Label length including check characters and excluding prefix characters must meet requirements imposed by the main scanner's fixed or variable label length control for this symbology type.
- Prefix must be an ASCII character 's'.
- Example: 's0123456789'.

Codabar

- Check character must be included in label data.
- Label length including check character and excluding prefix character must meet requirements imposed by the main scanner's fixed or variable label length control for this symbology type.
- Prefix must be an ASCII character '%'.
- Start stop character sets must meet the matching requirement set forth by the scanner configuration item *Codabar Start Stop Character Match*.
- Start stop character sets must be of the form ABCD/ABCD and must be included in the label.
- Example: '%s\$99.95s' (the lower case 's' at each end of the example is a placeholder for the start stop character set).

Code 128

- Prefix must be an ASCII character '#'.
- Label length excluding prefix character must meet requirements imposed by the main scanner's fixed or variable label length control for this symbology type.
- Function characters may be transmitted as a hexadecimal value 8x. Where x correlates to function characters 1 thru 4 as follows:
 - x80 = function code 1
 - x81 = function code 2
 - x82 = function code 3
 - x83 = function code 4
- For Code 128 programming labels the format is of the general form '#/82nnnnn/r' - /82 is hexadecimal 82 and /r is carriage return.
- Example: '#Code_128.Test'.

MSI/Plessey

- Check character must be included in label data.
- Label length including check character and excluding prefix character must meet requirements imposed by the main scanner's fixed or variable label length control for this symbology type.
- Prefix must be an ASCII character '@'.
- Example: '@144769254'.

Code 93

- Prefix must be an ASCII character '&'.
- Label length excluding prefix character must meet requirements imposed by the main scanner's fixed or variable label length control for this symbology type.
- Example: '&Code93-test'.

AIM Formats

AIM specifies a 3-character string that is attached as a prefix to the label data for transmission. Because AIM specifies one identifier for UPC-A, UPC-E and EAN-13 labels, UPC-A, UPC-E and EAN-13 will be received from the handheld and transmitted to the POS by the scanner as EAN-13. Using this form of identification, the 'J' character must be the first character in the label received from the handheld. Further identification of the label is specified in the section below. The AIM identifiers on the received label may or may not be

transmitted to the POS and are controlled according to the data formatting settings of the scanner.

The following sections describe the prefix strings and identify what specific label characteristics can be supported.

If a label does not have one of the AIM identifiers specified below and the first three characters of the label data fit the following qualifications:

- the first character is a 'J'
- the second character is a capital letter or a small letter
- the third character is a digit

...then the label is transmitted to the host with the AIM identifier still appended to the beginning of the label data.

UPC-A

- AIM does not specify UPC-A as a separate symbology using this transmission format – labels will be transmitted as EAN-13.
- Example: 'JE00060992011187'.

UPC-E

- AIM does not specify UPC-E as a separate symbology using this transmission format – labels will be transmitted as EAN-13.
- Example: 'JE00000000998875'.

EAN-13

- Check digit must be included in label data and is assumed to be correct.
- Prefix must be ASCII characters 'JE0' – total length including prefix must be 16.
- Example: 'JE01101234567891'.

EAN-8

- Check digit must be included in label data and is assumed to be correct.
- Prefix must be ASCII characters 'JE4' – total length including prefix must be 11.
- Example: 'JE400210126'.

2-Digit Supplemental

- Supplemental data is appended to any EAN base label.
- Prefix must be ASCII characters 'JE1'.

- length of Supplemental data including prefix must be 5. Total required length is 21 for EAN-13 and 16 for EAN-8.
- Prefix for the main body portion of the label for UPCA/UPCE/EAN13 can be]E0 or]E3.
- If the main body prefix for UPCA/UPCE/EAN13 is]E0, then the 2-digit addon portion of the label must have a prefix of]E1.

Examples: addon portion is highlighted data is underlined.

UPC-A 2-Digit addon	']E00060992011187] <u>E112</u> '
UPC-E 2-Digit addon	']E00000000998875] <u>E112</u> '
EAN-8 2-Digit addon	']E400210126] <u>E112</u> '
EAN-13 2-Digit addon	']E01101234567891] <u>E112</u> '
UPC-A	]E3006099201118712
UPC-E	]E3000000099887512
EAN-13	]E3110123456789112

5-Digit Supplemental

- Supplemental data is appended to any EAN base label.
- Prefix must be ASCII characters 'J'E2'.
- Length of supplemental data including prefix must be 8. Total required length is 24 for EAN-13 and 19 for EAN-8.
- Prefix for the main body portion of the label for UPCA/UPCE/EAN13 can be J'E0 or J'E3.
- If the main body prefix for UPCA/UPCE/EAN13 is J'E0, then the 5-digit addon portion of the label must have a prefix of J'E2.

Examples: addon portion is highlighted data is underlined.

UPC-A 5-Digit addon	'J'E00060992011187J'E2 <u>12345</u> '
UPC-E 5-Digit addon	'J'E00000000998875J'E2 <u>12345</u> '
EAN-8 5-Digit addon	'J'E400210126J'E2 <u>12345</u> '
EAN-13 5-Digit addon	'J'E01101234567891J'E2 <u>12345</u> '
UPC-A	J'E3006099201118712345
UPC-E	J'E3000000099887512345
EAN-13	J'E3110123456789112345

Code 39

- Check character must be included in label data.
- Label length including start, stop and check characters and excluding prefix characters must meet requirements imposed by the main scanner's fixed or variable label length control for this symbology type.
- Start and stop characters "*" must be included in label.
- Prefix must be ASCII characters 'JA0' or 'JA1'.
- Example: '*]A0Code 39.TEST*'

Codabar

- Check character must be included in label data.
- Label length including check character and excluding prefix characters must meet requirements imposed by the main scanner's fixed or variable label length control for this symbology type.
- Prefix must be ASCII characters 'JF0'.
- Start stop character sets must meet the matching requirement set forth by the scanner configuration item *Codabar Start Stop Character Match*.
- Start stop character sets *s* must be of the form ABCD/ABCD and must be included in the label.
- Example: 'JF0s\$99.95s' (the lower case 's' at each end of the example is a placeholder for the start stop character set).

MSI/Plessey

- Check character must be included in label data.
- Label length including check character and excluding prefix characters must meet requirements imposed by the main scanner's fixed or variable label length control for this symbology type.
- Prefix must be ASCII characters 'JM0'.
- Example: 'JM0144769254'.

Code 93

- Prefix must be ASCII characters 'JG0'.
- Label length excluding prefix characters must meet requirements imposed by the main scanner's fixed or variable label length control for this symbology type.
- Example : 'JG0Code93-test'.

DataBar Omnidirectional

- Prefix must be ASCII characters 'je0'.
- Check character must be included in label.
- Label length excluding prefix characters must be 14 characters.
- Example: 'je001044123456789'.

DataBar Expanded

- Prefix must be ASCII characters 'je0'.
- Label length excluding prefix characters must be at least 1 character. Maximum length is the maximum label size supported by the scanner.
- Example: 'je001900123456789083103001750'.

I 2 of 5

- Check character must be included in label data.
- Label length including check characters and excluding prefix characters must meet requirements imposed by the main scanner's fixed or variable label length control for this symbology type.
- Prefix must be ASCII characters 'jI0', 'jI1' or 'jI2' (other prefixes specify different check character properties which are not supported).
- Example: 'jI10123456789'.

Standard 2 of 5

- Check character must be included in label data.
- Label length including check characters and excluding prefix characters must meet requirements imposed by the main scanner's fixed or variable label length control for this symbology type.
- Prefix must be an ASCII character 'jS0' (other prefixes specify different check character properties which are not supported).
- Example: 'jS00123456789'.

Code 128 / EAN128

- Prefix must be either ASCII characters 'jC0', 'jC1' or 'jC2'.
- Label length excluding prefix character must meet requirements imposed by the main scanner's fixed or variable label length control for this symbology type.
- If EAN-128 Symbology is Enabled and prefix is 'jC1', label will be identified as an EAN128 otherwise it is identified as a Code 128.
- A prefix of 'jC0' designates that no function code is present in the 1st or 2nd character position.
- A prefix of 'jC2' designates that a function code 1 is present in the 2nd character.
- Example : 'jC0Code_128.Test'.



Appendix G

Keyboard Function Key Mappings

Keyboard Model Cross Reference

The following table summarizes the keyboard models, their defined protocol, scancode set, and some unique features. The remaining tables in this chapter provide the function key maps associated with each of the scancode sets.

Keyboard Model Cross Reference

Model Type	I/F ID	Trans- mission Protocol	Scancode Set	Func. Key Map Support	Use Country Mode
PC/XT Foreign ALT Mode	Wedge A	PC/XT	Scan Set 1	No	No
AT; PS/2 25-286; PS/2 30-286; PS/2 50, 50Z; PS/2 60,70,80,90,95 Foreign ALT Mode	Wedge B	AT/PS2	Scan Set 2	No	No
PS/2 25 and 30 Foreign ALT Mode	Wedge C	AT/PS2	Scan Set 1	No	No
PC/XT U.S. Mode	Wedge D	PC/XT	Scan Set 1	Yes	No
AT; PS/2 25-286; PS/2 30-286; PS/2 50, 50Z; PS/2 60,70,80,90,95 U.S. Mode + specific country support	Wedge E	AT/PS2	Scan Set 2	Yes	Yes
PS/2 25 and 30 U.S. Mode	Wedge F	AT/PS2	Scan Set 1	Yes	No
IBM 3xxx Terminals (122-key keyboard)	Wedge G	AT/PS2	Scan Set 3	Yes	No
IBM 3xxx Terminals (102-key keyboard)	Wedge H	AT/PS2	Scan Set 3	Yes	No
PS55 5530T with JAPANESE DOS (TDOS)	Wedge I	AT/PS2	Japanese DOS	Yes	No
NEC 9801	Wedge J	NEC 9801	NEC 9801	Yes	No

Scanset 1 Function Key Map

ASCII (hex)	ASCII code	Key	Scancode
00	NUL	ALT right Make	E0h 38h
01	SOH	ALT right Break	E0h B8h
02	STX	ALT left Make	38h
03	ETX	ALT left Break	B8h
04	EOT	CTRL left Make	1Dh
05	ENQ	CTRL left Break	9Dh
06	ACK	CTRL right Make	E0h 1Dh
07	BEL	CTRL right Break	E0h 9Dh
08	BS	BS	0Eh
09	HT	TAB right	0Fh
0A	LF	RIGHT arrow (inner keypad)	4Dh + E0
0B	VT	TAB left	0Fh + S
0C	FF	Enter (inner keypad)	1Ch + E0
0D	CR	CR	1Ch
0E	SO	INSERT (inner keypad)	52h + E0
0F	SI	PAGE UP (inner keypad)	49h + E0
10	DLE	PAGE DOWN (inner keypad)	51h + E0
11	DC1	HOME (inner keypad)	47h + E0
12	DC2	LEFT arrow (inner keypad)	4Bh + E0
13	DC3	DOWN arrow (inner keypad)	50h + E0
14	DC4	UP arrow (inner keypad)	48h + E0

Scanset 2 Function Key Map

ASCII (hex)	ASCII code	Key	Scancode
00	NUL	ALT right Make	E0h 11h
01	SOH	ALT right Break	E0h F0h 11h
02	STX	ALT left Make	11h
03	ETX	ALT left Break	F0h 11h
04	EOT	CTRL left Make	14h
05	ENQ	CTRL left Break	F0h 14h
06	ACK	CTRL right Make	E0h 14h
07	BEL	CTRL right Break	E0h F0h 14h
08	BS	BS	66h
09	HT	TAB right	0Dh
0A	LF	RIGHT arrow (inner keypad)	74h + E0
0B	VT	TAB left	0Dh + S
0C	FF	Enter (right keypad)	5Ah + E0
0D	CR	CR	5Ah
0E	SO	INSERT (inner keypad)	70h + E0
0F	SI	PAGE UP (inner keypad)	7Dh + E0
10	DLE	PAGE DOWN (inner keypad)	7Ah + E0
11	DC1	HOME (inner keypad)	6Ch + E0
12	DC2	LEFT arrow (inner keypad)	6Bh + E0
13	DC3	DOWN arrow (inner keypad)	72h + E0
14	DC4	UP arrow (inner keypad)	75h + E0
15	NAK	F6	0Bh
16	SYN	F1	05h
17	ETB	F2	06h
18	CAN	F3	04h
19	EM	F4	0Ch
1A	SUB	F5	03h
1B	ESC	ESC	76h
1C	FS	F7	83h
1D	GS	F8	0Ah
1E	RS	F9	01h
1F	US	F10	09h

Scanset 3. 102-Key Function Key Map

ASCII (hex)	ASCII code	Key	Scancode
00	NUL	ALT right Make	39h
01	SOH	ALT right Break	F0h 39h
02	STX	ALT left Make	19h
03	ETX	ALT left Break	F0h 19h
04	EOT	CTRL left Make	11h
05	ENQ	CTRL left Break	F0h 11h
06	ACK	CTRL right Make	58h
07	BEL	CTRL right Break	F0h 58h
08	BS	BS	66h
09	HT	TAB right	0Dh
0A	LF	RIGHT arrow (inner keypad)	6Ah
0B	VT	TAB left	0Dh + S
0C	FF	Enter (inner keypad)	79h
0D	CR	CR	5Ah
0E	SO	INSERT (inner keypad)	67h
0F	SI	PAGE UP (inner keypad)	6Fh
10	DLE	PAGE DOWN (inner keypad)	6Dh
11	DC1	HOME (inner keypad)	6Eh
12	DC2	LEFT arrow (inner keypad)	61h
13	DC3	DOWN arrow (inner keypad)	60h
14	DC4	UP arrow (inner keypad)	63h
15	NAK	F6	2Fh
16	SYN	F1	07h
17	ETB	F2	0Fh
18	CAN	F3	17h
19	EM	F4	1Fh
1A	SUB	F5	27h
1B	ESC	ESC	08h
1C	FS	F7	37h
1D	GS	F8	3Fh
1E	RS	F9	47h
1F	US	F10	4Fh

Scanset 3 122-Key Function Key Map

ASCII (hex)	ASCII code	Key	Scancode
00	NUL	ALT Right Make	39h
01	SOH	ALT Right Break	F0h 39h
02	STX	ALT left Make	19h
03	ETX	ALT left Break	F0h 19h
04	EOT	CTRL left (RESET) Make only	11h
05	ENQ	CTRL left (RESET) Make/Break	11h F0h 11h
06	ACK	ONLINE Enter Make only	58h
07	BEL	ONLINE Enter Make/Break	58h F0h 58h
08	BS	BS	66h
09	HT	TAB right	0Dh
0A	LF	RIGHT arrow (inner keypad)	6Ah
0B	VT	TAB left	0Dh + S
0C	FF	CR (FIELD EXIT) Make only	5Ah F0h 5Ah
0D	CR	CR (FIELD EXIT) Make/Break	5Ah
0E	SO	INSERT (inner keypad)	65h
0F	SI	FIELD +	79h
10	DLE	FIELD -	7Ch
11	DC1	HOME (inner keypad)	62h
12	DC2	LEFT arrow (inner keypad)	61h
13	DC3	DOWN arrow (inner keypad)	60h
14	DC4	UP arrow (inner keypad)	63h
15	NAK	F6	2Fh
16	SYN	F1	07h
17	ETB	F2	0Fh
18	CAN	F3	17h
19	EM	F4	1Fh
1A	SUB	F5	27h
1B	ESC	ESC	08h
1C	FS	F7	37h
1D	GS	F8	3Fh
1E	RS	F9	47h
1F	US	F10	4Fh

Japanese DOS Function Key Map

ASCII value	ASCII code	Key	Scancode
00h	NUL	ALT right Make	31h
01h	SOH	ALT right Break	B1h
02h	STX	ALT left Make	31h
03h	ETX	ALT left Break	B1h
04h	EOT	CTRL left Make	41h
05h	ENQ	CTRL left Break	C1h
06h	ACK	CTRL right Make	41h
07h	BEL	CTRL right Break	C1h
08h	BS	BS	3Eh
09h	HT	TAB right	3Ch
0Ah	LF	RIGHT arrow (inner keypad)	4Dh
0Bh	VT	TAB left	3Ch + S
0Ch	FF	Enter (right keypad)	60h
0Dh	CR	CR	3Bh
0Eh	SO	INSERT (inner keypad)	52h
0Fh	SI	PAGE UP (inner keypad)	49h
10h	DLE	PAGE DOWN (inner keypad)	51h
11h	DC1	HOME (inner keypad)	4Ch
12h	DC2	LEFT arrow (inner keypad)	4Bh
13h	DC3	DOWN arrow (inner keypad)	4Ah
14h	DC4	UP arrow (inner keypad)	4Eh
15h	NAK	F6	6Dh
16h	SYN	F1	68h
17h	ETB	F2	69h
18h	CAN	F3	6Ah
19h	EM	F4	6Bh
1Ah	SUB	F5	6Ch
1Bh	ESC	ESC	3Dh
1Ch	FS	F7	6Eh
1Dh	GS	F8	6Fh
1Eh	RS	F9	70h
1Fh	US	F10	71h

NEC 9801-Key Function Key Map

ASCII value	ASCII code	Key	Scancode
00h	NUL	unused	n/a
01h	SOH	CR	1Ch
02h	STX	CAPS LOCK ON (make)	71h
03h	ETX	CAPS LOCK OFF (break)	F1h
04h	EOT	CTRL left Make	74h
05h	ENQ	CTRL left Break	F4h
06h	ACK	CTRL-C	60h
07h	BEL	n/a	n/a
08h	BS	BS	0Eh
09h	HT	TAB right	0Fh
0Ah	LF	RIGHT arrow (inner keypad)	3Ch
0Bh	VT	TAB left	0Fh + S
0Ch	FF	DELETE	39h
0Dh	CR	CR	1Ch
0Eh	SO	INSERT (inner keypad)	38h
0Fh	SI	KATAKANA LOCK ON (Make)	72h
10h	DLE	KATAKANA LOCK OFF (Break)	F2h
11h	DC1	HOME (inner keypad)	3Eh
12h	DC2	LEFT arrow (inner keypad)	3Bh
13h	DC3	DOWN arrow (inner keypad)	3Dh
14h	DC4	UP arrow (inner keypad)	3Ah
15h	NAK	F6	67h
16h	SYN	F1	62h
17h	ETB	F2	63h
18h	CAN	F3	64h
19h	EM	F4	65h
1Ah	SUB	F5	66h
1Bh	ESC	ESC	00h
1Ch	FS	F7	68h
1Dh	GS	F8	69h
1Eh	RS	F9	6Ah
1Fh	US	F10	6Bh

USB Keyboard Function Key Usage Map


ASCII	Key Value	Usage Name
00	NUL	ALT right Make
01	SOH	ALT right Break
02	STX	F11
03	ETX	F12
04	EOT	GUI right Make
05	ENQ	GUI right Break
06	ACK	CTRL right Make
07	BEL	CTRL right Break
08	BS	BS
09	HT	TAB right
0A	LF	RIGHT arrow (inner keypad)
0B	VT	TAB left
0C	FF	Enter (right keypad)
0D	CR	CR
0E	SO	INSERT (inner keypad)
0F	SI	PAGE UP (inner keypad)
10	DLE	PAGE DOWN (inner keypad)
11	DC1	HOME (inner keypad)
12	DC2	LEFT arrow (inner keypad)
13	DC3	DOWN arrow (inner keypad)
14	DC4	UP arrow (inner keypad)
15	NAK	F6
16	SYN	F1
17	ETB	F2
18	CAN	F3
19	EM	F4
1A	SUB	F5
1B	ESC	ESC
1C	FS	F7
1D	GS	F8
1E	RS	F9
1F	US	F10

NOTES

ASCII Character Set

The table on this page shows a set of ASCII characters and their corresponding Hex Values. The Hex Values in this table are needed for setting symbology specific label identifiers, as well as enabling custom prefix and suffix characters.

ASCII Char.	Hex No.	ASCII Char.	Hex No.	ASCII Char.	Hex No.	ASCII Char.	Hex No.
NUL	00	SP	20	@	40	'	60
SOH	01	!	21	A	41	a	61
STX	02	"	22	B	42	b	62
ETX	03	#	23	C	43	c	63
EOT	04	\$	24	D	44	d	64
ENQ	05	%	25	E	45	e	65
ACK	06	&	26	F	46	f	66
BEL	07	'	27	G	47	g	67
BS	08	(	28	H	48	h	68
HT	09	)	29	I	49	i	69
LF	0A	*	2A	J	4A	j	6A
VT	0B	+	2B	K	4B	k	6B
FF	0C	,	2C	L	4C	l	6C
CR	0D	-	2D	M	4D	m	6D
SO	0E	.	2E	N	4E	n	6E
SI	0F	/	2F	O	4F	o	6F
DLE	10	0	30	P	50	p	70
DC1	11	1	31	Q	51	q	71
DC2	12	2	32	R	52	r	72
DC3	13	3	33	S	53	s	73
DC4	14	4	34	T	54	t	74
NAK	15	5	35	U	55	u	75
SYN	16	6	36	V	56	v	76
ETB	17	7	37	W	57	w	77
CAN	18	8	38	X	58	x	78
EM	19	9	39	Y	59	y	79
SUB	1A	:	3A	Z	5A	z	7A
ESC	1B	;	3B	[	5B	{	7B
FS	1C	<	3C	\	5C	|	7C
GS	1D	=	3D	]	5D	}	7D
RS	1E	>	3E	^	5E	~	7E
US	1F	?	3F	_	5F	DEL	7F



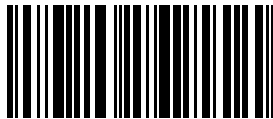
© 2008-2017 Datalogic S.p.A. and its Group companies ■ All rights reserved. ■ Protected to the fullest extent under U.S. and international laws. ■ Copying or altering of this document is prohibited without express written consent from Datalogic S.p.A. ■ Datalogic and the Datalogic logo are registered trademarks of Datalogic S.p.A. in many countries, including the U.S. and the E.U.



www.datalogic.com

Datalogic USA, Inc.

959 Terry Street | Eugene | OR 97402 | USA
Telephone: (1) 541-683-5700 | Fax: (1) 541-345-7140



820062214

(Rev. D)

Jan 2017