DATALOGIC

QuickScan™ I

QD24XX/QBT24XX/QM24XX

General Purpose Handheld
Area Imager Bar Code Reader

Product Reference Guide

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Patents

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

Table of Contents

INTRODUCTION **1**
- **About this Manual** **1**
  - Overview 1
  - Manual Conventions 2
- **Technical Support** **2**
  - Datalogic Website Support 2
  - Reseller Technical Support 2
  - Telephone Technical Support 2
- **About the Reader** **3**
- **Programming the Reader** **4**
  - Configuration Methods 4
- **Cordless Models Only** **5**
  - Using the BC20XX™ Radio Base 5
  - Charging the Batteries 6
  - Battery Safety 6
  - Replacing the Battery Pack 8

SETUP **9**
- **Unpacking** **9**
- **Setting Up the Reader** **9**
- **Installing the Interface Cable** **10**
- **Configuring the Base Station** **12**
  - Connecting the Base Station 12
  - Base Station Connection and Routing 13
  - System and Network Layouts 15
  - Connecting the Base when Security Pin is Enabled 15
  - Linking the Reader to a Base Station 16
  - Linking a BT Reader to a PC 16
- **Interface Selection** **18**
  - Setting the Interface 18
- **Customizing Configuration Settings** **22**
  - Configure Interface Settings 22
  - Global Interface Features 22
  - Configuring Other Features 22
  - Software Version Transmission 22
  - Resetting the Product Configuration to Defaults 23

CONFIGURATION USING BAR CODES **25**
- Configuration Parameters 25
  - GLOBAL INTERFACE FEATURES 27
    - Host Commands — Obey/Ignore 27
    - USB Suspend Mode 27
- **RS-232 Interface** **29**
    - Baud Rate 30
    - Data Bits 31
    - Stop Bits 31
    - Parity 32
    - Handshaking Control 33
- **RS-232/USB-Com Interfaces** **34**
    - Intercharacter Delay 35
    - Beep On ASCII BEL 35
    - Beep On Not on File 36
    - ACK NAK Options 36
    - ACK Character 37
    - NAK Character 37

ACK NAK Timeout Value 38
ACK NAK Retry Count 38
ACK NAK Error Handling 39
Indicate Transmission Failure 39
Disable Character 40
Enable Character 40
Keyboard Settings 41
Country Mode 42
Send Control Characters 46
Wedge Quiet Interval 47
Intercode Delay 47
Caps Lock State 48
Numlock 48
USB Keyboard Speed 49
USB Keyboard Numeric Keypad 50
USB-OEM Interface 51
USB-OEM Device Usage 52
USB Interface Options 52
Transmit Labels in Code 39 Format 53
Interface Options 54
Data Format 55
Global Prefix/Suffix 56
Global AIM ID 57
Set AIM ID Individually for GS1-128 59
Label ID 60
Label ID: Pre-Loaded Sets 60
Individually Set Label ID 61
Label ID Control 61
Label ID Symbology Selection – 1D Symbologies 62
Advanced Formatting: User Label Edit 67
Case Conversion 67
Character Conversion 68
Reading Parameters 69
Double Read Timeout 70
LED AND BEEPER INDICATORS 72
Power On Alert 72
Good Read: When to Indicate 72
Good Read Beep Type 73
Good Read Beep Frequency 73
Good Read Beep Length 74
Good Read Beep Volume 75
Good Read LED Duration 76
SCANNING FEATURES 77
Scan Mode 77
Stand Mode Indication 78
Stand Operation 79
Pick Mode 80
Stand Mode Sensitivity 80
Stand Mode Illumination Off Time 81
Scanning Active Time 81
Stand Illumination Control 82
Flash On Time 82
Flash Off Time 83
Aiming Pointer 83
Aiming Duration Timer 84
Green Spot Duration 85
Mobile Phone Mode 85
Partial Label Reading Control 86
Decode Negative Image 86
Image Capture (QD24XX only) 87

MULTIPLE LABEL READING 87
Multiple Labels per Frame 87
Multiple Labels Ordering by Code Symbology 88
Multiple Labels Ordering by Code Length 88
1D Symbologies 89
1D Code Selection 89
DISABLE ALL SYMBOLOGIES 90
CODE EAN/UPC 91
Coupon Control 91
UPC-A 92
UPC-A Enable/Disable 92
UPC-A Check Character Transmission 92
Expand UPC-A to EAN-13 93
UPC-A Number System Character Transmission 93
UPC-A 2D Component 94
UPC-E 94
UPC-E Enable/Disable 94
UPC-E Check Character Transmission 95
UPC-E 2D Component 95
Expand UPC-E to EAN-13 96
Expand UPC-E to UPC-A 96
UPC-E Number System Character Transmission 97
GTIN FORMATTING 97
EAN 13 (JAN 13) 98
EAN 13 Enable/Disable 98
EAN 13 Check Character Transmission 98
EAN-13 Flag 1 Character 99
EAN-13 ISBN Conversion 99
EAN-13 2D Component 100
ISSN 100
ISSN Enable/Disable 100
EAN 8 (JAN 8) 101
EAN 8 Enable/Disable 101
EAN 8 Check Character Transmission 101
Expand EAN 8 to EAN 13 102
EAN 8 2D Component 102
UPC/EAN GLOBAL SETTINGS 103
UPC/EAN Price Weight Check 103
UPC/EAN Quiet Zones 104
ADD-ONS 105
Optional Add-ons 105
Optional Add-On Timer 106
Optional GS1-128 Add-On Timer 109
CODE 39 112
Code 39 Enable/Disable 112
Code 39 Check Character Calculation 112
Code 39 Check Character Transmission 113
Code 39 Start/Stop Character Transmission 114
Code 39 Full ASCII 114
Code 39 Quiet Zones 115
Code 39 Length Control 115
Code 39 Set Length 1 116
Code 39 Set Length 2 117
TRIOPTIC CODE 118
Trioptic Code Enable/Disable 118
CODE 32 (ITAL PHARMACEUTICAL CODE) 118
Code 32 Enable/Disable 118
Code 32 Feature Setting Exceptions 119
Code 32 Check Char Transmission 119
Code 32 Start/Stop Character Transmission 119

CODE 39 CIP (FRENCH PHARMACEUTICAL) 120
Code 39 CIP Enable/Disable 120
CODE 39 DANISH PPT 120
Code 39 Danish PPT Enable/Disable 120
CODE 39 LAPOSTE 121
Code 39 LaPoste Enable/Disable 121
CODE 39 PZN 121
Code 39 PZN Enable/Disable 121
CODE 128 122
Code 128 Enable/Disable 122
Expand Code 128 to Code 39 122
Code 128 Check Character Transmission 123
Code 128 Function Character Transmission 123
Code 128 Quiet Zones 124
Code 128 Length Control 124
Code 128 Set Length 1 125
Code 128 Set Length 2 126
GS1-128 127
GS1-128 Enable 127
GS1-128 2D Component 127
CODE ISBT 128 128
ISBT 128 Concatenation 128
ISBT 128 Force Concatenation 128
ISBT 128 Concatenation Mode 129
ISBT 128 Dynamic Concatenation Timeout 130
ISBT 128 Advanced Concatenation Options 131
INTERLEAVED 2 OF 5 (I 2 OF 5) 131
I 2 of 5 Enable/Disable 131
I 2 of 5 Check Character Calculation 132
I 2 of 5 Check Character Transmission 133
I 2 of 5 Length Control 133
I 2 of 5 Set Length 1 134
I 2 of 5 Set Length 2 135
INTERLEAVED 2 OF 5 CIP HR 136
Interleaved 2 of 5 CIP HR Enable/Disable 136
FOLLETT 2 OF 5 136
Follett 2 of 5 Enable/Disable 136
STANDARD 2 OF 5 137
Standard 2 of 5 Enable/Disable 137
Standard 2 of 5 Check Character Calculation 137
Standard 2 of 5 Check Character Transmission 138
Standard 2 of 5 Length Control 138
Standard 2 of 5 Set Length 1 139
Standard 2 of 5 Set Length 2 140
INDUSTRIAL 2 OF 5 141
Industrial 2 of 5 Enable/Disable 141
Industrial 2 of 5 Check Character Calculation 141
Industrial 2 of 5 Check Character Transmission 142
Industrial 2 of 5 Length Control 142
Industrial 2 of 5 Set Length 1 143
Industrial 2 of 5 Set Length 2 144
CODE IATA 145
IATA Enable/Disable 145
IATA Check Character Transmission 145
CODABAR 146
Codabar Enable/Disable 146
Codabar Check Character Calculation 146
Codabar Check Character Transmission 147
Codabar Start/Stop Character Transmission 147
Codabar Start/Stop Character Set 148

Codabar Start/Stop Character Match 148
Codabar Quiet Zones 149
Codabar Length Control 149
Codabar Set Length 1 150
Codabar Set Length 2 151
ABC CODABAR 152
ABC Codabar Enable/Disable 152
ABC Codabar Concatenation Mode 152
ABC Codabar Dynamic Concatenation Timeout 153
ABC Codabar Force Concatenation 154
CODE 11 155
Code 11 Enable/Disable 155
Code 11 Check Character Calculation 155
Code 11 Check Character Transmission 156
Code 11 Length Control 156
Code 11 Set Length 1 157
Code 11 Set Length 2 158
GS1 DATABAR™ OMNIDIRECTIONAL 159
GS1 DataBar™ Omnidirectional Enable/Disable 159
GS1 DataBar™ Omnidirectional GS1-128 Emulation 159
GS1 DataBar™ Omnidirectional 2D Component 160
GS1 DATABAR™ EXPANDED 160
GS1 DataBar™ Expanded Enable/Disable 160
GS1 DataBar™ Expanded GS1-128 Emulation 161
GS1 DataBar™ Expanded 2D Component 161
GS1 DataBar™ Expanded Length Control 162
GS1 DataBar™ Expanded Set Length 1 163
GS1 DataBar™ Expanded Set Length 2 164
GS1 DATABAR™ LIMITED 165
GS1 DataBar™ Limited Enable/Disable 165
GS1 DataBar™ Limited GS1-128 Emulation 165
GS1 DataBar™ Limited 2D Component 166
CODE 93 166
Code 93 Enable/Disable 166
Code 93 Check Character Calculation 167
Code 93 Check Character Transmission 167
Code 93 Length Control 168
Code 93 Set Length 1 169
Code 93 Set Length 2 170
Code 93 Quiet Zones 171
MSI 171
MSI Enable/Disable 171
MSI Check Character Calculation 172
MSI Check Character Transmission 172
MSI Length Control 173
MSI Set Length 1 174
MSI Set Length 2 175
PLESSEY 176
Plessey Enable/Disable 176
Plessey Check Character Calculation 176
Plessey Check Character Transmission 177
Plessey Length Control 177
Plessey Set Length 1 178
Plessey Set Length 2 179
2D Symbologies 181
2D Global Features 181
2D Maximum Decoding Time 182
2D Structured Append 183
2D Normal/Inverse Symbol Control 183
Symbology Selection 184

Aztec Code **184**
Aztec Code Enable / Disable 184
Aztec Code Length Control 184
Aztec Code Set Length 1 185
Aztec Code Set Length 2 186
China Sensible Code **187**
China Sensible Code Enable / Disable 187
China Sensible Code Length Control 187
China Sensible Code Set Length 1 188
China Sensible Code Set Length 2 189
Data Matrix **190**
Data Matrix Enable / Disable 190
Data Matrix Square/Rectangular Style 190
Data Matrix Length Control 191
Data Matrix Set Length 1 191
Data Matrix Set Length 2 192
Maxicode **193**
Maxicode Enable / Disable 193
Maxicode Primary Message Transmission 193
Maxicode Length Control 194
Maxicode Set Length 1 194
Maxicode Set Length 2 195
PDF417 ..... **196**
PDF417 Enable / Disable 196
PDF417 Length Control 196
PDF417 Set Length 1 197
PDF417 Set Length 2 198
Micro PDF417 ..... **199**
Micro PDF417 Enable / Disable 199
Micro PDF417 Code 128 GS1-128 Emulation 199
Micro PDF417 Length Control 200
Micro PDF417 Set Length 1 200
Micro PDF417 Set Length 2 201
QR Code **202**
QR Code Enable / Disable 202
QR Code Length Control 202
QR Code Set Length 1 203
QR Code Set Length 2 204
Micro QR Code **205**
Micro QR Code Enable/Disable 205
Micro QR Code Length Control 205
Micro QR Code Set Length 1 206
Micro QR Code Set Length 2 207
UCC Composite **208**
UCC Composite Enable / Disable 208
UCC Optional Composite Timer 209
Postal Code Selection **210**
Postnet BB Control 211
WIRELESS FEATURES **213**
WIRELESS BEEPER FEATURES 214
Good Transmission Beep 214
Beep Frequency 214
Beep Duration 215
Beep Volume 216
Disconnect Beep 216
Docking Beep 217
Leash Alarm 217
CONFIGURATION UPDATES 219
Automatic Configuration Update 219
Copy Configuration to Scanner 219

Copy Configuration to Base Station 220
BATCH FEATURES 220
Batch Mode 220
Send Batch 221
Erase Batch Memory 221
RF Batch Mode Transmit Delay 221
DIRECT RADIO AUTOLINK 222
Bluetooth-Only Features 223
RF ADDRESS STAMPING 223
Source Radio Address Transmission 223
Source Radio Address Delimiter Character 224
BT SECURITY FEATURES 225
BT Security Mode 225
BT PIN Code 226
Select PIN Code Length 226
Set PIN Code 226
OTHER BT FEATURES 227
Bluetooth HID Variable PIN Code 227
Bluetooth HID Alt Mode 228
Bluetooth HID Send Unknown ASCII Char 228
Bluetooth Friendly Name 229
HID Country Mode 230
Powerdown Timeout 233
FEATURES FOR STAR MODELS ONLY 234
STAR Radio Protocol Timeout 234
STAR Radio Transmit Mode 235

MESSAGE FORMATTING 237
Message Formatting 237
LED and Beeper Control 238

REFERENCES 239
RS-232 Parameters 240
RS-232 240
RS-232/USB COM Parameters 241
Keyboard Interface 248
Wedge Quiet Interval 248
Intercharacter Delay 249
Intercode Delay 250
Symbologies 251
Set Length 251
Data Editing 252
Global Prefix/Suffix 253
Global AIM ID 254
Label ID 255
Character Conversion 260
Reading Parameters 261
Good Read LED Duration 261
Scanning Features 262
Scan Mode 262
Stand Mode Off Time 263
Scanning Active Time 264
Aiming Duration Time 265
Flash On Time 266
Flash Off Time 267
Multiple Labels Ordering by Code Symbology 268
RF Features 270
Automatic Configuration Update 270
RF Address Stamping 270
BT-Only Features 272

TECHNICAL SPECIFICATIONS **273**
- **Imager Labeling** **277**
- **Standard Cable Pinouts** **278**
- **LED and Beeper Indications** **280**
- **Error Codes** **281**
- **Base Station Indications (Cordless Models ONLY)** **282**

STANDARD DEFAULTS **283**

SAMPLE BAR CODES **297**

KEYPAD **301**

SCANCODE TABLES **303**
- **Control Character Emulation** **303**
  - Single Press and Release Keys 303
- **Interface Type PC AT PS/2, USB-Keyboard or USB-Keyboard for APPLE** **304**
- **Interface type PC AT PS/2 Alt Mode or USB-Keyboard Alt Mode** **306**
- **Digital Interface** **308**
- **IBM31xx 102-key** **309**
- **IBM XT** **310**
- **Microsoft Windows Codepage 1252** **311**

Chapter 1
Introduction

About this Manual

This Product Reference Guide (PRG) is provided for users seeking advanced technical information, including connection, programming, maintenance and specifications. The Quick Reference Guide (QRG) and other publications associated with this product are downloadable free of charge from the website listed on the back cover of this manual.

Overview

Chapter 1, (this chapter) presents information about manual conventions, and an overview of the reader, its features and operation.

Chapter 2, Setup presents information about unpacking, cable connection information and setting up the reader.

Chapter 3, Configuration Using Bar Codes provides instructions and bar code labels for customizing your reader. There are different sections for interface types, general features, data formatting, symbology-specific and model-specific features.

Chapter 4, Message Formatting gives background information and detailed instructions for more complex programming options.

Chapter 5, References contains additional information and examples for selected bar code features.

Appendix A, Technical Specifications lists physical and performance characteristics, as well as environmental and regulatory specifications. It also provides standard cable pinouts and LED/Beeper functions.

Appendix B, Standard Defaults references common factory default settings for reader features and options.

Appendix C, Sample Bar Codes offers sample bar codes for several common symbologies.

Appendix D, Keypad includes numeric bar codes to be scanned for certain parameter settings.

Appendix E, Scancode Tables lists control character emulation information for Wedge and USB Keyboard interfaces.

Manual Conventions

The following conventions are used in this document:

The symbols listed below are used in this manual to notify the reader of key issues or procedures that must be observed when using the reader:

NOTE

Notes contain information necessary for properly diagnosing, repairing and operating the reader.

CAUTION

The CAUTION symbol advises you of actions that could damage equipment or property.

Current versions of this Product Reference Guide (PRG), Quick Reference Guide (QRG), the Datalogic Aladdin™ Configuration application, and any other manuals, instruction sheets and utilities for this product can be downloaded from the website listed below. Alternatively, printed copies or product support CDs for most products can be purchased through your Datalogic reseller.

Technical Support

Datalogic Website Support

The Datalogic website (www.datalogic.com) is the complete source for technical support and information for Datalogic products. The site offers product support, warranty information, product manuals, product tech notes, software updates, demos, and instructions for returning products for repair.

Reseller Technical Support

An excellent source for technical assistance and information is an authorized Datalogic reseller. A reseller is acquainted with specific types of businesses, application software, and computer systems and can provide individualized assistance.

Telephone Technical Support

If you do not have internet or email access, you may contact Datalogic technical support at (541) 349-8283 or check the back cover of your manual for more contact information.

About the Reader

The QuickScan™ 2400 2D handheld area imager family was specifically created to address the needs of retailers and meet the market demand with outstanding omni-directional reading performance on virtually all codes at an affordable price. Elegant design details are incorporated into a smaller, balanced lightweight enclosure without sacrificing Datalogic's well-known durability.

Ideally suited for applications at the point of-sale (POS), the QuickScan Q2400 imager features a new illumination and aiming system developed with the unique intent to reduce visual stress of the operator during the daily scanning activities. It consists of a soft, dark red illumination combined with two blue LED triangles pointing at the targeted bar code.

The result is a precise aiming system which contributes to low eye fatigue, yet still allows top operator efficiency.

The QuickScan Q2400 imager family reads typical printed linear bar codes as well as complex 2D bar codes displayed on the screen of a mobile device or loyalty cards. The Q2400 imagers are an elegant and robust imager family that provide fast, reliable scanning.

Imaging technology meets or exceeds the productivity compared to laser scanners and provides the additional advantages of a lower cost-of-ownership and greater product reliability over the long term.

The family of QuickScan™ handheld area imagers offers several models:

- QuickScan QD24XX – corded models
- Quickscan QBT24XX – cordless Blueotooth models
- QuickScan QM24XX – cordless Star models

Programming the Reader

Configuration Methods

Programming Bar Codes

The reader is factory-configured with a standard set of default features. After scanning the interface bar code, you can select other options and customize your reader through use of the instructions and programming bar code labels available in the corresponding features section for your interface. Customizable settings for many features are found in "Configuration Parameters" starting on page 25.

Some programming labels, like "Restore Custom Defaults" on page 23, require only the scan of the single label to enact the change. Most, however, require the reader to be placed in Programming Mode prior to scanning them. Scan an ENTER/EXIT bar code once to enter Programming Mode. Once the reader is in Programming Mode, scan a number of parameter settings before scanning the ENTER/EXIT bar code a second time, which will then accept your changes, exit Programming Mode and return the reader to normal operation.

NOTE

There are some exceptions to the typical programming sequence described above. Please read the description and setting instructions carefully when configuring each programmable feature.

Datalogic Aladdin™

Datalogic Aladdin™ is a multi-platform utility program providing a quick and user-friendly configuration method via the RS-232/USB-COM interface. Aladdin is available for download free of charge on the Datalogic website. Aladdin allows you to program the reader by selecting configuration commands through a user-friendly graphical interface running on a PC. These commands are sent to the reader over the selected communication interface, or they can be printed as bar codes to be scanned.

Aladdin also provides the ability to perform a software upgrade for the connected device (see the Datalogic Aladdin™ Help On-Line for more details).

Cordless Models Only

NOTE

The following information is applicable only to the QBT2400 and QM2400 models.

Using the BC20XX™ Radio Base

Radio Base LEDs

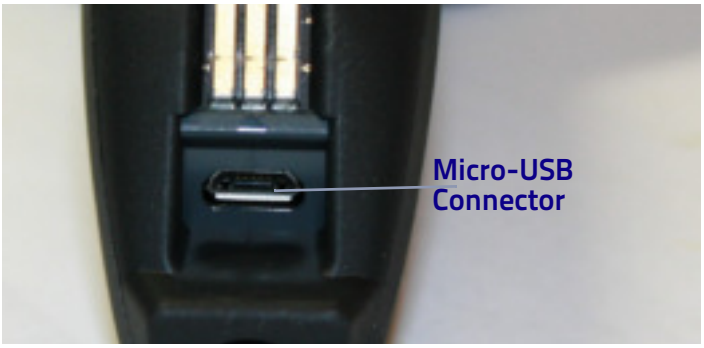
LEDs on the QuickScan Base provide information about the Base as well as battery charging status, as shown.

Figure 1. QuickScan Base LEDs

	LED	STATUS
	Power on / Data	Yellow On = Base is powered Yellow Blinking = Base receives data and commands from the Host or the Reader.
	Charging	Red On = Battery charging is in progress.
	Charge completed	Green On = the Battery is completely charged.
	Charging + Charge completed	Red and Green Blinking together = the Reader is not correctly placed onto the Base.

Charging the Batteries

The battery can be charged by connecting the reader directly to a host through the micro-USB connector available in the bottom of the handle, as shown.



Alternatively, simply insert the QuickScan into the base. When the scanner is fully seated in the cradle, it will sound a “chirp” to indicate that the cradle has detected the scanner connection.

The LEDs on the base will indicate the status of the battery.

Battery Safety

To reinstall, charge and/or perform any other action on the battery, follow the instructions in this manual.

NOTE

Before installing the Battery, read "Battery Safety" on this and the following pages. Datalogic recommends annual replacement of rechargeable battery packs to ensure maximum performance.

WARNING

Do not discharge the battery using any device except for the scanner. When the battery is used in devices other than the designated product, it may damage the battery or reduce its life expectancy. If the device causes an abnormal current to flow, it may cause the battery to become hot, explode or ignite and cause serious injury.

Lithium-ion battery packs may get hot, explode or ignite and cause serious injury if exposed to abusive conditions. Be sure to follow the safety warnings listed below:

- **Do not place the battery pack in fire or heat.**
- **Do not connect the positive terminal and negative terminal of the battery pack to each other with any metal object (such as wire).**
- **Do not carry or store the battery pack together with metal objects.**
- **Do not pierce the battery pack with nails, strike it with a hammer, step on it or otherwise subject it to strong impacts or shocks.**
- **Do not solder directly onto the battery pack.**
- **Do not expose the battery pack to liquids, or allow the battery to get wet.**
- **Do not apply voltages to the battery pack contacts.**

WARNING

In the event the battery pack leaks and the fluid gets into your eye, do not rub the eye. Rinse well with water and immediately seek medical care. If left untreated, the battery fluid could cause damage to the eye.

Always charge the battery at 32° – 104°F (0° - 40°C) temperature range.

Use only the authorized power supplies, battery pack, chargers, and docks supplied by your Datalogic reseller. The use of any other power supplies can damage the device and void your warranty.

Do not disassemble or modify the battery. The battery contains safety and protection devices, which, if damaged, may cause the battery to generate heat, explode or ignite.

Do not place the battery in or near fire, on stoves or other high temperature locations.

Do not place the battery in direct sunlight, or use or store the battery inside cars in hot weather. Doing so may cause the battery to generate heat, explode or ignite. Using the battery in this manner may also result in a loss of performance and a shortened life expectancy.

Do not place the battery in microwave ovens, high-pressure containers or on induction cookware.

Immediately discontinue use of the battery if, while using, charging or storing the battery, the battery emits an unusual smell, feels hot, changes color or shape, or appears abnormal in any other way.

Do not replace the battery pack when the device is turned on.

Do not remove or damage the battery pack's label.

Do not use the battery pack if it is damaged in any part.

Battery pack usage by children should be supervised.

As with other types of batteries, Lithium–Ion (LI) batteries will lose capacity over time. Capacity deterioration is noticeable after one year of service whether the battery is in use or not. It is difficult to precisely predict the finite life of a LI battery, but cell manufacturers rate them at 500 charge cycles. In other words, the batteries should be expected to take 500 full discharge / charge cycles before needing replacement. This number is higher if partial discharging / recharging is adhered to rather than full / deep discharging.

Storage of batteries for long time at fully charged status or at fully discharged status should be avoided.

In case of long storage, to avoid deep discharge of the battery it is recommended to partially recharge the battery every three months to keep the charge status at a medium level.

As a reference, run a fast recharge for 20 minutes every three months on unused products to avoid any performance deterioration of the cell.

The useful life of LI batteries depends on usage and number of charges, etc., after which they should be removed from service, especially in mission critical applications. Do not continue to use a battery showing excessive loss of capacity, it should be properly recycled / disposed of and replaced.

Collect and recycle waste batteries separately from the device in compliance with European Directive 2006/66/EC, 2011/65/EU, 2002/96/EC and 2012/19/EU and subsequent modifications, US and China regulatory and others laws and regulations about the environment.

Replacing the Battery Pack

NOTE

Before proceeding, read "Battery Safety" on the preceding pages. Datalogic recommends annual replacement of rechargeable battery packs to ensure maximum performance.

1. Using a coin or a screwdriver, unscrew the bottom of the battery pack until it is disengaged.

The battery pack will rise slightly in the rear, pushed by the contact springs.

2. Extract the battery pack by slightly rotating the pack and pulling away from the reader.

To mount the new battery pack reverse the process:

1. Insert the top of the new pack inside the reader's handle.
2. Rotate the battery pack downward while pressing the bottom side of the battery pack (to seat securely into the contacts springs) so that the edges of the pack and the handle board are aligned, while replacing the screw in the bottom of the handle.

Chapter 2
Setup

Unpacking

Check carefully to ensure the reader and any accessories ordered are present and undamaged. If any damage occurred during shipment, contact Datalogic Technical Support. Information is shown on page 2.

KEEP THE PACKAGING. Should the unit ever require service, it should be returned in its original shipping container.

Setting Up the Reader

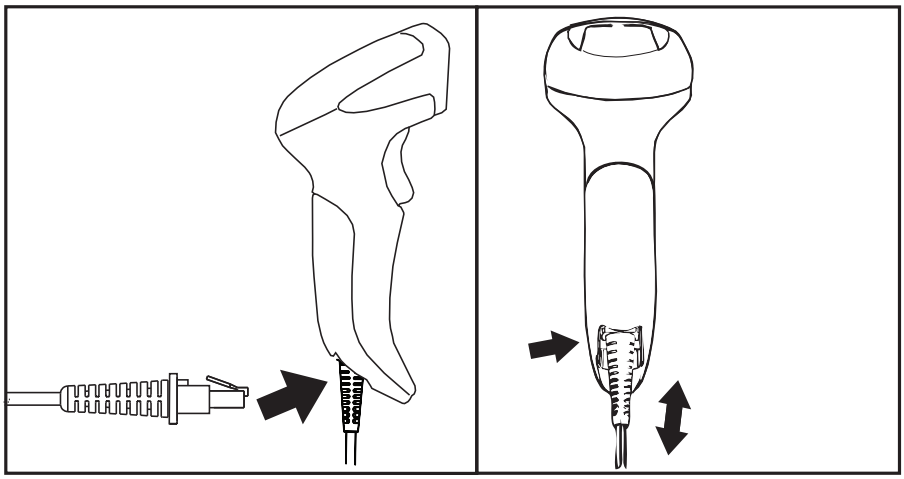
Depending on whether you are using a Corded or Wireless version of the QuickScan, follow the steps provided in this section to connect and get your reader up and communicating with its host.

1. Begin by Installing the Interface Cable (Corded) or Connecting the Base Station (BT and Star).
2. Go to Interface Selection and set the desired interface.
3. Configure Interface Settings (only if not using factory settings for that interface).
4. Go to Configuring Other Features (if modifications are needed from factory settings).

Installing the Interface Cable

For Corded versions, connect the reader cable by inserting the cable into the handle as shown in Figure 2. To remove it, insert a paper clip into the release aperture, then unplug the cable.

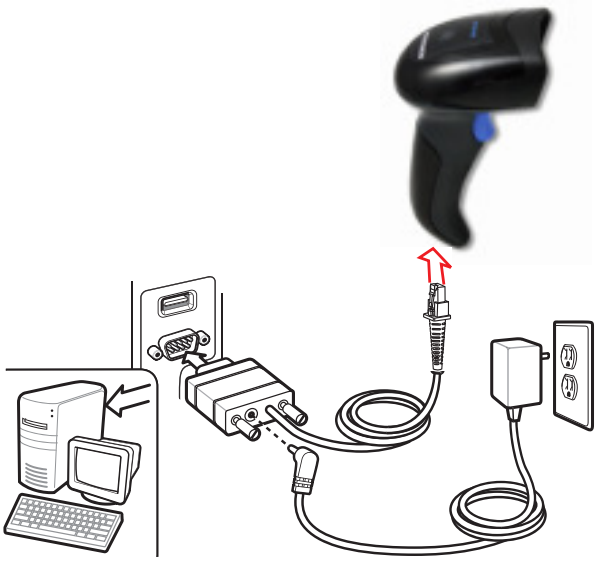
Figure 2. Connect/disconnect the cable



RS-232 Serial Connection

Turn off power to the terminal/PC and connect the reader to the terminal/PC serial port via the RS-232 cable as shown in Figure 3. If the terminal will not support POT (Power Off the Terminal) to supply reader power, use the approved power supply (AC Adapter). Plug the AC Adapter barrel connector into the socket on the RS-232 cable connector and the AC Adapter plug into a standard power outlet.

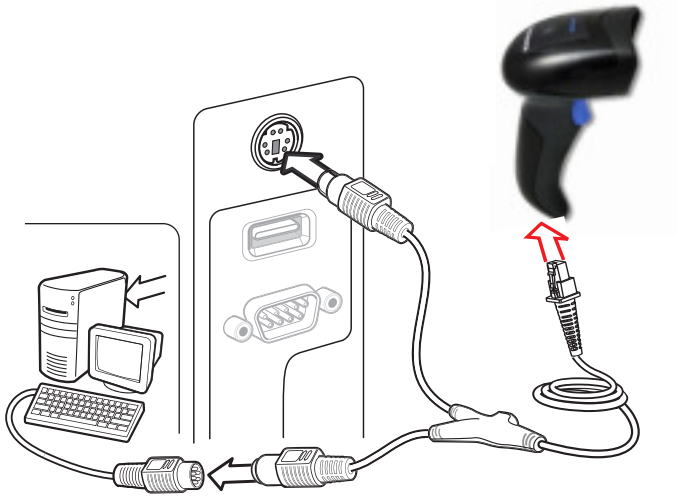
Figure 3. RS-232 Connection



Keyboard Wedge Connection

The Keyboard Wedge cable has a 'Y' connection from the reader. Connect the female to the male end from the keyboard and the remaining end at the keyboard port at the terminal/PC. Reference Figure 4.

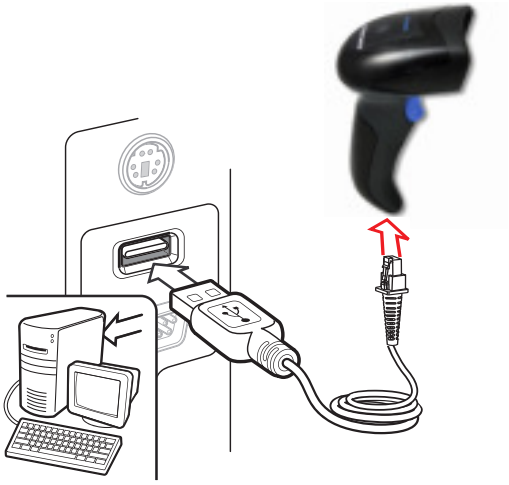
Figure 4. Keyboard Wedge Interface connection



USB Connection

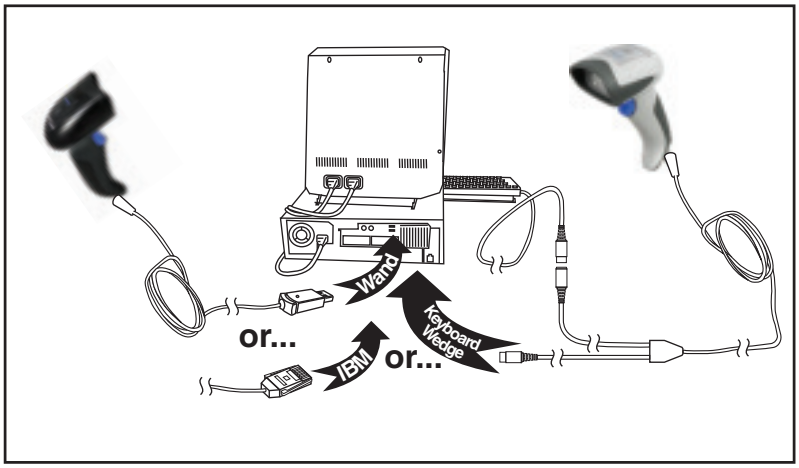
Connect the reader to a USB port on the terminal/PC using the correct USB cable for the interface type you ordered. Reference Figure 5.

Figure 5. USB connection



Other connection types are described below and illustrated in Figure 6.

Figure 6. Other Interface Connections



NOTE

Specific cables are required for connection to different hosts. The connectors illustrated above are examples only. Actual connectors may vary from those illustrated, but the steps to connect the reader remain the same.

Cordless Models

The power supply connects directly to the base (not on the cable's jack) for all configurations. For all interfaces (except RS-232) a power supply is recommended but not necessary, because the base can be powered from the Host. When the base is powered from the Host, it automatically selects a slow charge rate.

Configuring the Base Station

Connecting the Base Station

Figure 7 on page 14 shows how to connect the Base Station to a terminal, PC or other host device. Turn off the host before connection and consult the manual for that equipment (if necessary) before proceeding. Connect the interface cable before applying power to the Base Station.

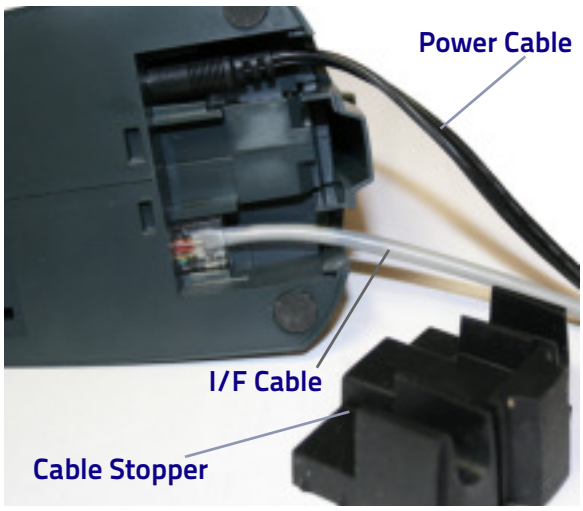
NOTE

The QuickScan QM/QBT24XX can also be Powered by the Terminal. When powered by the Terminal, the battery charger is automatically set as Slow charge.

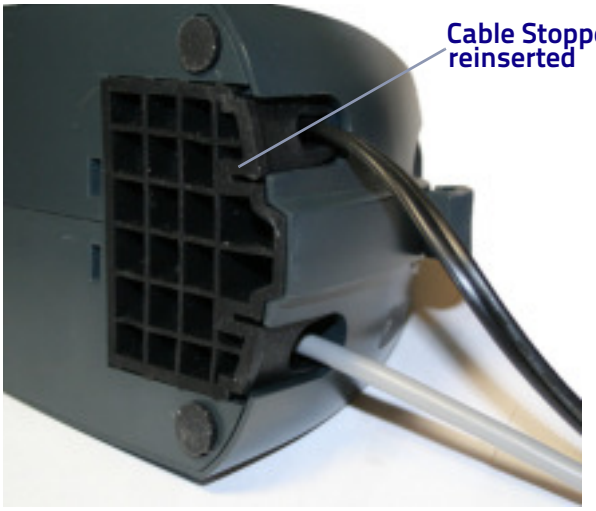
For some specific interfaces or hosts or lengths of cable, the use of an external power supply may be recommended for full recharging capability (see "Technical Specifications" on page 273 for more details).

Base Station Connection and Routing

1. Remove the rubber Cable Stopper from the bottom of the Base Station.
2. Securely plug the Power Cable and Interface (I/F) Cable connectors into their respective ports in the underside of the Base Station.

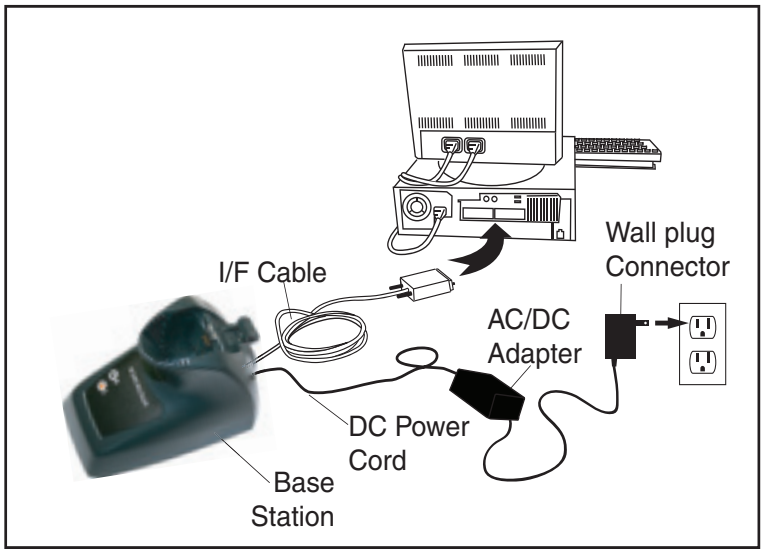


3. After the cables are plugged in, reinsert the rubber Cable Stopper.



4. Connect to an AC Adapter, and plug the AC power cord into the (wall) outlet.

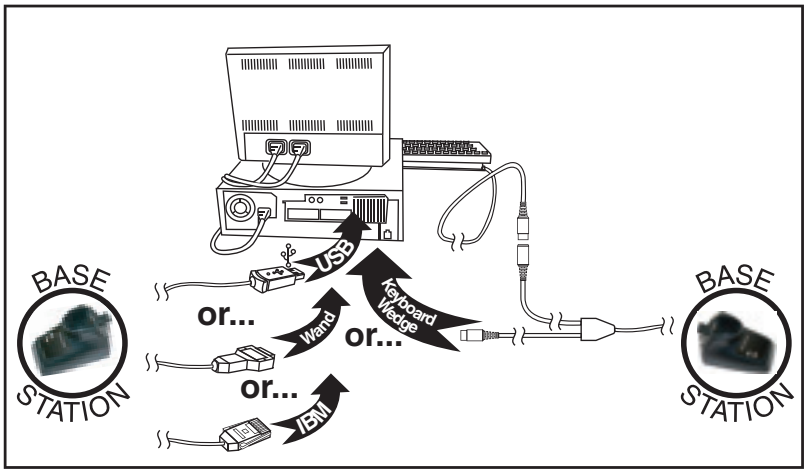
Figure 7. Connecting the Base Station



Host Connection: Verify before connection that the reader's cable type is compatible with your host equipment.

Most connections plug directly into the host device as shown in Figure 8. Keyboard Wedge interface cables have a 'Y' connection where its female end mates with the male end of the cable from the keyboard and the remaining end at the keyboard port on the terminal/PC.

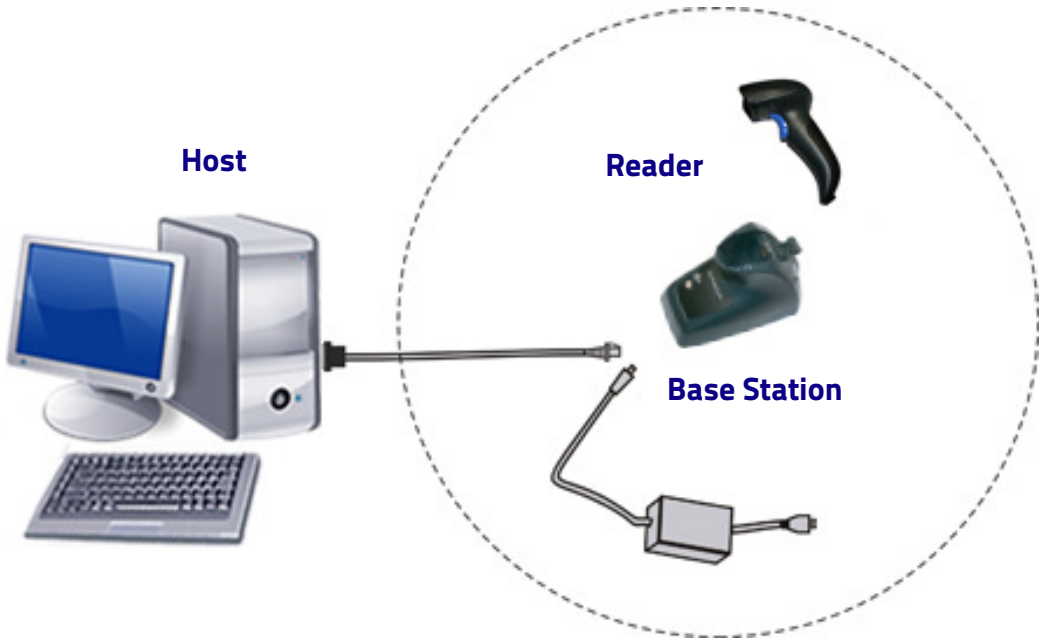
Figure 8. Connecting to the Host



Power Connection: Plug the AC Adapter into an approved AC wall socket with the cable facing downwards (as shown in Figure 7) to prevent undue strain on the socket.

System and Network Layouts

Stand Alone Layout



Connecting the Base when Security Pin is Enabled

When connecting the Base to a system that has a custom Security Pin enabled, follow the steps below in the order shown:

1. Power down the host system.
2. Connect the appropriate interface cable into the Base as shown.
3. Place the reader in the Base.
4. Power up the host. The reader will link to the Base
5. When the host completely powers up, a new custom Security Pin Code may be sent to the reader and Base, depending on host configuration. Contact Datalogic Technical Support for more information.

NOTE

If you want to change security settings or set up a PIN, see "BT Security Mode" starting on page 225.

Linking the Reader to a Base Station

RF Devices

For RF devices, before configuring the interface it is necessary to link the handheld with the base. To link the handheld and the base, press the trigger to wake it and place it on the base. If the reader was previously linked to another base, you must first scan the Unlink action command before re-linking to the new base.

Unlink

BT Models only

Remember: The mandatory condition for establishing a new linking between a BT handheld and a BT base is that the handheld is unlinked and they share the same security configuration. A successful link is indicated by three ascending tones from the reader. A high-low-high-low tone indicates the link attempt was unsuccessful. A single green LED flash after this tone indicates no Base Station was discovered. Two green LED flashes after this tone indicates that more than one Base Station was discovered and the reader did not link. Three LED flashes after this tone indicate a security error.

Linking a BT Reader to a PC

The reader can optionally be linked to a Bluetooth-enabled PC with the serial port profile, in either server mode or client mode.

Linking to a PC in Server Mode (BT Slave Mode)

To link a BT reader in server mode to a Bluetooth-enabled PC, follow these steps:

1. Install any drivers provided with the Bluetooth adapter.
2. Scan the bar code below to make the scanner visible to the host computer.

Link to a PC in Server Mode

3. Use the host computer's Bluetooth manager to "Discover new devices" and select "Datalogic Scanner." If you receive an error message, it may be necessary to disable security on the device.
4. Select "connect" on the PC to link the reader to the PC. Use an RS-232 terminal program to see incoming data on the port designated by the computer's Bluetooth manager.

Linking to a PC in Client Mode (BT Master Mode)

The reader can optionally be linked in client mode to a Bluetooth-enabled PC with the serial port profile. To do this, follow these steps:

1. Ensure the PC or terminal can network with Bluetooth devices and that it is powered on.
2. Ensure that a COM port is assigned under Services within the Bluetooth setup menu.
3. Create a Link label that contains the address of the PC Bluetooth adapter.

NOTE **The Bluetooth address can be found under "Properties" within in the Bluetooth setup menu.**

The link label is a Code 128 function 3 label with the following format:

`<FN3 char>LnkB<12 character Bluetooth address>`

4. Scan the link label you created in step 3.

Linking to a PC in HID mode

1. Install any drivers provided with the Bluetooth adapter.
2. Scan the **Link to PC in HID** label below.
3. Use the host computer's Bluetooth manager to "Discover new devices" and select "Data-logic Scanner." If you receive an error message, it may be necessary to disable security on the device.
4. Use a text editor to see incoming data on the port designated by the computer's Bluetooth manager.

Link to PC in HID

Virtual Keyboard

NOTE **Once the reader has been connected to an Apple® iPad, smart phone, or laptop via HID mode, you can toggle the virtual keyboard on the host by double pressing the trigger within 0,5 second. This feature is only supported on Apple devices.**

Power Off

Shuts off power to the BT handheld until the next trigger pull. This function only applies to the BT model.

PowerOff

Interface Selection

Upon completing the physical connection between the reader and its host, proceed to Table 1 starting on page 18 to select the interface type the reader is connected to (for example: RS-232, Keyboard Wedge, USB, etc.). Scan the appropriate bar code in that section to configure your system's correct interface type.

Setting the Interface

Scan the programming bar code from this section which selects the appropriate interface type matching the system the reader will be connected to. Next, proceed to the corresponding section in this manual (also listed in Table 1 on page 18) to configure any desired settings and features associated with that interface.

NOTE

Unlike some programming features and options, interface selections require that you scan only one programming bar code label. DO NOT scan an ENTER/EXIT bar code prior to scanning an interface selection bar code.

Some interfaces require the scanner to start in the disabled state when powered up. If additional scanner configuration is desired while in this state, pull the trigger and hold it for five seconds. The scanner will change to a state that allows programming with bar codes.

Table 1. Available Interfaces

RS-232	FEATURES

RS-232 standard interface	Select RS232-STD	Set RS-232 Interface Features starting on page 29
Select RS232-WN	RS-232 Wincor-Nixdorf	
RS-232 for use with OPOS/UPOS/JavaPOS	Select RS-232 OPOS	
Select USB-COM-STD[a]	USB Com to simulate RS-232 standard interface	
USB-OEM		**FEATURES**
Select USB-OEM	USB-OEM (can be used for OPOS/UPOS/JavaPOS)	Set USB-OEM Interface Features starting on page 51

a. Download the correct USB Com driver from www.datalogic.com

KEYBOARD		FEATURES
Select USB Alternate Keyboard	USB Keyboard with alternate key encoding	

AT, PS/2 25-286, 30-286, 50, 50Z, 60, 70, 80, 90 & 95 w/Standard Key Encoding	Select KBD-AT	Set KEYBOARD WEDGE Interface Features starting on page 41
Select KBD-AT-NK	Keyboard Wedge for IBM AT PS2 with standard key encoding but without external keyboard	
AT, PS/2 25-286, 30-286, 50, 50Z, 60, 70, 80, 90 & 95 w/Alternate Key	Select KBD-AT-ALT	
Select KBD-AT-ALT-NK	Keyboard Wedge for IBM AT PS2 with alternate key encoding but without external keyboard	
PC/XT w/Standard Key Encoding	Select KBD-XT	
Select KBD-IBM-3153	Keyboard Wedge for IBM Terminal 3153	

KEYBOARD (continued)		FEATURES
Keyboard Wedge for IBM Terminals 31xx, 32xx, 34xx, 37xx make only keyboard	Select KBD-IBM-M	Set KEYBOARD WEDGE Interface Features starting on page 41
Select KBD-IBM-MB	Keyboard Wedge for IBM Terminals 31xx, 32xx, 34xx, 37xx make break keyboard	
Keyboard Wedge for DIGITAL Terminals VT2xx, VT3xx, VT4xx	Select KBD-DIG-VT	
Select USB Keyboard	USB Keyboard with standard key encoding	
USB Keyboard for Apple computers	Select USB-KBD-APPLE	

Customizing Configuration Settings

Configure Interface Settings

If after scanning the interface bar code from the previous table, your installation requires you to select options to further customize your reader, turn to the appropriate section for your interface type in "Configuration Parameters" starting on page 25.

- "RS-232 Interface" on page 29
- "RS-232/USB-Com Interfaces" on page 34
- "Keyboard Settings" on page 41

Global Interface Features

See "Global Interface Features" on page 27 for settings configurable by all interface types.

Configuring Other Features

If your installation requires different programming than the standard factory default settings, the following sections of this manual allow configuration of non-interface-specific settings you might require:

Data Format: Data Format offers options to control the messages sent to the Host system.

Reading Parameters: Reading Parameters include programming for scanning, beeper and LED indicators and other universal settings.

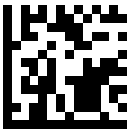
Symbology-Specific Parameters

1D Symbologies: Includes options concerning the bar code label types (symbologies). These settings allow you to enable/disable symbologies, set label lengths, require check digit, etc.

2D Symbologies: Includes options concerning the bar code label types (symbologies). These settings allow you to enable/disable symbologies, set label lengths, require check digit, etc.

Software Version Transmission

The software version of the device can be transmitted over the RS-232 and Keyboard interfaces by scanning the following label.



Transmit Software Version

Resetting the Product Configuration to Defaults

Restore Custom Defaults

If you aren't sure what programming options are in your imager, or you've changed some options and want to restore the Custom Default Configuration that may have been saved in the scanner, scan the Restore Custom Default Configuration bar code below. This will restore the custom configuration for the currently active interface.

NOTE

Custom defaults are based on the interface type. Configure the imager for the correct interface before scanning this label.

Restore Custom Default Configuration

Restore Factory Configuration

If you want to restore the Factory Configuration for your imager, scan either the Restore USA Factory Configuration bar code or the Restore EU Factory Configuration bar code below. Both labels restore the scanner configuration to the factory settings, including the interface type.

CAUTION

Scanning either of the "Restore Factory Configuration" commands below will result in the loss of any custom configuration settings for your device. Use "Restore Custom Default Configuration" above if you want to restore your custom configuration settings.

The USA label restores Label IDs to those historically used in the USA. The EU label restores Label IDs to those historically used in Europe. The Label ID sets for USA and EU are shown in the "Label ID Control" section on page 61 of this manual.

Restore USA Factory Configuration

Restore EU Factory Configuration

The programming items listed in the following sections show the factory default settings for each of the menu commands.

Chapter 3
Configuration Using Bar Codes

This and following sections provide programming bar codes to configure your reader by changing the default settings. For details about additional methods of programming, see "Configuration Methods" on page 4.

NOTE

You must first enable your reader to read bar codes in order to use this section. If you have not done this, go to Setup, starting on page 9 and complete the appropriate procedure.

Configuration Parameters

Once the reader is set up, you can change the default parameters to meet your application needs. Refer to "Standard Defaults" starting on page 283 for initial configuration in order to set the default values and select the interface for your application.

The following configuration parameters are divided into logical groups, making it easy to find the desired function based on its reference group.

Interface Configuration:

- "RS-232/USB-Com Interfaces" on page 34
- "Keyboard Settings" on page 41

Parameters common to all interface applications:

- "Data Format" on page 55 gives options to control the messages sent to the Host system.
- "Reading Parameters" on page 69 control various operating modes and indicators status functioning.

Symbology-specific parameters:

- "1D Symbologies" on page 89 provides configuration of a personalized mix of 1D codes, code families and their options.
- "2D Symbologies" on page 181 provides configuration of a personalized mix of 2D codes, code families and their options.

NOTE

You must first enable your reader to read bar codes in order to use this section. If you have not done this, go to Setup, starting on page 9 and complete the appropriate procedure.

To program features:

1. Scan the ENTER/EXIT PROGRAMMING bar code, available at the top of each programming page, when applicable.
2. Scan the bar code to set the desired programming feature. You may need to cover unused bar codes on the page, and possibly the facing page, to ensure that the reader reads only the bar code you intend to scan.

3. If additional input parameters are needed, go to Appendix D, Keypad, and scan the appropriate characters from the keypad.

NOTE

Additional information about many features can be found in the "References" chapter.

If you make a mistake before the last character, scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

4. Complete the programming sequence by scanning the ENTER/EXIT PROGRAMMING bar code to exit Programming Mode.

For more detailed descriptions, programming information and examples for setting selected configuration items, see References, starting on page 239.

NOTE

By default, the handheld will decode bar code labels only when they are close to the center of the aiming pattern. This allows the handheld to accurately target labels when they are placed close together, such as on a pick sheet. See Pick Mode, starting on page 80.

GLOBAL INTERFACE FEATURES

The following interface features are configurable by all interface types.

Host Commands — Obey/Ignore

This option specifies whether the reader will obey or ignore host commands. When set to ignore, the reader will ignore all host commands except for those necessary for:

- service mode
- flash programming mode
- keeping the interface active
- transmission of labels.

DEFAULT

Host Commands = Obey
(Do Not Ignore Host Commands)

Host Commands = Ignore

USB Suspend Mode

This setting enables/disables the ability of USB interfaces to enter suspend mode.

DEFAULT

USB Suspend Mode = Disable

USB Suspend Mode = Enable

NOTES

RS-232 INTERFACE

BAUD RATE on page 30
DATA BITS on page 31
STOP BITS on page 31
PARITY on page 32
HANDSHAKING CONTROL on page 33

Use the programming bar codes in this section if modifications to the standard RS-232 interface settings are necessary to meet your system's requirements. Additional settings which apply to both the RS-232 and USB interfaces are available in the next section, "RS-232/USB-Com Interfaces" starting on page 34.

Reference Appendix B, Standard Defaults for a listing of standard factory settings.

Baud Rate

See page 240 for information on this feature.

Baud Rate = 1200

Baud Rate = 2400

Baud Rate = 4800

Baud Rate = 9600

DEFAULT

Baud Rate = 19,200

Baud Rate = 38,400

Baud Rate = 57,600

Baud Rate = 115,200

Data Bits

This parameter allows the reader to interface with devices requiring a 7-bit or 8-bit ASCII protocol for sending and receiving data.

7 Data Bits

8 Data Bits

DEFAULT

Stop Bits

Set the number of stop bits to match host device requirements. See page 240 for more information on this feature.

DEFAULT

1 Stop Bit

2 Stop Bits

Parity

This feature specifies parity required for sending and receiving data. Select the parity type according to host device requirements. See page 240 for more information.

DEFAULT

Parity = None

Parity = Even

Parity = Odd

Handshaking Control

See page 240 for more information about this feature.

DEFAULT

Handshaking Control = RTS

Handshaking Control = RTS/CTS

Handshaking Control = RTS/XON/XOFF

Handshaking Control = RTS On/CTS

Handshaking Control = RTS/CTS Scan Control

RS-232/USB-COM INTERFACES

INTERCHARACTER DELAY on page 35
BEEP ON ASCII BEL on page 35
BEEP ON NOT ON FILE on page 36
ACK NAK OPTIONS on page 36
ACK CHARACTER on page 37
NAK CHARACTER on page 37
ACK NAK TIMEOUT VALUE on page 38
ACK NAK RETRY COUNT on page 38
ACK NAK ERROR HANDLING on page 39
INDICATE TRANSMISSION FAILURE on page 39
DISABLE CHARACTER on page 40
ENABLE CHARACTER on page 40

The programming bar codes in this chapter allow modifications to the standard RS-232 and USB-Com interfaces. Reference Appendix B, Standard Defaults for a listing of standard factory settings.

Intercharacter Delay

This parameter specifies the intercharacter delay between the end of one character and the beginning of the next. The delay can be set within a range of zero (0) to 990 milliseconds in 10ms increments. A setting of zero specifies no delay.

See page 249 for more information.

Intercharacter Delay = No Delay

To configure this feature, scan the ENTER/EXIT PROGRAMMING MODE bar code above, then the bar code at left followed by the digits from the Alphanumeric characters in Appendix D, Keypad representing your desired character(s). End by scanning the ENTER/EXIT bar code again.

Select Intercharacter Delay Setting

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

DEFAULT **00 = No Intercharacter Delay**

Beep On ASCII BEL

When this parameter is enabled, the reader issues a beep when a <BEL> character is detected on the RS-232 serial line. <BEL> is issued to gain a user's attention to an illegal entry or other important event.

Beep On ASCII BEL = Disable

DEFAULT

Beep On ASCII BEL = Enable

Beep On Not on File

This option enables/disables the action of the reader to sound a three beep sequence upon receiving a Not-On-File (NOF) host command.

Beep On Not On File = Disable

DEFAULT

Beep On Not On File = Enable

ACK NAK Options

This enables/disables the ability of the reader to support the RS-232 ACK/NAK protocol. See page 242 for more information.

DEFAULT

ACK/NAK Protocol = Disable ACK/NAK

ACK/NAK Protocol = Enable for label transmission

ACK/NAK Protocol = Enable for host-command acknowledge

ACK/NAK Protocol = Enable for label transmission and host-command acknowledge

ACK Character

This setting specifies an ASCII character or hex value to be used as the ACK character. ASCII characters or any hex value from 0 to 0xFF can be selected. See page 242 for more information.

NOTE

Setting to previously defined characters such as XON, XOFF, or host commands conflicts with normal operation of these characters. 8-bit data is not recognized when the option Data Bits on page 31 has been set as 7 Data Bits.

Select ACK Character Setting

DEFAULT **0x06 'ACK' Character**

NAK Character

This setting specifies an ASCII character or hex value to be used as the NAK character. ASCII characters or any hex value from 0 to 0xFF can be selected. See page 243 for more information.

NOTE

Setting to previously defined characters such as XON, XOFF, or host commands conflicts with normal operation of these characters. 8-bit data is not recognized when the option Data Bits on page 31 has been set as 7 Data Bits.

Select NAK Character Setting

DEFAULT **0x15 'NAK' Character**

Enter/Exit Programming Mode

ACK NAK Timeout Value

This option specifies the amount of time the reader waits for an ACK character from the host following label transmission. The selectable timeout range is 200 milliseconds to 15,000ms (15 seconds) in 200ms increments. A selection of 0 disables the timeout.

See page 244 for more information on setting this feature.

Select ACK NAK Timeout Value Setting

To configure this feature, scan the ENTER/EXIT PROGRAMMING MODE bar code above, then the bar code at left followed by the digits from the Alphanumeric characters in Appendix D, Keypad representing your desired character(s). End by scanning the ENTER/EXIT bar code again.

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

DEFAULT **01 ACK NAK Timeout value is 200ms**

ACK NAK Retry Count

This feature specifies the number of times the reader retries a label transmission due to a retry condition. The selectable range is from 1 to 254 retries. A selection of 0 disables the count, and a selection of 255 specifies unlimited retries. See page 245 for more information.

Select ACK NAK Retry Count Setting

To configure this feature, scan the ENTER/EXIT PROGRAMMING MODE bar code above, then the bar code at left followed by the digits from the Alphanumeric characters in Appendix D, Keypad representing your desired character(s). End by scanning the ENTER/EXIT bar code again.

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

DEFAULT **003 = 3 Retries**

ACK NAK Error Handling

This feature specifies the method the reader uses to handle receive errors detected while waiting for an ACK character from the host.

DEFAULT

ACK NAK Error Handling = Ignore Errors Detected

ACK NAK Error Handling =
Process Error as Valid ACK Character

ACK NAK Error Handling = Process Error as
Valid NAK Character

Indicate Transmission Failure

This option enables/disables the reader's ability to sound an error beep to indicate a transmission failure while in ACK/NAK mode.

Indicate Transmission Failure = Disable Indication

Indicate Transmission Failure = Enable Indication

DEFAULT

Enter/Exit Programming Mode

Disable Character

Specifies the value of the RS-232 host command used to disable the reader.

ASCII characters or any hex value from 0 to 0xFF can be selected.

NOTE

Setting to previously defined characters such as XON, XOFF, or host commands conflicts with normal operation of these characters. 8-bit data is not recognized when the option Data Bits on page 31 has been set as 7 Data Bits.

See page 246 for more information on setting this feature.

Select Disable Character Setting

DEFAULT

0x44 = Disable Character is 'D'

Enable Character

Specifies the value of the RS-232 host command used to enable the reader.

ASCII characters or any hex value from 0 to 0xFF can be selected.

NOTE

Setting to previously defined characters such as XON, XOFF, or host commands conflicts with normal operation of these characters. 8-bit data is not recognized when the option Data Bits on page 31 has been set as 7 Data Bits.

See page 247 in "References" for more information on setting this feature.

Select Enable Character Setting

DEFAULT

0x45 = Enable Character is 'E'

KEYBOARD SETTINGS

COUNTRY MODE on page 42
SEND CONTROL CHARACTERS on page 46
WEDGE QUIET INTERVAL on page 47
INTERCODE DELAY on page 47
CAPS LOCK STATE on page 48
NUMLOCK on page 48
USB KEYBOARD SPEED on page 49
USB KEYBOARD NUMERIC KEYPAD on page 50

Use the programming bar codes in this chapter to select options for USB Keyboard and Wedge Interfaces. Reference Appendix B, Standard Defaults for a listing of standard factory settings.

Information about control character emulation which applies to keyboard interfaces is listed in Appendix E, Scancode Tables.

Country Mode

This feature specifies the country/language supported by the keyboard. Several languages are supported:

DEFAULT

Country Mode = U.S.

Country Mode = Belgium

Country Mode = Britain

Country Mode = Croatia

Supports only the interfaces listed in the Country Mode feature description.

Supports only the interfaces listed in the Country Mode feature description.

Country Mode = Czech Republic

Country Mode = Denmark

Supports only the interfaces listed in the Country Mode feature description.

Country Mode (continued)

Country Mode = France

Supports only the interfaces listed in the Country Mode feature description.

Country Mode = French Canadian

Country Mode = Germany

Supports only the interfaces listed in the Country Mode feature description.

Country Mode = Hungary

Country Mode = Italy

Supports only the interfaces listed in the Country Mode feature description.

Country Mode = Japanese 106-key

Country Mode (continued)

Country Mode = Lithuanian

Supports only the interfaces listed in the Country Mode feature description.

Country Mode = Norway

Country Mode = Poland

Supports only the interfaces listed in the Country Mode feature description.

Supports only the interfaces listed in the Country Mode feature description.

Country Mode = Portugal

Country Mode = Romania

Supports only the interfaces listed in the Country Mode feature description.

Supports only the interfaces listed in the Country Mode feature description.

Country Mode = Slovakia

Country Mode (continued)

Country Mode = Spain

Country Mode = Sweden

Country Mode = Switzerland

Supports only the interfaces listed in the Country Mode feature description.

Send Control Characters

This feature specifies how the reader transmits ASCII control characters to the host. Reference Appendix E, Scancode Tables for more information about control characters.

Options are as follows:

Control Character 00 : Characters from 00 to 0x1F are sent as control character Ctrl+Keys, special keys are located from 0x80 to 0xA1.

Control Character 01 : Characters from 00 to 0x1F are sent as control character Ctrl+Shift, special keys are located from 0x80 to 0xA1.

Control Character 02 : Special keys are located from 00 to 0x1F and characters from 0x80 to 0xFE are intended as an extended ASCII table (see "Microsoft Windows Codepage 1252" on page 311).

DEFAULT

Wedge Send Control Characters = 00

Wedge Send Control Characters = 01

Wedge Send Control Characters = 02

Wedge Quiet Interval

Specifies amount of time to look for keyboard activity before scanner breaks keyboard connection in order to transmit data to host. The selectable range for this setting is 00 to 990 milliseconds (00–0x63 by 01) in increments of ten milliseconds. See page 248 in "References" for detailed information and examples for setting this feature.

Set Wedge Quiet Interval

To configure this feature, scan the ENTER/EXIT PROGRAMMING MODE bar code above, then the bar code at left followed by the digits from the Alphanumeric characters in Appendix D, Keypad representing your desired character(s). End by scanning the ENTER/EXIT bar code again.

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

DEFAULT **0A = Quiet Interval is 100 milliseconds**

Intercode Delay

Specifies the delay between labels transmitted to the host for this interface. The selectable range for this feature is from 0 to 99 seconds.

See page 250 in "References" for detailed information and examples for setting this feature.

Set Intercode Delay

To configure this feature, scan the ENTER/EXIT PROGRAMMING MODE bar code above, then the bar code at left followed by the digits from the Alphanumeric characters in Appendix D, Keypad representing your desired character(s). End by scanning the ENTER/EXIT bar code again.

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

DEFAULT **00 = No Wedge Intercode Delay**

Caps Lock State

This option specifies the format in which the reader sends character data. This does not apply when an alternate key encoding keyboard is selected.

DEFAULT

Caps Lock State = Caps Lock OFF

Caps Lock State = Caps Lock ON

Caps Lock State = AUTO Caps Lock Enable

Numlock

This option specifies the setting of the NUMLOCK key in the Keyboard Wedge interface.

DEFAULT

Numlock = NUMLOCK key unchanged

Numlock = Numlock key toggled

USB Keyboard Speed

This option specifies the USB poll rate for a USB keyboard.

NOTE **This feature applies ONLY to the USB Keyboard interface.**

DEFAULT

USB Keyboard Speed = 1ms

USB Keyboard Speed = 2ms

USB Keyboard Speed = 3ms

USB Keyboard Speed = 4ms

USB Keyboard Speed = 5ms

USB Keyboard Speed = 6ms

USB Keyboard Speed (continued)

USB Keyboard Speed = 7ms

USB Keyboard Speed = 8ms

USB Keyboard Speed = 9ms

USB Keyboard Speed = 10ms

USB Keyboard Numeric Keypad

This option Controls whether numeric characters will be sent using standard keys or the numeric keypad.

DEFAULT

Standard Keys

Numeric Keypad

USB-OEM INTERFACE

USB-OEM DEVICE USAGE on page 52
USB INTERFACE OPTIONS on page 52

Feature settings for USB interfaces differ depending upon which host type the reader will be connected with. Use the feature settings in this chapter to specifically configure for the USB-OEM interface. Other USB interfaces are included in the appropriate chapter for their host type.

Reference Appendix B, for a listing of standard factory settings.

USB-OEM Device Usage

The USB-OEM protocol allows for the reader to be identified as one of two different types of bar code scanners. Depending on what other scanners you may already have connected to a USB-OEM POS, you may need to change this setting to enable all devices to communicate.

Options are:

- Table Top Scanner
- Handheld Scanner

NOTE **It may be necessary to switch device usage when connecting two readers/scanners of the same type to a POS system.**

USB-OEM Device Usage = Table Top Scanner

DEFAULT

USB-OEM Device Usage = Handheld Scanner

USB Interface Options

This feature provides for an interface-specific control mechanism.

DEFAULT

Obey Scanner Configuration Host Commands

Ignore Scanner Configuration Host Commands

Transmit Labels in Code 39 Format

This feature enable/disables translation to Code 39 before transmitting label data to a USB-OEM host. Only the symbology identifier is modified for the translation. The data is not converted to Code 39 or verified to be valid for Code 39.

Options are:

IBM Standard Format: Send labels in standard IBM format.

Mixed IBM Standard and Code 39 Format:

Code 39 Format: Translate the following symbologies to Code 39:

- USB-OEM: Code128, Code 93, and Codabar

DEFAULT

Transmit Labels in Code 39 Format = IBM Standard Format

Transmit Labels in Code 39 Format = Mixed IBM Standard and Code 39 format

Transmit Labels in Code 39 Format = All Code 39 Format

Interface Options

This feature provides for an interface-specific control mechanism.

DEFAULT

Obey Scanner Configuration Host Commands

Ignore Scanner Configuration Host Commands

DATA FORMAT

GLOBAL PREFIX/SUFFIX starting on page 56
GLOBAL AIM ID starting on page 57
LABEL ID starting on page 60 •Label ID: Pre-Loaded Sets on page 60 •Individually Set Label ID on page 61 •Label ID Control on page 61 •Label ID Symbology Selection – 1D Symbologies on page 62 •Label ID Symbology Selection – 2D Symbologies on page 66
CASE CONVERSION starting on page 67
CHARACTER CONVERSION starting on page 68

CAUTION

It is not recommended to use these features with IBM interfaces.

The features in this chapter can be used to build specific user-defined data into a message string. See “References” starting on page 252 for more detailed instructions on setting these features.

Enter/Exit Programming Mode

Global Prefix/Suffix

This option sets up to 20 characters each from the set of ASCII characters or any hex value from 00 to FF. The characters may be added as a prefix (in a position before the bar code data, also called a header) and/or as a suffix (in a position following the bar code data, also called a footer). See page 253 for more detailed instructions on setting this feature.

To configure this feature, scan the ENTER/EXIT PROGRAMMING MODE bar code above to place the unit in Programming Mode, then the "Set Global Prefix" or "Set Global Suffix," bar code followed by the digits (in hex) from the Alphanumeric characters in Appendix D, Keypad representing your desired character(s). If less than the expected string of 20 characters are selected, scan the ENTER/EXIT bar code to terminate the string. Exit programming mode by scanning the ENTER/EXIT bar code again.

Set Global Prefix

Set Global Suffix

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

DEFAULT

No Global Prefix
Global Suffix = 0x0D (CR)

Global AIM ID

NOTE **This feature enables/disables addition of AIM IDs for all symbology types.**

AIM label identifiers (as opposed to custom characters you select yourself as with label identifiers) can be included with scanned bar code data. See Table 2 on page 3-57 for a listing of AIM IDs.

AIM label identifiers consist of three characters as follows:

- A close brace character (ASCII ‘]’), followed by...
- A code character (see some samples in the table below), followed by...
- A modifier character (the modifier character is symbol dependent).

DEFAULT

Global AIM ID = Disable

Global AIM ID = Enable

Table 2. AIM IDs

Tag Name	AIM ID code character	AIM ID code ASCII value
ABC CODABAR	X	58
ANKER PLESSEY	N	4E
AZTEC	z	7A
CHINA SENSIBLE CODE	X	58
CODABAR	F	46
CODE11	H	48
CODE128	C	43
CODE32	A	41
CODE39	A	41
CODE39 CIP	X	58
CODE39 DANISH PPT	X	58
CODE39 LAPOSTE	X	58

Tag Name	AIM ID code character	AIM ID code ASCII value
CODE39 PZN	X	58
CODE93	G	47
DATABAR 14	e	65
DATABAR 14 COMPOSITE	e	65
DATABAR EXPANDED	e	65
DATABAR EXPANDED COMPOSITE	e	65
DATABAR LIMITED	e	65
DATABAR LIMITED COMPOSITE	e	65
DATA MATRIX	d	64
EAN128	C	43
EAN128 COMPOSITE	C	43
EAN13	E	45
EAN13 P2	E	45
EAN13 P5	E	45
EAN13 COMPOSITE	E	45
EAN8	E	45
EAN8 P2	E	45
EAN8 P5	E	45
EAN8 COMPOSITE	E	45
FOLLET 2OF5	X	58
I2OF5	I	49
IATA INDUSTRIAL 2OF5	X	58
INDUSTRIAL 2OF5	X	58
ISBN	X	58
ISBT128 CONCAT	X	58
ISSN	X	58
MAXICODE	U	55
MICRO QR	Q	51
MICRO PDF	L	4C
MSI	M	4D
PDF417	L	4C
PLESSEY	P	50
POSTAL AUSTRALIAN	X	58

Tag Name	AIM ID code character	AIM ID code ASCII value
POSTAL IMB	X	58
POSTAL JAPANESE	X	58
POSTAL KIX	X	58
POSTAL PLANET	X	58
POSTAL PORTUGAL	X	58
POSTAL POSTNET BB	X	58
POSTAL ROYAL MAIL	X	58
POSTAL SWEDISH	X	58
POSTNET	X	58
QR CODE	Q	51
S25	S	53
TRIOPTIC	X	58
UPCA	E	45
UPCA P2	E	45
UPCA P5	E	45
UPCA COMPOSITE	E	45
UPCE	E	45
UPCE P2	E	45
UPCE P5	E	45
UPCE COMPOSITE	E	45

Set AIM ID Individually for GS1-128

This feature configures a Label ID individually for the GS1-128 symbology and the programming for this works the same way as Label ID. See Label ID: Set Individually Per Symbology, starting on page 258 for detailed instructions on setting this feature.

Set AIM ID Individually for GS1-128 = Disable

DEFAULT

Set AIM ID Individually for GS1-128 = Enable

Enter/Exit Programming Mode

Label ID

A Label ID is a customizable code of up to three ASCII characters (convert to Hex using the ASCII Chart on the inside back cover of this manual), used to identify a bar code symbology type. 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 or individually per symbology (see "Individually Set Label ID" on page 61). If you wish to program the reader to always include an industry standard label identifier for ALL symbology types, see the previous feature "Global AIM ID" on page 57.

See Label ID, starting on page 255 of “References” for more information on setting this feature.

Label ID: Pre-Loaded Sets

The reader supports two pre-loaded sets of Label IDs. See Label ID: Pre-loaded Sets, starting on page 255 for details on the USA set and EU set.

CAUTION

When changing from one Label ID set to another, all other reader configuration settings, including the host interface type, will be erased and set to the standard factory defaults. Any custom configuration or custom defaults will be lost.

Label ID Pre-loaded Set = USA Set

DEFAULT

Label ID Pre-loaded Set = EU Set

Individually Set Label ID

This feature configures a Label ID individually for a single symbology. To set, first define whether you want it as a prefix or suffix by scanning a label below. Then turn to Label ID Symbology Selection – 1D Symbologies, starting on page 62 to select the symbology you want to set, followed by up to 3 characters from the ASCII Chart at the back of this manual. See "Label ID: Set Individually Per Symbology" on page 258 for detailed instructions on setting this feature.

Label ID Control

This option controls whether a Label ID is disabled, or sent as a prefix or suffix for a given symbology type.

DEFAULT

Label ID Transmission = Disable

Label ID Transmission = Enable as Prefix

Label ID Transmission = Enable as Suffix

Enter/Exit Programming Mode

Label ID Symbology Selection – 1D Symbologies

This option selects the symbology for which a Label ID is to be configured. See "Label ID" on page 60 or page 258 in “References” for more detailed instructions.

NOTE

If less than the expected string of 3 characters are selected, scan the ENTER/EXIT bar code twice to accept the selection and exit Programming Mode.

Set ABC Codabar Label ID Character(s)

Set Anker Plessey Label ID Character(s)

Set Australian Postal Code Label ID Character(s)

Set Codabar Label ID Character(s)

Set Code 11 Label ID Character(s)

Set Code 128 Label ID Character(s)

Set Code 39 Label ID Character(s)

Set Code 32 Pharmacode Label ID Character(s)

Set Code 93 Label ID Character(s)

Set Concatenated ISBT 128 Label ID Character(s)

Set Danish PPT Label ID Character(s)

Set EAN 13 Label ID Character(s)

Set EAN 13 Composite Label ID Character(s)

Set EAN 13 P2 Label ID Character(s)

Label ID Symbology Selection – 1D Symbologies (continued)

Set Code 39 CIP Label ID Character(s)

Set EAN 13 P5 Label ID Character(s)

Set EAN 8 Label ID Character(s)

Set GS1 DataBar Expanded Composite Label ID Character(s)

Set EAN 8 Composite Label ID Character(s)

Set GS1-128 Label ID Character(s)

Set EAN 8 P2 Label ID Character(s)

Set GS1-128 Composite Label ID Character(s)

Set EAN 8 P5 Label ID Character(s)

Set GSI DataBar Limited Label ID Character(s)

Set Follett 2 of 5 Label ID Character(s)

GSI DataBar Limited Composite Label ID Character(s)

Set GS1 DataBar 14 Label ID Character(s)

Set GTIN 2 Label ID Character(s)

Set GS1 DataBar 14 Composite Label ID Character(s)

Set GTIN 5 Label ID Character(s)

Label ID Symbology Selection – 1D Symbologies (continued)

Set GS1 DataBar Expanded Label ID Character(s)

Set GTIN 8 Label ID Character(s)

Set IATA Industrial 2 of 5 Label ID Character(s)

Set LaPoste Code 39 Label ID Character(s)

Set IMB Postal Code Label ID Character(s)

Set MSI Label ID Character(s)

Set Industrial 2 of 5 Label ID Character(s)

Set Planet Postal Code Label ID Character(s)

Set Interleaved 2 of 5 Label ID Character(s)

Set Plessey Label ID Character(s)

Set ISBN Label ID Character(s)

Set Portugal Postal Code Label ID Character(s)

Set ISSN Label ID Character(s)

Set Postnet Label ID Character(s)

Set Japan Postal Code Label ID Character(s)

Set Kix Postal Code Label ID Character(s)

Label ID Symbology Selection – 1D Symbologies (continued)

Set PZN Code Label ID Character(s)

Set UPC-A Composite Label ID Character(s)

Set Royal Postal Code Label ID Character(s)

Set UPC-A P2 Label ID Character(s)

Set Standard 2 of 5 Label ID Character(s)

Set UPC-A P5 Label ID Character(s)

Set Swedish Postal Code Label ID Character(s)

Set UPC-E Label ID Character(s)

Set Trioptic Code Label ID Character(s)

Set UPC-E P5 Label ID Character(s)

Set UPC-A Label ID Character(s)

Label ID Symbology Selection – 2D Symbologies

Set Aztec Label ID Character(s)

Set Maxicode Label ID Character(s)

Set China Sensible Label ID Character(s)

Set PDF 417 Label ID Character(s)

Set Data Matrix Label ID Character(s)

Set Micro PDF 417 Label ID Character(s)

Set Micro QR Label ID Character(s)

Set QR Code Label ID Character(s)

Advanced Formatting: User Label Edit

Advanced formatting is available to create user label edit scripts. See the Datalogic Aladdin configuration application or contact Technical Support.

Case Conversion

This feature allows conversion of the case of all alphabetic characters to upper or lower case.

NOTE **Case conversion affects ONLY scanned bar code data, and does not affect Label ID, Prefix, Suffix, or other appended data.**

DEFAULT

Case Conversion = Disable (no case conversion)

Case Conversion = Convert to upper case

Case Conversion = Convert to lower case

Enter/Exit Programming Mode

Character Conversion

Character conversion is an eight byte configuration item. The eight bytes are 4 character pairs represented in hexadecimal ASCII values. The first character in the pair is the character that will be converted. The second character in the pair is the character to convert to. If the character to convert in a pair is FF, then no conversion is done.

NOTE

If less than the expected string of 16 characters are selected, scan the ENTER/EXIT bar code twice to accept the selections and exit Programming Mode.

Configure Character Conversion

DEFAULT

0xFFFFFFFFFFFFFFFF
(No character conversion)

READING PARAMETERS

DOUBLE READ TIMEOUT starting on page 70

LED AND BEEPER INDICATORS starting on page 72
- Power On Alert on page 72
- Good Read: When to Indicate on page 72
- Good Read Beep Type on page 73
- Good Read Beep Frequency on page 73
- Good Read Beep Length on page 74
- Good Read Beep Volume on page 75
- Good Read LED Duration on page 76

SCANNING FEATURES starting on page 77
- Scan Mode on page 77
- Stand Mode Indication on page 78
- Stand Operation on page 79
- Pick Mode on page 80
- Stand Mode Sensitivity on page 80
- Stand Mode Illumination Off Time on page 81
- Scanning Active Time on page 81
- Stand Illumination Control on page 82
- Flash On Time on page 82
- Flash Off Time on page 83
- Aiming Pointer on page 83
- Aiming Duration Timer on page 84
- Green Spot Duration on page 85
- Mobile Phone Mode on page 85
- Partial Label Reading Control on page 86
- Decode Negative Image on page 86
- Image Capture (QD24XX only) on page 87

MULTIPLE LABEL READING starting on page 87
- Multiple Labels per Frame on page 87
- Multiple Labels Ordering by Code Symbology on page 88
- Multiple Labels Ordering by Code Length on page 88

Double Read Timeout

Double Read Timeout prevents a double read of the same label by setting the minimum time allowed between reads of labels of the same symbology and data. If the unit reads a label and sees the same label again within the specified timeout, the second read is ignored. Double Read Timeout does not apply to scan modes that require a trigger pull for each label read.

Double Read Timeout = 0.1 Second

Double Read Timeout = 0.2 Second

Double Read Timeout = 0.3 Second

Double Read Timeout = 0.4 Second

Double Read Timeout = 0.5 Second

Double Read Timeout = 0.6 Second

DEFAULT

Double Read Timeout = 0.7 Second

Double Read Timeout (continued)

Double Read Timeout = 0.8 Second

Double Read Timeout = 0.9 Second

Double Read Timeout = 1 Second

LED AND BEEPER INDICATORS

Power On Alert

Disables or enables the indication (from the Beeper) that the reader is receiving power.

Power On Alert = Disable (No Audible Indication)

DEFAULT

Power On Alert = Power-up Beep

Good Read: When to Indicate

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

DEFAULT

Indicate Good Read = After Decode

Indicate Good Read = After Transmit

Indicate Good Read =
After CTS goes inactive then active

Good Read Beep Type

Specifies whether the good read beep has a mono or bitonal beep sound.

DEFAULT

Good Read Beep Type = Mono

Good Read Beep Type = Bitonal

Good Read Beep Frequency

Adjusts the good read beep to sound at a selectable low, medium or high frequency, selectable from the list below. (Controls the beeper's pitch/tone.)

Good Read Beep Frequency = Low

Good Read Beep Frequency = Medium

DEFAULT

Good Read Beep Frequency = High

Good Read Beep Length

Good Read Beep Length = 60 msec

Good Read Beep Length = 80 msec

DEFAULT

Good Read Beep Length = 100 msec

Good Read Beep Length = 120 msec

Good Read Beep Length = 140 msec

Good Read Beep Length = 160 msec

Good Read Beep Length = 180 msec

Good Read Beep Length = 200 msec

Good Read Beep Volume

Selects the beeper volume (loudness) upon a good read beep. There are three selectable volume levels.

Good Read Beep Volume = Beeper Off

Good Read Beep Volume = Low

Good Read Beep Volume = Medium

Good Read Beep Volume = High

DEFAULT

Good Read LED Duration

This feature specifies the amount of time that the Good Read LED remains on following a good read. The good read LED on time can be set within a range of 100 milliseconds to 25,500 milliseconds (0.1 to 25.5 seconds) in 100ms increments. A setting of 00 keeps the LED on until the next trigger pull.

See page 261 in “References” for detailed instructions and examples for setting this feature.

Good Read LED Duration Setting = Keep LED on until next trigger pull

Select Good Read LED Duration Setting

To configure this feature, scan the ENTER/EXIT PROGRAMMING MODE bar code above, then the bar code at left followed by the digits from the Alphanumeric characters in Appendix D, Keypad representing your desired character(s). End by scanning the ENTER/EXIT bar code again.

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

DEFAULT

003 = Good Read LED stays on for 300 ms.

NOTE

Indicators are dimmed during sleep.

SCANNING FEATURES

Scan Mode

Selects the reader's scan operating mode. See page 262 in "References" for descriptions.

Scan Mode = Trigger Single

DEFAULT

Scan Mode = Trigger Hold Multiple

Scan Mode = Trigger Pulse Multiple

Scan Mode = Flashing

Scan Mode = Always On

Scan Mode = Stand Mode

NOTE

Options concerning Stand Mode behavior are available at the following feature, Stand Operation on page 79**.**

Stand Mode Indication

This operation is useful for indicating when the reader is in Stand Mode. If enabled, the blue indicator will blink when Stand Mode scanning is active. If the reader is removed from its Stand support or from the Base Station (cordless models) and switches out of Stand Mode into Triggered Mode, blinking will stop until Stand Mode is active again.

DEFAULT

Stand Mode Indication = Disable

Stand Mode Indication = Enable

Stand Operation

Specifies the behavior of the reader when stationary in a stand. There are two conditions which cause the reader to switch to Stand Mode:

1. The reader is manually configured to switch to Stand Mode or when inserted into the special Stand support which automatically enables the Stand Mode.
2. The reader is placed into the cradle of the base station (cordless models only).

Below are further options concerning Stand Operation.

Ignore Autorecognition. Disables mode switching when the reader is placed in a stand.

Change to Stand Mode. Automatically switches the reader to Stand Mode when the reader is placed in the stand.

Change to Flashing. Automatically switches the reader to Flash Mode when the reader is placed in the stand.

Change to Always On. Automatically switches the reader to Always On mode when the reader is placed in the stand.

Do Not Change Mode

Change to Stand Mode

DEFAULT

Change to Always On

Change to Flashing

Pick Mode

Specifies the ability of the reader to decode labels only when they are close to the center of the aiming pattern. This allows the reader to accurately target labels when they are placed close together, such as on a pick sheet.

NOTE **This feature is not compatible with Multiple Labels Reading in a Volume.**

DEFAULT

Pick Mode = Disable

Pick Mode = Enable

Stand Mode Sensitivity

Sets the sensitivity level for stand mode wakeup. Choices are low, medium and high.

Stand Mode Sensitivity = Low

Stand Mode Sensitivity = Medium

DEFAULT

Stand Mode Sensitivity = High

Stand Mode Illumination Off Time

Specifies the amount of time reader illumination stays off after pulling the trigger when in Stand Mode. The configurable range is 01 to 32 by 01 in increments of 500ms (500ms to 16 seconds). See page 263 in "References" for a description of this feature.

Select Stand Mode Time Setting

To configure this feature, scan the ENTER/EXIT PROGRAMMING MODE bar code above, then the bar code at left followed by the digits from the Alphanumeric characters in Appendix D, Keypad representing your desired character(s). End by scanning the ENTER/EXIT bar code again.

DEFAULT **04 = 2 Seconds**

Scanning Active Time

This setting specifies the amount of time that the reader stays in scan ON state once the state is entered. The range for this setting is from 1 to 255 seconds in 1-second increments. See page 264 in "References" for further description of this feature.

Scanning Active Time = 3 seconds

Scanning Active Time = 5 seconds

DEFAULT

Scanning Active Time = 8 seconds

Stand Illumination Control

Controls the illumination status while the reading mode is stand mode and the reader is attempting to detect objects.

DEFAULT

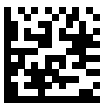
Stand Illumination Control = OFF

Stand Illumination Control = ON

Stand Illumination Control = Dim

Flash On Time

This feature specifies the ON time for the indicator LED while in Flash Mode. The selectable range is 100 to 9,900 milliseconds (0.1 to 9.9 seconds), in 100 millisecond increments. See page 266 in “References” for detailed information on setting this feature.



Select Flash ON Time Setting

To configure this feature, scan the ENTER/EXIT PROGRAMMING MODE bar code above, then the bar code at left followed by the digits from the Alphanumeric characters in Appendix D, Keypad representing your desired character(s). End by scanning the ENTER/EXIT bar code again.

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

DEFAULT

10 = Flash is ON for 1 Second

Flash Off Time

This feature specifies the OFF time for the indicator LED while in Flash Mode. The selectable range is 100 to 9,900 milliseconds (0.1 to 9.9 seconds), in 100 millisecond increments. See page 267 in "References" for detailed information on setting this feature.

Select Flash OFF Time Setting

To configure this feature, scan the ENTER/EXIT PROGRAMMING MODE bar code above, then the bar code at left followed by the digits from the Alphanumeric characters in Appendix D, Keypad representing your desired character(s). End by scanning the ENTER/EXIT bar code again.

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

DEFAULT **06 = Flash is OFF for 600ms**

Aiming Pointer

Enables/disables the aiming pointer for all symbologies.

Aiming Pointer = Disable

Aiming Pointer = Enable

DEFAULT

Aiming Duration Timer

Specifies the frame of time the aiming pointer remains on after decoding a label, when in trigger single mode.The range for this setting is from 1 to 255 seconds in 1–second increments. See page 265 in “References” for a description of this feature.

DEFAULT

Set Aiming Duration Timer

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

Aiming Off After Decoding

To configure, scan the ENTER/EXIT PROGRAMMING MODE bar code above, then the bar code at left followed by the digits from the Alphanumeric characters in Appendix D, Keypad representing your desired character(s). End by scanning the ENTER/EXIT bar code.

CANCEL

Green Spot Duration

Specifies the duration of the good read pointer beam after a good read.

Green Spot Duration = Disable (Green Spot is Off)

Green Spot Duration = Short (300 msec)

DEFAULT

Green Spot Duration = Medium (500 msec)

Green Spot Duration = Long (800 msec)

Mobile Phone Mode

This mode is useful for scanning bar codes displayed on a mobile phone. Other options for this feature can be configured using the Datalogic Aladdin application.

Mobile Phone Mode = Disable

Mobile Phone Mode = Enable

DEFAULT

Partial Label Reading Control

Enable/Disable to ignore partial labels to be read within the boundary of the field of view.

Partial Label Reading Control = Disable

Partial Label Reading Control = Enable

Decode Negative Image

Enable/Disable the ability to decode a negative image for all symbologies. When this feature is enabled, you will be unable to read normally-printed labels or programming labels in this manual. Scan the “Disable” bar code below to return the scanner to its default for this feature. To set decoding for only 2D codes, go to "2D Normal/Inverse Symbol Control" on page 183. For additional options, see the Aladdin configuration application.

NOTE

Unlike some programming features and options, Decode Negative Image selections require that you scan only one programming bar code label. DO NOT scan an ENTER/EXIT bar code prior to scanning a Decode Negative Image bar code.

CAUTION

When this feature is enabled, you will be unable to read other programming labels in this manual.

Decode Negative Image = Disable

DEFAULT

Decode Negative Image = Enable

Image Capture (QD24XX only)

For information and a list of options for Image Capture, use the Datalogic Aladdin configuration application, available for free download from the Datalogic Scanning website.

MULTIPLE LABEL READING

In standard (default) mode, when the reader's aiming system is activated (by a trigger pull, motion or other method depending on the mode), it then acquires and processes each image in the area in front of it (the Volume). In this case, the scanner stops processing the image once it decodes a label. If several labels are present in the volume, only the first label encountered is decoded and sent.

When Multiple Reading Mode is enabled, the scanner keeps on processing the image until all the labels present are decoded. The reader then sorts the data from all the bar codes (if configured to do so) before transmitting it.

Multiple Labels per Frame

Specifies the ability of the reader to decode and transmit a set of code labels in a specific volume and in a single frame of time. When in Multiple Labels per Frame the reader beeps and turns on the good read LED indication for each code read in a frame.

When Multiple Labels Mode is enabled, ISBT pairing, ABC Codabar pairing, and composites are not allowed.

DEFAULT

Multiple Labels per Frame = Disable

Multiple Labels per Frame = Enable

Multiple Labels Ordering by Code Symbology

This feature allows you to specify the order multiple labels are transmitted by symbology type, when Multiple Labels per Frame is enabled. See page 268 in "References" for detailed information on setting this feature.

Select Symbologies for Multiple Labels Ordering

To configure this feature, scan the ENTER/EXIT PROGRAMMING MODE bar code above, then the bar code at left followed by the digits From the alphanumeric characters In Appendix d, keypad representing your desired Character(s). end by scanning the enter/exit bar code again.

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

DEFAULT **000000000000 = Random order**

Multiple Labels Ordering by Code Length

Specifies the transmission ordering by code length, when Multiple Labels per Frame is enabled.

DEFAULT

Multiple Labels Ordering = Disable

Transmit Increasing Length Order

Transmit Decreasing Length Order

1D SYMBOLOGIES

1D Code Selection

The reader supports the following 1D symbologies (bar code types). See "2D Symbologies" starting on page 181 for 2D bar codes. Symbology-dependent options are included in each chapter.

• Disable All Symbologies, page 90	• GS1-128, page 127
• Code EAN/UPC, page 91	• Code ISBT 128, page 128
• UPC-E, page 94	• Interleaved 2 of 5 (I 2 of 5), page 131
• GTIN Formatting, page 97	• Interleaved 2 of 5 CIP HR, page 136
• EAN 13 (Jan 13), page 98	• Follett 2 of 5, page 136
• ISSN, page 100	• Standard 2 of 5, page 137
• EAN 8 (Jan 8), page 101	• Industrial 2 of 5, page 141
• UPC/EAN Global Settings, page 103	• Code IATA, page 145
• Add-Ons, page 105	• Codabar, page 146
• Code 39, page 112	• ABC Codabar, page 152
• Trioptic Code, page 118	• Code 11, page 155
• Code 32 (Ital Pharmaceutical Code), page 118	• GS1 DataBar™ Omnidirectional, page 159
• Code 39 CIP (French Pharmaceutical), page 120	• GS1 DataBar™ Expanded, page 160
• Code 39 Danish PPT, page 120	• GS1 DataBar™ Limited, page 165
• Code 39 LaPoste, page 121	• Code 93, page 166
• Code 39 PZN, page 121	• MSI, page 171
• Code 128, page 122	• Plessey, page 176

Default settings are indicated at each feature/option with a green arrow. Also reference Appendix B, Standard Defaults for a listing of the most widely used set of standard factory settings. That section also provides space to record any custom settings needed or implemented for your system.

To set most features:

1. Scan the ENTER/EXIT PROGRAMMING bar code at the top of applicable programming pages.
2. Scan the correct bar code to set the desired programming feature or parameter. You may need to cover unused bar codes on the page, and possibly the facing page, to ensure that the reader reads only the bar code you intend to scan.
3. If additional input parameters are needed, go to Appendix D, Keypad, and scan the appropriate characters from the keypad.

NOTE

Additional information about many features can be found in the "References" chapter.

If you make a mistake before the last character, scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

4. Complete the programming sequence by scanning the ENTER/EXIT PROGRAMMING bar code to exit Programming Mode.

DISABLE ALL SYMBOLOGIES

Use this feature to disable all symbologies.

1. Scan the ENTER/EXIT PROGRAMMING Mode bar code.
2. Scan the Disable All Symbologies bar code.
3. Complete the programming sequence by scanning the ENTER/EXIT PROGRAMMING bar code.

Disable All Symbologies

NOTE **This does not disable the reading of programming labels.**

CODE EAN/UPC

Coupon Control

This feature is used to control the reader's method of processing coupon labels.

Coupon Control = Allow all coupon bar codes to be decoded

DEFAULT

Coupon Control = Enable only UPCA coupon decoding

Coupon Control = Enable only GS1 DataBar™ coupon decoding

UPC-A

The following options apply to the UPC-A symbology.

UPC-A Enable/Disable

When disabled, the reader will not read UPC-A bar codes.

UPC-A = Disable

DEFAULT

UPC-A = Enable

UPC-A Check Character Transmission

Enable this option to transmit the check character along with UPC-A bar code data.

UPC-A Check Character Transmission = Don't Send

DEFAULT

UPC-A Check Character Transmission = Send

Expand UPC-A to EAN-13

Expands UPC-A data to the EAN-13 data format. Selecting this feature also changes the symbology ID to match those required for EAN-13.

DEFAULT

UPC-A to EAN-13 = Don't Expand

UPC-A to EAN-13 = Expand

UPC-A Number System Character Transmission

This feature enables/disables transmission of the UPC-A number system character.

UPC-A Number System Character = Do not transmit

DEFAULT

UPC-A Number System Character = Transmit

UPC-A 2D Component

This feature enables/disables a requirement that a 2D label component be decoded when a base label of this symbology is decoded.

DEFAULT

EAN-13 2D Component =
Disable (2D component not required)

EAN-13 2D Component =
2D component must be decoded

UPC-E

The following options apply to the UPC-E symbology.

UPC-E Enable/Disable

When disabled, the reader will not read UPC-E bar codes.

UPC-E = Disable

DEFAULT

UPC-E = Enable

UPC-E Check Character Transmission

Enable this option to transmit the check character along with UPC–E bar code data.

UPC-E Check Character Transmission = Don't Send

DEFAULT

UPC-E Check Character Transmission = Send

UPC-E 2D Component

This feature enables/disables a requirement that a 2D label component be decoded when a base label for this symbology is decoded.

DEFAULT

UPC-E 2D Component =
Disable (2D component not required)

UPC-E 2D Component =
2D component must be decoded

Expand UPC-E to EAN-13

Expands UPC-E data to the EAN-13 data format. Selecting this feature also changes the symbology ID to match those required for EAN-13.

DEFAULT

UPC-E to EAN-13 = Don't Expand

UPC-E to EAN-13 = Expand

Expand UPC-E to UPC-A

Expands UPC-E data to the UPC-A data format.

DEFAULT

UPC-E to UPC-A = Don't Expand

UPC-E to UPC-A = Expand

UPC-E Number System Character Transmission

This feature enables/disables transmission of the UPC–E system number character.

UPC-E Number System Character = Do not transmit

UPC-E Number System Character = Transmit

DEFAULT

GTIN FORMATTING

This feature enables/disables the ability to convert UPC–E, UPC–A, EAN 8, and EAN 13 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 label.

DEFAULT

GTIN Formatting = Disable

GTIN Formatting = Enable

EAN 13 (JAN 13)

The following options apply to the EAN 13 (Jan 13) symbology.

EAN 13 Enable/Disable

When disabled, the reader will not read EAN 13/JAN 13 bar codes.

EAN 13 = Disable

DEFAULT

EAN 13 = Enable

EAN 13 Check Character Transmission

Enable this option to transmit the check character along with EAN 13 bar code data.

EAN 13 Check Character Transmission = Don't Send

DEFAULT

EAN 13 Check Character Transmission = Send

EAN-13 Flag 1 Character

Enables/disables transmission of an EAN/JAN13 Flag1 character. The Flag 1 character is the first character of the label.

EAN-13 Flag 1 Char= Don't transmit

DEFAULT

EAN-13 Flag 1 Char= Transmit

EAN-13 ISBN Conversion

This option enables/disables conversion of EAN 13/JAN 13 Bookland labels starting with 978 to ISBN labels.

DEFAULT

EAN-13 ISBN Conversion = Disable

EAN-13 ISBN Conversion = Convert to ISBN

EAN-13 2D Component

This feature enables/disables a requirement that a 2D label component be decoded when a base label of this symbology is decoded.

DEFAULT

EAN-13 2D Component =
Disable (2D component not required)

EAN-13 2D Component =
2D component must be decoded

ISSN

The following options apply to the ISSN symbology.

ISSN Enable/Disable

Enables/disables conversion of EAN/JAN13 Bookland labels starting with 977 to ISSN labels.

DEFAULT

ISSN = Disable

ISSN = Enable

EAN 8 (JAN 8)

The following options apply to the EAN 8 (Jan 8) symbology.

EAN 8 Enable/Disable

When disabled, the reader will not read EAN 8/JAN 8 bar codes.

EAN 8 = Disable

EAN 8 = Enable

DEFAULT

EAN 8 Check Character Transmission

Enable this option to transmit the check character along with EAN 8 bar code data.

EAN 8 Check Character Transmission = Don't Send

EAN 8 Check Character Transmission = Send

DEFAULT

Expand EAN 8 to EAN 13

Enable this option to expand EAN 8/JAN 8 labels to EAN 13/JAN 13.

DEFAULT

Expand EAN 8 to EAN 13 = Disable

Expand EAN 8 to EAN 13 = Enable

EAN 8 2D Component

This feature enables/disables a requirement that a 2D label component be decoded when a base label for this symbology is decoded.

DEFAULT

EAN 8 2D Component =
Disable (2D component not required)

EAN 8 2D Component =
2D component must be decoded

UPC/EAN GLOBAL SETTINGS

This section provides configuration settings for UPC–A, UPC–E, EAN 13 and EAN 8 symbologies, and affects all of these unless otherwise marked for each feature description.

UPC/EAN Price Weight Check

This feature enables/disables calculation and verification of price/weight check digits.

DEFAULT

Price Weight Check = Disabled

Price Weight Check = 4-digit price-weight check

Price Weight Check = 5-digit price-weight check

Price Weight Check = European 4-digit price-weight check

Price Weight Check = European 5-digit price-weight check

UPC/EAN Quiet Zones

This feature specifies the number of quiet zones for UPC/EAN labels. Quiet zones are blank areas at the ends of a bar code, typically 10 times the width of the narrowest bar or space in the label. The property applies to all EAN-UPC symbologies globally and to the ADDONs.

DEFAULT

UPC/EAN Quiet Zones = Two Modules

UPC/EAN Quiet Zones = Three Modules

ADD-ONS

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

Optional Add-ons

The reader can be enabled to optionally read the following add-ons (supplementals):

NOTE

If a UPC/EAN base label and an add-on are both decoded, the reader will transmit the base label and add-on. If a UPC/EAN base label is decoded without an add-on, the base label will be transmitted without an add-on. Conditional add-on settings (if enabled) are considered by the reader before optional add-on settings.

DEFAULT

Optional Add-Ons = Disable P2

Optional Add-Ons = Enable P2

DEFAULT

Optional Add-Ons = Disable P5

Optional Add-Ons = Enable P5

Cordless models only:

DEFAULT

Optional Add-Ons = Disable GS1-128

Optional Add-Ons = Enable GS1-128

Optional Add-On Timer

This option sets the time the reader will look for an add-on when an add-on fragment has been seen and optional add-ons are enabled. (Also see "Optional GS1-128 Add-On Timer" on page 109.)

Optional Add-on Timer = 10ms

Optional Add-on Timer = 20ms

Optional Add-on Timer = 30ms

Optional Add-on Timer = 40ms

Optional Add-on Timer = 50ms

Optional Add-On Timer (continued)

Optional Add-on Timer = 60ms

Optional Add-on Timer = 70ms

DEFAULT

Optional Add-on Timer = 100ms

Optional Add-on Timer = 120ms

Optional Add-on Timer = 140ms

Optional Add-on Timer = 160ms

Optional Add-On Timer (continued)

Optional Add-on Timer = 180ms

Optional Add-on Timer = 200ms

Optional Add-on Timer = 220ms

Optional Add-on Timer = 240ms

Optional Add-on Timer = 260ms

Optional Add-on Timer = 280ms

Optional Add-on Timer = 300ms

Optional GS1-128 Add-On Timer

This option sets the timer expiration value to read the added part after reading the linear EAN/UPC part. For UPC/EAN add-ons other than those of that type, see "Optional Add-On Timer" on page 106.

DEFAULT

Optional GS1-128 Add-On Timer = Disable

Optional GS1-128 Add-On Timer = 10ms

Optional GS1-128 Add-On Timer = 20ms

Optional GS1-128 Add-On Timer = 30ms

Optional GS1-128 Add-On Timer = 40ms

Optional GS1-128 Add-On Timer = 50ms

Optional GS1-128 Add-On Timer (continued)

Optional GS1-128 Add-On Timer = 60ms

Optional GS1-128 Add-On Timer = 70ms

Optional GS1-128 Add-On Timer = 100ms

Optional GS1-128 Add-On Timer = 120ms

Optional GS1-128 Add-On Timer = 140ms

Optional GS1-128 Add-On Timer = 160ms

Optional GS1-128 Add-On Timer (continued)

Optional GS1-128 Add-On Timer = 180ms

Optional GS1-128 Add-On Timer = 200ms

Optional GS1-128 Add-On Timer = 220ms

Optional GS1-128 Add-On Timer = 240ms

Optional GS1-128 Add-On Timer = 260ms

Optional GS1-128 Add-On Timer = 280ms

Optional GS1-128 Add-On Timer = 300ms

CODE 39

The following options apply to the Code 39 symbology.

Code 39 Enable/Disable

Code 39 = Disable

DEFAULT

Code 39 = Enable

Code 39 Check Character Calculation

Enable this option to enables/disables calculation and verification of an optional Code 39 check character. When disabled, any check character in the label is treated as a data character

Code 39 Check Character Calculation = Don't Calculate

DEFAULT

Code 39 Check Character Calculation = Calculate Std Check

Code 39 Check Character Calculation = Calculate Mod 7 Check

Code 39 Check Character Calculation (continued)

Code 39 Check Character Calculation =
Enable Italian Post Check

Code 39 Check Character Calculation =
Enable Daimler Chrysler Check

Code 39 Check Character Transmission

Enable this option to transmit the check character along with Code 39 bar code data.

Code 39 Check Character Transmission = Don't Send

DEFAULT

Code 39 Check Character Transmission = Send

Code 39 Start/Stop Character Transmission

Enable this option to enable/disable transmission of Code 39 start and stop characters.

DEFAULT

Code 39 Start/Stop Character Transmission = Don't Transmit

Code 39 Start/Stop Character Transmission = Transmit

Code 39 Full ASCII

Enables/disables the translation of Code 39 characters to Code 39 full-ASCII characters.

DEFAULT

Code 39 Full ASCII = Disable

Code 39 Full ASCII = Enable

Code 39 Quiet Zones

This feature specifies the number of quiet zones for Code 39 labels. Quiet zones are blank areas at the ends of a bar code, typically 10 times the width of the narrowest bar or space in the label.

Code 39 Quiet Zones = Quiet Zones on two sides

DEFAULT

Code 39 Quiet Zones = Small Quiet Zones on two sides

Code 39 Length Control

This feature specifies either variable length decoding or fixed length decoding for the Code 39 symbology.

Variable Length: For variable length decoding, a minimum and maximum length may be set.

Fixed Length: For fixed length decoding, two different lengths may be set.

DEFAULT

Code 39 Length Control = Variable Length

Code 39 Length Control = Fixed Length

Code 39 Set Length 1

This feature specifies one of the bar code lengths for Code 39 Length Control on page 115. Length 1 is the minimum label length if in Variable Length on page 115 Mode, or the first fixed length if in Fixed Length on page 115 Mode. Length includes the bar code's data characters only. The length can be set from 0 to 50 characters.

Table 3 provides examples for setting Length 1. See page 251 for detailed instructions on setting this feature.

Table 3. Code 39 Length 1 Setting Examples

STEP	ACTION	EXAMPLES			
1	**Desired Setting**	00 Characters	07 Characters	15 Characters	50 Characters
2	**Scan ENTER/EXIT PROGRAMMING MODE**				
3	**Scan SELECT CODE 39 LENGTH 1 SETTING**				
4	**Scan Two Characters From** Appendix D, Keypad	'0' and '0'	'0' and '7'	'1' and '5'	'5' AND '0'
5	**Scan ENTER/EXIT PROGRAMMING MODE**				

Select Code 39 Set Length 1 Setting

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

DEFAULT **02 = Length 1 is 2 Characters**

Code 39 Set Length 2

This feature specifies one of the bar code lengths for Code 39 Length Control on page 115. Length 2 is the maximum label length if in Variable Length on page 115 Mode, or the second fixed length if in Fixed Length on page 115 Mode. Length includes the bar code's check, data, and full–ASCII shift characters. The length does not include start/stop characters.

Table 4 provides examples for setting Length 2. See page 251 for detailed instructions on setting this feature.

Table 4. Code 39 Length 2 Setting Examples

STEP	ACTION	EXAMPLES			
1	**Desired Setting**	00 (Ignore This Length)	07 Characters	15 Characters	50 Characters
2	**Scan ENTER/EXIT PROGRAMMING MODE**				
3	**Scan SELECT CODE 39 LENGTH 2 SETTING**				
4	**Scan Two Characters From** Appendix D, Keypad	'0' and '0'	'0' and '7'	'1' and '5'	'5' AND '0'
5	**Scan ENTER/EXIT PROGRAMMING .MODE**				

Select Code 39 Length 2 Setting

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

DEFAULT **50 = Length 2 is 50 Characters**

TRIOPTIC CODE

The following options apply to the Trioptic symbology.

Trioptic Code Enable/Disable

DEFAULT

Trioptic Code = Disable

Trioptic Code = Enable

CODE 32 (ITAL PHARMACEUTICAL CODE)

The following options apply to the Code 32 (Italian Pharmaceutical Code) symbology.

Code 32 Enable/Disable

When disabled, the reader will not read Code 32 bar codes.

DEFAULT

Code 32 = Disable

Code 32 = Enable

Code 32 Feature Setting Exceptions

NOTE

The following features are set for Code 32 by using these Code 39 settings:

"Code 39 Quiet Zones" **on page 115**
"Code 39 Length Control" **on page 115**
"Trioptic Code" **on page 118**

Code 32 Check Char Transmission

Enable this option to transmit the check character along with Code 32 bar code data.

DEFAULT

Code 32 Check Character Transmission = Don't Send

Code 32 Check Character Transmission = Send

Code 32 Start/Stop Character Transmission

This option enables/disables transmission of Code 32 start and stop characters.

DEFAULT

Code 32 Start/Stop Character Transmission = Don't Transmit

Code 32 Start/Stop Character Transmission = Transmit

CODE 39 CIP (FRENCH PHARMACEUTICAL)

The following options apply to the Code 39 CIP symbology.

Code 39 CIP Enable/Disable

Enables/Disables ability of the reader to decode Code 39 CIP labels.

DEFAULT

Code 39 CIP = Disable

Code 39 CIP = Enable

CODE 39 DANISH PPT

The following options apply to the Code 39 Danish PPT symbology.

Code 39 Danish PPT Enable/Disable

Enables/Disables AIM ID for Code 39 Danish PPT Codes.

DEFAULT

Code 39 Danish PPT = Disable

Code 39 Danish PPT = Enable

CODE 39 LAPOSTE

The following options apply to the Code 39 LaPoste symbology.

Code 39 LaPoste Enable/Disable

Enables/disables the ability of the scanner to decode Code39 La Poste labels.

DEFAULT

Code 39 LaPoste = Disable

Code 39 LaPoste = Enable

CODE 39 PZN

The following options apply to the Code 39 PZN symbology.

Code 39 PZN Enable/Disable

Enables/disables the ability of the scanner to decode Code39 PZN labels.

DEFAULT

Code 39 PZN = Disable

Code 39 PZN = Enable

CODE 128

The following options apply to the Code 128 symbology.

Code 128 Enable/Disable

When disabled, the reader will not read Code 128 bar codes.

Code 128 = Disable

DEFAULT

Code 128 = Enable

Expand Code 128 to Code 39

This feature enables/disables expansion of Code 128 labels to Code 39 labels.

DEFAULT

Code 128 to Code 39 = Don't Expand

Code 128 to Code 39 = Expand

Code 128 Check Character Transmission

Enable this option to transmit the check character along with Code 128 bar code data.

DEFAULT

Code 128 Check Character Transmission = Don't Send

Code 128 Check Character Transmission = Send

Code 128 Function Character Transmission

Enables/disables transmission of Code128 function characters 1, 2, 3, and 4.

DEFAULT

Code 128 Function Character Transmission = Don't Send

Code 128 Function Character Transmission = Send

Code 128 Quiet Zones

This feature specifies the number of quiet zones for Code 128 labels. Quiet zones are blank areas at the ends of a bar code and are typically 10 times the width of the narrowest bar or space in the label.

Code 128 Quiet Zones = Quiet Zones on two sides

DEFAULT

Code 128 Quiet Zones = Small Quiet Zones on two sides

Code 128 Length Control

This feature specifies either variable length decoding or fixed length decoding for the Code 128 symbology. See page 251 for more information.

DEFAULT

Code 128 Length Control = Variable Length

Code 128 Length Control = Fixed Length

Code 128 Set Length 1

Specifies one of the bar code lengths for Code 128 Length Control on page 124. Length 1 is the minimum label length if in Variable Length on page 251 Mode, or the first fixed length if in Fixed Length on page 251 Mode. Length includes the bar code's data characters only. The length can be set from 1 to 80 characters.

Table 5 provides some examples for setting Length 1. See page 251 for detailed instructions on setting this feature.

Table 5. Code 128 Length 1 Setting Examples

STEP	ACTION	EXAMPLES			
1	**Desired Setting**	01 Character	07 Characters	15 Characters	80 Characters
2	**Scan ENTER/EXIT PROGRAMMING MODE**				
3	**Scan SELECT CODE 128 LENGTH 1 SETTING**				
4	**Scan Two Characters From** Appendix D, Keypad	'0' and '1'	'0' and '7'	'1' and '5'	'8' AND '0'
5	**Scan ENTER/EXIT PROGRAMMING MODE**				

Select Code 128 Set Length 1 Setting

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

DEFAULT **01 = Length 1 is 1 Character**

Code 128 Set Length 2

This feature specifies one of the bar code lengths for Code 128 Length Control on page 124. Length 2 is the maximum label length if in Variable Length on page 251 Mode, or the second fixed length if in Fixed Length on page 251 Mode. Length includes the bar code's data characters only.

The length can be set from 1 to 80 characters. A setting of 0 specifies to ignore this length (only one fixed length).

Table 6 provides examples for setting Length 2. See page 251 for detailed instructions on setting this feature.

Table 6. Code 128 Length 2 Setting Examples

STEP	ACTION	EXAMPLES			
1	**Desired Setting**	00 (Ignore This Length)	07 Characters	15 Characters	80 Characters
2	**Scan ENTER/EXIT PROGRAMMING MODE**				
3	**Scan SELECT CODE 128 LENGTH 2 SETTING**				
4	**Scan Two Characters From** Appendix D, Keypad	'0' and '0'	'0' and '7'	'1' and '5'	'8' and 0'
5	**Scan ENTER/EXIT PROGRAMMING MODE**				

.

Select Code 128 Length 2 Setting

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

DEFAULT **80 = Length 2 is 80 Characters**

GS1-128

The following options apply to the GS1-128 symbology. (Also known as USS-128, GS1-128, GTIN-128, UCC-128, EAN-128.)

GS1-128 Enable

This option enables/disables the ability of the reader to translate GS1-128 labels to the GS1-128 data format. Options are:

- Transmit GS1-128 labels in Code 128 data format.
- Transmit GS1-128 labels in GS1-128 data format.
- Do not transmit GS1-128 labels.

GS1-128 = Transmit in Code 128 data format

GS1-128 = Transmit in GS1-128 data format

DEFAULT

GS1-128 = Do not transmit GS1-128 labels

GS1-128 2D Component

This feature enables/disables a requirement that a 2D label component be decoded when a base label of this symbology is decoded.

DEFAULT

GS1-128 2D Component = Disable

GS1-128 2D Component = Enable

CODE ISBT 128

The following options apply to the ISBT 128 symbology.

ISBT 128 Concatenation

Use this option to enable/disable ISBT128 concatenation of 2 labels.

DEFAULT

ISBN 128 Concatenation = Disable

ISBN 128 Concatenation = Enable

ISBT 128 Force Concatenation

When enabled, this feature forces concatenation for ISBT.

NOTE **This option is only valid when ISBT 128 Concatenation on page 128 is enabled.**

DEFAULT

ISBT 128 Force Concatenation = Disable

ISBT 128 Force Concatenation = Enable

ISBT 128 Concatenation Mode

Specifies the concatenation mode between Static and Dynamic.

NOTE **This option is only valid when ISBT 128 Concatenation is enabled (see "ISBT 128 Concatenation" on page 128).**

DEFAULT

ISBT 128 Concatenation Mode = Static

ISBT 128 Concatenation Mode = Dynamic

ISBT 128 Dynamic Concatenation Timeout

Specifies the timeout used by the ISBT 128 Dynamic Concatenation Mode.

ISBT 128 Dynamic Concatenation Timeout = 50 msec

ISBT 128 Dynamic Concatenation Timeout = 100 msec

DEFAULT

ISBT 128 Dynamic Concatenation Timeout = 200 msec

ISBT 128 Dynamic Concatenation Timeout = 500 msec

ISBT 128 Dynamic Concatenation Timeout = 750 msec

ISBT 128 Dynamic Concatenation Timeout = 1 second

ISBT 128 Advanced Concatenation Options

NOTE

To set up pairs of label types for concatenation, use the Datalogic Aladdin configuration application or contact Datalogic Technical Support, as described on page 2.

INTERLEAVED 2 OF 5 (I 2 OF 5)

The following options apply to the I 2 of 5 symbology.

I 2 of 5 Enable/Disable

When disabled, the reader will not read I 2 of 5 bar codes.

DEFAULT

I 2 of 5 = Disable

I 2 of 5 = Enable

I 2 of 5 Check Character Calculation

This option enables/disables calculation and verification of an optional I 2 of 5 check character. Combinations of these settings are possible via the Aladdin configuration utility, or contact Technical Support.

DEFAULT

I 2 of 5 Check Character Calculation = Disable

I 2 of 5 Check Character Calculation = Check Standard (Modulo 10)

I 2 of 5 Check Character Calculation = Check German Parcel

I 2 of 5 Check Character Calculation = Check DHL

I 2 of 5 Check Character Calculation = Check Daimler Chrysler

I 2 of 5 Check Character Calculation = Check Bosch

I 2 of 5 Check Character Calculation = Italian Post

I 2 of 5 Check Character Transmission

Enable this option to transmit the check character along with I 2 of 5 bar code data.

I 2 of 5 Check Character Transmission = Don't Send

DEFAULT

I 2 of 5 Check Character Transmission = Send

I 2 of 5 Length Control

This feature specifies either variable length decoding or fixed length decoding for the I 2 of 5 symbology.

Variable Length: For variable length decoding, a minimum and maximum length may be set.

Fixed Length: For fixed length decoding, two different lengths may be set.

DEFAULT

I 2 of 5 Length Control = Variable Length

I 2 of 5 Length Control = Fixed Length

I 2 of 5 Set Length 1

This feature specifies one of the bar code lengths for I 2 of 5 Length Control on page 133. Length 1 is the minimum label length if in Variable Length Mode, or the first fixed length if in Fixed Length Mode. The length includes the bar code's check and data characters. The length can be set from 2 to 50 characters in increments of two.

Table 7 provides some examples for setting Length 1. See page 251 for detailed instructions on setting this feature.

Table 7. I 2 of 5 Length 1 Setting Examples

STEP	ACTION	EXAMPLES			
1	**Desired Setting**	2 Characters	6 Characters	14 Characters	50 Characters
2	**Pad with leading zeroes to yield two digits**	02	06	14	50
3	**Scan ENTER/EXIT PROGRAMMING MODE**				
4	**Scan SELECT I 2 of 5 LENGTH 1 SETTING**				
5	**Scan Two Characters From** Appendix D, Keypad	'0' and '2'	'0' and '6'	'1' and '4'	'5' AND '0'
6	**Scan ENTER/EXIT PROGRAMMING MODE**				

Select I 2 of 5 Length 1 Setting

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

DEFAULT **06 = Length 1 is 6 Characters**

I 2 of 5 Set Length 2

This feature specifies one of the bar code lengths for I 2 of 5 Length Control on page 133. Length 2 is the maximum label length if in Variable Length on page 251 Mode, or the second fixed length if in Fixed Length on page 251 Mode. The length includes the bar code's check and data characters.

The length can be set from 2 to 50 characters. A setting of 0 specifies to ignore this length (only one fixed length).

Table 8 provides examples for setting Length 2. See page 251 for detailed instructions on setting this feature.

Table 8. I 2 of 5 Length 2 Setting Examples

STEP	ACTION	EXAMPLES			
1	Desired Setting	Ignore This Length	4 Characters	14 Characters	50 Characters
2	Pad with leading zeroes to yield two digits	00	04	14	50
3	Scan ENTER/EXIT PROGRAMMING MODE				
4	Scan SELECT I 2 OF 5 LENGTH 2 SETTING				
5	Scan Two Characters From Appendix D, Keypad	'0' and '0'	'0' and '4'	'1' and '4'	'5' AND '0'
6	Scan ENTER/EXIT PROGRAMMING MODE				

Select I 2 of 5 Length 2 Setting

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

DEFAULT **50 = Length 2 is 50 Characters**

INTERLEAVED 2 OF 5 CIP HR

The following options apply to the Interleaved 2 of 5 CIP HR symbology.

Interleaved 2 of 5 CIP HR Enable/Disable

Enables/Disables ability of reader to decode Interleaved 2 of 5 CIP HR labels.

DEFAULT

Interleaved 2 of 5 CIP HR = Disable

Interleaved 2 of 5 CIP HR = Enable

FOLLETT 2 OF 5

The following options apply to the Follett 2 of 5 symbology.

Follett 2 of 5 Enable/Disable

Enables/Disables ability of reader to decode Plessey labels.

DEFAULT

Follett 2 of 5 = Disable

Follett 2 of 5 = Enable

STANDARD 2 OF 5

The following options apply to the Standard 2 of 5 symbology.

Standard 2 of 5 Enable/Disable

When disabled, the reader will not read Standard 2 of 5 bar codes.

DEFAULT

Standard 2 of 5 = Disable

Standard 2 of 5 = Enable

Standard 2 of 5 Check Character Calculation

This option enables/disables calculation and verification of an optional Standard 2 of 5 check character.

DEFAULT

Standard 2 of 5 Check Character Calculation = Disable

Standard 2 of 5 Check Character Calculation = Enable

Standard 2 of 5 Check Character Transmission

This feature enables/disables transmission of an optional Standard 2 of 5 check character.

Standard 2 of 5 Check Character Transmission = Don't Send

DEFAULT

Standard 2 of 5 Check Character Transmission = Send

Standard 2 of 5 Length Control

This feature specifies either variable length decoding or fixed length decoding for the Standard 2 of 5 symbology.

Variable Length: For variable length decoding, a minimum and maximum length may be set.

Fixed Length: For fixed length decoding, two different lengths may be set.

DEFAULT

Standard 2 of 5 Length Control = Variable Length

Standard 2 of 5 Length Control = Fixed Length

Standard 2 of 5 Set Length 1

This feature specifies one of the bar code lengths for Standard 2 of 5 Length Control on page 138. Length 1 is the minimum label length if in Variable Length on page 138 Mode, or the first fixed length if in Fixed Length on page 115 Mode. Length includes the bar code's check and data characters. The length can be set from 1 to 50 characters.

Table 9 provides some examples for setting Length 1. See page 251 if you want detailed instructions on setting this feature.

Table 9. Standard 2 of 5 Length 1 Setting Examples

STEP	ACTION	EXAMPLES			
1	**Desired Setting**	01 Character	07 Characters	15 Characters	50 Characters
2	**Scan ENTER/EXIT PROGRAMMING MODE**				
3	**Scan SELECT STANDARD 2 OF 5 LENGTH 1 SETTING**				
4	**Scan Two Characters From** Appendix D, Keypad	'0' and '1'	'0' and '7'	'1' and '5'	'5' AND '0'
5	**Scan ENTER/EXIT PROGRAMMING MODE**				

Select Standard 2 of 5 Length 1 Setting

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

DEFAULT **08 = Length 1 is 8 Characters**

Standard 2 of 5 Set Length 2

This feature specifies one of the bar code lengths for Standard 2 of 5 Length Control on page 138. Length 2 is the maximum label length if in Variable Length on page 138 Mode, or the second fixed length if in Fixed Length on page 115 Mode. Length includes the bar code's check and data characters.

The length can be set from 1 to 50 characters. A setting of 0 specifies to ignore this length (only one fixed length).

Table 10 provides examples for setting Length 2. See page 251 for detailed instructions on setting this feature.

Table 10. Standard 2 of 5 Length 2 Setting Examples

STEP	ACTION	EXAMPLES			
1	**Desired Setting (pad with leading zeroes)**	00 (Ignore This Length)	07 Characters	15 Characters	50 Characters
2	**Scan ENTER/EXIT PROGRAMMING MODE**				
3	**Scan SELECT STANDARD 2 OF 5 LENGTH 2 SETTING**				
4	**Scan Two Characters From** Appendix D, Keypad	'0' and '0'	'0' and '7'	'1' and '5'	'5' AND '0'
5	**Scan ENTER/EXIT PROGRAMMING MODE**				

Select Standard 2 of 5 Length 2 Setting

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

DEFAULT **50 = Length 2 is 50 Characters**

INDUSTRIAL 2 OF 5

The following options apply to the Industrial 2 of 5 symbology.

Industrial 2 of 5 Enable/Disable

Enables/Disables ability of reader to decode Industrial 2 of 5 labels.

DEFAULT

Industrial 2 of 5 = Disable

Industrial 2 of 5 = Enable

Industrial 2 of 5 Check Character Calculation

Enables/Disables calculation and verification of an optional Industrial 2 of 5 check character.

DEFAULT

Industrial 2 of 5 Check Character Calculation = Disable

Industrial 2 of 5 Check Character Calculation = Enable

Industrial 2 of 5 Check Character Transmission

Enables/disables transmission of an Industrial 2 of 5 check character.

Industrial 2 of 5 Check Character Transmission = Disable

Industrial 2 of 5 Check Character Transmission = Enable

DEFAULT

Industrial 2 of 5 Length Control

This feature specifies either variable length decoding or fixed length decoding for the Industrial 2 of 5 symbology.

Variable Length: For variable length decoding, a minimum and maximum length may be set.

Fixed Length: For fixed length decoding, two different lengths may be set.

DEFAULT

Industrial 2 of 5 Length Control = Variable Length

Industrial 2 of 5 = Fixed Length

Industrial 2 of 5 Set Length 1

This feature specifies one of the bar code lengths for Industrial 2 of 5 Length Control on page 142. Length 1 is the minimum label length if in Variable Length on page 115 Mode, or the first fixed length if in Fixed Length on page 115 Mode. Length includes the bar code's data characters only. The length can be set from 0 to 50 characters.

Table 11 provides some examples for setting Length 1. See page 251 if you want detailed instructions on setting this feature.

Table 11. Industrial 2 of 5 Length 1 Setting Examples

STEP	ACTION	EXAMPLES			
1	Desired Setting	00 Characters	07 Characters	15 Characters	50 Characters
2	Scan ENTER/EXIT PROGRAMMING MODE				
3	Scan SELECT INDUSTRIAL 2 OF 5 LENGTH 1 SETTING				
4	Scan Two Characters From Appendix D, Keypad	'0' and '0'	'0' and '7'	'1' and '5'	'5' AND '0'
5	Scan ENTER/EXIT PROGRAMMING MODE				

Select Industrial 2 of 5 Set Length 1 Setting

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

DEFAULT **01 = Length 1 is 1 Character**

Industrial 2 of 5 Set Length 2

This feature specifies one of the bar code lengths for Industrial 2 of 5 Length Control on page 142. Length 2 is the maximum label length if in Variable Length on page 115 Mode, or the second fixed length if in Fixed Length on page 115 Mode. Length includes the bar code's check, data, and full-ASCII shift characters. The length does not include start/stop characters.

The length can be set from 1 to 50 characters. A setting of 0 specifies to ignore this length (only one fixed length).

Table 12 provides examples for setting Length 2. See page 251 for detailed instructions on setting this feature.

Table 12. Industrial 2 of 5 Length 2 Setting Examples

STEP	ACTION	EXAMPLES			
1	**Desired Setting**	00 (Ignore This Length)	07 Characters	15 Characters	50 Characters
2	**Scan ENTER/EXIT PROGRAMMING MODE**				
3	**Scan SELECT INDUSTRIAL 2 OF 5 LENGTH 2 SETTING**				
4	**Scan Two Characters From** Appendix D, Keypad	'0' and '0'	'0' and '7'	'1' and '5'	'5' AND '0'
5	**Scan ENTER/EXIT PROGRAMMING MODE**				

Select Industrial 2 of5 Length 2 Setting

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

DEFAULT **50 = Length 2 is 50 Characters**

CODE IATA

The following options apply to the IATA symbology.

IATA Enable/Disable

Enables/Disables the ability of the reader to decode IATA labels.

DEFAULT

IATA = Disable

IATA = Enable

IATA Check Character Transmission

Enables/Disables calculation and verification of an optional Industrial 2 of 5 check character.

IATA Check Character Transmission = Disable

IATA Check Character Transmission = Enable

DEFAULT

CODABAR

The following options apply to the Codabar symbology.

Codabar Enable/Disable

When disabled, the reader will not read Codabar bar codes.

DEFAULT

Codabar = Disable

Codabar = Enable

Codabar Check Character Calculation

Enable this option to enables/disables calculation and verification of an optional Codabar check character. When disabled, any check character in the label is treated as a data character

DEFAULT

Codabar Check Character Calculation = Don't Calculate

Codabar Check Character Calculation = Enable AIM standard check char.

Codabar Check Character Calculation = Enable Modulo 10 check char.

Codabar Check Character Transmission

Enable this option to transmit the check character along with Codabar bar code data.

Codabar Check Character Transmission = Don't Send

DEFAULT

Codabar Check Character Transmission = Send

Codabar Start/Stop Character Transmission

Enable this option to enable/disable transmission of Codabar start and stop characters.

Codabar Start/Stop Character Transmission = Don't Transmit

DEFAULT

Codabar Start/Stop Character Transmission = Transmit

Codabar Start/Stop Character Set

This option specifies the format of transmitted Codabar start/stop characters.

Codabar Check Character Set = ABCD/TN*E

Codabar Check Character Set = ABCD/ABCD

Codabar Check Character Set = abcd/tn*e

Codabar Check Character Set = abcd/abcd

DEFAULT

Codabar Start/Stop Character Match

When enabled, this option requires that start and stop characters match.

DEFAULT

Codabar Start/Stop Character Match = Don't Require Match

Codabar Start/Stop Character Match = Require Match

Codabar Quiet Zones

Specifies the number of quiet zones for Codabar labels. Quiet zones are blank areas at the ends of a bar code and are typically 10 times the width of the narrowest bar or space in the label.

Codabar Quiet Zones = Quiet Zones on two sides

Codabar Quiet Zones = Small Quiet Zones on two sides

DEFAULT

Codabar Length Control

This feature specifies either variable length decoding or fixed length decoding for the Codabar symbology.

Variable Length: For variable length decoding, a minimum and maximum length may be set.

Fixed Length: For fixed length decoding, two different lengths may be set.

DEFAULT

Codabar Length Control = Variable Length

Codabar Length Control = Fixed Length

Codabar Set Length 1

This feature specifies one of the bar code lengths for Codabar Length Control on page 149Codabar Length Control on page 149. Length 1 is the minimum label length if in Variable Length on page 251 Mode, or the first fixed length if in Fixed Length on page 251 Mode. Length includes the bar code's start, stop, check and data characters. The length must include at least one data character. The length can be set from 3 to 50 characters.

Table 13 provides some examples for setting Length 1. See page 251 for detailed instructions on setting this feature.

Table 13. Codabar Length 1 Setting Examples

STEP	ACTION	EXAMPLES			
1	**Desired Setting (and pad with leading zeroes)**	03 Characters	09 Characters	15 Characters	50 Characters
2	**Scan ENTER/EXIT PROGRAMMING MODE**				
3	**Scan SELECT CODABAR LENGTH 1 SETTING**				
4	**Scan Two Characters From** Appendix D, Keypad	'0' and '3'	'0' and '9'	'1' and '5'	'5' AND '0'
5	**Scan ENTER/EXIT PROGRAMMING MODE**				

Select Codabar Length 1 Setting

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

DEFAULT **03 = Length 1 is 3 Characters**

Codabar Set Length 2

This feature specifies one of the bar code lengths for Codabar Length Control on page 149Codabar Length Control on page 149. Length 2 is the maximum label length if in Variable Length on page 251 Mode, or the second fixed length if in Fixed Length on page 251 Mode. The length includes the bar code's start, stop, check and data characters. The length must include at least one data character.

The length can be set from 3 to 50 characters. A setting of 0 specifies to ignore this length (only one fixed length).

Table 14 provides examples for setting Length 2. See page 251 for detailed instructions on setting this feature.

Table 14. Codabar Length 2 Setting Examples

STEP	ACTION	EXAMPLES			
1	**Desired Setting (and pad with leading zeroes)**	00 Ignore This Length	07 Characters	15 Characters	50 Characters
2	**Scan ENTER/EXIT PROGRAMMING MODE**				
3	**Scan SELECT CODABAR LENGTH 2 SETTING**				
4	**Scan Two Characters From** Appendix D, Keypad	'0' and '0'	'0' and '7'	'1' and '5'	'5' AND '0'
5	**Scan ENTER/EXIT PROGRAMMING MODE**				

Select Codabar Length 2 Setting

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

DEFAULT **50 = Length 2 is 50 Characters**

ABC CODABAR

The following options apply to the ABC Codabar symbology.

ABC Codabar Enable/Disable

Enables/Disables ability of reader to decode ABC Codabar labels.

DEFAULT

ABC Codabar = Disable

ABC Codabar = Enable

ABC Codabar Concatenation Mode

Specifies the concatenation mode between Static and Dynamic.

DEFAULT

ABC Codabar Concatenation Mode = Static

ABC Codabar Concatenation Mode = Dynamic

ABC Codabar Dynamic Concatenation Timeout

Specifies the timeout in 10-millisecond ticks used by the ABC Codabar Dynamic Concatenation Mode.

ABC Codabar Dynamic Concatenation Timeout = 50 msec

ABC Codabar Dynamic Concatenation Timeout = 100 msec

DEFAULT

ABC Codabar Dynamic Concatenation Timeout = 200 msec

ABC Codabar Dynamic Concatenation Timeout = 500 msec

ABC Codabar Dynamic Concatenation Timeout = 750 msec

ABC Codabar Dynamic Concatenation Timeout = 1 Second

ABC Codabar Force Concatenation

Forces labels starting or ending with D to be concatenated.

DEFAULT

ABC Codabar Force Concatenation = Disable

ABC Codabar Force Concatenation = Enable

CODE 11

The following options apply to the Code 11 symbology.

Code 11 Enable/Disable

When disabled, the reader will not read Code 11 bar codes.

DEFAULT

Code 11 = Disable

Code 11 = Enable

Code 11 Check Character Calculation

This option enables/disables calculation and verification of optional Code 11 check character.

Code 11 Check Character Calculation = Disable

Code 11 Check Character Calculation = Check C

Code 11 Check Character Calculation = Check K

Code 11 Check Character Calculation = Check C and K

DEFAULT

Code 11 Check Character Transmission

This feature enables/disables transmission of an optional Code 11 check character.

Code 11 Check Character Transmission = Don't Send

DEFAULT

Code 11 Check Character Transmission = Send

Code 11 Length Control

This feature specifies either variable length decoding or fixed length decoding for the Code 11 symbology.

Variable Length: For variable length decoding, a minimum and maximum length may be set.

Fixed Length: For fixed length decoding, two different lengths may be set.

DEFAULT

Code 11 Length Control = Variable Length

Code 11 Length Control = Fixed Length

Code 11 Set Length 1

This feature specifies one of the bar code lengths for Code 11 Length Control on page 156. Length 1 is the minimum label length if in Variable Length on page 251 Mode, or the first fixed length if in Fixed Length on page 251 Mode. Length includes the bar code's check and data characters. The length can be set from 2 to 50 characters.

Table 15 provides some examples for setting Length 1. See page 251 for detailed instructions on setting this feature.

Table 15. Code 11 Length 1 Setting Examples

STEP	ACTION	EXAMPLES			
1	**Desired Setting (pad with leading zeroes)**	02 Characters	07 Characters	15 Characters	50 Characters
2	**Scan ENTER/EXIT PROGRAMMING MODE**				
3	**Scan SELECT CODE 11 LENGTH 1 SETTING**				
4	**Scan Two Characters From** Appendix D, Keypad	'0' and '2'	'0' and '7'	'1' and '5'	'5' AND '0'
5	**Scan ENTER/EXIT PROGRAMMING MODE**				

Select Code 11 Set Length 1 Setting

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

DEFAULT **04 = Length 1 is 4 Characters**

Code 11 Set Length 2

This feature specifies one of the bar code lengths for Code 11 Length Control on page 156. Length 2 is the maximum label length if in Variable Length on page 251 Mode, or the second fixed length if in Fixed Length on page 251 Mode. Length includes the bar code's check and data characters.

The length can be set from 2 to 50 characters. A setting of 0 specifies to ignore this length (only one fixed length).

Table 16 provides examples for setting Length 2. See page 251 for detailed instructions on setting this feature.

Table 16. Code 11 Length 2 Setting Examples

STEP	ACTION	EXAMPLES			
1	**Desired Setting (pad with leading zeroes)**	00 (Ignore This Length)	07 Characters	15 Characters	50 Characters
2	**Scan ENTER/EXIT PROGRAMMING MODE**				
3	**Scan SELECT CODE 11 LENGTH 2 SETTING**				
4	**Scan Two Characters From** Appendix D, Keypad	'0' and '0'	'0' and '7'	'1' and '5'	'5' and 0'
5	**Scan ENTER/EXIT PROGRAMMING MODE**				

Select Code 11 Length 2 Setting

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

DEFAULT **50 = Length 2 is 50 Characters**

GS1 DATABAR™ OMNIDIRECTIONAL

The following options apply to the GS1 DataBar™ Omnidirectional (formerly RSS-14) symbology.

GS1 DataBar™ Omnidirectional Enable/Disable

When disabled, the reader will not read GS1 DataBar™ Omnidirectional bar codes.

DEFAULT

GS1 DataBar™ Omnidirectional = Disable

GS1 DataBar™ Omnidirectional = Enable

GS1 DataBar™ Omnidirectional GS1-128 Emulation

When enabled, GS1 DataBar™ Omnidirectional bar codes will be translated to the GS1-128 label data format.

DEFAULT

GS1 DataBar™ Omnidirectional GS1-128 Emulation = Disable

GS1 DataBar™ Omnidirectional GS1-128 Emulation = Enable

GS1 DataBar™ Omnidirectional 2D Component

This feature enables/disables a requirement that a 2D label component be decoded when a base label for this symbology is decoded.

DEFAULT

GS1 DataBar™ Omnidirectional 2D Component = Disable (2D component not required)

GS1 DataBar™ Omnidirectional 2D Component = 2D component must be decoded

GS1 DATABAR™ EXPANDED

The following options apply to the GS1 DataBar™ Expanded (formerly RSS Expanded) symbology.

GS1 DataBar™ Expanded Enable/Disable

When disabled, the reader will not read GS1 DataBar™ Expanded bar codes.

DEFAULT

GS1 DataBar™ Expanded = Disable

GS1 DataBar™ Expanded = Enable

GS1 DataBar™ Expanded GS1-128 Emulation

When enabled, GS1 DataBar™ Expanded bar codes will be translated to the GS1-128 label data format.

DEFAULT

GS1 DataBar™ Expanded GS1-128 Emulation = Disable

GS1 DataBar™ Expanded GS1-128 Emulation = Enable

GS1 DataBar™ Expanded 2D Component

This feature enables/disables a requirement that a 2D label component be decoded when a base label of this symbology is decoded.

DEFAULT

GS1 DataBar™ Expanded 2D Component = Disable

GS1 DataBar™ Expanded 2D Component = Enable

GS1 DataBar™ Expanded Length Control

This feature specifies either variable length decoding or fixed length decoding for the GS1 DataBar™ Expanded symbology.

Variable Length: For variable-length decoding, a minimum length may be set.

Fixed Length: For fixed-length decoding, two different lengths may be set.

DEFAULT

GS1 DataBar™ Expanded Length Control = Variable Length

GS1 DataBar™ Expanded Length Control = Fixed Length

GS1 DataBar™ Expanded Set Length 1

This feature specifies one of the bar code lengths for GS1 DataBar™ Expanded Length Control on page 162. Length 1 is the minimum label length if in Variable Length on page 251 Mode, or the first fixed length if in Fixed Length on page 251 Mode. Length includes the bar code's data characters only. The length can be set from 1 to 74 characters.

Table 17 provides some examples for setting Length 1. See page 251 for detailed instructions on setting this feature.

Table 17. GS1 DataBar™ Expanded Length 1 Setting Examples

STEP	ACTION	EXAMPLES			
1	Desired Setting	01 Character	07 Characters	52 Characters	74 Characters
2	Scan ENTER/EXIT PROGRAMMING MODE				
3	Scan SELECT GS1 DataBar™ EXPANDED LENGTH 1SETTING				
4	Scan Two Characters From Appendix D, Keypad	'0' and '1'	'0' and '7'	'5' and '2'	'7' AND '4'
5	Scan ENTER/EXIT PROGRAMMING MODE				

Select GS1 DataBar™ Expanded Set Length 1 Setting

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

DEFAULT **01 = Length 1 is 1 Character**

GS1 DataBar™ Expanded Set Length 2

This feature specifies one of the bar code lengths for GS1 DataBar™ Expanded Length Control on page 162. Length 2 is the maximum label length if in Variable Length on page 251 Mode, or the second fixed length if in Fixed Length on page 251 Mode. Length includes the bar code's data characters only. The length can be set from 1 to 74 characters. A setting of 0 specifies to ignore this length (only one fixed length).

Table 18 provides examples for setting Length 2. See page 251 for detailed instructions on setting this feature.

Table 18. GS1 DataBar™ Expanded Length 2 Setting Examples

STEP	ACTION	EXAMPLES			
1	**Desired Setting**	00 (ignore second length)	07 Characters	52 Characters	74 Characters
2	**Scan ENTER/EXIT PROGRAMMING MODE**				
3	**Scan SELECT GS1 DataBar™ EXPANDED LENGTH 2 SETTING**				
4	**Scan Two Characters From** Appendix D, Keypad	'0' and '0'	'0' and '7'	'5' and '2'	'7' and '4'
5	**Scan ENTER/EXIT PROGRAMMING MODE**				

Select GS1 DataBar™ Expanded Set Length 2 Setting

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

DEFAULT **74 = Length 2 is 74 Characters**

GS1 DATABAR™ LIMITED

The following options apply to the GS1 DataBar™ Limited (formerly RSS Limited) symbology.

GS1 DataBar™ Limited Enable/Disable

When disabled, the reader will not read GS1 DataBar™ Limited bar codes.

DEFAULT

GS1 DataBar™ Limited = Disable

GS1 DataBar™ Limited = Enable

GS1 DataBar™ Limited GS1-128 Emulation

When enabled, GS1 DataBar™ Limited bar codes will be translated to the GS1-128 label data format.

DEFAULT

GS1 DataBar™ Limited GS1-128 Emulation = Disable

GS1 DataBar™ Limited GS1-128 Emulation = Enable

GS1 DataBar™ Limited 2D Component

This feature enables/disables a requirement that a 2D label component be decoded when a base label of this symbology is decoded.

DEFAULT

GS1 DataBar™ Limited 2D Component = Disable (2D component not required)

GS1 DataBar™ Limited 2D Component = 2D component must be decoded

CODE 93

The following options apply to the Code 93 symbology.

Code 93 Enable/Disable

Enables/Disables ability of reader to decode Code 93 labels.

DEFAULT

Code 93 = Disable

Code 93 = Enable

Code 93 Check Character Calculation

Enables/disables calculation and verification of an optional Code 93 check character.

Code 93 Check Character Calculation = Disable

Code 93 Check Character Calculation = Enable Check C

Code 93 Check Character Calculation = Enable Check K

Code 93 Check Character Calculation = Enable Check C and K

DEFAULT

Code 93 Check Character Transmission

Enables/disables transmission of an optional Code 93 check character.

DEFAULT

Code 93 Check Character Transmission = Disable

Code 93 Check Character Transmission = Enable

Code 93 Length Control

This feature specifies either variable length decoding or fixed length decoding for the Code 93 symbology.

Variable Length: For variable length decoding, a minimum and maximum length may be set.

Fixed Length: For fixed length decoding, two different lengths may be set.

DEFAULT

Code 93 Length Control = Variable Length

Code 93 = Fixed Length

Code 93 Set Length 1

Specifies one of the bar code lengths for Code 93 Length Control on page 168. Length 1 is the minimum label length if in Variable Length on page 251 Mode, or the first fixed length if in Fixed Length on page 251 Mode. Length includes the bar code's data characters only. The length can be set from 01 to 50 characters.

Table 19 provides some examples for setting Length 1. See page 251 for detailed instructions on setting this feature.

Table 19. Code 93 Length 1 Setting Examples

STEP	ACTION	EXAMPLES			
1	Desired Setting	01 Characters	07 Characters	15 Characters	50 Characters
2	Scan ENTER/EXIT PROGRAMMING MODE				
3	Scan SELECT CODE 93 LENGTH 1 SETTING				
4	Scan Two Characters From Appendix D, Keypad	'0' and '1'	'0' and '7'	'1' and '5'	'5' AND '0'
5	Scan ENTER/EXIT PROGRAMMING MODE				

Select Code 93 Set Length 1 Setting

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

DEFAULT **01 = Length 1 is 1 Character**

Code 93 Set Length 2

This feature specifies one of the bar code lengths for Code 93 Length Control on page 168. Length 2 is the maximum label length if in Variable Length on page 251 Mode, or the second fixed length if in Fixed Length on page 251 Mode. Length includes the bar code's check, data, and full-ASCII shift characters. The length does not include start/stop characters. The length can be set from 1 to 50 characters. A setting of 0 specifies to ignore this length (only one fixed length).

Table 20 provides examples for setting Length 2. See page 251 for detailed instructions on setting this feature.

Table 20. CODE 93 Length 2 Setting Examples

STEP	ACTION	EXAMPLES			
1	**Desired Setting**	00 (Ignore This Length)	07 Characters	15 Characters	50 Characters
2	**Scan ENTER/EXIT PROGRAMMING MODE**				
3	**Scan SELECT CODE 93 LENGTH 2 SETTING**				
4	**Scan Two Characters From** Appendix D, Keypad	'0' and '0'	'0' and '7'	'1' and '5'	'5' AND '0'
5	**Scan ENTER/EXIT PROGRAMMING MODE**				

Select Code 93 Length 2 Setting

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

DEFAULT **50 = Length 2 is 50 Characters**

Code 93 Quiet Zones

Enables/disables quiet zones for Code 93.

Code 93 Quiet Zones = Quiet Zones on two sides

DEFAULT

Code 93 Quiet Zones = Small Quiet Zones on two sides

MSI

The following options apply to the MSI symbology.

MSI Enable/Disable

Enables/Disables ability of reader to decode MSI labels.

DEFAULT

MSI = Disable

MSI = Enable

MSI Check Character Calculation

Enables/Disables calculation and verification of an optional MSI check character.

MSI Check Character Calculation = Disable

DEFAULT

MSI Check Character Calculation = Enable Mod10

MSI Check Character Calculation = Enable Mod11/10

MSI Check Character Calculation = Enable Mod10/10

MSI Check Character Transmission

Enables/disables transmission of an MSI check character.

MSI Check Character Transmission = Disable

DEFAULT

MSI Check Character Transmission = Enable

MSI Length Control

This feature specifies either variable length decoding or fixed length decoding for the MSI symbology.

Variable Length: For variable length decoding, a minimum and maximum length may be set.

Fixed Length: For fixed length decoding, two different lengths may be set.

DEFAULT

MSI Length Control = Variable Length

MSI = Fixed Length

MSI Set Length 1

This feature specifies one of the bar code lengths for MSI Length Control on page 173. Length 1 is the minimum label length if in Variable Length on page 251 Mode, or the first fixed length if in Fixed Length on page 251 Mode. Length includes the bar code's data characters only. The length can be set from 01 to 50 characters.

Table 21 provides some examples for setting Length 1. See page 251 for detailed instructions on setting this feature.

Table 21. MSI Length 1 Setting Examples

STEP	ACTION	EXAMPLES			
1	**Desired Setting**	01 Characters	07 Characters	15 Characters	50 Characters
2	**Scan ENTER/EXIT PROGRAMMING MODE**				
3	**Scan SELECT MSI LENGTH 1 SETTING**				
4	**Scan Two Characters From** Appendix D, Keypad	'0' and '1'	'0' and '7'	'1' and '5'	'5' AND '0'
5	**Scan ENTER/EXIT PROGRAMMING MODE**				

Select MSI Set Length 1 Setting

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

DEFAULT **01 = Length 1 is 1 Character**

MSI Set Length 2

This feature specifies one of the bar code lengths for MSI Length Control on page 173. Length 2 is the maximum label length if in Variable Length on page 251 Mode, or the second fixed length if in Fixed Length on page 251 Mode. Length includes the bar code's check, data, and full-ASCII shift characters. The length does not include start/stop characters.

The length can be set from 1 to 50 characters. A setting of 0 specifies to ignore this length (only one fixed length).

Table 22 provides examples for setting Length 2. See page 251 for detailed instructions on setting this feature.

Table 22. MSI Length 2 Setting Examples

STEP	ACTION	EXAMPLES			
1	**Desired Setting**	00 (Ignore This Length)	07 Characters	15 Characters	50 Characters
2	**Scan ENTER/EXIT PROGRAMMING MODE**				
3	**Scan SELECT MSI LENGTH 2 SETTING**				
4	**Scan Two Characters From** Appendix D, Keypad	'0' and '0'	'0' and '7'	'1' and '5'	'5' AND '0'
5	**Scan ENTER/EXIT PROGRAMMING MODE**				

Select MSI Length 2 Setting

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

DEFAULT **50 = Length 2 is 50 Characters**

PLESSEY

The following options apply to the Plessey symbology.

Plessey Enable/Disable

Enables/Disables ability of reader to decode Plessey labels.

DEFAULT

Plessey = Disable

Plessey = Enable

Plessey Check Character Calculation

Enables/Disables calculation and verification of an optional Plessey check character.

Plessey Check Character Calculation = Disable

Plessey Check Character Calculation =
Enable Plessey std. check char. verification

DEFAULT

Plessey Check Character Calculation =
Enable Anker check char. verification

Plessey Check Character Calculation =
Enable Plessey std. and Anker check char verification

Plessey Check Character Transmission

Enables/disables transmission of an MSI check character.

Plessey Check Character Transmission = Disable

DEFAULT

Plessey Check Character Transmission = Enable

Plessey Length Control

This feature specifies either variable length decoding or fixed length decoding for the Plessey symbology.

Variable Length: For variable length decoding, a minimum and maximum length may be set.

Fixed Length: For fixed length decoding, two different lengths may be set.

DEFAULT

Plessey Length Control = Variable Length

Plessey = Fixed Length

Plessey Set Length 1

This feature specifies one of the bar code lengths for Plessey Length Control on page 177. Length 1 is the minimum label length if in Variable Length on page 251 Mode, or the first fixed length if in Fixed Length on page 251 Mode. Length includes the bar code's data characters only. The length can be set from 01 to 50 characters.

Table 23 provides some examples for setting Length 1. See page 251 for detailed instructions on setting this feature.

Table 23. Plessey Length 1 Setting Examples

STEP	ACTION	EXAMPLES			
1	**Desired Setting**	01 Characters	07 Characters	15 Characters	50 Characters
2	**Scan ENTER/EXIT PROGRAMMING MODE**				
3	**Scan SELECT Plessey LENGTH 1 SETTING**				
4	**Scan Two Characters From** Appendix D, Keypad	'0' and '1'	'0' and '7'	'1' and '5'	'5' AND '0'
5	**Scan ENTER/EXIT PROGRAMMING MODE**				

Select Plessey Set Length 1 Setting

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

DEFAULT **01 = Length 1 is 1 Character**

Plessey Set Length 2

This feature specifies one of the bar code lengths for Plessey Length Control on page 177. Length 2 is the maximum label length if in Variable Length on page 251 Mode, or the second fixed length if in Fixed Length on page 251 Mode. Length includes the bar code's check, data, and full-ASCII shift characters. The length does not include start/stop characters.

The length can be set from 1 to 50 characters. A setting of 0 specifies to ignore this length (only one fixed length).

Table 24 provides examples for setting Length 2. See page 251 for detailed instructions on setting this feature.

Table 24. Plessey Length 2 Setting Examples

STEP	ACTION	EXAMPLES			
1	**Desired Setting**	00 (Ignore This Length)	07 Characters	15 Characters	50 Characters
2	**Scan ENTER/EXIT PROGRAMMING MODE**				
3	**Scan SELECT PLESSEY LENGTH 2 SETTING**				
4	**Scan Two Characters From** Appendix D, Keypad	'0' and '0'	'0' and '7'	'1' and '5'	'5' AND '0'
5	**Scan ENTER/EXIT PROGRAMMING MODE**				

Select Plessey Length 2 Setting

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

DEFAULT **50 = Length 2 is 50 Characters**

NOTES

2D SYMBOLOGIES

2D Global Features	
• 2D Maximum Decoding Time on page 182	• 2D Normal/Inverse Symbol Control on page 183
• 2D Structured Append on page 183	

The reader supports the following 2D symbologies (bar code types). Symbology-dependent options for each symbology are included in this chapter. See "1D Code Selection" starting on page 89 for configuration of 1D bar codes.

2D Symbologies	
• Aztec Code on page 184	• Micro PDF417 on page 199
• China Sensible Code on page 187	• QR Code on page 202
• Data Matrix on page 190	• Micro QR Code on page 205
• Maxicode on page 193	• UCC Composite on page 208
• PDF417 on page 196	• Postal Code Selection on page 210

2D Global Features

The following features are common to all, or in some cases, most of the available 2D symbologies. Default settings are indicated at each feature/option with a green arrow. Also reference Appendix B, Standard Defaults for a listing of the most widely used set of standard factory settings. That section also provides space to record any custom settings needed or implemented for your system.

To set most features:

1. Scan the ENTER/EXIT PROGRAMMING bar code at the top of applicable programming pages.
2. Scan the correct bar code to set the desired programming feature or parameter. You may need to cover unused bar codes on the page, and possibly the facing page, to ensure that the reader reads only the bar code you intend to scan.
3. If additional input parameters are needed, go to Appendix D, Keypad, and scan the appropriate characters from the keypad.

NOTE

Additional information about many features can be found in the "References" chapter.

If you make a mistake before the last character, scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

Complete the programming sequence by scanning the ENTER/EXIT PROGRAMMING bar code to exit Programming Mode.

2D Maximum Decoding Time

This feature specifies the maximum amount of time the software will spend attempting to decode a 2D label. The selectable range is 10 milliseconds to 2.55 milliseconds.

2D Maximum Decoding Time = 100 msec

2D Maximum Decoding Time = 200 msec

2D Maximum Decoding Time = 350 msec

DEFAULT

2D Maximum Decoding Time = 500 msec

2D Maximum Decoding Time = 1 Second

2D Maximum Decoding Time = 2 Seconds

2D Maximum Decoding Time = 2.55 Seconds

2D Structured Append

Enables/disables ability of reader to append multiple 2D Codes labels in a structured format. The structured append property is globally applied to the following symbologies, if these are enabled:

- Data Matrix
- QR Code
- Aztec
- PDF 417

DEFAULT

Structured Append = Disable

Structured Append = Enable

2D Normal/Inverse Symbol Control

Specifies the options available for decoding normal/negative printed 2D symbols. This configuration item applies globally to all the 2D symbologies that support that feature according to Standard AIM Specification: Data Matrix, QR, MicroQR, Aztec and Chinese Sensible Code.

To decode all symbologies, including linear symbologies, refer to "Decode Negative Image" on page 84D

DEFAULT

Normal/Inverse Symbol Control = Normal

Normal/Inverse Symbol Control = Inverse

Normal/Inverse Symbol Control = Both Normal and Inverse

SYMBOLOGY SELECTION

Aztec Code

Aztec Code Enable / Disable

Enables/disables the ability of the reader to decode Aztec Code labels.

DEFAULT

Aztec Code = Disable

Aztec Code = Enable

Aztec Code Length Control

This feature specifies either variable length decoding or fixed length decoding for this symbology.

Variable Length: For variable length decoding, a minimum and maximum length may be set.

Fixed Length: For fixed length decoding, two different lengths may be set.

DEFAULT

Aztec Code Length Control = Variable Length

Aztec Code Length Control = Fixed Length

Aztec Code Set Length 1

Specifies one of the bar code lengths for Aztec Code Length Control on page 184. Length 1 is the minimum label length if in Variable Length Mode, or the first fixed length if in Fixed Length Mode. Characters can be set from 0001 to 3,832 characters in increments of 0001 (pad with zeroes).

See page 251 for detailed instructions on setting this feature.

Select Aztec Code Length 1 Setting

To configure this feature, scan the ENTER/EXIT PROGRAMMING MODE bar code above, then the bar code at left followed by the digits from the Alphanumeric characters in Appendix D, Keypad representing your desired character(s). End by scanning the ENTER/EXIT bar code again.

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

DEFAULT

0001 = Length 1 is 1 Character

Enter/Exit Programming Mode

Aztec Code Set Length 2

This feature specifies one of the bar code lengths for Aztec Code Length Control on page 184. Length 2 is the maximum label length if in Variable Length Mode, or the second fixed length if in Fixed Length Mode. Characters can be set from 0001 to 3,832 characters in increments of 0001 (pad with zeroes).

See page 251 for detailed instructions on setting this feature.

Select Aztec Code Length 2 Setting

To configure this feature, scan the ENTER/EXIT PROGRAMMING MODE bar code above, then the bar code at left followed by the digits from the Alphanumeric characters in Appendix D, Keypad representing your desired character(s). End by scanning the ENTER/EXIT bar code again.

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

DEFAULT **Length 2 is 3,832 Characters**

China Sensible Code

China Sensible Code Enable / Disable

Enables/disables the ability of the reader to decode China Sensible Code labels.

DEFAULT

China Sensible Code = Disable

China Sensible Code = Enable

China Sensible Code Length Control

This feature specifies either variable length decoding or fixed length decoding for this symbology.

Variable Length: For variable length decoding, a minimum and maximum length may be set.

Fixed Length: For fixed length decoding, two different lengths may be set.

DEFAULT

China Sensible Code Length Control = Variable Length

China Sensible Code Length Control = Fixed Length

China Sensible Code Set Length 1

Specifies one of the bar code lengths for China Sensible Code Length Control on page 187. Length 1 is the minimum label length if in Variable Length Mode, or the first fixed length if in Fixed Length Mode. Characters can be set from 0001 to 7,827 characters in increments of 0001 (pad with zeroes).

See page 251 for detailed instructions on setting this feature.

Select China Sensible Code Length 1 Setting

To configure this feature, scan the ENTER/EXIT PROGRAMMING MODE bar code above, then the bar code at left followed by the digits from the Alphanumeric characters in Appendix D, Keypad representing your desired character(s). End by scanning the ENTER/EXIT bar code again.

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

DEFAULT **0001 = Length 1 is 1 Character**

China Sensible Code Set Length 2

This feature specifies one of the bar code lengths for China Sensible Code Length Control on page 187. Length 2 is the maximum label length if in Variable Length Mode, or the second fixed length if in Fixed Length Mode. Characters can be set from 0001 to 7,827 characters in increments of 0001 (pad with zeroes).

See page 251 for detailed instructions on setting this feature.

Select China Sensible Code Length 2 Setting

To configure this feature, scan the ENTER/EXIT PROGRAMMING MODE bar code above, then the bar code at left followed by the digits from the Alphanumeric characters in Appendix D, Keypad representing your desired character(s). End by scanning the ENTER/EXIT bar code again.

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

DEFAULT **Length 2 is 7,827 Characters**

Data Matrix

Data Matrix Enable / Disable

Enables/disables ability of reader to decode Data Matrix labels.

Data Matrix = Disable

DEFAULT

Data Matrix = Enable

Data Matrix Square/Rectangular Style

Specifies the options available when reading Data Matrix with different form factors. Choices are:

- Square Style
- Rectangular Style
- Both Square and Rectangular Style

The configuration item can also be configured as a bit mask to filter one or more Data Matrix labels with different symbol size AND shape styles.

Data Matrix Dimensions Mask = Square Style

Data Matrix Dimensions Mask = Rectangular Style

DEFAULT

Data Matrix Dimensions Mask =
Both Square and Rectangular Style

Data Matrix Length Control

This feature specifies either variable length decoding or fixed length decoding for this symbology.

Variable Length: For variable length decoding, a minimum and maximum length may be set.

Fixed Length: For fixed length decoding, two different lengths may be set.

DEFAULT

Data Matrix Length Control = Variable Length

Data Matrix Length Control = Fixed Length

Data Matrix Set Length 1

Specifies one of the bar code lengths for Data Matrix Length Control on page 191. Length 1 is the minimum label length if in Variable Length Mode, or the first fixed length if in Fixed Length Mode. Characters can be set from 0001 to 3,116 characters in increments of 0001 (pad with zeroes).

See page 251 for detailed instructions on setting this feature.

Select Data Matrix Length 1 Setting

To configure this feature, scan the ENTER/EXIT PROGRAMMING MODE bar code above, then the bar code at left followed by the digits from the Alphanumeric characters in Appendix D, Keypad representing your desired character(s). End by scanning the ENTER/EXIT bar code again.

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

DEFAULT **0001 = Length 1 is 1 Character**

Data Matrix Set Length 2

This feature specifies one of the bar code lengths for Data Matrix Length Control on page 191. Length 2 is the maximum label length if in Variable Length Mode, or the second fixed length if in Fixed Length Mode. Characters can be set from 0001 to 3,116 characters in increments of 0001 (pad with zeroes).

See page 251 for detailed instructions on setting this feature.

Select Data Matrix Length 2 Setting

To configure this feature, scan the ENTER/EXIT PROGRAMMING MODE bar code above, then the bar code at left followed by the digits from the Alphanumeric characters in Appendix D, Keypad representing your desired character(s). End by scanning the ENTER/EXIT bar code again.

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

DEFAULT **Length 2 is 3,116 Characters**

Maxicode

Maxicode Enable / Disable

Enables/disables ability of reader to decode Maxicode labels.

DEFAULT

Maxicode = Disable

Maxicode = Enable

Maxicode Primary Message Transmission

Enables/disables the transmission of only the Primary Message when the Secondary Message is not readable.

DEFAULT

Maxicode Primary Message Transmission = Disable

Maxicode Primary Message Transmission = Enable

Maxicode Length Control

This feature specifies either variable length decoding or fixed length decoding for this symbology.

Variable Length: For variable length decoding, a minimum and maximum length may be set.

Fixed Length: For fixed length decoding, two different lengths may be set.

DEFAULT

Maxicode Length Control = Variable Length

Maxicode Length Control = Fixed Length

Maxicode Set Length 1

Specifies one of the bar code lengths for Maxicode Length Control on page 194. Length 1 is the minimum label length if in Variable Length Mode, or the first fixed length if in Fixed Length Mode. Characters can be set from 0001 to 0145 characters in increments of 0001 (pad with zeroes).

See page 251 for detailed instructions on setting this feature.

Select Maxicode Length 1 Setting

To configure this feature, scan the ENTER/EXIT PROGRAMMING MODE bar code above, then the bar code at left followed by the digits from the Alphanumeric characters in Appendix D, Keypad representing your desired character(s). End by scanning the ENTER/EXIT bar code again.

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

DEFAULT **0001 = Length 1 is 1 Character**

Maxicode Set Length 2

This feature specifies one of the bar code lengths for Maxicode Length Control on page 194. Length 2 is the maximum label length if in Variable Length Mode, or the second fixed length if in Fixed Length Mode. Characters can be set from 0001 to 0145 characters in increments of 0001 (pad with zeroes).

See page 251 for detailed instructions on setting this feature.

Select Maxicode Length 2 Setting

To configure this feature, scan the ENTER/EXIT PROGRAMMING MODE bar code above, then the bar code at left followed by the digits from the Alphanumeric characters in Appendix D, Keypad representing your desired character(s). End by scanning the ENTER/EXIT bar code again.

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

DEFAULT **Length 2 is 0145 Characters**

PDF417

PDF417 Enable / Disable

Enables/disables the ability of the reader to decode PDF417 labels.

PDF417 = Disable

DEFAULT

PDF417 = Enable

PDF417 Length Control

This feature specifies either variable length decoding or fixed length decoding for this symbology.

Variable Length: For variable length decoding, a minimum and maximum length may be set.

Fixed Length: For fixed length decoding, two different lengths may be set.

DEFAULT

PDF417 Length Control = Variable Length

PDF417 Length Control = Fixed Length

PDF417 Set Length 1

Specifies one of the bar code lengths for PDF417 Length Control on page 196. Length 1 is the minimum label length if in Variable Length Mode, or the first fixed length if in Fixed Length Mode. Length includes the bar code's data characters only. Characters can be set from 0001 to 2,710 characters (pad with zeroes) in increments of 01. Any value greater than 2,710 will be considered to be 2,710.

See page 251 for detailed instructions on setting this feature.

Select PDF417 Length 1 Setting

To configure this feature, scan the ENTER/EXIT PROGRAMMING MODE bar code above, then the bar code at left followed by the digits from the Alphanumeric characters in Appendix D, Keypad representing your desired character(s). End by scanning the ENTER/EXIT bar code again.

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

DEFAULT **0001 = Length 1 is 1 Character**

PDF417 Set Length 2

This feature specifies one of the bar code lengths for PDF417 Length Control on page 196. Length 2 is the maximum label length if in Variable Length Mode, or the second fixed length if in Fixed Length Mode. Length includes the bar code's check, data, and full-ASCII shift characters. The length does not include start/stop characters. Characters can be set from 01 to 2,710 characters (pad with zeroes) in increments of 01. Any value greater than 2,710 will be considered to be 2,710.

See page 251 for detailed instructions on setting this feature.

Select PDF417 Length 2 Setting

To configure this feature, scan the ENTER/EXIT PROGRAMMING MODE bar code above, then the bar code at left followed by the digits from the Alphanumeric characters in Appendix D, Keypad representing your desired character(s). End by scanning the ENTER/EXIT bar code again.

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

DEFAULT **Length 2 is 2,710 Characters**

Micro PDF417

Micro PDF417 Enable / Disable

Enables/disables the ability of the reader to decode Micro PDF417 labels.

DEFAULT

Micro PDF417 = Disable

Micro PDF417 = Enable

Micro PDF417 Code 128 GS1-128 Emulation

Specifies which AIM ID to use for MicroPDF labels when doing Code 128 or GS1-128 emulation.

Emulation choices are:

- Micro PDF AIM ID and label type
- Code 128 / EAN128 AIM Id and label type

DEFAULT

Micro PDF417 Code 128 GS1-128 Emulation = Micro PDF AIM ID and label type

Micro PDF417 Code 128 GS1-128 Emulation = Code 128 / EAN128 AIM ID and label type

Enter/Exit Programming Mode

Micro PDF417 Length Control

This feature specifies either variable length decoding or fixed length decoding for this symbology.

Variable Length: For variable length decoding, a minimum and maximum length may be set.

Fixed Length: For fixed length decoding, two different lengths may be set.

DEFAULT

Micro PDF417 Length Control = Variable Length

Micro PDF417 Length Control = Fixed Length

Micro PDF417 Set Length 1

Specifies one of the bar code lengths for Micro PDF417 Length Control on page 200. Length 1 is the minimum label length if in Variable Length Mode, or the first fixed length if in Fixed Length Mode. Length includes the bar code's data characters only. Characters can be set from 0001 to 0366 characters (pad with zeroes) in increments of 01. Any value greater than 0366 will be considered to be 0366.

See page 251 for detailed instructions on setting this feature.

Select Micro PDF417 Length 1 Setting

To configure this feature, scan the ENTER/EXIT PROGRAMMING MODE bar code above, then the bar code at left followed by the digits from the Alphanumeric characters in Appendix D, Keypad representing your desired character(s). End by scanning the ENTER/EXIT bar code again.

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

DEFAULT

0001 = Length 1 is 1 Character

Micro PDF417 Set Length 2

This feature specifies one of the bar code lengths for Micro PDF417 Length Control on page 200. Length 2 is the maximum label length if in Variable Length Mode, or the second fixed length if in Fixed Length includes the bar code's data characters only. Characters can be set from 0001 to 0366 characters (pad with zeroes) in increments of 01. Any value greater than 0366 will be considered to be 0366.

See page 251 for detailed instructions on setting this feature.

Select Micro PDF417 Length 2 Setting

To configure this feature, scan the ENTER/EXIT PROGRAMMING MODE bar code above, then the bar code at left followed by the digits from the Alphanumeric characters in Appendix D, Keypad representing your desired character(s). End by scanning the ENTER/EXIT bar code again.

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

DEFAULT **Length 2 is 0366 Characters**

QR Code

QR Code Enable / Disable

Enables/disables the ability of the reader to decode QR Code labels.

QR Code = Disable

DEFAULT

QR Code = Enable

QR Code Length Control

This feature specifies either variable length decoding or fixed length decoding for this symbology.

Variable Length: For variable length decoding, a minimum and maximum length may be set.

Fixed Length: For fixed length decoding, two different lengths may be set.

DEFAULT

QR Code Length Control = Variable Length

QR Code Length Control = Fixed Length

QR Code Set Length 1

Specifies one of the bar code lengths for QR Code Length Control on page 202. Length 1 is the minimum label length if in Variable Length Mode, or the first fixed length if in Fixed Length Mode. Characters can be set from 0001 to 7,089 characters in increments of 0001 (pad with zeroes).

See page 251 for detailed instructions on setting this feature.

Select QR Code Length 1 Setting

To configure this feature, scan the ENTER/EXIT PROGRAMMING MODE bar code above, then the bar code at left followed by the digits from the Alphanumeric characters in Appendix D, Keypad representing your desired character(s). End by scanning the ENTER/EXIT bar code again.

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

DEFAULT **0001 = Length 1 is 1 Character**

QR Code Set Length 2

This feature specifies one of the bar code lengths for QR Code Length Control on page 202. Length 2 is the maximum label length if in Variable Length Mode, or the second fixed length if in Fixed Length Mode. Characters can be set from 0001 to 7,089 characters in increments of 0001 (pad with zeroes).

See page 251 for detailed instructions on setting this feature.

Select QR Code Length 2 Setting

To configure this feature, scan the ENTER/EXIT PROGRAMMING MODE bar code above, then the bar code at left followed by the digits from the Alphanumeric characters in Appendix D, Keypad representing your desired character(s). End by scanning the ENTER/EXIT bar code again.

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

DEFAULT **Length 2 is 7,089 Characters**

Micro QR Code

Micro QR Code Enable/Disable

Enables/disables the ability of the reader to decode Micro QR Code labels.

DEFAULT

Micro QR Code = Disable

Micro QR Code = Enable

Micro QR Code Length Control

This feature specifies either variable length decoding or fixed length decoding for this symbology.

Variable Length: For variable length decoding, a minimum and maximum length may be set.

Fixed Length: For fixed length decoding, two different lengths may be set.

DEFAULT

Micro QR Code Length Control = Variable Length

Micro QR Code Length Control = Fixed Length

Micro QR Code Set Length 1

Specifies one of the bar code lengths for Micro QR Code Length Control on page 205. Length 1 is the minimum label length if in Variable Length Mode, or the first fixed length if in Fixed Length Mode. Characters can be set from 0001 to 0035 characters in increments of 0001 (pad with zeroes).

See page 251 for detailed instructions on setting this feature.

Select Micro QR Code Length 1 Setting

To configure this feature, scan the ENTER/EXIT PROGRAMMING MODE bar code above, then the bar code at left followed by the digits from the Alphanumeric characters in Appendix D, Keypad representing your desired character(s). End by scanning the ENTER/EXIT bar code again.

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

DEFAULT **0001 = Length 1 is 1 Character**

Micro QR Code Set Length 2

This feature specifies one of the bar code lengths for Micro QR Code Length Control on page 205. Length 2 is the maximum label length if in Variable Length Mode, or the second fixed length if in Fixed Length Mode. Characters can be set from 0001 to 0035 characters in increments of 0001 (pad with zeroes).

See page 251 for detailed instructions on setting this feature.

Select QR Code Length 2 Setting

To configure this feature, scan the ENTER/EXIT PROGRAMMING MODE bar code above, then the bar code at left followed by the digits from the Alphanumeric characters in Appendix D, Keypad representing your desired character(s). End by scanning the ENTER/EXIT bar code again.

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

DEFAULT **Length 2 is 0035 Characters**

UCC Composite

UCC Composite Enable / Disable

Enables/disables the ability of the reader to decode the stacked part of a UCC Composite label.

NOTE

This feature is not effective when Global AIM IDs are enabled (see "Global AIM ID" on page 55).

DEFAULT

UCC Composite = Disable

UCC Composite = Enable

UCC Optional Composite Timer

Specifies the amount of time the system will wait for the stacked part of a UCC Composite label before transmitting the linear label without an add-on.

DEFAULT

UCC Optional Composite Timer = Timer Disabled

UCC Optional Composite Timer = 100msec

UCC Optional Composite Timer = 200msec

UCC Optional Composite Timer = 300msec

UCC Optional Composite Timer = 400msec

UCC Optional Composite Timer = 500msec

Postal Code Selection

Enables/disables the ability of the scanner to decode labels of a specific postal symbology.

- Disable All Postal Codes
- Postnet
- Planet
- Royal Mail
- Kix
- Australia Post
- Japan Post
- IMB
- Sweden Post
- Portugal Post

DEFAULT

Postal Code Selection = Disable All Postal Codes

Postal Code Selection = Enable Postnet

Postal Code Selection = Enable Planet

Postal Code Selection = Enable Royal Mail

Postal Code Selection = Enable Kix

Postal Code Selection = Enable Australia Post

Postal Code Selection (continued)

Postal Code Selection = Enable Japan Post

Postal Code Selection = Enable IMB

Postal Code Selection = Enable Sweden Post

Postal Code Selection = Enable Portugal Post

Postnet BB Control

Controls the ability of the scanner to decode B and B' fields of Postnet labels.

DEFAULT

Postnet BB Control = Disable

Postnet BB Control = Enable

NOTES

WIRELESS FEATURES

This section provides options and programming related to the reader's wireless communication features. Reference Appendix B for a listing of standard factory settings.

WIRELESS BEEPER FEATURES starting on page 214
- Good Transmission Beep on page 214
- Beep Frequency on page 214
- Beep Duration on page 215
- Beep Volume on page 216
- Disconnect Beep on page 216
- Docking Beep on page 217
- Leash Alarm on page 217

CONFIGURATION UPDATES starting on page 219
- Automatic Configuration Update on page 219
- Copy Configuration to Scanner on page 219
- Copy Configuration to Base Station on page 220

BATCH FEATURES starting on page 220
- Batch Mode on page 220
- Send Batch on page 221
- Erase Batch Memory on page 221
- RF Batch Mode Transmit Delay on page 221

DIRECT RADIO AUTOLINK starting on page 222

BLUETOOTH-ONLY FEATURES starting on page 223
- Source Radio Address Transmission on page 223
- Source Radio Address Delimiter Character on page 224
- BT Security Mode on page 225
- BT PIN Code on page 226
- Select PIN Code Length on page 226
- Set PIN Code on page 226
- Bluetooth HID Variable PIN Code on page 227
- Bluetooth HID Alt Mode on page 228
- Bluetooth HID Send Unknown ASCII Char on page 228
- Bluetooth Friendly Name on page 229
- HID Country Mode on page 230
- Powerdown Timeout on page 233

FEATURES FOR STAR MODELS ONLY starting on page 234
- STAR Radio Protocol Timeout on page 234
- STAR Radio Transmit Mode on page 235

WIRELESS BEEPER FEATURES

Several options are available to configure beeper behavior for RF operation.

Good Transmission Beep

Enables/disables the Good Transmission Beep indication. When enabled, a beep occurs when a Label is correctly transmitted to the base.

Good Transmission Beep = Disable

Good Transmission Beep = Enable

DEFAULT

Beep Frequency

Adjusts radio-specific beep indications to sound at a low, medium or high frequency, selectable from the list below (controls the beeper's pitch/tone).

DEFAULT

Beep Frequency = Low

Beep Frequency = Medium

Beep Frequency = High

Beep Duration

This feature controls the duration of radio-specific beep indications.

Beep Duration = 60 msec

Beep Duration = 80 msec

DEFAULT

Beep Duration = 100 msec

Beep Duration = 120 msec

Beep Duration = 140 msec

Beep Duration = 160 msec

Beep Duration = 180 msec

Beep Duration = 200 msec

Beep Volume

Selects the beeper volume (loudness) of radio-specific beep indications. There are three selectable volume levels.

Beep Volume = Low

Beep Volume = Medium

Beep Volume = High

DEFAULT

Disconnect Beep

Enables/disables the beep indication that a handheld has become connected or disconnected from a Base Station.

NOTE **The defaults are different for the STAR and BT models.**

Disconnect Beep = Disable

Disconnect Beep = Enable

DEFAULT

Docking Beep

Enables/disables a beep indication when the handheld is placed in the Base Station.

Docking Beep = Disable

Docking Beep = Enable

DEFAULT

Leash Alarm

This setting specifies the number of seconds to sound the Leash Mode beeps (three per second) when the handheld goes out of range. This is especially useful in instances where the reader might inadvertently have been placed in a bag or cart.

For this mode to be effective, the reader must be linked to the Base Station. If the reader is asleep or disconnected from the Base Station, there is no way for it to know where it is relative to the Base Station because communication is not active between the devices.

DEFAULT

Leash Alarm = Disabled

Leash Alarm = 1 Second

Leash Alarm = 2 Seconds

Leash Alarm (continued)

Leash Alarm = 3 Seconds

Leash Alarm = 4 Seconds

Leash Alarm = 5 Seconds

Leash Alarm = 10 Seconds

Leash Alarm = 25 Seconds

Leash Alarm = 30 Seconds

CONFIGURATION UPDATES

See page 270 in “References” for detailed information and examples of these features.

Automatic Configuration Update

When this feature is enabled, a reader and its linked Base Station can automatically ensure they stay in sync with regard to application hardware and/or configuration.

Automatic Configuration Update = Disable

Automatic Configuration Update = Enable

DEFAULT

Copy Configuration to Scanner

Scan the following label to copy the current Base Station configuration to the scanner. Use this method when the Auto Configuration Update feature is disabled and you want a one-time configuration update to be performed on the scanner.

NOTE

Do not scan an ENTER/EXIT PROGRAMMING MODE label in conjunction with this bar code.

Copy Configuration to Scanner

Copy Configuration to Base Station

Scan the following label to copy the current scanner configuration to the Base Station. Use this method when the Auto Configuration Update feature is disabled and you want a one-time configuration update to be performed on the Base Station.

Copy Configuration to Base Station

NOTE **Do not scan an ENTER/EXIT PROGRAMMING MODE label with this bar code.**

BATCH FEATURES

Batch Mode

This option specifies whether to store labels in the handheld while disconnected from the base. Options are as follows:

- Disabled — The handheld will not store/batch labels.
- Automatic — The handheld will store labels to RAM when the handheld goes out of range and is disconnected from the remote device.
- Manual — The handheld will always store labels to Flash memory. The user must manually send the stored labels to the remote device using a special "batch send" label.

DEFAULT

Batch Mode = Disabled

Batch Mode = Automatic

Batch Mode = Manual

Send Batch

When the scanner is configured in Manual Batch Mode, use the following bar code to initiate sending of labels stored in batch memory.

NOTE **Do not scan an ENTER/EXIT PROGRAMMING MODE label in conjunction with this bar code.**

Send Batch

Erase Batch Memory

When the scanner is configured in Manual Batch Mode, use the following bar code to erase any labels stored in batch memory.

NOTE **Do not scan an ENTER/EXIT PROGRAMMING MODE label in conjunction with this bar code.**

Erase Batch Memory

RF Batch Mode Transmit Delay

Specifies the delay in 10 msec increments between transmitting labels stored in batch memory.

DEFAULT

RF Batch Mode Transmit Delay = No Delay

RF Batch Mode Transmit Delay = 50 mS

RF Batch Mode Transmit Delay = 100 mS

RF Batch Mode Transmit Delay (continued)

RF Batch Mode Transmit Delay = 0.5 seconds

RF Batch Mode Transmit Delay = 1 second

RF Batch Mode Transmit Delay = 2.5 seconds

DIRECT RADIO AUTOLINK

This feature enables/disables the ability to link a wireless handheld to a base station without scanning the Unlink label first.

DEFAULT

Direct Radio Link = Unlink Label Required

Direct Radio Link = Automatic Unlinking

BLUETOOTH-ONLY FEATURES

The features following in this section are valid only for QuickScan Bluetooth models.

RF ADDRESS STAMPING

These features allow configuration of source radio data inclusion.

Source Radio Address Transmission

Enables/disables the ability of source radio address information to be transmitted to the host and, if so, at what position with respect to the label data. See page 270 in “References” for detailed information and examples for setting this feature.

NOTE **When included as a prefix, the source-radio ID is displayed after all label formatting has been applied. The 6 byte hex address is sent as 12 ascii characters, i.e., an address of 00 06 66 00 1A ED will be sent as (shown in hex): 30 30 30 36 36 36 30 30 31 41 45 44**

DEFAULT

Source Radio Address Transmission = Do Not Include

Source Radio Address Transmission = Prefix

Source Radio Address Delimiter Character

This option specifies the delimiter character to be placed between the label data and radio address when address stamping is enabled.

NOTE **This feature only applies if "Source Radio Address Transmission" on page 223 is enabled.**

Set Source Radio Address Delimiter Character

To configure this feature, scan the ENTER/EXIT PROGRAMMING MODE bar code above, then the bar code at left followed by the digits from the Alphanumeric characters in Appendix D Keypad representing your desired character(s). End by scanning the ENTER/EXIT bar code again.

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

DEFAULT **00 = No Delimiter Character**

BT SECURITY FEATURES

On the BT system, it is possible to set a (configurable) PIN code to authenticate/connect BT devices, and encrypt the data.

The BT PIN code can be enabled and configured by reading the bar codes in the following sections.

NOTE

If you are using a BT scanner directly connected to a host through a BT dongle, verify that the scanner and the BT driver used by the dongle share the same PIN code and the same security level. Otherwise the connection cannot be established.

Follow these steps to set the PIN code for a scanner:

1. Enable BT Security Mode by scanning the “Enable” bar code below.
2. Select a PIN code length of either 4 or 16 characters by scanning the appropriate bar code in "Select PIN Code Length" on page 226.
3. Scan the relevant bar code from "Set PIN Code" on page 226, then scan the desired alphanumeric characters from the keypad in Appendix D Keypad to set the PIN code.

See page 272 in “References” for more detailed information and examples for this feature.

BT Security Mode

This feature enables/disables authentication and encryption of the BT link. Use the feature "BT PIN Code" on page 226 to specify the length and digits in the PIN code used to authenticate the BT Link.

NOTE

Changing the security mode setting will unlink the devices. If the Automatic Configuration Update is set to the default “Enabled” setting, the devices must only be relinked. If the Automatic Configuration Update is set to “Disabled,” the Security Mode setting must also be updated in the Base Station using Aladdin. After the Base Station has been updated, the devices must be relinked.

DEFAULT

BT Security Mode = Disable

BT Security Mode = Enable

BT PIN Code

After enabling Security Mode (see "BT Security Mode" on page 225), specify whether you want to set a 4–digit or a 16–digit PIN Code. See page 272 for detailed information and examples for setting this feature.

Select PIN Code Length

Select 4-character BT PIN Code

DEFAULT

Select 16-character BT PIN Code

Set PIN Code

Determine the desired characters for the PIN code, then convert to hexadecimal using the ASCII Chart on page 1 on the inside back cover of this manual. See page 272 for detailed information and examples for setting this feature.

Set 4-character BT PIN Code

To configure this feature, scan the ENTER/EXIT PROGRAMMING MODE bar code above, then the bar code at left followed by the digits from the Alphanumeric characters in Appendix D Keypad representing your desired character(s). End by scanning the ENTER/EXIT bar code again.

Set 16-character BT PIN Code

CANCEL

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

DEFAULT

31323334 = Default PIN Code is 1234

OTHER BT FEATURES

Bluetooth HID Variable PIN Code

Specifies the selection available for Static or Variable Pin Code, when Bluetooth HID profile is configured.

Some Bluetooth drivers on the Host (such as WIDCOMM and BlueSoleil 8) require a Variable PIN Code. When attempting connection, the application presents a window that includes a PIN Code which is to be input using the QuickScan QBT24xx. Scan the bar code "Variable PIN Code" below, then use the host computer's Bluetooth manager to "Discover new devices" and select "Datalogic Scanner." Use a text editor to see incoming data on the port designated by the computer's Bluetooth manager.

If you receive an error message, it may be necessary to disable security on the device.

When you hear the beep and see the Green LED blinking indicating the reader is waiting for an alphanumeric entry, enter the required variable PIN Code by scanning the corresponding bar codes in Appendix D Keypad for alphanumeric entry. Finish by scanning the Exit HID Variable PIN Code label.

Set Static Pin Code

DEFAULT

Set Variable Pin code

CANCEL

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

Exit HID Variable PIN Code

Bluetooth HID Alt Mode

Enable/Disable the ability to correctly transmit a label to the host regardless of the Bluetooth HID Country Mode selected, when Bluetooth HID Profile is configured.

Read the configuration command label below for the HID Alt Mode feature.

HID Alt Mode = OFF

DEFAULT

HID Alt Mode = ON

Bluetooth HID Send Unknown ASCII Char

Unknown characters are characters the host does not recognize. When Disable HID Send ASCII Unknown character is selected, all barcode data is sent except for unknown characters, and an error beep will sound. When *HID Send Unknown ASCII character* is enabled, an unknown character will be sent as a SPACE.

DEFAULT

HID Send Unknown ASCII character = Disable

HID Send Unknown ASCII character = Enable

Bluetooth Friendly Name

You can set a meaningful name for QuickScan QBT2400 that will appear in the application during device discovery.

To set a new Bluetooth Friendly Name, scan the barcode below and follow the instructions.

Set Bluetooth Friendly Name

To configure this feature, scan the ENTER/EXIT PROGRAMMING MODE bar code above, then the bar code at left followed by a maximum 64 digits from the Alphanumeric characters in Appendix D Keypad. The digits must be the hexadecimal ASCII representation of the desired characters. If less than the expected string of 32 characters are selected, scan the ENTER/EXIT bar code to terminate the string.

Make a mistake? Scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

CANCEL

DEFAULT

QUICKSCAN-QBT2400 [SERIAL_NUMBER_SCANNER]

HID Country Mode

When the Reader is connected with a Bluetooth Adapter in HID mode, you may want to set the country for which your PC is localized. In order to do that, read one of the configuration command labels below.

Country Mode = U.S.

Country Mode = Belgium

Country Mode = Britain

Country Mode = Croatia

Country Mode = Czech Republic

Country Mode = Denmark

Country Mode = France

HID Country Mode (continued)

Country Mode = French Canadian

Country Mode = Germany

Country Mode = Hungary

Country Mode = Italy

Country Mode = Japanese 106-key

Country Mode = Lithuanian

Country Mode = Norway

Country Mode = Poland

HID Country Mode (continued)

Country Mode = Portugal

Country Mode = Romania

Country Mode = Spain

Country Mode = Sweden

Country Mode = Slovakia

Country Mode = Switzerland

Powerdown Timeout

The Powerdown Timeout feature sets the time for automatically switching the unit off when the imager has been idle.

Powerdown Timeout = Disable

Powerdown Timeout = 10 minutes

Powerdown Timeout = 20 minutes

Powerdown Timeout = 30 minutes

DEFAULT

Powerdown Timeout = 60 Minutes (1 Hour)

Powerdown Timeout = 120 Minutes (2 Hours)

FEATURES FOR STAR MODELS ONLY

The features in this section are valid only for the QuickScan I GM440X Star model:

- STAR Radio Protocol Timeout on page 234
- STAR Radio Transmit Mode on page 235

STAR Radio Protocol Timeout

This parameter sets the valid wait time before transmission between the handheld reader and Base Station is considered failed.

When setting this parameter, take into consideration the radio traffic (number of readers in the same area). The selectable range for this feature is from 02 to 25 seconds. See page 271 in “References” for detailed information and examples for setting this feature.

Set Radio Protocol Timeout

Make a mistake? Scan the CANCEL barcode to abort and not save the entry string. You can then start again at the beginning.

CANCEL

DEFAULT **02 = 2 Seconds Radio Protocol Timeout**

STAR Radio Transmit Mode

Specifies the transmission protocol for Star communications.

Options are:

- ACK from cradle to scanner — signals a good transmission as soon as the Base Station receives a label
- ACK when sent to host — scanner signals a good transmission as soon as the Base Station has sent the label to the host
- ACK from host — scanner signals a good transmission as soon as the Base Station has sent the label to the host and host has replied with an acknowledge message.

DEFAULT

ACK from cradle

ACK when sent to host

ACK from host

NOTE

ACK from host works only for RS-232 or USB-COM interfaces with ACK/NACK disabled. If ACK from host is configured with any other interface conditions, it works like ACK when sent to host.

See "Message Formatting" on page 237 for details.

NOTE

The Base Station can receive a host message only if Host Commands Obey/Ignore (page 27) is set to Ignore.

NOTES

Chapter 4
Message Formatting

Message Formatting

NOTE

Message Formatting is only available for the QuickScan™ Wireless model.

A message from the Host to the base must follow these rules:

- If Address stamping options or address delimiter are enabled on the base, the Host replay must have address field and delimiter too. Otherwise the message will be ignored. Address delimiter is present only when address stamping is enabled.
- Address stamping is necessary to correctly route the message to the QuickScan I, especially when more than one handheld is linked to the same base. Address stamping could be disabled if the system is in point to point configuration. If address stamping is not enabled, the messages are addressed to the first handheld linked to the base.
- The maximum character length for messages is 48.
- Messages end with “CR” 0x0D ASCII character. The CR character cannot be contained in the middle.
- Messages cannot start with '$' or # because these are reserved for Service mode command
- Base station can receive host message only if Host Commands Obey/Ignore is set to Ignore.
- Message could be sent to the HH in response to a Label when “Transmit mode” require Ack from Host (see transmit mode parameter) or at any time. When messages are sent not in response to a label must start with DC2 0x12 ASCII character and could be sent in any transmit mode setting.
- Message could be sent to all HH linked to base by using a Multicast message: **“00 00 00 00 2A AA”**
- In order to receive a message, handhelds must not be in sleep state.

The format of the ACK from Host message (used for transmission mode 02) is:

[Scanner_Addr] [Scanner_Addr_delimiter] MESSAGE <CR>

The format of a generic message From Host to HH is:

[Scanner_Addr] [Scanner_Addr_delimiter] DC2 MESSAGE <CR>

where DC2 is ASCII 0x12 (^R) character.

[Items in square brackets are optional.]

- If you want to control the Scanner's beeper from the host, you will also probably want to disable the good transmission beep that is emitted when the code is received from the cradle. (See "Wireless Beeper Features" on page 214).

The message field can store plain text and escape sequences.

- Escape sequences are interpreted as commands.

LED and Beeper Control

ESC [0 q	Emit short High tone + short delay
ESC [1 q	Emit short Low tone + short delay
ESC [2 q	Emit long Low tone + short delay
ESC [3 q	Emit good read tone
ESC [4 q	Emit bad tx tone
ESC [5 q	Wait 100 ms
ESC [6 q	Turn on the green LED
ESC [7 q	Turn off the green LED
ESC [8 q	Turn on the green spot
ESC [9 q	Turn off the green spot
ESC [0 r	Beep for Find me function (new)
ESC [1 r	Power-off (new)

The LED control escape sequences are intended to activate the LEDs for short periods of time and can be used in combination with the Beeper. The LED and Beeper will be controlled by the system after the entire command sequence is interpreted.

Example:

ESC [6 q ESC [3 q ESC [7 q	Turns on the green LED, emits a good read tone, and turns off the green LED.
ESC [6 q ESC [5 q ESC [7 q	Turns on the green LED for 100 ms and then turns off the green LED.

Escape sequences different from those listed will be ignored.

Chapter 5
References

This section contains explanations and examples of selected bar code features. See Configuration Using Bar Codes, starting on page 25 for the actual bar code labels used to configure the reader.

RS-232 PARAMETERS starting on page 240
- RS-232
- RS-232/USB COM Parameters

KEYBOARD INTERFACE starting on page 248
- Wedge Quiet Interval
- Intercharacter Delay
- Intercode Delay

SYMBOLOGIES starting on page 251
Set Length

DATA EDITING starting on page 252
- Global Prefix/Suffix
- Global AIM ID
- Label ID
- Character Conversion

READING PARAMETERS starting on page 261
- Good Read LED Duration

SCANNING FEATURES starting on page 262
- Scan Mode
- Stand Mode Off Time
- Scanning Active Time
- Aiming Duration Time
- Flash On Time
- Flash Off Time
- Multiple Labels Ordering by Code Symbology

RF FEATURES starting on page 270
- Automatic Configuration Update
- RF Address Stamping

BT-Only Features
- BT Pin Code

RS-232 Parameters

RS-232

Baud Rate

Baud rate is the number of bits of data transmitted per second. Set the reader's baud rate to match the baud rate setting of the host device. With an improper baud rate setting, data may not reach the host correctly.

Stop Bits

The stop bit(s) at the end of each transmitted character marks the end of transmission of one character and prepares the receiving device for the next character in the serial data stream. The number of stop bits selected (one or two) depends on the number the receiving terminal is programmed to accommodate. Set the number of stop bits to match host device requirements.

Parity

This feature specifies parity required for sending and receiving data. A parity check bit is the most significant bit of each ASCII coded character. Select the parity type according to host device requirements.

- Select None when no parity bit is required.
- Select Odd parity and the parity bit value is set to 0 or 1, based on data, to ensure that an odd number of 1 bits are contained in the coded character.
- Select Even parity and the parity bit value is set to 0 or 1, based on data, to ensure that an even number of 1 bits are contained in the coded character.

Handshaking Control

The data interface consists of an RS-232 port designed to operate either with or without the hardware handshaking lines, *Request to Send* (RTS), and *Clear to Send* (CTS). Handshaking Control includes the following options:

- RTS — RTS is asserted during transmissions. CTS is ignored.
- RTS/CTS — RTS is asserted during transmissions. CTS gates transmissions.
- RTS/XON/XOFF — RTS is asserted during transmissions. CTS is ignored. XON and XOFF gate transmissions.
- RTS On/CTS — RTS is always asserted. CTS gates transmissions.

RTS/CTS Scan Control — RTS is asserted during transmissions. CTS gates transmissions and controls enable and disable state of scanner.

RS-232/USB COM Parameters

Intercharacter Delay

This parameter specifies the intercharacter delay between the end of one character and the beginning of the next. The delay can be set within a range of zero (0) to 990 milliseconds in 10ms increments. A setting of zero specifies no delay.

To set the delay:

1. Determine the desired setting in milliseconds.
2. Divide the desired setting by 10 (setting is in 10ms increments). Pad the result with leading zeroes to yield two digits. For example: 0 = 00, 5 = 05, 20 = 20, etc.
3. Scan the ENTER/EXIT PROGRAMMING MODE bar code to enter Programming Mode.
4. Go to page 35 and scan the bar code: SELECT INTERCHARACTER DELAY SETTING.
5. Scan the appropriate two digits from the keypad in Appendix D, Keypad, that represent the duration which was determined in the steps above. You will hear a two-beep indication after the last character.

NOTE

If you make a mistake before the last character, scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

6. Scan the ENTER/EXIT PROGRAMMING MODE bar code to exit.

This completes the procedure. See Table 25 for some examples of how to set this feature.

Table 25. Intercharacter Delay Setting Examples

STEP	ACTION	EXAMPLES			
1	Desired Setting	50ms	150ms	600ms	850ms
2	Divide by 10 (pad with leading zeroes to yield two-digits)	05	15	60	85
3	Scan ENTER/EXIT PROGRAMMING MODE				
4	Scan SELECT INTERCHARACTER DELAY SETTING				
5	Scan Two Characters From Appendix D, Keypad	'0' and '5'	'5' and '0'	'6' and '0'	'8' and '5'
6	Scan ENTER/EXIT PROGRAMMING MODE				

ACK NAK Options

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

Options are:

- Disable
- Enable for label transmission — The reader expects an ACK/NAK response from the host when a label is sent.
- Enable for host-command acknowledge — The reader will respond with ACK/NAK when the host sends a command.
- Enable for label transmission and host-command acknowledge

ACK Character

This setting specifies an ASCII character or hex value to be used as the ACK character. ASCII characters or any hex value from 0 to 0xFF can be selected.

NOTE

Setting to previously defined characters such as XON, XOFF, or host commands conflicts with normal operation of these characters. 8-bit data is not recognized when the option Data Bits has been set as 7 Data Bits.

1. Determine the desired character or value.
2. Use the ASCII Chart on the inside back cover of this manual to find the hex equivalent for the desired character/value.
3. Go to page 37 and scan ENTER/EXIT PROGRAMMING MODE to enter Programming Mode.
4. Scan the bar code: SELECT ACK CHARACTER SETTING.
5. Scan the appropriate two alphanumeric characters from the keypad in Appendix D, Keypad, that represent the desired character/value in step 1 above. The second character will cause a two-beep indication.
6. Scan the ENTER/EXIT PROGRAMMING MODE bar code to exit.

See Table 26 for some examples of how to set this feature.

Table 26. ACK Character Setting Examples

STEP	ACTION	EXAMPLES			
1	Desired Character/Value	ACK	$	@	>
2	Hex equivalent from ASCII Chart	0x06	0x24	0x40	0x3E
3	Scan ENTER/EXIT PROGRAMMING MODE				
4	Scan SELECT ACK CHARACTER SETTING				
5	Scan Two Characters from Appendix D, Keypad	‘0’ and ‘6’	‘2’ and ‘4’	‘4’ and ‘0’	‘3’ AND ‘E’
6	Scan ENTER/EXIT PROGRAMMING MODE				

NAK Character

This setting specifies an ASCII character or hex value to be used as the NAK character. ASCII characters or any hex value from 0 to 0xFF can be selected.

NOTE

Setting to previously defined characters such as XON, XOFF, or host commands conflicts with normal operation of these characters. 8-bit data is not recognized when the option Data Bits has been set as 7 Data Bits.

To set this feature:

1. Determine the desired character or value.
2. Use the ASCII Chart on the inside back cover of this manual to find the hex equivalent for the desired character/value.
3. Go to page 37 and scan the ENTER/EXIT PROGRAMMING MODE bar code to enter Programming Mode.
4. Scan the bar code: SELECT NAK CHARACTER SETTING.
5. Scan the appropriate two alphanumeric characters from the keypad in Appendix D, Keypad, that represent the desired character/value in step 1 above. The second character will cause a two-beep indication.
6. Scan the ENTER/EXIT PROGRAMMING MODE bar code to exit Programming Mode.

This completes the procedure. See Table 27 for some examples of how to set this feature.

Table 27. NAK Character Setting Examples

STEP	ACTION	EXAMPLES			
1	Desired Character/Value	NAK	$	@	>
2	Hex equivalent from ASCII Chart	0x15	0x24	0x40	0x3E
3	Scan ENTER/EXIT PROGRAMMING MODE				
4	Scan SELECT NAK CHARACTER SETTING				
5	Scan Two Characters From Appendix D, Keypad	'1' and '5'	'2' and '4'	'4' and '0'	'3' AND 'E'
6	Scan ENTER/EXIT PROGRAMMING MODE				

ACK NAK Timeout Value

This option specifies the amount of time the reader waits for an ACK character from the host following label transmission. The selectable timeout range is 200 milliseconds to 15,000ms (15 seconds) in 200ms increments. A selection of 0 disables the timeout.

To set this value:

1. Determine the desired setting in milliseconds.
2. Divide the desired setting by 200 (setting is in 200ms increments). Pad the result with leading zeroes to yield two digits. For example: 0 = 00, 5 = 05, 20 = 20, etc.
3. Go to page 38 and scan the ENTER/EXIT PROGRAMMING MODE bar code to enter Programming Mode.
4. Scan the bar code: SELECT ACK NAK TIMEOUT VALUE SETTING.
5. Scan the appropriate two digits from the keypad in Appendix D, Keypad, that represent the duration which was determined in the steps above. You will hear a two-beep indication after the last character.

NOTE

If you make a mistake before the last character, scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

6. Scan the ENTER/EXIT PROGRAMMING MODE bar code to exit Programming Mode.

This completes the procedure. See Table 28 for some examples of how to set this feature.

Table 28. ACK NAK Timeout Value Setting Examples

STEP	ACTION	EXAMPLES			
1	Desired Setting	200ms	1,000ms (1 sec.)	5200ms (5.2 sec.)	15,000ms (15 sec.)
2	Divide by 200	01	05	26	75
3	Scan ENTER/EXIT PROGRAMMING MODE				
4	Scan SELECT ACK NAK TIMEOUT VALUE SETTING				
5	Scan Two Characters From Appendix D, Keypad	'0' and '1'	'0' and '5'	'2' and '6'	'7' and '5'
6	Scan ENTER/EXIT PROGRAMMING MODE				

ACK NAK Retry Count

This feature specifies the number of times the reader retries a label transmission due to a retry condition. The selectable range is from 1 to 254 retries. A selection of 0 disables the count, and a selection of 255 specifies unlimited retries.

To set this feature:

1. Determine the desired setting.
2. Pad the number with leading zeroes to yield three digits. For example: 0 = 000, 5 = 005, 20 = 020, etc.
3. Go to page 38 and scan the ENTER/EXIT PROGRAMMING MODE bar code to enter Programming Mode.
4. Scan the bar code: SELECT ACK NAK RETRY COUNT SETTING.
5. Scan the appropriate three digits from the keypad in Appendix D, Keypad, that represent the number which was determined in the steps above. You will hear a two-beep indication after the last character.

NOTE

If you make a mistake before the last character, scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

6. Scan the ENTER/EXIT PROGRAMMING MODE bar code to exit Programming Mode.

This completes the procedure. See Table 29 for some examples of how to set this feature.

Table 29. ACK NAK Retry Count Setting Examples

STEP	ACTION	EXAMPLES			
1	Desired Setting	Disable Retry Count	3 Retries	54 Retries	Unlimited Retries
2	Pad with leading zero(es)	000	003	054	255
3	Scan ENTER/EXIT PROGRAMMING MODE				
4	Scan SELECT ACK NAK RETRY COUNT SETTING				
5	Scan Three Characters From Appendix D, Keypad	'0', '0' and '0'	'0', '0' and '3'	'0', '5' and '4'	'2', '5' and '5'
6	Scan ENTER/EXIT PROGRAMMING MODE				

Disable Character

Specifies the value of the RS-232 host command used to disable the reader.

ASCII characters or any hex value from 0 to 0xFF can be selected.

NOTE

Setting to previously defined characters such as XON, XOFF, or host commands conflicts with normal operation of these characters. 8-bit data is not recognized when the option Data Bits has been set as 7 Data Bits.

To set the value:

1. Determine the desired character or value. A setting of 0xFF indicates the Disable Character is not used (not available).
2. Use the ASCII Chart on the inside back cover of this manual to find the hex equivalent for the desired character/value.
3. Go to page 40 and scan the ENTER/EXIT PROGRAMMING MODE bar code to enter Programming Mode.
4. Scan the bar code: SELECT DISABLE CHARACTER SETTING.
5. Scan the appropriate two alphanumeric characters from the keypad in Appendix D, Keypad, that represent the desired character/value in step 1 above. The second character will cause a two-beep indication.
6. Scan the ENTER/EXIT PROGRAMMING MODE bar code to exit Programming Mode.

This completes the procedure. See Table 30 for some examples of how to set this feature.

Table 30. Disable Character Setting Examples

STEP	ACTION	EXAMPLES			
1	Desired character/value	'd'	'}'	'D'	Disable Command Not Used
2	Hex equivalent from ASCII Chart	0x64	0x7D	0x44	0xFF
3	Scan ENTER/EXIT PROGRAMMING MODE				
4	Scan SELECT DISABLE CHARACTER VALUE SETTING				
5	Scan Two Characters From Appendix D, Keypad	'6' and '4'	'7' and 'D'	'4' and '4'	'F' AND 'F'
6	Scan ENTER/EXIT PROGRAMMING MODE				

Enable Character

Specifies the value of the RS-232 host command used to enable the reader.

ASCII characters or any hex value from 0 to 0xFF can be selected.

NOTE

Setting to previously defined characters such as XON, XOFF, or host commands conflicts with normal operation of these characters. 8-bit data is not recognized when the option Data Bits has been set as 7 Data Bits.

To set this feature:

Determine the desired character or value. A setting of 0xFF indicates the Enable Character is not used (not available).

1. Determine the desired character or value.
2. Use the ASCII Chart on the inside back cover of this manual to find the hex equivalent for the desired character/value.
3. Go to page 40 and scan the ENTER/EXIT PROGRAMMING MODE bar code to enter Programming Mode.
4. Scan the bar code: SELECT ENABLE CHARACTER SETTING.
5. Scan the appropriate two alphanumeric characters from the keypad in Appendix D, Keypad, that represent the desired character/value in step 2 above. The second character will cause a two-beep indication.
6. Scan the ENTER/EXIT PROGRAMMING MODE bar code to exit Programming Mode.

This completes the procedure. See Table 31 for some examples of how to set this feature.

Table 31. Enable Character Setting Examples

STEP	ACTION	EXAMPLES			
1	Desired character/value	'e'	'}'	'E'	Enable Command Not Used
2	Hex equivalent from ASCII Chart	0x65	0x7D	0x45	0xFF
3	Scan ENTER/EXIT PROGRAMMING MODE				
4	Scan SELECT ENABLE CHARACTER VALUE SETTING				
5	Scan Two Characters From Appendix D, Keypad	'6' and '5'	'7' and 'D'	'4' and '5'	'F' AND 'F'
6	Scan ENTER/EXIT PROGRAMMING MODE				

Keyboard Interface

Wedge Quiet Interval

Specifies the amount of time the reader looks for keyboard activity before it breaks the keyboard connection in order to transmit data to host. The range is from 0 to 990ms in 10ms increments.

NOTE

This feature applies ONLY to the Keyboard Wedge interface.

1. Determine the desired setting in milliseconds.
2. Divide the desired setting by 10 (setting is in 10ms increments). Pad the result with leading zeroes to yield two digits. For example: 0 = 00, 5 = 05, 20 = 20, etc.
3. Go to page 47 and scan the ENTER/EXIT PROGRAMMING MODE bar code to enter Prog. Mode.
4. Scan the bar code: SELECT WEDGE QUIET INTERVAL SETTING.
5. Scan the appropriate two digits from the keypad in Appendix D, Keypad, that represent the duration which was determined in the steps above. You will hear a two-beep indication after the last character.

NOTE

If you make a mistake before the last character, scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

6. Scan the ENTER/EXIT PROGRAMMING MODE bar code to exit.

This completes the procedure to set the Wedge Quiet Interval. See Table 32 for some examples of how to set this feature.

Table 32. Wedge Quiet Interval Setting Examples

STEP	ACTION	EXAMPLES			
1	Desired Setting	10ms	150ms	600ms	850ms
2	Divide by 10 (and pad with leading zeroes)	01	15	60	85
3	Scan ENTER/EXIT PROGRAMMING MODE				
4	Scan SELECT WEDGE QUIET INTERVAL SETTING				
5	Scan Two Characters From Appendix D, Keypad	'0' and '1'	'1' and '5'	'6' and '0'	'8' and '5'
6	Scan ENTER/EXIT PROGRAMMING MODE				

Intercharacter Delay

This parameter specifies the intercharacter delay between the end of one character and the beginning of the next. The delay can be set within a range of zero (0) to 990 milliseconds in 10ms increments. A setting of zero specifies no delay.

NOTE

This feature applies ONLY to the Keyboard Wedge interface.

To set the delay:

1. Determine the desired setting in milliseconds.
2. Divide the desired setting by 10 (setting is in 10ms increments). Pad the result with leading zeroes to yield two digits. For example: 0 = 00, 5 = 05, 20 = 20, etc.
3. Go to page 35 and scan the ENTER/EXIT PROGRAMMING MODE bar code to enter Programming Mode.
4. Scan the bar code: SELECT INTERCHARACTER DELAY SETTING.
5. Scan the appropriate two digits from the keypad in Appendix D, Keypad, that represent the duration which was determined in the steps above. You will hear a two-beep indication after the last character.

NOTE

If you make a mistake before the last character, scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

6. Scan the ENTER/EXIT PROGRAMMING MODE bar code to exit Programming Mode.

This completes the procedure. See Table 33 for some examples of how to set this feature.

Table 33. Intercharacter Delay Setting Examples

STEP	ACTION	EXAMPLES			
1	Desired Setting	50ms	150ms	600ms	850ms
2	Divide by 10 (and pad with leading zeroes to yield two-digits)	05	15	60	85
3	Scan ENTER/EXIT PROGRAMMING MODE				
4	Scan SELECT INTERCHARACTER DELAY SETTING				
5	Scan Two Characters From Appendix D, Keypad	'0' and '5'	'1' and '5'	'6' and '0'	'8' and '5'
6	Scan ENTER/EXIT PROGRAMMING MODE				

Intercode Delay

Specifies the delay between labels transmitted to the host for this interface. The selectable range for this feature is from 0 to 99 seconds.

Follow these instructions to set this feature:

1. Determine the desired setting.
2. Pad the number with leading zeroes to yield two digits. For example: 0 = 00, 5 = 05, 20 = 20, etc
3. Go to page 47 and scan the ENTER/EXIT PROGRAMMING MODE bar code to enter Programming Mode.
4. Scan the bar code: SELECT INTERCODE DELAY SETTING.
5. Scan the appropriate two digits from the keypad in Appendix D, Keypad, that represent the duration which was determined in the steps above. You will hear a two-beep indication after the last character.

NOTE

If you make a mistake before the last character, scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

6. Scan the ENTER/EXIT PROGRAMMING MODE bar code to exit Programming Mode.

This completes the procedure. See Table 34 for some examples of how to set this feature.

Table 34. Wedge Intercode Delay Examples

STEP	ACTION	EXAMPLES			
1	Desired Setting	No Delay	5 Seconds	60 Seconds	99 Seconds
2	Pad with leading zero(es)	00	05	60	99
3	Scan ENTER/EXIT PROGRAMMING MODE				
4	Scan SELECT INTERCODE DELAY SETTING				
5	Scan Two Characters From Appendix D, Keypad	'0' and '0'	'0' and '5'	'6' and '0'	'9' AND '9'
6	Scan ENTER/EXIT PROGRAMMING MODE				

Symbologies

Set Length

Length Control allows you to select either variable length decoding or fixed length decoding for the specified symbology.

Variable Length: For variable length decoding, a minimum and maximum length may be set.

Fixed Length: For fixed length decoding, two different lengths may be set.

Set Length 1

This feature specifies one of the bar code lengths for Length Control. Length 1 is the minimum label length if in Variable Length Mode, or the first fixed length if in Fixed Length Mode. Length includes the bar code's data characters only.

The number of characters that can be set varies, depending on the symbology. Reference the page for your selected symbology to see specific variables.

1. Determine the desired character length (varies depending on symbology). Pad the number with leading zeroes to yield two digits. For example: 0 = 00, 5 = 05, 20 = 20, etc.
2. Go to the Set Length page for your selected symbology and scan the ENTER/EXIT PROGRAMMING MODE bar code to enter Programming Mode.
3. Scan the bar code to SELECT LENGTH 1 SETTING for your selected symbology.
4. Scan the appropriate two digits from the keypad in Appendix D, Keypad, that represent the length setting which was determined in the steps above. You will hear a two-beep indication after the last character.

NOTE

If you make a mistake before the last character, scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

5. Scan the ENTER/EXIT PROGRAMMING MODE bar code to exit Prog Mode.

Set Length 2

This feature allows you to set one of the bar code lengths for the specified symbology. Length 2 is the maximum label length if in Variable Length Mode, or the second fixed length if in Fixed Length Mode. See the page for the specific symbology for parameters.

The length that can be set varies depending on the symbology. A setting of 0 specifies to ignore this length (only one fixed length).

Follow these instructions to set this feature:

1. Determine the desired character length (from 1 to 50 — or 0 to ignore this length). Pad the number with leading zeroes to yield two digits. For example: 0 = 00, 5 = 05, 20 = 20, etc.
2. Go to the Set Length page for your selected symbology and scan the ENTER/EXIT PROGRAMMING MODE bar code to enter Programming Mode.
3. Scan the bar code to SELECT LENGTH 2 SETTING for your selected symbology.

4. Scan the appropriate two digits from the keypad in Appendix D, Keypad that represent the length setting which was determined in the steps above. You will hear a two-beep indication after the last character.

NOTE **If you make a mistake, before the last character scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.**

5. Scan the ENTER/EXIT PROGRAMMING MODE bar code to exit Programming Mode.

This completes the procedure.

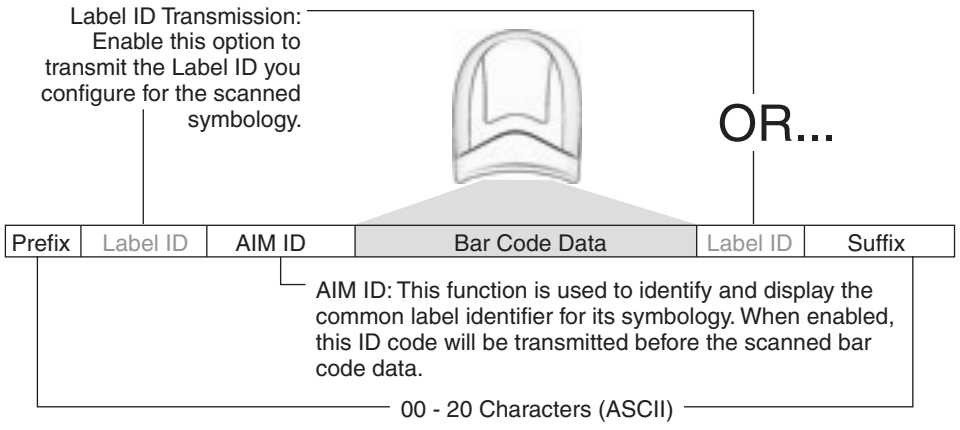
Data Editing

CAUTION **It is not recommended to use these features with IBM interfaces.**

When a bar code is scanned, additional information can be sent to the host computer along with the bar code data. This combination of bar code data and supplementary user-defined data is called a "message string." The Data Editing features can be used to build specific user-defined data into a message string.

There are several types of selectable data characters that can be sent before and after scanned data. You can specify if they should be sent with all symbologies, or only with specific symbologies. Figure 9 shows the available elements you can add to a message string:

Figure 9. Breakdown of a Message String



NOTE **Additional advanced editing is available. See the Advanced formatting features in the Datalogic Aladdin configuration software, or contact Technical Support (as described on page 2) for more information.**

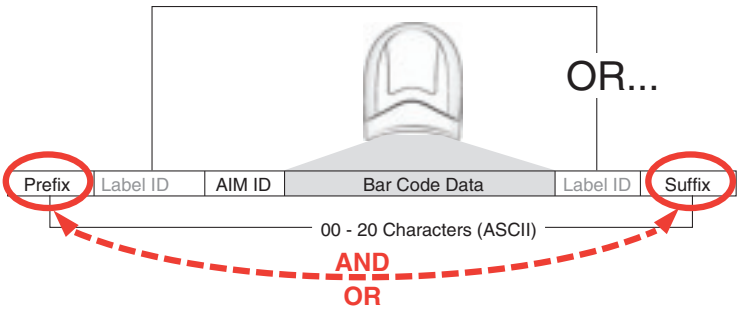
Please Keep In Mind...

- Modifying a message string is not a mandatory requirement. Data editing is a sophisticated feature allowing highly customizable output for advanced users. Factory default settings for data editing is typically set to NONE.
- A prefix or suffix may be applied only to a specified symbology (reference 1D Code Selection, starting on page 89) or across all symbologies (set via the Global features in this chapter).
- You can add any character from the ASCII Chart (from 00–FF) on the inside back cover of this manual as a prefix, suffix or Label ID.
- Enter prefixes and suffixes in the order in which you want them to appear on the output.

Global Prefix/Suffix

Up to 20 ASCII characters may be added as a prefix (in a position before the bar code data) and/or as a suffix (in a position following the bar code data) as indicated in Figure 10.

Figure 10. Prefix and Suffix Positions



Example: Setting a Prefix

In this example, we'll set a prefix for all symbologies.

1. Determine which ASCII character(s) are to be added to scanned bar code data. In this example, we'll add a dollar sign ('$') as a prefix.
2. Go to page 56 and scan the ENTER/EXIT PROGRAMMING MODE bar code, then scan the SET GLOBAL PREFIX bar code.
3. Reference the ASCII Chart on the inside back cover of this manual to find the hex value assigned to the desired character. The corresponding hex number for the '$' character is 24. To enter this selection code, scan the '2' and '4' bar codes from Appendix D, Keypad.

NOTE

If you make a mistake before the last character, scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

4. If less than the expected string of 20 characters are selected, scan the ENTER/EXIT bar code to terminate the string.
5. Scan the ENTER/EXIT bar code once again to exit Programming Mode.
6. The resulting message string would appear as follows:
   Scanned bar code data: **12345**
   Resulting message string output: **$12345**

Global AIM ID

NOTE **This feature enables/disables addition of AIM IDs for all symbology types.**

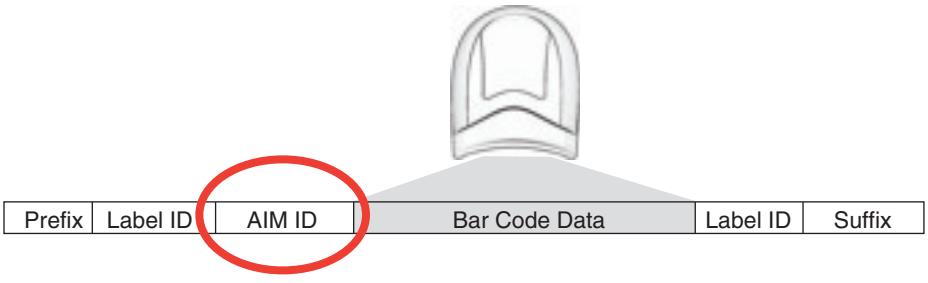
AIM label identifiers (as opposed to custom characters you select yourself as with label identifiers) can be included with scanned bar code data. AIM label identifiers consist of three characters as follows:

- 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).

SYMBOLOGY	CHAR	SYMBOLOGY	CHAR
UPC/EAN	E[a]	Code 128/GS1-128	C
Code 39 and Code 32	A	DataBar Omnidirectional, DataBar Expanded	e
Codabar	F	Standard 2 of 5	S
Interleaved 2 of 5	I	ISBN	X[b]
Code 93	G	Code 11	H

a. UPC-A and UPC-E labels are converted to EAN 13 when adding AIM IDs.
b. ISBN (X with a 0 modifier character)

Figure 11. AIM ID



Label ID

A Label ID is a customizable code of up to three ASCII characters (each can be one of hex 0x01–0xFF), used to identify a bar code (symbology) type. 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 as a pre-loaded set (see "Label ID: Pre-loaded Sets" below) or individually per symbology (see "Label ID: Set Individually Per Symbology" on page 258). If you wish to program the reader to always include an industry standard label identifier for ALL symbology types, see "Global AIM ID" on page 57.

Label ID: Pre-loaded Sets

The reader supports two pre-loaded sets of Label IDs. Table 35 shows the USA and the EU sets.

CAUTION

When changing from one Label ID set to another, all other reader configuration settings, including the host interface type, will be erased and set to the standard factory defaults. Any custom configuration or custom defaults will be lost.

Table 35. Label ID Pre-loaded Sets

Symbology	USA Label ID set		EU Label ID set	
	Default Character	Default ASCII	Default Character	Default ASCII
ABC CODABAR	S	530000	S	530000
ANKER PLESSEY	o	6F0000	o	6F0000
AZTEC	Az	417A00	!	210000
CHINA SENSIBLE CODE	$S	245300	$S	245300
CODABAR	%	250000	R	520000
CODE11	CE	434500	b	620000
CODE128	#	230000	T	540000
CODE32	A	410000	X	580000
CODE39	*	2A0000	V	560000
CODE39 CIP	Y	590000	Y	590000
CODE39 DANISH PPT	$Y	245900	$Y	245900
CODE39 LAPOSTE	$a	246100	$a	246100
CODE39 PZN	$Z	245A00	$Z	245A00
CODE93	&	260000	U	550000
CODE NW7	$N			

Symbology	USA Label ID set		EU Label ID set	
	Default Character	Default ASCII	Default Character	Default ASCII
DATABAR 14	R4	523400	u	750000
DATABAR 14 COMPOSITE	R4	523400	c	523400
DATABAR EXPANDED	RX	525800	t	740000
DATABAR EXPANDED COMPOSITE	RX	525800	d	525800
DATABAR LIMITED	RL	524C00	v	760000
DATABAR LIMITED COMPOSITE	RL	524C00	i	524C00
DATA MATRIX	Dm	446D00	w	770000
EAN128		000000	k	6B0000
EAN128 COMPOSITE		000000	$E	244500
EAN13	F	460000	B	420000
EAN13 P2	F	460000	L	4C0000
EAN13 P5	F	460000	M	4D0000
EAN13 COMPOSITE	F	460000	$F	244600
EAN8	FF	464600	A	410000
EAN8 P2	FF	464600	J	4A0000
EAN8 P5	FF	464600	K	4B0000
EAN8 COMPOSITE	FF	464600	$G	244700
FOLLET 2OF5	O	4F0000	O	4F0000
GTIN	G	470000	$A	244100
GTIN2	G2	473200	$B	244200
GTIN5	G5	473500	$C	244300
I2OF5	i	690000	N	4E0000
I2OF5 CIP HR	e			
IATA INDUSTRIAL 2OF5	IA	494100	&	260000
INDUSTRIAL 2OF5	W	570000	W	570000
ISBN	I	490000	@	400000
ISBT128 CONCAT	f	660000	f	660000
ISSN	n	6E0000	n	6E0000

Symbology	USA Label ID set		EU Label ID set	
	Default Character	Default ASCII	Default Character	Default ASCII
MATRIX 2OF5	g			
MAXICODE	MC	4D4300	x	780000
MICRO QR	$Q	245100	$Q	245100
MICRO PDF	mP	6D5000	8	380000
MSI	@	400000	Z	5A0000
PDF417	P	500000	r	720000
PLESSEY	a	610000	a	610000
POSTAL AUSTRALIAN	$K	244B00	$K	244B00
POSTAL IMB	$V	245600	$V	245600
POSTAL JAPANESE	$R	245200	$R	245200
POSTAL KIX	$U	245500	$U	245500
POSTAL PLANET	$W	245700	$W	245700
POSTAL PORTUGAL	$P	245000	$P	245000
POSTAL POSTNET BB	$L	244C00	$L	244C00
POSTAL ROYAL MAIL	$M	244D00	$M	244D00
POSTAL SWEDISH	$X	245800	$X	245800
POSTNET	1	310000	1	310000
QR CODE	QR	515200	y	790000
S25	s	730000	P	500000
TRIOPTIC	$T	245400	$T	245400
UPCA	A	410000	C	430000
UPCA P2	A	410000	F	460000
UPCA P5	A	410000	G	470000
UPCA COMPOSITE	A	410000	$H	244800
UPCE	E	450000	D	440000
UPCE P2	E	450000	H	480000
UPCE P5	E	450000	I	490000
UPCE COMPOSITE	E	450000	$J	244A00

Label ID: Set Individually Per Symbology

To configure a Label ID individually for a single symbology:

1. Go to page 61 and scan the ENTER/EXIT bar code.
2. Select Label ID position as either BEFORE (Enable as Prefix) or AFTER (Enable as suffix) by scanning the appropriate bar code in the section "Label ID Control" on page 61. Reference Figure 12 for Label ID positioning options if multiple identification features are enabled.
3. Scan a bar code to select the symbology for which you wish to configure a custom Label ID from the section "Label ID Symbology Selection – 1D Symbologies" on page 62.
4. Determine the desired character(s) (you may choose up to three) which will represent the Label ID for the selected symbology.
5. Turn to the ASCII Chart 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. Turn to Keypad, starting on page 301 and scan the bar codes representing the hex characters determined. For the example given, the characters '3' and 'D' would be scanned. More examples of Label ID settings are provided in Table 36.

NOTE

If you make a mistake before the last character, scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

6. Scan the ENTER/EXIT bar code to exit Label ID entry.
7. Scan the ENTER/EXIT bar code once again to exit Programming Mode.

This completes the steps to configure a Label ID for a given symbology.

Figure 12. Label ID Position Options

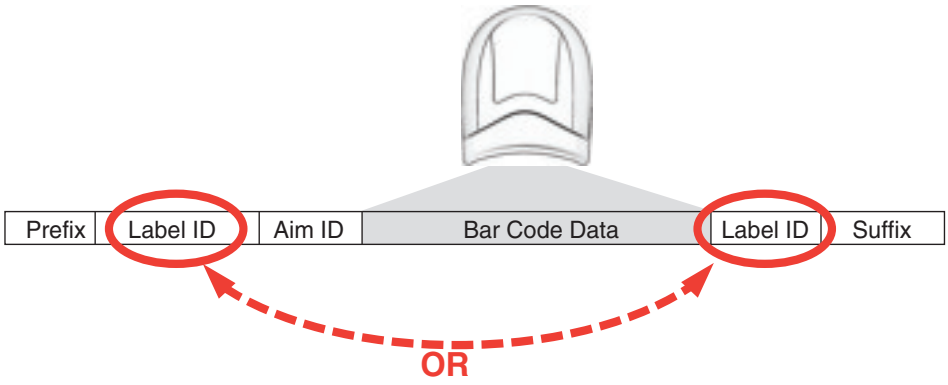


Table 36. Label ID Examples

STEP	ACTION	EXAMPLES			
1.	**Scan the ENTER/EXIT bar code**	(Scanner enters Programming Mode)			
2.	**Determine placement of the Label ID characters BEFORE or AFTER with regard to scanned data using** Label ID Control, starting on page 61	Enable as Prefix	Enable as Suffix	Enable as Prefix	Enable as Suffix
3.	**Scan the bar code selecting the symbology type you wish to designate label ID characters for using** Label ID Symbology Selection – 1D Symbologies, starting on page 62.	DataBar Omnidirectional	Code 39	Interleaved 2 of 5	Code 32
4.	**Custom Label ID example (desired characters):**	D B *	= C 3	+	P H
5.	**Find hex equivalents from the** ASCII Chart **(inside back cover), then scan in these digits/characters using the bar codes in the section:** Keypad, starting on page 301. **If you make a mistake before the last character, scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.**	44 42 2A	3D 43 33	2B	50 48
6.	**Scan the ENTER/EXIT bar code**	(Scanner exits Label ID entry)			
7.	**Scan the ENTER/EXIT bar code once again**	(Scanner exits Programming Mode)			
	Result:	DB*[bar code data]	[bar code data]=C3	+[bar code data]	[bar code data]PH

Character Conversion

Character conversion is an eight byte configuration item. The eight bytes are 4 character pairs represented in hexadecimal ASCII values. The first character in the pair is the character that will be converted. The second character in the pair is the character to convert to. If the character to convert in a pair is FF, then no conversion is done.

For example, if you have the character conversion configuration item set to the following: 41423132FFFFFFFF

The first pair is 4142 or AB (41 hex is an ASCII capital A, 42 hex is an ASCII capital B) and the second pair is 3132 or 12 (31 hex is an ASCII 1, 32 is an ASCII 2). The other two pairs are FFFF and FFFF.

With the label, AB12BA21, it would look as follows after the character conversion: BB22BB22.

The A characters were converted to B characters and the 1 characters were converted to 2 characters. Nothing is done with the last two character pairs, since they are all FF.

To set Character Conversion:

1. Go to page 68 and scan the ENTER/EXIT bar code.
2. Scan the “Configure Character Conversion” bar code.
3. Determine the desired string. Sixteen positions must be determined as in the above example. Next, turn to the ASCII Chart on the inside back cover of this manual and find the equivalent hex digits needed to fulfill the string.
4. Turn to Appendix D, Keypad and scan the bar codes representing the hex characters determined in the previous step.
5. Scan the ENTER/EXIT bar code to exit Programming Mode.

NOTE

If less than the expected string of 16 characters are selected, scan the ENTER/EXIT bar code twice to accept the selections and exit Programming Mode.

Reading Parameters

Good Read LED Duration

This feature specifies the amount of time that the Good Read LED remains on following a good read. The good read LED on time can be set within a range of 10 milliseconds to 2,550 milliseconds (0.001 to 2.55 seconds) in 100ms increments.

Follow these instructions to set this feature:

1. Determine the desired setting in milliseconds. A setting of 0 means that the good read LED stays on until the next time the trigger is pulled.
2. Divide the desired setting by 10 (setting is in 100ms increments). Pad the result with leading zeroes to yield three digits. For example: 0 = 000, 5 = 000, 20 = 020, etc.
3. Go to page 76 and scan the ENTER/EXIT PROGRAMMING MODE bar code to enter Programming Mode.
4. Scan the bar code: SELECT GOOD READ LED DURATION SETTING.
5. Scan the appropriate three digits from the keypad in Appendix D, Keypad representing the duration which was determined in the steps above. You will hear a two-beep indication after the last character.

NOTE

If you make a mistake before the last character, scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

6. Scan the ENTER/EXIT PROGRAMMING MODE bar code to exit Programming Mode.

This completes the procedure. See Table 37 for some examples of how to set this feature.

Table 37. Good Read LED Duration Setting Examples

STEP	ACTION	EXAMPLES			
1	Desired Setting	Good Read LED stays on until next trigger pull (00)	20ms	150ms	2550ms (2.55 sec.)
2	Divide by 10 (and pad with leading zeroes)	000	002	015	255
3	Scan ENTER/EXIT PROGRAMMING MODE				
4	Scan SELECT GOOD READ LED DURATION SETTING				
5	Scan Three Characters From Appendix D, Keypad	'0', '0' and '0'	'0', '0' and '2'	'0', '1' and '5'	'2', '5' and '5'
6	Scan ENTER/EXIT PROGRAMMING MODE				

Scanning Features

Scan Mode

This mode is associated with typical handheld reader operation. Selects the scan operating mode for the reader. The following selections are valid for all models:

Trigger Single: When the trigger is pulled, scanning is activated until one of the following occurs:

- Scanning Active Time has elapsed
- a label has been read
- the trigger is released

Trigger Hold Multiple: When the trigger is pulled, scanning starts and the product scans until the trigger is released or Scanning Active Time has elapsed. Reading a label does not disable scanning. Double Read Timeout prevents undesired multiple reads of the same label while in this mode.

Trigger Pulse Multiple: When the trigger is pulled, continuous scanning is activated until Scanning Active Time has elapsed or the trigger has been released and pulled again. Double Read Timeout prevents undesired multiple reads of the same label while in this mode.

Flashing: The reader flashes on and off regardless of the trigger status. Flash rate is controlled by Flash On Time and Flash Off Time. When Flash is ON the imager reads continuously; when Flash is OFF scanning is deactivated.

Always On: No trigger pull is required to read a bar code. Scanning is continually on. If the trigger is pulled, the reader acts as if it is in Trigger Single Mode. Double Read Timeout prevents undesired multiple reads of the same label while in this mode.

Stand Mode: No trigger pull is required to read a bar code. Scanning is turned on automatically when an item is placed in the reader's field of view.

NOTE

If you are using a SMART STAND like the STD-AUTO-QD24-BK or WH, or the STD-AUTFLX-QD24-BK or WH, Stand Mode is turned on automatically when the scanner is positioned into the stand and, if the trigger is pulled, the reader acts as if it is in single read mode.

Double Read Timeout prevents undesired multiple reads while in this mode.

Stand Mode Off Time

This feature specifies the amount of time reader illumination stays off after pulling the trigger when in Stand Mode. The configurable range is 01 to 32 by 01 in increments of 500ms (500ms to 16 seconds).

Follow these instructions to set this feature:

1. Determine the desired setting.
2. Pad the result with leading zeroes to yield two digits. For example: 2 = 02, 5 = 05, 20 = 20, etc.
3. Go to page 81 and scan the ENTER/EXIT PROGRAMMING MODE bar code to enter Programming Mode.
4. Scan the bar code: Set Stand Mode Illuminator Off Time.
5. Scan the appropriate two digits from the keypad in Appendix D, Keypad, that represent the setting which was determined in the steps above. You will hear a two-beep indication after the last character.
6. Scan the ENTER/EXIT PROGRAMMING MODE bar code to exit Programming Mode.

This completes the procedure. See Table 38 for some examples of how to set this feature.

Table 38. Stand Mode Off Time

STEP	ACTION	EXAMPLES			
1	Desired Setting	500 ms	1 Second	5.5 Seconds	16 Seconds
2	Pad leading zero	01	02	11	32
3	Scan ENTER/EXIT PROGRAMMING MODE				
4	Scan SELECT STAND MODE OFF TIME				
5	Scan Two Characters From Appendix D, Keypad	'0' and '1'	'0' and '2'	'1' and '1'	'3' and '2'
6	Scan ENTER/EXIT PROGRAMMING MODE				

Scanning Active Time

This setting specifies the amount of time that the reader stays in scan ON state once the state is entered. The range for this setting is from 1 to 255 seconds in 1-second increments.

Follow these instructions to set this feature:

1. Determine the desired setting.
2. Pad the result with leading zeroes to yield three digits. For example: 0 = 000, 5 = 005, 20 = 020, etc.
3. Go to page 81 and scan the ENTER/EXIT PROGRAMMING MODE bar code to enter Programming Mode.
4. Scan the bar code: SELECT SCANNING ACTIVE TIME SETTING.
5. Scan the appropriate three digits from the keypad in Appendix D, Keypad, that represent the duration which was determined in the steps above. You will hear a two-beep indication after the last character.

NOTE

If you make a mistake before the last character, scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

6. Scan the ENTER/EXIT PROGRAMMING MODE bar code to exit Programming Mode.

This completes the procedure. See Table 39 for some examples of how to set this feature.

Table 39. Scanning Active Time Setting Examples

STEP	ACTION	EXAMPLES			
1	Desired Setting	1 Second	90 Sec. (1.5 min.)	180 Sec. (3 min.)	255 Seconds (4.25 min.)
2	Pad leading zero(es)	001	090	180	255
3	Scan ENTER/EXIT PROGRAMMING MODE				
4	Scan SELECT SCANNING ACTIVE TIME SETTING				
5	Scan Three Characters From Appendix D, Keypad	'0', '0' and '1'	'0', '9' and '0'	'1', '8' and '0'	'2', '5' and '5'
6	Scan ENTER/EXIT PROGRAMMING MODE				

Aiming Duration Time

Specifies the frame of time the aiming pointer remains on after decoding a label, when in trigger single mode. The range for this setting is from 1 to 255 seconds in 1-second increments.

Follow these instructions to set this feature:

1. Determine the desired setting.
2. Pad the result with leading zeroes to yield three digits. For example: 0 = 000, 5 = 005, 20 = 020, etc.
3. Go to page 84 and scan the ENTER/EXIT PROGRAMMING MODE bar code to enter Programming Mode.
4. Scan the bar code: SELECT AIMING DURATION TIME SETTING.
5. Scan the appropriate three digits from the keypad in Appendix D, Keypad, that represent the duration which was determined in the steps above. You will hear a two-beep indication after the last character.

NOTE

If you make a mistake before the last character, scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

6. Scan the ENTER/EXIT PROGRAMMING MODE bar code to exit Programming Mode.

This completes the procedure. See Table 40 for some examples of how to set this feature.

Table 40. Aiming Duration Time Setting Examples

STEP	ACTION	EXAMPLES			
1	Desired Setting	1 Second	90 Sec. (1.5 min.)	180 Sec. (3 min.)	255 Seconds (4.25 min.)
2	Pad leading zero(es)	001	090	180	255
3	Scan ENTER/EXIT PROGRAMMING MODE				
4	Scan SELECT AIMING DURATION TIME SETTING				
5	Scan Three Characters From Appendix D, Keypad	'0', '0' and '1'	'0', '9' and '0'	'1', '8' and '0'	'2', '5' and '5'
6	Scan ENTER/EXIT PROGRAMMING MODE				

Flash On Time

This feature specifies the ON time for the indicator LED while in Flash Mode. The selectable range is 100 to 9,900 milliseconds (0.1 to 9.9 seconds), in 100 millisecond increments.

Follow these instructions to set this feature.

1. Determine the desired setting in milliseconds.
2. Divide the desired setting by 100 (setting is in 100ms increments). Pad the result with leading zeroes to yield two digits. For example: 0 = 00, 5 = 05, 20 = 20, etc.
3. Go to page 82 and scan the ENTER/EXIT PROGRAMMING MODE bar code to enter Programming Mode.
4. Scan the bar code: SELECT FLASH ON TIME SETTING.
5. Scan the appropriate two digits from the keypad in Appendix D, Keypad representing the duration which was determined in the steps above. You will hear a two-beep indication after the last character.

NOTE

If you make a mistake before the last character, scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

6. Scan the ENTER/EXIT PROGRAMMING MODE bar code to exit Programming Mode.

This completes the procedure. See Table 41 for examples of how to set this feature.

Table 41. Flash On Time Setting Examples

STEP	ACTION	EXAMPLES			
1	Desired Setting	500ms	1,000ms (1 sec.)	5200ms (5.2 sec.)	9,900ms (9.9 sec.)
2	Divide by 100 (and pad with leading zeroes to yield two digits)	05	10	52	99
3	Scan ENTER/EXIT PROGRAMMING MODE				
4	Scan SELECT FLASH ON TIME SETTING				
5	Scan Two Characters From Appendix D, Keypad	'0' and '5'	'1' and '0'	'5' and '2'	'9' and '9'
6	Scan ENTER/EXIT PROGRAMMING MODE				

Flash Off Time

This feature specifies the OFF time for the indicator LED while in Flash Mode. The selectable range is 100 to 9,900 milliseconds (0.1 to 9.9 seconds), in 100 millisecond increments.

Follow these instructions to set this feature.

1. Determine the desired setting in milliseconds.
2. Divide the desired setting by 100 (setting is in 100ms increments). Pad the result with leading zeroes to yield two digits. For example: 0 = 00, 5 = 05, 20 = 20, etc.
3. Go to page 83 and scan the ENTER/EXIT PROGRAMMING MODE bar code to enter Programming Mode.
4. Scan the bar code: SELECT FLASH OFF TIME SETTING.
5. Scan the appropriate two digits from the keypad in Appendix D, Keypad, that represent the duration which was determined in the steps above. You will hear a two-beep indication after the last character.

NOTE

If you make a mistake before the last character, scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

6. Scan the ENTER/EXIT PROGRAMMING MODE bar code to exit Programming Mode.

This completes the procedure. See Table 42 for some examples of how to set this feature.

Table 42. Flash Off Time Setting Examples

STEP	ACTION	EXAMPLES			
1	Desired Setting	500ms	1,000ms (1 sec.)	5200ms (5.2 sec.)	9,900ms (9.9 sec.)
2	Divide by 100 (and pad with leading zeroes to yield two digits)	05	10	52	99
3	Scan ENTER/EXIT PROGRAMMING MODE				
4	Scan SELECT FLASH OFF TIME SETTING				
5	Scan Two Characters From Appendix D, Keypad	'0' and '5'	'1' and '0'	'5' and '2'	'9' and '9'
6	Scan ENTER/EXIT PROGRAMMING MODE				

Multiple Labels Ordering by Code Symbology

This feature Specifies the transmission ordering by symbology type, when Multiple Labels per Frame is enabled.Up to six symbologies can be selected. Zeroes must be added to pad the string to 12 characters if not using all six symbologies.

The labels are ordered first as specified in the output mask. Labels present in the volume but not specified will be transmitted as unspecified symbologies in random order as allowed by the reading time sequence. For each label decoded in the volume the reader signals the standard beeper and LED indications.

To specify the symbology order:

1. Determine the symbologies and order you want to specify.
2. Use Table 44 on page 269 to find the hex values for up to six symbologies.
3. Go to page 88 and scan the ENTER/EXIT PROGRAMMING MODE bar code to enter Programming Mode.
4. Scan the bar code: “SELECT SYMBOLOGIES FOR MULTIPLE LABELS ORDERING”.
5. Scan the appropriate two alphanumeric characters from the keypad in Appendix D, Keypad, that represent the desired character/value in step 2 above.
6. Scan zeroes if needed to make a 12-character string.
7. When finished, scan the ENTER/EXIT PROGRAMMING MODE bar code to exit Programming Mode.

This completes the procedure. See Table 43 for some examples of how to set this feature.

Table 43. Multiple Labels Ordering by Code Symbology Examples

STEP	ACTION	EXAMPLES			
1	Desired symbology	Code 39	Data Matrix	Code 128	Aztec
2	Hex equivalent from ASCII Chart	24	0E	0C	4E
3	Scan ENTER/EXIT PROGRAMMING MODE				
4	Scan SELECT SYMBOLOGIES FOR MULTIPLE LABELS ORDERING				
5	Scan Two Characters From Appendix D, Keypad	‘2’ and ‘4’	‘0’ and ‘E’	‘0’ and ‘C’	‘4’ and ‘E’
	RESULT	0x240E0C4E0000			
6	Scan ENTER/EXIT PROGRAMMING MODE				

Table 44 on page 269 shows the hex value associated with each symbology.

Table 44. Symbology Hex Values

Hex Value	Symbology ID	Hex Value	Symbology ID
00	Don't care	2C	GTIN5
01	UPC-A	2D	GTIN8
02	UPC-E	2E	S2OF5
03	EAN8	2F	PDF417
04	EAN13	30	CODE11
05	UPC2	31	IATA
06	UPC5	32	MICRO_PDF
07	C128_ADDON	33	GS1 DataBar_LIM_ID
0A	EAN128	34	GS1 DataBar_LIM_COMP
0B	C128_PROGRAMMING_LABEL	35	GS1 DataBar_Omnidirectional_COMP
0C	CODE128	36	GS1 DataBar_EXP_COMP
0D	FNC3_C128_LABEL	37	GENERIC_DATA
0E	DATA MATRIX	38	CC_A
0F	MAXICODE	39	CC_B
10	QRCODE	3A	CC_C
11	Reserved	3B	LABELIMAGE
12	Reserved	3C	CAPTURE_IMAGE_LABEL
13	CODE49	3D	Reserved
14	UPC-E2	3E	M2OF5
15	UPC-E5	3F	D2OF5
16	Reserved	40	PLESSEY65
17	UPC-A2	42	ISSN
18	UPC-A5	43	ISBT
19	Reserved	44	Reserved
1A	EAN82	45	TIMER_EXPIRED_EVENT
1B	EAN85	46	FOLLETT_2OF5
1C	Reserved	47	Reserved
1D	EAN132	48	Reserved
1E	EAN135	49	CODE39_CIP
1F	EAN138	4A	ABC_CODABAR
20	ISBN_ID	4B	I2OF5_CIP
21	TWO_LABEL_PAIR	4C	C2OF5
22	I2OF5	4D	IND2OF5
23	CODABAR	4E	AZTEC
24	CODE39	4F	UPC-E_COMP
25	PHARMAC39	50	UPC-A_COMP
26	MSI_PLESSEY	51	EAN8_COMP
27	CODE93	52	EAN13_COMP
28	RSS_EXP_ID	53	EAN128_COMP
29	RSS_14_ID	54	DATA MATRIX_PROGRAMMING_LABEL
2A	GTIN	55	LABEL_ID_MAX
2B	GTIN2	FF	INVALID_LABEL_TYPE

RF Features

Automatic Configuration Update

When this feature is enabled, the base station and reader will keep their configurations synchronized. If a reader's configuration is altered by reading programming labels, this change is automatically transferred and updated in a linked base station. Likewise, if the base station's configuration is changed using Aladdin or by host commands, then the reader's configuration will automatically be updated if this feature is enabled.

RF Address Stamping

Source Radio Address Delimiter Character

This option specifies the delimiter character to be placed between the label data and radio address when address stamping is enabled.

NOTE

This feature only applies if "Source Radio Address Transmission" on page 223 is enabled.

Follow these instructions to select the delimiter character:

1. Determine the desired character, then find its hexadecimal equivalent on the ASCII Chart on the inside back cover. A setting of 00 specifies no delimiter character.
2. Go to page 224 and scan the ENTER/EXIT PROGRAMMING MODE bar code to enter Programming Mode.
3. Scan the bar code: SET SOURCE RADIO ADDRESS DELIMITER CHARACTER.
4. Scan the appropriate two digits from the keypad in Appendix D, Keypad, that represent the hexadecimal characters which were determined in the steps above. You will hear a two-beep indication after the last character.

NOTE

If you make a mistake before the last character, scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.

5. Scan the ENTER/EXIT PROGRAMMING MODE bar code to exit.

Table 45. Source Radio Address Delimiter Character Setting Examples

STEP	ACTION	EXAMPLES			
1	Desired Setting	No delimiter character	, (comma)	- (dash)	/ (slash)
2	Scan ENTER/EXIT PROGRAMMING MODE				
3	Scan SET SOURCE RADIO ADDRESS DELIMiTER CHARACTER				
4	Scan Two Characters From Appendix D, Keypad	'0' and '0'	'2' and 'C'	'2' and 'D'	'2' AND 'F'
5	Scan ENTER/EXIT PROGRAMMING MODE				

STAR Radio Protocol Timeout

This parameter sets the valid wait time before transmission between the handheld reader and Base Station is considered failed.

When setting this parameter, take into consideration the radio traffic (number of readers in the same area). The selectable range for this feature is from 02 to 25 seconds.

Follow these instructions to set this feature:

1. Determine the desired setting.
2. Pad the number with leading zeroes to yield two digits. For example: 2 = 02, 5 = 05, 25 = 25, etc
3. Go to page 234 and scanScan the ENTER/EXIT PROGRAMMING MODE barcode to enter Programming Mode.
4. Scan the barcode: SELECT RADIO PROTOCOL TIMEOUT.
5. Scan the appropriate two digits from the keypad in Appendix D, Keypad, that represent the duration which was determined in the steps above. You will hear a two-beep indication after the last character.

NOTE

If you make a mistake before the last character, scan the CANCEL barcode to abort and not save the entry string. You can then start again at the beginning.

6. Scan the ENTER/EXIT PROGRAMMING MODE barcode to exit Programming Mode.

This completes the procedure. See Table 46 for some examples of how to set this feature.

Table 46. STAR Radio Protocol Timeout Examples

STEP	ACTION	EXAMPLES			
1	Desired Setting	2 Seconds	5 Seconds	10 Seconds	25 Seconds
2	Pad with leading zero(es)	02	05	10	25
3	Scan ENTER/EXIT PROGRAMMING MODE				
4	Scan SELECTSTAR RADIO PROTOCOL TIMEOUT SETTING				
5	Scan Two Characters From Appendix D, Keypad	'0' and '2'	'0' and '5'	'1' and '0'	'2' AND '5'
6	Scan ENTER/EXIT PROGRAMMING MODE				

BT-Only Features

BT Pin Code

This option specifies the 4-character or 16-character pin code to be used for authentication of the BT link. To set the pin code:

1. Scan the ENTER/EXIT PROGRAMMING MODE bar code to enter Programming Mode, then enable "BT Security Mode" on page 225.
2. Specify the desired pin code length (4 or 16) by scanning the appropriate bar code in "Select PIN Code Length" on page 226.
3. Determine the desired characters. For example, D254 or STOR12345678135M
4. Convert the characters to hexadecimal using the ASCII Chart on the inside back cover of this manual.
5. Go to page 226 and Scan the bar code: SET 4 CHAR PIN CODE or SET 16-CHAR PIN CODE.
6. Scan the appropriate alphanumeric characters from the keypad in Appendix D, Keypad, representing the hexadecimal entries determined in the steps above. You will hear a two-beep indication after the last character.

NOTE **If you make a mistake before the last character, scan the CANCEL bar code to abort and not save the entry string. You can then start again at the beginning.**

7. Scan the ENTER/EXIT PROGRAMMING MODE bar code to exit Programming Mode.

NOTE **Changing the pin code setting will unlink the devices. If the Automatic Configuration Update is set to the default enabled setting, the devices must only be relinked. If the Automatic Configuration Update is set to the disabled setting, the Pin Code setting must also be updated in the Base Station using Aladdin. After the Base Station has been updated, the devices must be relinked.**

Figure 13. BT Pin Code Setting Examples

STEP	ACTION	EXAMPLES	
1	Desired Setting	D254	STOR12345678135M
2	Convert the characters to hexadecimal	44 32 35 34	53 54 4F 52 31 32 33 34 35 36 37 38 31 33 35 4D
3	Scan ENTER/EXIT PROGRAMMING MODE		
4	Scan SET BT PIN CODE		
5	Scan 8 or 32 Alphanumeric Characters From Appendix D, Keypad	44323534	53544F52313233343536373831333 54D
6	Scan ENTER/EXIT PROGRAMMING MODE		

Appendix A
Technical Specifications

This section contains Physical and Performance Characteristics, User Environment and Regulatory information.

Item	Description	
	QD24XX	QM24XX/QBT24XX
Physical Characteristics		
Color	Black & White	
Dimensions	Height 6.4"/163 mm Length 3.6"/91 mm Width 1.6"/41 mm	
Weight (without cable)	Approximately 5.1 ounces/145 g	Approximately 200 g (reader) 230 g (base charger)
Electrical Characteristics		
Voltage & Current	Input Voltage: 4.5 - 14.0VDC	N/A
	Operating (typical): 140mA	N/A
	Operating (max): 380mA	N/A
	Idle/standby (typical): 50mA	N/A
Battery Type	N/A	Li-Ion battery pack
Typical charge time for full charge from full discharge	N/A	6 hours with Host Power through the micro USB cable connection
	N/A	4 hours with Base and 12V external power supply adapter[a]
	N/A	Max 22 hours with Base and Host power (in this case no supply adapter is needed)[a]
Operating autonomy (continuous reading)	N/A	30,000 reads (typical)
Cradle consumption and DC input supply range		Volt 4.75-14 VDC; Power <8W[b]; Imax 500mA when in host/bus powered mode[b].

a. Charge Times are much lower when battery is within daily typical operating condition.
b. Typical input current measured under factory default configuration.

Item	Description
Performance Characteristics	
Light Source	LEDs
Roll (Tilt) Tolerance	Up to ± 360°
Pitch Tolerance	± 65°
Skew (Yaw) Tolerance	± 60°
Field of View	40° Hx26° V
Print Contrast Minimum	25% minimum reflectance
Depth of Field (Typical) [a]	
Symbology	
Code 39	5mil: 0.2" - 5.9" (0.5 - 15cm) 10mil: 0" - 8.7" (0 - 22cm) 20mil: up to 16" (40cm)
EAN	7.5mil: 0" - 5.9" (0 - 15cm) 13mil: 0.2" - 13.8" (0.5 - 35cm)
PDF 417	6.6mil: 0.39" - 5.1" (1.0 - 130cm) 10mil: 0" - 8.3" (0 - 21cm) 15mil: 0.2" - 9.5" (0.5 - 24cm)
Data Matrix	10mil: 0.39" - 5.1" (1.0 - 13 cm) 15mil: 0" - 7.1" (0 - 18cm)
QR Code	10mil: 0.2" - 5.1" (0.5 - 13cm) 15mil: 0" - 7.1" (0 - 18cm)
Minimum Element Width	**Standard Range:** 1D Minimum Resolution = 4 mil PDF-417 Minimum Resolution = 5 mil Data Matrix Minimum Resolution = 7.5 mil

a. 13 mils DOF based on EAN. All other 1D codes are Code 39. All labels grade A, typical environmental light, 20°C, label inclination 10°

Item	Description
Decode Capability	**1D Bar Codes** UPC/EAN/JAN (A, E, 13, 8); UPC/EAN/JAN (including P2 /P5); UPC/EAN/JAN (including; ISBN /Bookland & ISSN); UPC/EAN Coupons; Code 39 (including full ASCII); Code 39 Trioptic; Code39 CIP (French Pharmaceutical); LOGMARS (Code 39 w/ standard check digit enabled); Danish PPT; Code 32 (Italian Pharmacode 39); Code 128; Code 128 ISBT; Interleaved 2 of 5; Standard 2 of 5; Interleaved 2 of 5 CIP (HR); Industrial 2 of 5; Discrete 2 of 5; IATA 2of5 Air cargo code; Code 11; Codabar; ABC Codabar; Code 93; MSI; PZN; Plessey; Anker Plessey; Follett 2 of 5; GS1 DataBar Omnidirectional; GS1 DataBar Limited; GS1 DataBar Expanded; GS1 DataBar Truncated; DATABAR Expanded Coupon.
	2D / Stacked Codes The QuickScan I QD24XX scanner is capable of decoding the following symbologies using multiple frames (i.e. Multi-Frame Decoding): PDF-417; QR Code; Aztec; Data Matrix; Inverse Data Matrix; Data Matrix is configurable for the following parameters:; Normal or Inverted; Square or Rectangular Style; Data length (1 - 3600 characters); Maxicode; QR Codes (QR and Multiple QR Codes); Aztec; Postal Codes; Australian Post; Japanese Post; KIX Post; Planet Code; Postnet; Royal Mail Code (RM45CC); Intelligent Mail Bar Code (IMB); Sweden Post; Portugal Post; LaPoste A/R 39; 4-State Canada; PDF-417; Micro PDF417; GS1 Composites (1 - 12); French CIP13[a]; GS1 DataBar Stacked; GS1 DataBar Stacked Omnidirectional; GS1 DataBar Expanded Stacked; GSI Databar Composites; Chinese Sensible Code; Inverted 2D codes[b]. Note: The reader can apply the Normal/Reverse Decoding Control to the following symbologies: Data Matrix, QR, Aztec and Chinese Sensible Code.
Interfaces Supported[c]	RS-232, Keyboard Wedge, USB Com Std., USB Keyboard, USB OEM

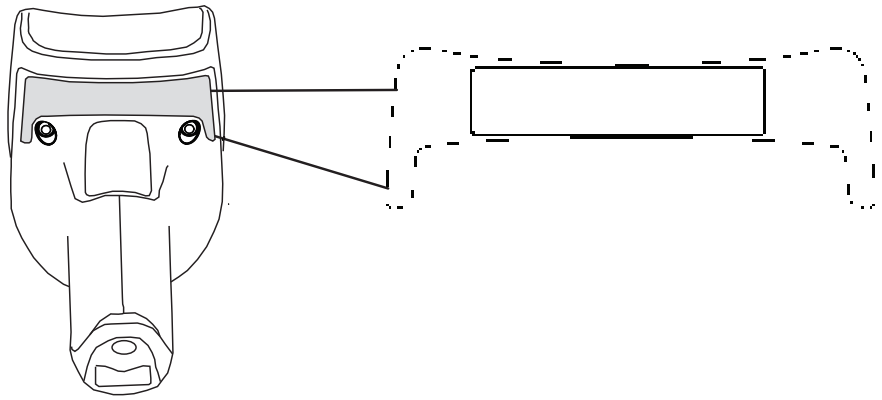
a. It is acceptable to handle this with ULE
b. The SW can apply the Normal/Reverse Decoding Control to the following symbologies: Datamatrix, QR, Micro QR, Aztec and Chinese Sensible Code
c. See "Interface Selection" on page 18 for a listing of available interface sets by model type

Item	Description
User Environment	
Operating Temperature	0° to 50° C (32° to 122° F)
Storage Temperature	-40° to 70 °C (-40° to 158° F)
Humidity	Operating: 0% to 95% relative humidity, non-condensing
Drop Specifications	Scanner withstands 18 drops from 1.5 meters (5.0 feet) to concrete
Ambient Light Immunity	Up to 86,000 Lux
Contaminants Spray/Rain/ Dust/Particulates	IEC 529-IP42 (IP51 - QD2430-E model only)
ESD Level	16 KV
Regulatory	
Electrical Safety	UL 60950, CSA C22.2 No. 60950, IEC 60950
EMI/RFI	North America (FCC) : Part 15 Class B; Canada (IC) : ICES-003 Class B; Russia (Gost); European Union EMC Directive; VCCI-Japan; Korean KCC; Taiwan EMC (BSMI); Australia (ACMA); Mexico (NOM)

Imager Labeling

Sample labels are shown here to illustrate their location only. Please view the labels on your product for actual details, as they may vary from those depicted.

Scanner Regulatory Label



CAUTION

The QuickScan™ Handheld Reader is not user-serviceable. Opening the case of the unit can cause internal damage and will void the warranty.

Radio Features

Radio Features	BT	433 model
Frequency Range	2400 to 2483.5 MHz	433.92 MHz
Range (in open air)	25 m	25 m

NOTE

For Star Models: Max number of devices per base station = 16

Standard Cable Pinouts

Figure 14, Figure 15 and Table 47 provide standard pinout information for the interface cable.

Figure 14. Standard Cable Pinouts: Handheld

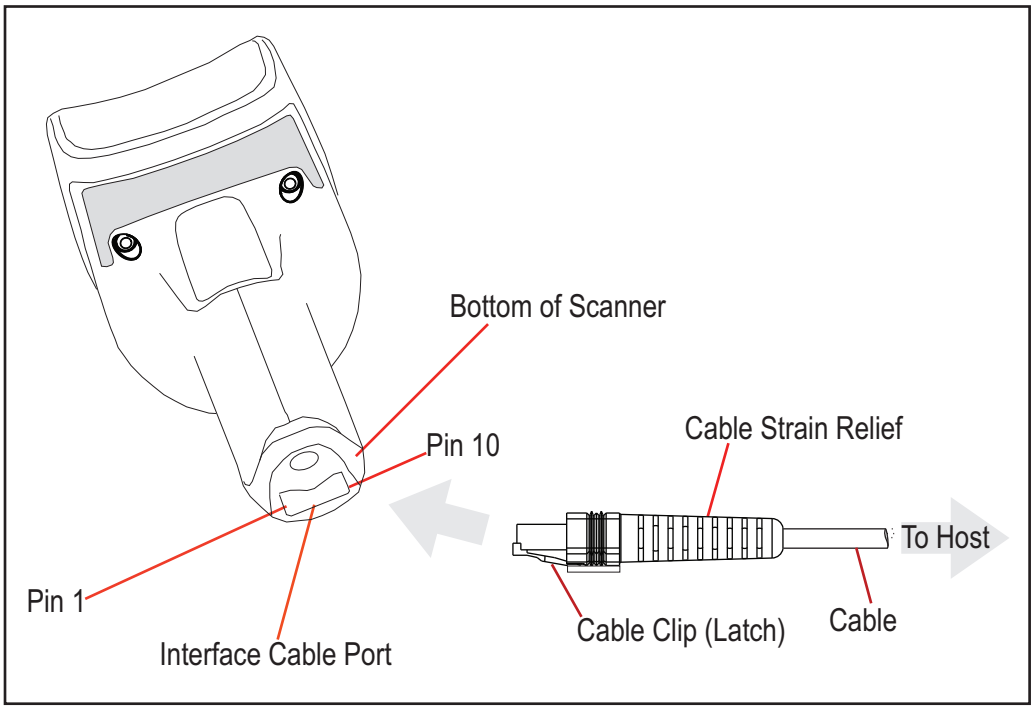
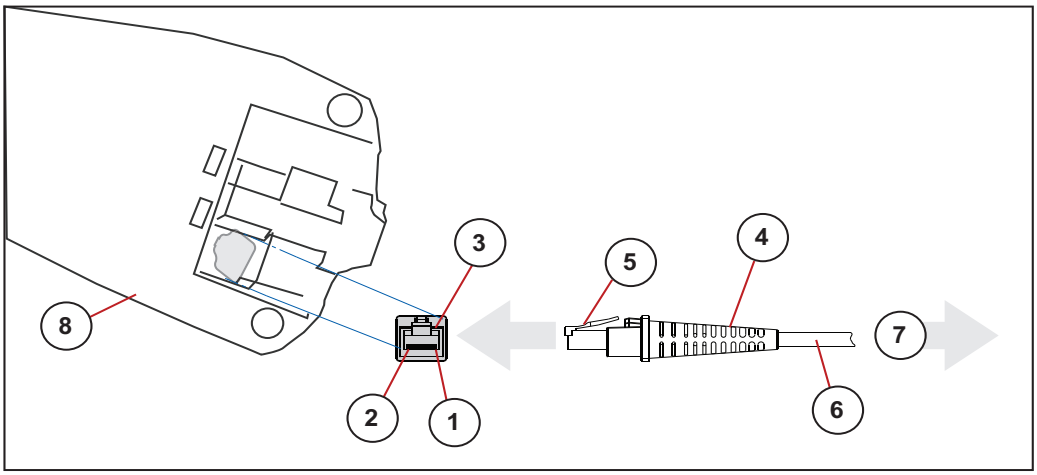


Figure 15. Standard Cable Pinouts: Base Station



The signal descriptions in Table 47 apply to the connector on the reader and are for reference only.

Table 47. Standard Cable Pinouts — Handheld (QD24XX model) or Base Station (QBT24XX and GM44XX Star models) Side

Pin	RS-232	OEM	USB	Keyboard Wedge
1	RTS (out)			
2			D+	CLKIN (KBD side)
3			D-	DATAIN (KBD side)
4	GND	GND	GND	GND
5	RX			
6	TX			
7	VCC	VCC	VCC	VCC
8		IBM_B		CLKOUT (PC side)
9		IBM_A		DATAOUT (PC side)
10	CTS (in)			

LED and Beeper Indications

The reader's beeper sounds and its LED illuminates to indicate various functions or errors on the reader. An optional "Green Spot" also performs useful functions. The tables below list these indications. One exception to the behaviors listed in the tables is that the reader's functions are programmable, and may or may not be turned on. For example, certain indications such as the power–up beep can be disabled using programming bar code labels.

Table 48. LED and Beeper Indications

INDICATION	DESCRIPTION	LED	BEEPER
Power-up Beep	The reader is in the process of powering-up.		Reader beeps four times at highest frequency and volume upon power-up.
Good Read Beep	A label has been successfully scanned by the reader.	LED behavior for this indication is configurable via the feature Good Read: When to Indicate	The reader will beep once at current frequency, volume, mono/bitonal setting and duration upon a successful label scan.
ROM Failure	There is an error in the reader's software/programming	Flashes	Reader sounds one error beep at highest volume.
Limited Scanning Label Read	Indicates that a host connection is not established when the IBM or USB interface is enabled.	N/A	Reader 'chirps' six times at the highest frequency and current volume.
Reader Active Mode	The reader is active and ready to scan.	The LED is lit steadily[a]	N/A
Reader Disabled	The reader has been disabled by the host.	The LED blinks continuously	N/A
Green Spot is on continuously	While in Stand Mode or Trigger Stand Mode the green spot shall be on while in stand watch state.	N/A	N/A
Green Spot[a] flashes momentarily	Upon successful read of a label, the software shall turn the green spot on for the time specified by the configured value.	N/A	N/A
Image Capture	When ready to capture image	Blue light flashes 2 times when updating	N/A

a. Except when in sleep mode or when a Good Read LED Duration other than 00 is selected

Table 49. Programming Mode Indications

Programming Mode - The following indications ONLY occur when the reader is in Programming Mode.

Label Programming Mode Entry	A valid programming label has been scanned.	LED blinks continuously	Reader sounds four low frequency beeps.
Label Programming Mode Rejection of Label	A label has been rejected.	N/A	Reader sounds three times at lowest frequency & current volume.
Label Programming Mode Acceptance of Partial Label	In cases where multiple labels must be scanned to program one feature, this indication acknowledges each portion as it is successfully scanned.	N/A	Reader sounds one short beep at highest frequency & current volume.
Label Programming Mode Acceptance of Programming	Configuration option(s) have been successfully programmed via labels and the reader has exited Programming Mode.	N/A	Reader sounds one high frequency beep and 4 low frequency beeps followed by reset beeps.
Label Programming Mode Cancel Item Entry	Cancel label has been scanned.	N/A	Reader sounds two times at low frequency and current volume.

Error Codes

Upon startup, if the reader sounds a long tone, this means the reader has not passed its automatic Selftest and has entered FRU (Field Replaceable Unit) isolation mode. If the reader is reset, the sequence will be repeated. The following table describes the LED flashes/beep codes associated with an error found.

NUMBER OF LED FLASHES/ BEEPS	ERROR : All Models: QD24XX QBT24XX, GM44XX	CORRECTIVE ACTION
1	Configuration	Contact Helpdesk for assistance
2	Interface PCB	
6	Digital PCB	
12	Imager	

Base Station Indications (Cordless Models ONLY)

INDICATION	LEDS
Power-up Complete	Yellow LED on
Reader Disabled by the HOST or the communication with HOST is not established	Yellow LED blinking ~1Hz
Data/labels are transmitted to the HOST	Yellow LEDs turned off for 100mSec
Programming Mode	Yellow LED blinks quickly
Configuration alignment with the handheld is in progress	Red LED blinks quickly
Battery charging in progress	Red LED on
Battery charging complete	Green LED on
Battery charger error	Green LED and Red LEDs blink alternatively ~1Hz
No handheld is placed on the cradle	Red and Green LEDs off

Base Station Button Indicators

NOTE

To push the button, insert a paper clip in the hole at the label in the bottom of the Base.

BUTTON PUSH EVENT	CORDLESS	RED INDICATOR(**)	GREEN INDICATOR(**)
Push at power-up	force device connection (Aladdin)	Off	Slow blink Fast blink
< 5 sec	Paging	Off	Fast blink
> 5 sec	Unlink	Off	Slow blink

Appendix B
Standard Defaults

The most common configuration settings are listed in the “Default” column of the table below. Page references are also provided for feature descriptions and programming bar codes for each parameter. A column has also been provided for recording of your preferred default settings for these same configurable features.

Table 50. Standard Defaults

Parameter	Default	Your Setting	Page Number
GLOBAL INTERFACE FEATURES			
Host Commands — Obey/Ignore	Obey		27
USB Suspend Mode	Disable		27
RS-232 ONLY			
Baud Rate	9600		30
Data Bits	8 Data Bits		31
Stop Bits	1 Stop Bit		31
Parity	None		32
Handshaking Control	RTS		33
RS-232/USB-COM			
Intercharacter Delay	No Delay		35
Beep On ASCII BEL	Disable		35
Beep On Not on File	Enable		36
ACK NAK Options	Disable		36
ACK Character	‘ACK’		37
NAK Character	‘NAK’		37
ACK NAK Timeout Value	200 ms		38
ACK NAK Retry Count	3 Retries		38
ACK NAK Error Handling	Ignore Errors Detected		39
Indicate Transmission Failure	Enable		39

Parameter	Default	Your Setting	Page Number
Disable Character	'D'		40
Enable Character	'E'		40
KEYBOARD WEDGE			
Country Mode	U.S. Keyboard		42
Send Control Characters	00		46
Wedge Quiet Interval	100 ms		47
Intercode Delay	No Delay		47
Caps Lock State	Caps Lock OFF		48
Numlock	NumLock Key Unchanged		48
USB Keyboard Speed	1 ms		49
USB Keyboard Numeric Keypad	Standard Keys		50
USB-OEM			
USB–OEM Device Usage	Handheld		52
USB Interface Options	Ignore Scanner Configuration Host Commands		52
DATA FORMAT			
Global Prefix/Suffix	No Global Prefix Global Suffix = 0x0D (CR)		56
Global AIM ID	Disable		57
Set AIM ID Individually for GS1–128	Enable		59
Label ID: Pre–Loaded Sets	EU Set		60
Individually Set Label ID	Disable		61
Case Conversion	Disable		67
Character Conversion	No Char Conversion		68
READING PARAMETERS			
Double Read Timeout	0.6 Second		69
Power On Alert	Power-up Beep		72
Good Read: When to Indicate	After Decode		72
Good Read Beep Type	Mono		73
Good Read Beep Frequency	High		73

Parameter	Default	Your Setting	Page Number
Good Read Beep Length	80 ms		74
Good Read Beep Volume	High		75
Good Read LED Duration	300 ms		76
SCANNING FEATURES			
Scan Mode	Trigger Single		77
Stand Mode Indication	Disable		78
Stand Operation	Switch to Stand Mode		79
Pick Mode	Disable		80
Stand Mode Sensitivity	Medium		80
Stand Mode Illumination Off Time	2 Seconds		81
Scanning Active Time	5 Seconds		81
Stand Illumination Control	OFF		82
Flash On Time	10 = Flash is ON for 1 Second		82
Flash Off Time	06 = Flash is OFF for 600ms		83
Aiming Pointer	Enable		83
Aiming Duration Timer	Aiming Off After Decoding		84
Green Spot Duration	300 ms		85
Mobile Phone Mode	Enable		85
Partial Label Reading Control	Enable		86
Decode Negative Image	Disable		86
Multiple Label Reading			
Multiple Labels per Frame	Disable		87
Multiple Labels Ordering by Code Symbology	Random Order		88
Multiple Labels Ordering by Code Length	Disable		88

Parameter	Default	Your Setting	Page Number
CODE SELECTION - 1D SYMBOLOGIES			
Code EAN/UPC			
Coupon Control	Enable only UPCA coupon decoding		91
UPC-A			
UPC–A Enable/Disable	Enable		92
UPC–A Check Character Transmission	Send		92
Expand UPC–A to EAN–13	Don't Expand		93
UPC–A Number System Character Transmission	Transmit		93
UPC–A 2D Component	2D Component Not Required		94
UPC-E			
UPC–E Enable/Disable	Enable		94
UPC–E Check Character Transmission	Send		95
UPC–E 2D Component	2D Component Not Required		95
Expand UPC–E to EAN–13	Don't Expand		96
Expand UPC–E to UPC–A	Don't Expand		96
UPC–E Number System Character Transmission	Transmit		97
GTIN			
GTIN Formatting	Disable		97
EAN 13 (Jan 13)			
EAN 13 Enable/Disable	Enable		98
EAN 13 Check Character Transmission	Send		98
EAN–13 Flag 1 Character	Transmit		99
EAN–13 ISBN Conversion	Disable		99
EAN–13 2D Component	2D Component Not Required		100
ISSN			
ISSN Enable/Disable	Disable		100

Parameter	Default	Your Setting	Page Number
EAN 8			
EAN 8 Enable/Disable	Enable		101
EAN 8 Check Character Transmission	Send		101
Expand EAN 8 to EAN 13	Disable		102
EAN 8 2D Component	2D Component Not Required		102
UPC/EAN Global Settings			
UPC/EAN Price Weight Check	Disable		103
UPC/EAN Quiet Zones	Two Modules		104
Add-Ons			
Optional Add-ons	Disable P2, P5 and P8		105
Optional Add-On Timer	70 ms		106
Optional GS1-128 Add-On Timer	Disable		109
Code 39			
Code 39 Enable/Disable	Enable		112
Code 39 Check Character Calculation	Disable		112
Code 39 Check Character Transmission	Send		113
Code 39 Start/Stop Character Transmission	Don't Transmit		114
Code 39 Full ASCII	Disable		114
Code 39 Quiet Zones	Small Quiet Zones on two sides		115
Code 39 Length Control	Variable		115
Code 39 Set Length 1	2		116
Code 39 Set Length 2	50		117
Trioptic Code			
Trioptic Code Enable/Disable	Disable		118
Code 32 (Italian Pharmaceutical Code)			
Code 32 Enable/Disable	Disable		118
Code 32 Check Char Transmission	Don't Send		119

Parameter	Default	Your Setting	Page Number
Code 32 Start/Stop Character Transmission	Don't Transmit		119
Code 39 CIP (French Pharmaceutical Code)			
Code 39 CIP Enable/Disable	Disable		120
Special Codes			
Code 39 Danish PPT Enable/Disable	Disable		120
Code 39 LaPoste Enable/Disable	Disable		121
Code 39 PZN Enable/Disable	Disable		121
Code 128			
Code 128 Enable/Disable	Enable		122
Expand Code 128 to Code 39	Don't Expand		122
Code 128 Check Character Transmission	Don't Send		123
Code 128 Function Character Transmission	Don't Send		123
Code 128 Quiet Zones	Small Quiet Zones on two sides		124
Code 128 Length Control	Variable		124
Code 128 Set Length 1	1		125
Code 128 Set Length 2	80		126
GS1-128			
GS1-128 Enable	Transmit in Code 128 Data Format		127
GS1-128 2D Component	Disable		127
ISBT 128			
ISBT 128 Concatenation	Disable		128
ISBT 128 Force Concatenation	Disable		128
ISBT 128 Concatenation Mode	Static		129
ISBT 128 Dynamic Concatenation Timeout	200 msec		130
Interleaved 2 of 5			
I 2 of 5 Enable/Disable	Disable		131

Parameter	Default	Your Setting	Page Number
I 2 of 5 Check Character Calculation	Disable		132
I 2 of 5 Check Character Transmission	Send		133
I 2 of 5 Length Control	Variable		133
I 2 of 5 Set Length 1	6		134
I 2 of 5 Set Length 2	50		135
Interleaved 2 of 5 CIP HR			
Interleaved 2 of 5 CIP HR Enable/Disable	Disable		136
Follett 2 of 5			
Follett 2 of 5 Enable/Disable	Disable		136
Standard 2 of 5			
Standard 2 of 5 Enable/Disable	Disable		137
Standard 2 of 5 Check Character Calculation	Disable		137
Standard 2 of 5 Check Character Transmission	Send		138
Standard 2 of 5 Length Control	Variable		138
Standard 2 of 5 Set Length 1	8		139
Standard 2 of 5 Set Length 2	50		140
Industrial 2 of 5			
Industrial 2 of 5 Enable/Disable	Disable		141
Industrial 2 of 5 Check Character Calculation	Disable		141
Industrial 2 of 5 Check Character Transmission	Enable		142
Industrial 2 of 5 Length Control	Variable		142
Industrial 2 of 5 Set Length 1	1		143
Industrial 2 of 5 Set Length 2	50		144
Code IATA			
IATA Enable/Disable	Disable		145
IATA Check Character Transmission	Enable		145

Parameter	Default	Your Setting	Page Number
Codabar			
Codabar Enable/Disable	Disable		146
Codabar Check Character Calculation	Don't Calculate		146
Codabar Check Character Transmission	Send		147
Codabar Start/Stop Character Trans-mission	Transmit		147
Codabar Start/Stop Character Set	abcd/abcd		148
Codabar Start/Stop Character Match	Don't Require Match		148
Codabar Quiet Zones	Small Quiet Zones on two sides		149
Codabar Length Control	Variable		149
Codabar Set Length 1	3		150
Codabar Set Length 2	50		151
ABC Codabar	Disable		152
ABC Codabar			
ABC Codabar Enable/Disable	Disable		152
ABC Codabar Concatenation Mode	Static		152
ABC Codabar Dynamic Concatenation Timeout	200 msec		153
ABC Codabar Force Concatenation	Disable		154
Code 11			
Code 11 Enable/Disable	Disable		155
Code 11 Check Character Calculation	Check C and K		155
Code 11 Check Character Transmission	Send		156
Code 11 Length Control	Variable		156
Code 11 Set Length 1	4		157
Code 11 Set Length 2	50		158
GS1 DataBar™ Omnidirectional			
GS1 DataBar™ Omnidirectional Enable/Disable	Disable		159

Parameter	Default	Your Setting	Page Number
GS1 DataBar™ Omnidirectional GS1-128 Emulation	Disable		159
GS1 DataBar™ Omnidirectional 2D Component	2D component not required		160
GS1 DataBar™ Expanded			
GS1 DataBar™ Expanded Enable/Disable	Disable		160
GS1 DataBar™ Expanded GS1-128 Emulation	Disable		161
GS1 DataBar™ Expanded 2D Component	2D component not required		161
GS1 DataBar™ Expanded Length Control	Variable		162
GS1 DataBar™ Expanded Set Length 1	1		163
GS1 DataBar™ Expanded Set Length 2	74		164
GS1 DataBar™ Limited			
GS1 DataBar™ Limited Enable/Disable	Disable		165
GS1 DataBar™ Limited GS1-128 Emulation	Disable		165
GS1 DataBar™ Limited 2D Component	2D component not required		166
Code 93			
Code 93 Enable/Disable	Disable		166
Code 93 Check Character Calculation	Enable Check C and K		167
Code 93 Check Character Transmission	Disable		167
Code 93 Length Control	Variable		168
Code 93 Set Length 1	1		169
Code 93 Set Length 2	50		170
Code 93 Quiet Zones	Small Quiet Zones on two sides		171
MSI			
MSI Enable/Disable	Disable		171
MSI Check Character Calculation	Enable Mod10		172

Parameter	Default	Your Setting	Page Number
MSI Check Character Transmission	Enable		172
MSI Length Control	Variable		174
MSI Set Length 1	1		174
MSI Set Length 2	50		175
Plessey			
Plessey Enable/Disable	Disable		176
Plessey Check Character Calculation	Enable Plessey std. check char. verification		176
Plessey Check Character Transmission	Enable		177
Plessey Length Control	Variable		177
Plessey Set Length 1	1		178
Plessey Set Length 2	50		179
CODE SELECTION - 2D SYMBOLOGIES			
2D Maximum Decoding Time	350msec		182
2D Structured Append	Disable		183
2D Normal/Inverse Symbol Control	Normal		183
Aztec Code Enable / Disable	Disable		184
Aztec Code Length Control	Enable		184
Aztec Code Length Control	Variable		184
Aztec Code Set Length 1	1		185
China Sensible Code Enable / Disable	Disable		187
China Sensible Code Length Control	Variable		187
China Sensible Code Set Length 1	1		188
China Sensible Code Set Length 2	7,827		189
Data Matrix Enable / Disable	Enable		190
Data Matrix Square/Rectangular Style	Both Square and Rectangular style		190
Data Matrix Length Control	Variable		191
Data Matrix Set Length 1	1		191
Data Matrix Set Length 2	3,116		192

Parameter	Default	Your Setting	Page Number
Maxicode Enable / Disable	Disable		193
Maxicode Primary Message Transmis-sion	Disable		193
Maxicode Length Control	Variable		194
Maxicode Set Length 1	1		194
Maxicode Set Length 2	0145		195
PDF417 Enable / Disable	Enable		196
PDF417 Length Control	Variable		196
PDF417 Set Length 1	1		197
PDF417 Set Length 2	2,710		198
Micro PDF417 Enable / Disable	Disable		199
Micro PDF417 Code 128 GS1-128 Emulation	Micro PDF AIM ID and label type		199
Micro PDF417 Length Control	Variable		200
Micro PDF417 Set Length 1	1		200
Micro PDF417 Set Length 2	0366		201
QR Code Enable / Disable	Enable		202
QR Code Length Control	Variable		202
QR Code Set Length 1	1		203
QR Code Set Length 2	7,089		204
Micro QR Code Enable/Disable	Disable		205
Micro QR Code Length Control	Variable		205
Micro QR Code Set Length 1	0001		206
Micro QR Code Set Length 2	0035		207
UCC Composite Enable / Disable	Disable		208
UCC Optional Composite Timer	Timer Disabled		209
Postal Code Selection	Disable all Postal codes		210
Postnet BB Control	Disable		211
WIRELESS FEATURES			
Good Transmission Beep	Enable		214

Parameter	Default	Your Setting	Page Number
Beep Frequency	Low		214
Beep Duration	80 msec		215
Beep Volume	High		216
Disconnect Beep	Enable		216
Docking Beep	Enable		217
Leash Alarm	Disable		217
Automatic Configuration Update	Enable		219
Copy Configuration to Scanner	N/A		219
Copy Configuration to Base Station	N/A		220
Batch Mode	Disable		220
Send Batch	N/A		221
Erase Batch Memory	N/A		221
RF Batch Mode Transmit Delay	No Delay		221
Direct Radio Autolink	Unlink Label Required		222
Features for BT Models Only			
Source Radio Address Transmission	Do not include		223
Source Radio Address Delimiter Character	No Delimiter Character		224
BT Security Features			
BT Security Mode	Disable		225
Select PIN Code Length	4-character BT PIN Code		226
Set PIN Code	31323334 = Default Pin Code is 1234		226
Bluetooth HID Variable PIN Code	Static		227
Bluetooth HID Alt Mode	Off		228
Bluetooth HID Send Unknown ASCII Char	Disable		228
Bluetooth Friendly Name	QUICKSCAN-QBT2400 [SERIAL_NUMBER_SCANNER]		229
HID Country Mode	US		230

Parameter	Default	Your Setting	Page Number
Powerdown Timeout	30 minutes		228
Features for Star Models Only			
STAR Radio Protocol Timeout	2 seconds		234
STAR Radio Transmit Mode	ACK from cradle		235

Appendix C
Sample Bar Codes

The sample bar codes in this appendix are typical representations for their symbology types.

1D Bar Codes

UPC-A

EAN-13

978033029095

Code 39

Code 128

Code 128

Interleaved 2 of 5

Sample Bar Codes (continued)

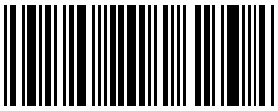
Code 32

Codabar

13579

Code 93

Code 11



123456789

GS1 DataBar™ (RSS)

NOTE

GS1 DataBar™ variants must be enabled to read the bar codes below (see "GS1 DataBar™ Omnidirectional" on page 159).

GS1 DataBar™ Expanded Stacked

1029384756019283746501928374602947845036652 3

GS1 DataBar™ Expanded

1234890hjio9900mnb

GS1 DataBar™ Limited

08672345650916

GS1 DataBar™-14

GS1 DataBar™ Omnidirectional Truncated

55432198673467

GS1 DataBar™ Omnidirectional Stacked

90876523412674

GS1 DataBar™ Omnidirectional Stacked

78123465709811

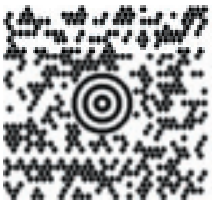
2D Bar Codes

Aztec

Datamatrix

China Sensible Code

MaxiCode



Test Message

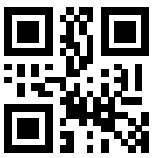
PDF 417

ABCabc

Micro PDF 417

BV17453

QR Code



35900G9

Micro QR Code

123456

UCC Composite

Appendix D
Keypad

Use the bar codes in this appendix to enter numbers as you would select digits/characters from a keypad.

0

1

2

3

4

5

6

7

8

9

A

B

C

D

E

F

Appendix E
Scancode Tables

Control Character Emulation

Control character emulation selects from different scancode tables as listed in this appendix. Each of the control character sets below are detailed by interface type in the tables. These apply to Wedge and USB Keyboard platforms.

Control Character 00 : Characters from 00 to 0x1F are sent as control character Ctrl+Keys, special keys are located from 0x80 to 0xA1.

Control Character 01 : Characters from 00 to 0x1F are sent as control character Ctrl+Capital Key, special keys are located from 0x80 to 0xA1.

Control Character 02 : Special keys are located from 00 to 0x1F and characters from 0x80 to 0xFE are intended as an extended ASCII table (Microsoft Windows Codepage 1252 — see page 311).

Single Press and Release Keys

In the following tables, Ar↓ means Alt right pressed and Ar↑ means Alt right released and so on. Definitions for other keys are Al (Alt left), Cr (Control right) Cl (Control left) Sh (Shift). This method can be used for combining Alt, Control or Shift with other keys.

Example

Consider a Control character set to 00. If AltRight+A is required before sending a label to the host, it could be done by setting three Prefix keys in this way: 0x99 0x41 0x9A.

Interface Type PC AT PS/2, USB-Keyboard or USB-Keyboard for APPLE

Table 51. Scancode Set When Control Character is 00 or 01

	x0	x1	x2	x3	x4	x5	X6	x7	x8	x9	xA	xB	xC	xD	xE	xF
0x	NULL C+@	SOH C(S)+A	STX C(S)+B	ETX C(S)+C	EOT C(S)+D	ENQ C(S)+E	ACK C(S)+F	BEL C(S)+G	BS	HT TAB	LF C(S)+J	VT C(S)+K	FF C(S)+L	CR Enter	SO C(S)+N	SI C(S)+O
1x	DLE C(S)+P	DC1 C(S)+Q	DC2 C(S)+R	DC3 C(S)+S	DC4 C(S)+T	NAK C(S)+U	SYN C(S)+V	ETB C(S)+W	CAN C(S)+X	EM C(S)+Y	SUB C(S)+Z	ESC Esc	FS C+\	GS C+]	RS C+^	US C(S)+_
2x	SP	!	"	#	$	%	&	'	(	)	*	±	¸	-	.	/
3x	0	1	2	3	4	5	6	7	8	9	:	;	≤	=	≥	?
4x	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
5x	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
6x	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
7x	p	q	r	s	t	u	v	w	x	y	z	{	|	}	~	*Del*
8x	€	Sh↓	Sh↑	Ins	Ent (keyp)	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11
9x	F12	Home	End	Pg Up	Pg Dwn	↑	↓	←	→	Ar↓	Ar↑	Al↓	Al ↑	Cl ↓	Cl ↑	Cr ↓
Ax	Cr ↑		‘	*ƒ*	„	…	†	‡	ˆ	‰	Š	‹	Ś	‹	Œ	
Bx	°	±	²	³	´	µ	¶	·	¸	¹	º	»	¼	½	¾	¿
Cx	À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë	Ì	Í	Î	Ï
Dx	Ð		Ò	Ó	Ô	Õ	Ö	×	Ø	Ù	Ú	Û	Ü	Ý	Þ	ß
Ex	à	á	â	ã	ä	å	æ	ç	è	é	ê	ë	ì	í	î	ï
Fx	ð	ñ	ò	ó	ô	õ	ö	÷	ø	ù	ú	û	ü	ý	þ	ÿ

Extended characters (sky blue) are sent through dedicated keys (when available in the selected country mode) or by using an Alt Mode sequence.

Interface Type PC AT PS/2, USB-Keyboard or USB-Keyboard for APPLE (continued)

Table 52. Scancode Set When Control Character is 02

	x0	x1	x2	x3	x4	x5	X6	x7	x8	x9	xA	xB	xC	xD	xE	xF
0x	Ar↓	Ar↑	Al↓	Al ↑	Cl ↓	Cl ↑	Cr ↓	Cr ↑	BS	Tab	→	S+ Tab	Enter Keypd	Enter	Ins	Pg Up
1x	Pg Dwn	Home	←	↓	↑	F6	F1	F2	F3	F4	F5	ESC	F7	F8	F9	F10
2x	Space	!	“	#	$	%	&	‘	(	)	*	+	,	-	.	/
3x	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
4x	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
5x	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
6x	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
7x	p	q	r	s	t	u	v	w	x	y	z	{	|	}	~	*Del*
8x	€		‘	*ƒ*	„	…	†	‡	ˆ	‰	Š	‹	Ś	‹	Œ	
9x		‘	’	“	”	•	–	—	˜	™	š	›	œ		ž	Ÿ
Ax	NBSP	¡	¢	£	¤	¥	¦	§	¨	©	ª	«	¬	-	®	¯
Bx	°	±	²	³	´	µ	¶	·	¸	¹	º	»	¼	½	¾	¿
Cx	À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë	Ì	Í	Î	Ï
Dx	Ð		Ò	Ó	Ô	Õ	Ö	×	Ø	Ù	Ú	Û	Ü	Ý	Þ	ß
Ex	à	á	â	ã	ä	å	æ	ç	è	é	ê	ë	ì	í	î	ï
Fx	ð	ñ	ò	ó	ô	õ	ö	÷	ø	ù	ú	û	ü	ý	þ	ÿ

Interface type PC AT PS/2 Alt Mode or USB-Keyboard Alt Mode

Table 53. Scancode Set When Control Character is 00 or 01

	x0	x1	x2	x3	x4	x5	X6	x7	x8	x9	xA	xB	xC	xD	xE	Xf
0x	Alt+000	Alt+001	Alt+002	Alt+003	Alt+004	Alt+005	Alt+006	Alt+007	BS	HT TAB	Alt+010	Alt+011	Alt+012	CR Enter	Alt+014	Alt+015
1x	Alt+016	Alt+017	Alt+018	Alt+019	Alt+020	Alt+021	Alt+022	Alt+023	Alt+024	Alt+025	Alt+026	ESC Esc	Alt+028	Alt+029	Alt+030	Alt+031
2x	A+032	A+033	A+034	A+035	A+036	A+037	A+038	A+039	A+040	A+041	A+042	A+043	A+044	A+045	A+046	A+047
3x	A+048	A+049	A+050	A+051	A+052	A+053	A+054	A+055	A+056	A+057	A+058	A+059	A+060	A+061	A+062	A+063
4x	A+064	A+065	A+066	A+067	A+068	A+069	A+070	A+071	A+072	A+073	A+074	A+075	A+076	A+077	A+078	A+079
5x	A+080	A+081	A+082	A+083	A+084	A+085	A+086	A+087	A+088	A+089	A+090	A+091	A+092	A+093	A+094	A+095
6x	A+096	A+097	A+098	A+099	A+100	A+101	A+102	A+103	A+104	A+105	A+106	A+107	A+108	A+109	A+110	A+111
7x	A+112	A+113	A+114	A+115	A+116	A+117	A+118	A+119	A+120	A+121	A+122	A+123	A+124	A+125	A+126	A+127
8x	€	Sh↓	Sh↑	Ins	Ent (keyp)	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11
9x	F12	Home	End	Pg Up	Pg Dwn	↑	↓	←	→	Ar↓	Ar↑	Al↓	Al ↑	Cl ↓	Cl ↑	Cr ↓
Ax	Cr ↑	A+0161	A+0162	A+0163	A+0164	A+0165	A+0166	A+0167	A+0168	A+0169	A+0170	A+0171	A+0172	A+0173	A+0174	A+0175
Bx	A+0176	A+0177	A+0178	A+0179	A+0180	A+0181	A+0182	A+0183	A+0184	A+0185	A+0186	A+0187	A+0188	A+0189	A+0190	A+0191
Cx	A+0192	A+0193	A+0194	A+0195	A+0196	A+0197	A+0198	A+0199	A+0200	A+0201	A+0202	A+0203	A+0204	A+0205	A+0206	A+0207
Dx	A+0208	A+0209	A+0210	A+0211	A+0212	A+0213	A+0214	A+0215	A+0216	A+0217	A+0218	A+0219	A+0220	A+0221	A+0222	A+0223
Ex	A+0224	A+0225	A+0226	A+0227	A+0228	A+0229	A+0230	A+0231	A+0232	A+0233	A+0234	A+0235	A+0236	A+0237	A+0238	A+0239
Fx	A+0240	A+0241	A+0242	A+0243	A+0244	A+0245	A+0246	A+0247	A+0248	A+0249	A+0250	A+0251	A+052	A+0253	A+0254	A+0255

Interface type PC AT PS/2 Alt Mode or USB-Keyboard Alt Mode (continued)

Table 54. Scancode Set When Control Character is 02

	x0	x1	x2	x3	x4	x5	X6	x7	x8	x9	xA	xB	xC	xD	xE	xF
0x	Ar↓	Ar↑	Al↓	Al ↑	Cl ↓	Cl ↑	Cr ↓	Cr ↑	BS	Tab	→	S+ Tab	Enter Keypd	Enter	Ins	Pg Up
1x	Pg Dwn	Home	←	↓	↑	F6	F1	F2	F3	F4	F5	ESC	F7	F8	F9	F10
2x	A+032	A+033	A+034	A+035	A+036	A+037	A+038	A+039	A+040	A+041	A+042	A+043	A+044	A+045	A+046	A+047
3x	A+048	A+049	A+050	A+051	A+052	A+053	A+054	A+055	A+056	A+057	A+058	A+059	A+060	A+061	A+062	A+063
4x	A+064	A+065	A+066	A+067	A+068	A+069	A+070	A+071	A+072	A+073	A+074	A+075	A+076	A+077	A+078	A+079
5x	A+080	A+081	A+082	A+083	A+084	A+085	A+086	A+087	A+088	A+089	A+090	A+091	A+092	A+093	A+094	A+095
6x	A+096	A+097	A+098	A+099	A+100	A+101	A+102	A+103	A+104	A+105	A+106	A+107	A+108	A+109	A+110	A+111
7x	A+112	A+113	A+114	A+115	A+116	A+117	A+118	A+119	A+120	A+121	A+122	A+123	A+124	A+125	A+126	A+127
8x	A+0128	A+0129	A+0130	A+0131	A+0132	A+0133	A+0134	A+0135	A+0136	A+0137	A+0138	A+0139	A+0140	A+0141	A+0142	A+0143
9x	A+0144	A+0145	A+0146	A+0147	A+0148	A+0149	A+0150	A+0151	A+0152	A+0153	A+0154	A+0155	A+0156	A+0157	A+0158	A+0159
Ax	A+0160	A+0161	A+0162	A+0163	A+0164	A+0165	A+0166	A+0167	A+0168	A+0169	A+0170	A+0171	A+0172	A+0173	A+0174	A+0175
Bx	A+0176	A+0177	A+0178	A+0179	A+0180	A+0181	A+0182	A+0183	A+0184	A+0185	A+0186	A+0187	A+0188	A+0189	A+0190	A+0191
Cx	A+0192	A+0193	A+0194	A+0195	A+0196	A+0197	A+0198	A+0199	A+0200	A+0201	A+0202	A+0203	A+0204	A+0205	A+0206	A+0207
Dx	A+0208	A+0209	A+0210	A+0211	A+0212	A+0213	A+0214	A+0215	A+0216	A+0217	A+0218	A+0219	A+0220	A+0221	A+0222	A+0223
Ex	A+0224	A+0225	A+0226	A+0227	A+0228	A+0229	A+0230	A+0231	A+0232	A+0233	A+0234	A+0235	A+0236	A+0237	A+0238	A+0239
Fx	A+0240	A+0241	A+0242	A+0243	A+0244	A+0245	A+0246	A+0247	A+0248	A+0249	A+0250	A+0251	A+052	A+0253	A+0254	A+0255

Table 55. Scancode Set When Control Character is 00 or 01

	X0	x1	x2	x3	x4	x5	x6	x7	x8	x9	xA	xB	xC	xD	xE	xF
0x	NULL C+@	SOH C(S)+A	STX C(S)+B	ETX C(S)+C	EOT C+D	ENQ C(S)+E	ACK C(S)+F	BEL C(S)+G	BS	HT TAB	LF C(S)+J	VT C(S)+K	FF C(S)+L	CR Enter	SO C(S)+N	SI C(S)+O
1x	DLE C(S)+P	DC1 C(S)+Q	DC2 C(S)+R	DC3 C(S)+S	DC4 C(S)+T	NAK C(S)+U	SYN C(S)+V	ETB C(S)+W	CAN C(S)+X	EM C(S)+Y	SUB C(S)+Z	ESC Esc	FS C(S)+\	GS C+]	RS C(S)+^	US C(S)+_
2x	Space	!	“	#	$	%	&	‘	(	)	*	+	,	-	.	/
3x	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
4x	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
5x	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
6x	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
7x	p	q	r	s	t	u	v	w	x	y	z	{	|	}	~	Del
8x		Sh↓	Sh↑	Ins	Ent (keyp)	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11
9x	F12	F13	F14	F15	F16	↑	↓	←	→					Cl ↓	Cl ↑	

Table 56. Scancode Set When Control Character is 02

	X0	x1	x2	x3	x4	x5	x6	x7	x8	x9	xA	xB	xC	xD	xE	xF
0x					Cl ↓	Cl ↑			BS	Tab	à	S+ Tab	Enter Keypd	Enter	Ins	
1x			←	↓	↑	F6	F1	F2	F3	F4	F5	ESC	F7	F8	F9	F10
2x	Space	!	“	#	$	%	&	‘	(	)	*	+	,	-	.	/
3x	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
4x	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
5x	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
6x	`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
7x	p	q	r	s	t	u	v	w	x	y	z	{	|	}	~	Del

IBM31xx 102-key

Table 57. Scancode Set When Control Character is 00 or 01

	X0	x1	x2	x3	x4	x5	x6	x7	x8	x9	xA	xB	xC	xD	xE	xF
0x	NULL C+@	SOH C(S)+A	STX C(S)+B	ETX C(S)+C	EOT C+D	ENQ C(S)+E	ACK C(S)+F	BEL C(S)+G	BS	HT TAB	LF C(S)+J	VT C(S)+K	FF C(S)+L	CR Enter	SO C(S)+N	SI C(S)+O
1x	DLE C(S)+P	DC1 C(S)+Q	DC2 C(S)+R	DC3 C(S)+S	DC4 C(S)+T	NAK C(S)+U	SYN C(S)+V	ETB C(S)+W	CAN C(S)+X	EM C(S)+Y	SUB C(S)+Z	ESC Esc	FS C(S)+\	GS C+]	RS C(S)+^	US C(S)+_
2x	Space	!	“	#	$	%	&	‘	(	)	*	+	,	-	.	/
3x	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
4x	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
5x	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
6x	‘	a	B	c	d	e	f	g	h	i	j	k	l	m	n	o
7x	p	q	R	s	t	u	v	w	x	y	z	{	|	}		*Del*
8x		Sh↓	Sh↑	Ins	Ent (keyp)	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11
9x	F12	Enter	Reset	Insert	Delete	Field -	Field +	Enter paddle	Printl	Ar↓	Ar↑	Al↓	Al ↑	Cl ↓	Cl ↑	Cr ↓
Ax	Cr ↑															

Table 58. Scancode Set When Control Character is 02

	X0	x1	x2	x3	x4	x5	x6	x7	x8	x9	xA	xB	xC	xD	xE	xF
0x	Ar↓	Ar↑	Al↓	Al ↑	Cl ↓	Cl ↑	Cr ↓	Cr ↑	BS	Tab	→	S+ Tab	Enter Keypd	Enter	Ins	Pg Up
1x	Pg Dwn	Home	←	↓	↑	F6	F1	F2	F3	F4	F5	ESC	F7	F8	F9	F10
2x	Space	!	“	#	$	%	&	‘	(	)	*	+	,	-	.	/
3x	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
4x	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
5x	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
6x	‘	a	B	c	d	e	f	g	h	i	j	k	l	m	n	o
7x	p	q	R	s	t	u	v	w	x	y	z	{	|	}		*Del*

IBM XT

Table 59. Scancode Set When Control Character is 00 or 01

	X0	x1	x2	x3	x4	x5	x6	x7	x8	x9	xA	xB	xC	xD	xE	xF
0x	NULL C+@	SOH C(S)+A	STX C(S)+B	ETX C(S)+C	EOT C+D	ENQ C(S)+E	ACK C(S)+F	BEL C(S)+G	BS C(S)+H	HT TAB	LF C(S)+J	VT C(S)+K	FF C(S)+L	CR Enter	SO C(S)+N	SI C(S)+O
1x	DLE C(S)+P	DC1 C(S)+Q	DC2 C(S)+R	DC3 C(S)+S	DC4 C(S)+T	NAK C(S)+U	SYN C(S)+V	ETB C(S)+W	CAN C(S)+X	EM C(S)+Y	SUB C(S)+Z	ESC Esc	FS C(S)+\	GS C+]	RS C(S)+^	US C(S)+_
2x	Space	!	“	#	$	%	&	‘	(	)	*	+	,	-	.	/
3x	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
4x	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
5x	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
6x	‘	a	B	c	d	e	f	g	h	i	j	k	l	m	n	o
7x	p	q	R	s	t	u	v	w	x	y	z	{	|	}		*Del*
8x		Sh↓	Sh↑	Ins	Ent (keyp)	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11
9x	F12	Home	End	Pg Up	Pg Dwn	↑	↓	←	→	Ar↓	Ar↑	Al↓	Al ↑	Cl ↓	Cl ↑	Cr ↓
Ax	Cr ↑															

Table 60. Scancode Set when Control Character 02

	X0	x1	x2	x3	x4	x5	x6	x7	x8	x9	xA	xB	xC	xD	xE	xF
0x	Ar↓	Ar↑	Al↓	Al ↑	Cl ↓	Cl ↑	Cr ↓	Cr ↑	BS	Tab	→	S+ Tab	Enter Keypd	Enter	Ins	Pg Up
1x	Pg Dwn	Home	←	↓	↑	F6	F1	F2	F3	F4	F5	ESC	F7	F8	F9	F10
2x	Space	!	“	#	$	%	&	‘	(	)	*	+	,	-	.	/
3x	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
4x	@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
5x	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
6x	‘	a	B	c	d	e	f	g	h	i	j	k	l	m	n	o
7x	p	q	R	s	t	u	v	w	x	y	z	{	|	}		*Del*

Microsoft Windows Codepage 1252

Windows-1252 is a character encoding of the Latin alphabet, used by default in the legacy components of Microsoft Windows in English and some other Western languages.

	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
00	NUL 0000	STX 0001	SOT 0002	ETX 0003	EOT 0004	ENQ 0005	ACK 0006	BEL 0007	BS 0008	HT 0009	LF 000A	VT 000B	FF 000C	CR 000D	SO 000E	SI 000F
10	DLE 0010	DC1 0011	DC2 0012	DC3 0013	DC4 0014	NAK 0015	SYN 0016	ETB 0017	CAN 0018	EM 0019	SUB 001A	ESC 001B	FS 001C	GS 001D	RS 001E	US 001F
20	SP 0020	! 0021	" 0022	# 0023	$ 0024	% 0025	& 0026	' 0027	(0028	) 0029	* 002A	+ 002B	, 002C	- 002D	. 002E	/ 002F
30	0 0030	1 0031	2 0032	3 0033	4 0034	5 0035	6 0036	7 0037	8 0038	9 0039	: 003A	; 003B	< 003C	= 003D	> 003E	? 003F
40	@ 0040	A 0041	B 0042	C 0043	D 0044	E 0045	F 0046	G 0047	H 0048	I 0049	J 004A	K 004B	L 004C	M 004D	N 004E	O 004F
50	P 0050	Q 0051	R 0052	S 0053	T 0054	U 0055	V 0056	W 0057	X 0058	Y 0059	Z 005A	[005B	\ 005C	] 005D	^ 005E	_ 005F
60	` 0060	a 0061	b 0062	c 0063	d 0064	e 0065	f 0066	g 0067	h 0068	i 0069	j 006A	k 006B	l 006C	m 006D	n 006E	o 006F
70	p 0070	q 0071	r 0072	s 0073	t 0074	u 0075	v 0076	w 0077	x 0078	y 0079	z 007A	{ 007B	| 007C	} 007D	~ 007E	DEL 007F
80	€ 20AC		‚ 201A	ƒ 0192	„ 201E	… 2026	† 2020	‡ 2021	ˆ 02C6	‰ 2030	Š 0160	‹ 2039	Œ 0152		Ž 017D	
90		' 2018	' 2019	" 201C	" 201D	• 2022	– 2013	— 2014	˜ 02DC	™ 2122	š 0161	› 203A	œ 0153		ž 017E	Ÿ 0178
A0	NBSP 00A0	¡ 00A1	¢ 00A2	£ 00A3	¤ 00A4	¥ 00A5	¦ 00A6	§ 00A7	¨ 00A8	© 00A9	ª 00AA	« 00AB	¬ 00AC	- 00AD	® 00AE	¯ 00AF
B0	° 00B0	± 00B1	² 00B2	³ 00B3	´ 00B4	µ 00B5	¶ 00B6	· 00B7	¸ 00B8	¹ 00B9	º 00BA	» 00BB	¼ 00BC	½ 00BD	¾ 00BE	¿ 00BF
C0	À 00C0	Á 00C1	Â 00C2	Ã 00C3	Ä 00C4	Å 00C5	Æ 00C6	Ç 00C7	È 00C8	É 00C9	Ê 00CA	Ë 00CB	Ì 00CC	Í 00CD	Î 00CE	Ï 00CF
D0	Ð 00D0	Ñ 00D1	Ò 00D2	Ó 00D3	Ô 00D4	Õ 00D5	Ö 00D6	× 00D7	Ø 00D8	Ù 00D9	Ú 00DA	Û 00DB	Ü 00DC	Ý 00DD	Þ 00DE	ß 00DF
E0	à 00E0	á 00E1	â 00E2	ã 00E3	ä 00E4	å 00E5	æ 00E6	ç 00E7	è 00E8	é 00E9	ê 00EA	ë 00EB	ì 00EC	í 00ED	î 00EE	ï 00EF
F0	ð 00F0	ñ 00F1	ò 00F2	ó 00F3	ô 00F4	õ 00F5	ö 00F6	÷ 00F7	ø 00F8	ù 00F9	ú 00FA	û 00FB	ü 00FC	ý 00FD	þ 00FE	ÿ 00FF

NOTES

ASCII Chart

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

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