DATALOGIC

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Gryphon™ Family

General Purpose Handheld Linear Imager Bar Code Readers

Gryphon I GD4132/GM4102
Gryphon BT4102

Product Reference Guide

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Disclaimer

Patents

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

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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 Barcodes provides instructions and barcode labels for customizing your reader. There are different sections for interface types, general features, data formatting, symbology-specific and model-specific features.

Chapter 4, Wireless Features describes options and programming related to radio communication features for the RF variants of the Gryphon family.

Chapter 5, References provides background information and detailed instructions for more complex programming items.

Chapter 6, Message Formatting provides details for programming options.

Appendix A, Technical Specifications lists physical and performance characteristics, as well as environmental and regulatory specifications. It also provides standard cable pin-outs 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 barcodes of several common symbologies.

Appendix D, Keypad includes numeric barcodes 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:

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.

References

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

Support Through the Website

Datalogic provides several services as well as technical support through its website. Log on to (www.datalogic.com).

For quick access, from the home page click on the search icon, and type in the name of the product you're looking for. This allows you access to download Data Sheets, Manuals, Software & Utilities, and Drawings.

Hover over the Support & Service menu for access to Services and Technical Support.

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.

About the Reader

Typically, units are factory-programmed for the most common terminal and communications settings. If you need to modify any programmable settings, custom configuration can be accomplished by scanning the programming bar-codes within this guide.

Several models of the Gryphon are available, and are covered in this manual:

- Gryphon I GD4132 - Corded linear imager barcode reader
- Gryphon I GM4102 - Cordless linear imager barcode reader with Datalogic STAR™.
- Gryphon I BT 4102 - Model with Bluetooth options.

Programming can alternatively be performed using the Datalogic Aladdin™ Configuration application which is downloadable from the Datalogic website listed on the back cover of this manual. This multi-platform utility program allows device configuration using a PC. It communicates to the device using a serial or USB cable and can also create configuration barcodes to print.

Advancements in the LED technology used in the imager-based readers significantly improve the illumination of the target field of view, resulting in higher scan efficiency. Whether used in Single Trigger or Continuous Mode, the ergonomic design of the reader will help to promote comfortable handling during extended periods of use.

See "Interface Selection" on page 30 for a listing and descriptions of available interface sets by model type.

The BC40xx™ Radio Base

Base LEDs

LEDs on the Gryphon I Base provide information about the Base's status, as shown in Figure 1.

Figure 1. Gryphon I Base LEDs

The following table describes the significance of each LED:

	LED	STATUS
ϟ	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.

See "Base Station Indications (Cordless Models ONLY)" on page 347 for more specific details on the LEDs.

Base Button

The Base contains a button which is used primarily to perform a paging function. Pressing the button causes a sound signal to be emitted by all scanners linked with this Base, as long as the scanner is awake (see "Powerdown Timeout" on page 268) and reception is enabled (see "Sleep Mode Timeout" on page 98). The button can also be used to "force device connection" via the Datalogic Aladdin Software tool (available for free download from the Datalogic website). See the Aladdin Online Help for details.

See "Base Station Indications (Cordless Models ONLY)" on page 347 for further information on Base Button functions.

Battery Safety

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

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.

CAUTION

- **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.

Only 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.

Programming the Reader

Configuration Methods

Programming Barcodes

The reader is factory-configured with a standard set of default features. After scanning the interface barcode, you can select other options and customize your reader through use of the instructions and programming barcode labels available in the corresponding features section for your interface. Customizable settings for many features are found in "Configuration Using Barcodes" starting on page 39.

Some programming labels, like "Restore Custom Defaults" on page 35, 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 barcode once to enter Programming Mode. Once the reader is in Programming Mode, scan a number of parameter settings before scanning the ENTER/EXIT barcode a second time, which will then accept your changes, exit Programming Mode and return the reader to normal operation.

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 on the CD-ROM provided with your product, and also from 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 barcodes 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).

NOTES

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 11.

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

Setting Up the Reader

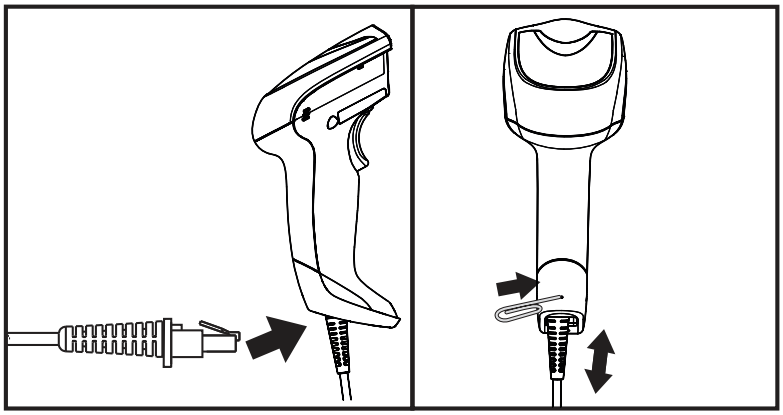
Depending on whether you are using a Corded or Mobile version of the Gryphon, follow the steps provided in this section to connect and get your reader up and communicating with its host.

1. Begin by Installing the Interface Cable (Corded) or Connecting the Base Station (Mobile)
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.

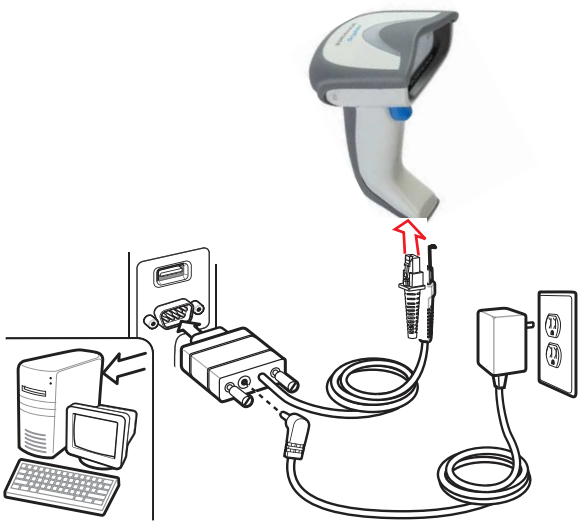
Figure 2. Connect/disconnect the cable



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.

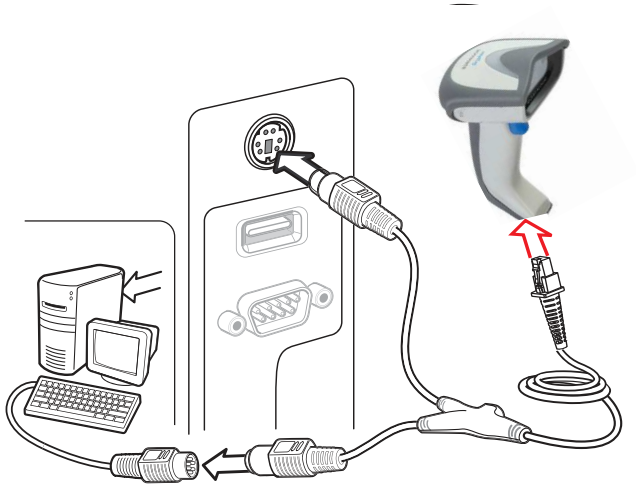
Figure 3. RS-232 Connection



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.

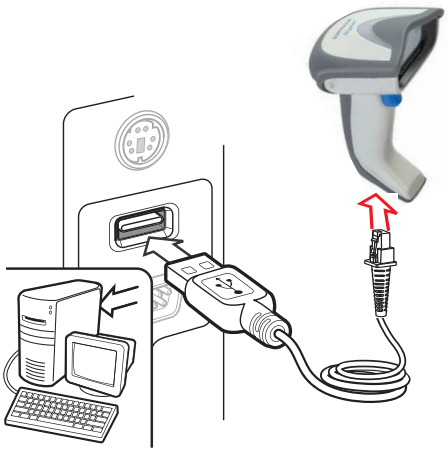
Figure 4. Keyboard Wedge Interface connection



USB Connection

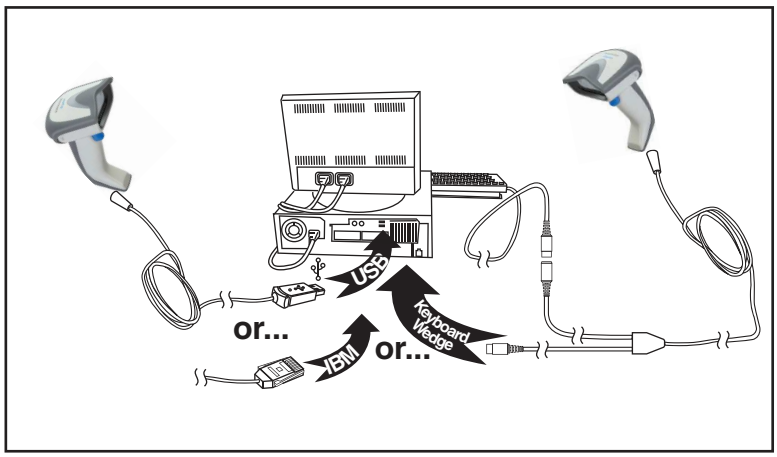
Connect the
reader to a USB port on the terminal/PC using the correct USB cable for the interface type you ordered. Reference Figure 5.

Figure 5. USB connection



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

Figure 6. Other Interface Connections



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.

RF 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, select a slow charge rate.

Configuring the Base Station

The base charger/station may be configured in desk application to hold the reader in two different positions, either a horizontal or standing position, in order to provide the most comfortable use depending on needs.

Standing **Horizontal**

Changing the Base Station Position

The base station is configured by installing one of two sets of mechanical parts that come with the cordless kit. The default mounts (shown below) provide three options: vertical (wall) mounting, standing (45°), or horizontal mounting with a higher mechanical retention of the scanner. Use the other mounts only for horizontal mounting, with lower retention of the scanner. The different parts may be interchanged to customize retention preferences.

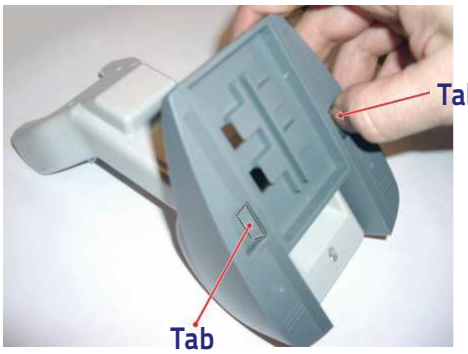
A tool such as a rigid pen or a flat screwdriver can be used to change the mounts. Do not allow it to touch the contacts.

1. Insert the appropriate parts for the desired base station position, as shown below.

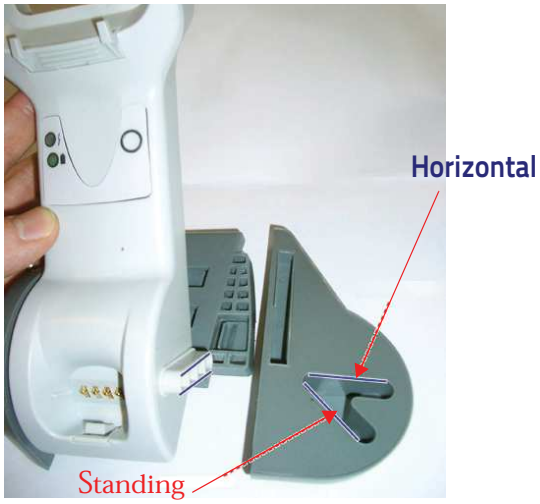
CAUTION

To ensure best contact and performance, do not intermix the parts of the two different mount sets.

2. Using your thumbs, push open the plastic tabs on the bottom of the base to free the wing holders.



3. The stand can now be repositioned in either horizontal or standing position.



Connecting the Base Station

Figure 7 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.

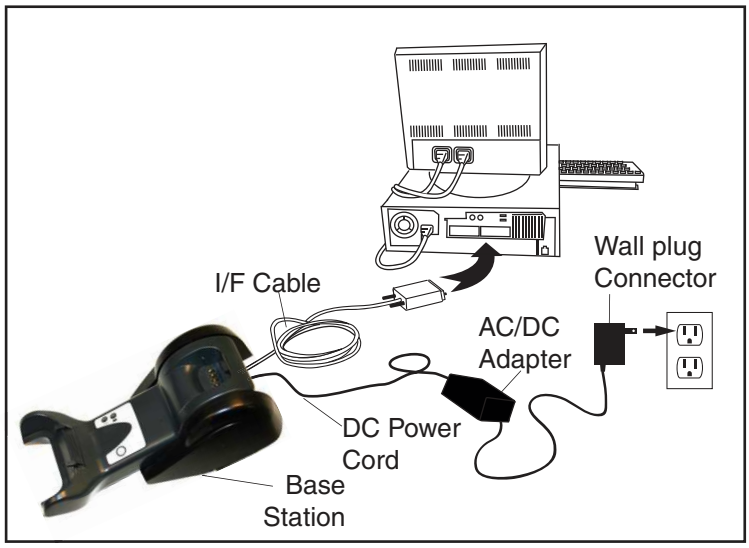
The Gryphon GBT4102 can be set up to require a PIN code when connecting to the host. To connect to a system that uses a custom security PIN, follow the procedure in "Connecting the Base when Security Pin is Enabled" on page 26. For information on how to configure this feature, see BT Security Mode, starting on page 278.

Base Station Connection and Routing: Fully insert the Power Cable and Interface (I/F) Cable connectors into their respective ports in the underside of the Base Station (see Figure 7). Then connect to an AC Adapter, and plug the AC power cord into the (wall) outlet.

Gryphon Mobile can also be Powered by the Terminal. The external power supply is recommended but not necessary. 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, starting on page 315" for more details).

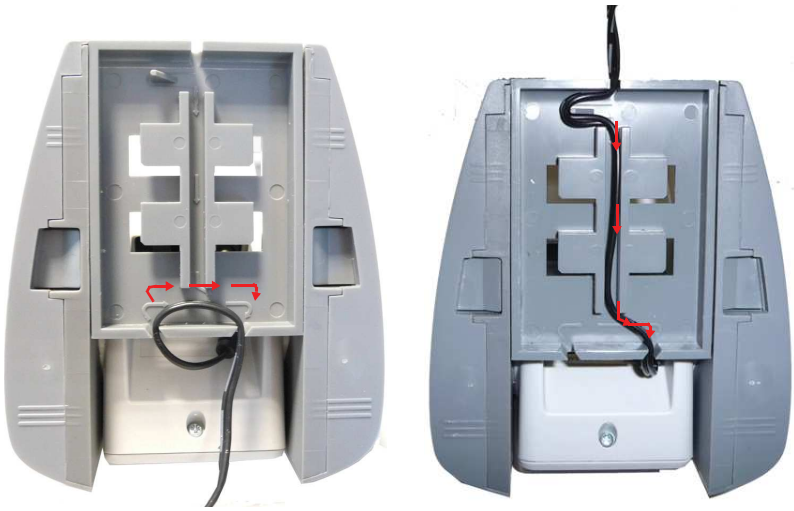
Figure 7. Connecting the Base Station



Securing the DC Power Cord (Optional)

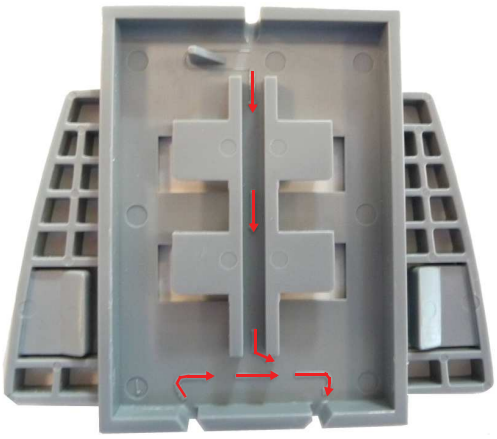
The DC power cord for the adapter can be secured to the bottom of the base in order to maximize the mechanical retention of the cable itself. The routing of the power cord can be changed to accommodate the base station positioning: horizontal, stand or wall mounting. The cables can be looped around to the front of the Base Station, or fed directly out the back of the Base Station, as shown in Figure 8.

Figure 8. Options for routing the DC cord



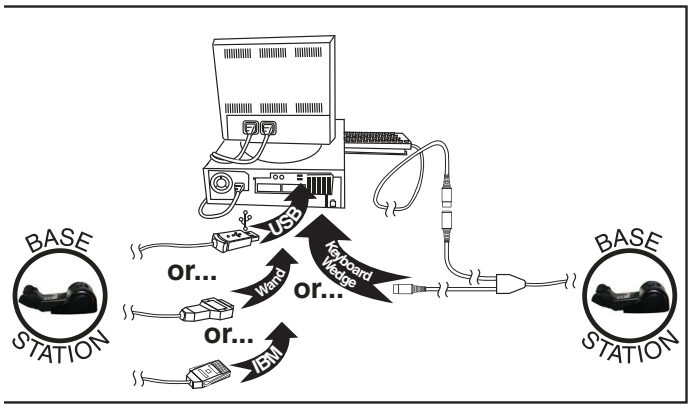
Please refer to the arrows depicted on the bottom of the base when placing the cables, detailed in Figure 9.

Figure 9. Arrows showing routing



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 below. 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 10. Connecting to the Host

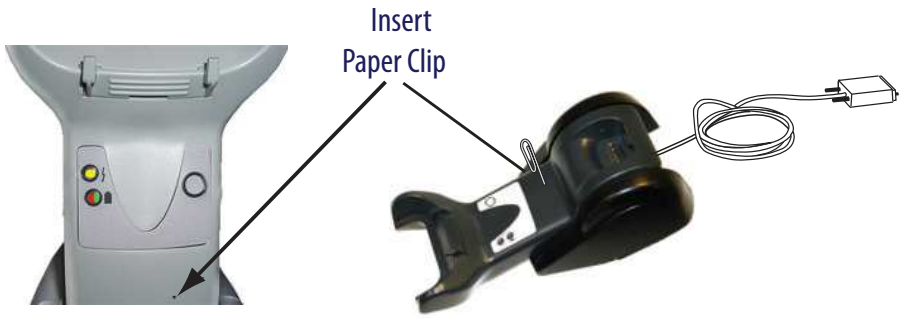


Power Connection : Plug the AC Adapter in to an approved AC wall socket with the cable facing downwards (as shown in Figure 7) to prevent undue strain on the socket.

Gryphon Mobile can also be Powered by the Terminal. The external power supply is recommended but not necessary. When powered by the Terminal, the battery charger is automatically set as Slow charge.

Disconnecting the Cable: To detach the cable, insert a paper clip or similar object into the hole on the base, as shown in Figure 11.

Figure 11. Disconnecting the Cable



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 in Figure 10 on page 25.
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.

To change security settings or set up a PIN, see BT Security Mode, starting on page 278.

Linking the Reader to a Base Station

RF Devices

For RF devices, before configuring the interface it is necessary to link the hand-held 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, or with human interface device profile (HID).

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 **Link to a PC in Server Mode** barcode 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.

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

1. Install any drivers provided with the Bluetooth adapter.
2. Scan the Link to a PC in HID barcode below to make the scanner visible to the host computer.

Link to a PC in HID

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 a text editing program to see incoming data from the reader.

Gryphon™ I System and Network Layouts

Stand Alone Layouts

Figure 12 - Single Reader Layout

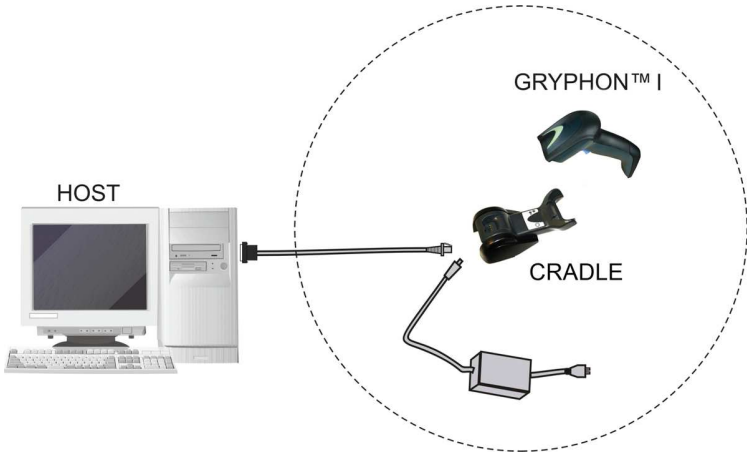
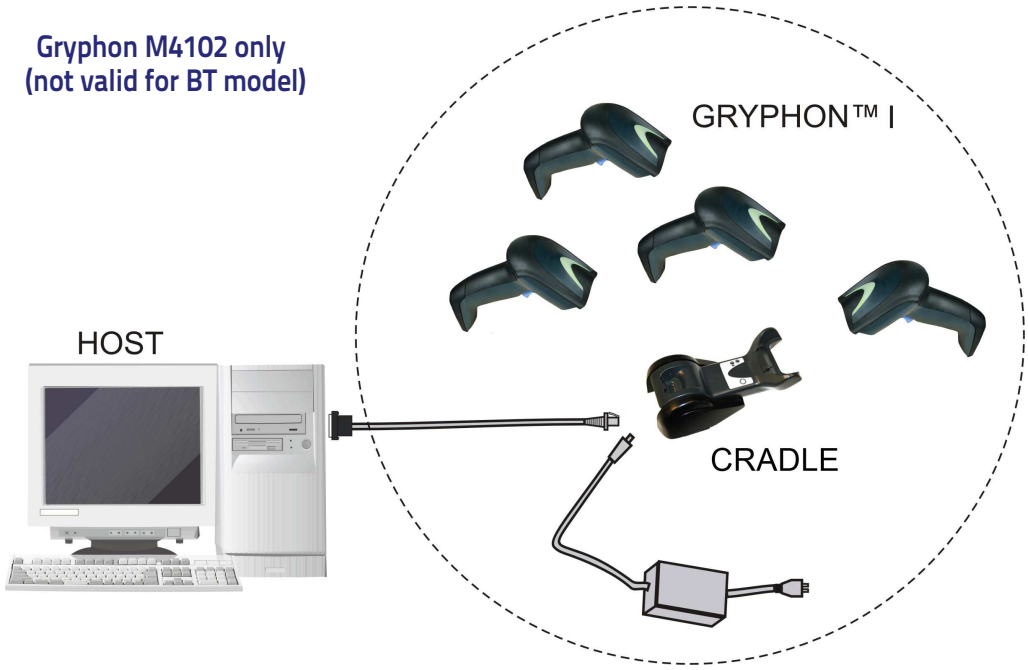
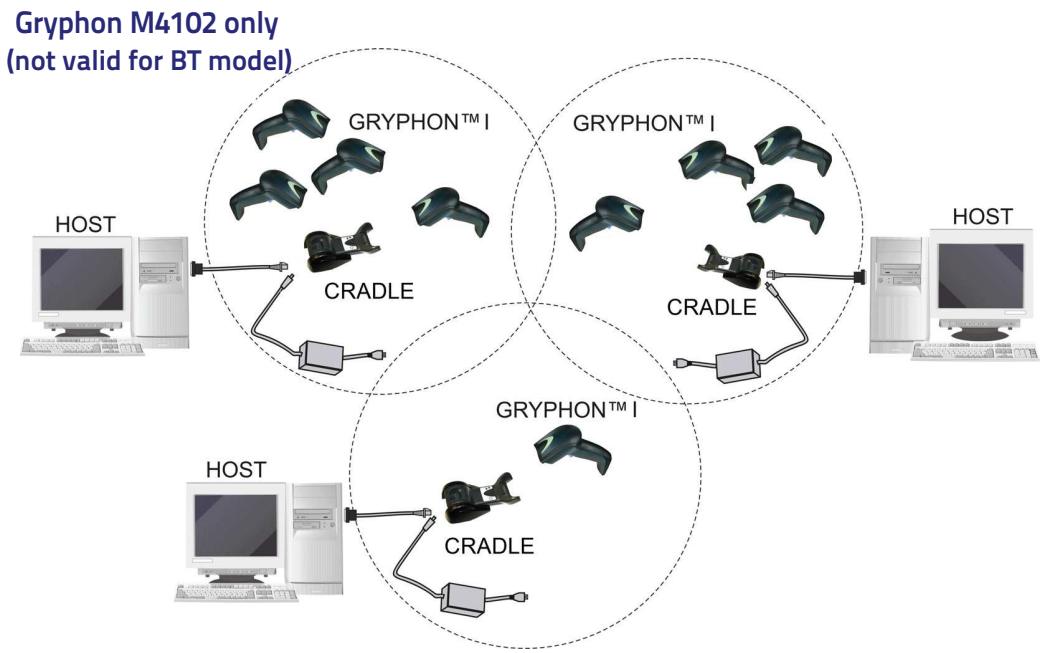


Figure 13 - Multiple Reader Layout



In stand alone systems, each cradle is connected to a single Host.

Figure 14 - Multiple Stand Alone Layouts



Many stand alone connections can operate in the same physical area without interference, provided all readers and cradles in the system have different addresses.

Interface Selection

Upon completing the physical connection between the reader and its host, proceed to Table 1 starting on page 31 to select the interface type the reader is connected to (for example: RS-232, Keyboard Wedge, USB, etc.). Scan the appropriate barcode in that section to configure your system's correct interface type.

Each reader model will support one of the following sets of host interfaces:

General Purpose Models

- RS-232
- RS-232 OPOS
- USB
- Keyboard Wedge
- Wand Emulation

Retail Point of Sale Models

- RS-232
- RS-232 OPOS
- USB
- IBM 46XX (available with special cable)

Setting the Interface

Scan the programming barcode 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 starting on page 31) to configure any desired settings and features associated with that interface.

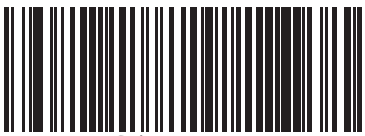
Unlike some programming features and options, interface selections require that you scan only one programming barcode label. DO NOT scan an ENTER/EXIT barcode prior to scanning an interface selection barcode.

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 barcodes.

Table 1. Available Interfaces

RS-232	FEATURES
RS-232 standard interface $P,HA05,P Select RS232-STD	Set RS-232 Interface Features starting on page 43
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	
IBM (available with special cable)	**FEATURES**
Select IBM-P5B IBM-46xx Port 5B reader interface	Set IBM Interface Features starting on page 71
IBM-46xx Port 9B reader interface Select IBM-P9B	
USB-OEM	**FEATURES**
Select USB-OEM USB-OEM (can be used for OPOS/UPOS/JavaPOS)	Set USB-OEM Interface Features starting on page 69

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

KEYBOARD		FEATURES
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 57
 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 — cont.		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 57
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 with alternate key encoding	Select USB Alternate Keyboard	
Select USB-KBD-APPLE	USB Keyboard for Apple computers	
WAND EMULATION		**FEATURES**
Wand Emulation	Select WAND	Set WAND Interface Features starting on page 75

Customizing Configuration Settings

Configure Interface Settings

If after scanning the interface barcode 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 Using Barcodes" starting on page 39.

- "RS-232 ONLY Interface" on page 43
- "RS-232/USB-Com Interfaces" on page 48
- "Keyboard Interface" on page 57
- "USB-OEM Interface (available with special cable)" on page 69
- "IBM 46XX Interface (AVAILABLE WITH SPECIAL CABLE)" on page 71 (available with special cable)
- "Wand Emulation Interface" on page 75

Global Interface Features

See "Global Interface Features" on page 41 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:

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

Code Selection: Includes options concerning the barcode label types (symbologies). These settings allow you to enable/disable symbologies, set label lengths, require check digit, etc.

Wireless Features: Contains programming options for RF and Bluetooth models only.

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 barcode below. This will restore the custom configuration for the currently active interface.

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 barcode or the Restore EU Factory Configuration barcode below. Both labels restore the scanner configuration to the factory settings, including the interface type. 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" section on page 83 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.

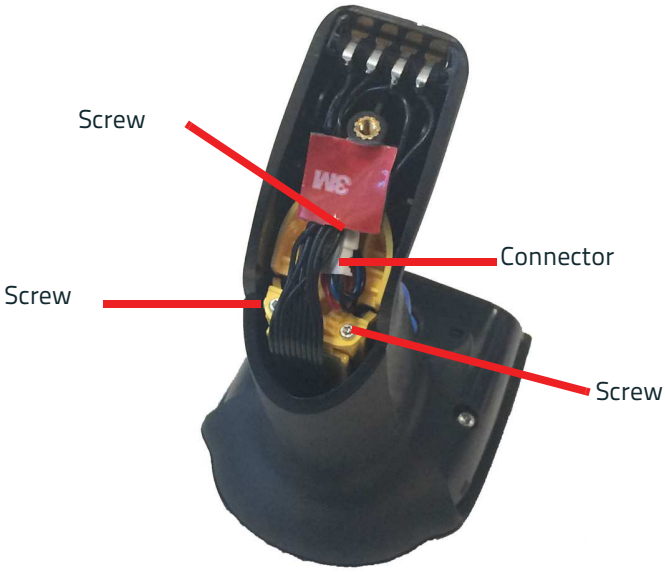
Replacing the Battery

Before replacing the Battery, read "Battery Safety" starting on page 13. Datalogic recommends annual replacement of rechargeable battery packs to ensure maximum performance.

To change the battery of your reader, complete the following instructions.

1. With a screwdriver, unscrew the battery cover screw.

2. Unscrew and remove the three screws securing the battery holder, and unplug the white connector.



3. Carefully lift out the gold contacts circuit, and remove the battery holder while letting the white connector pass through the hole in the battery holder (as shown in the picture below).

4. Remove the old battery from its place (if present), and insert the new battery in the same position.
5. Replace the battery holder and three screws, plug in the connector, and return the contacts circuit to its previous location.

When inserting the new battery into the handle, take care to position the battery and the connector as shown.

6. Insert the cover in the handle and screw it back into place.

Battery replacement is now complete.

NOTES

Chapter 3
Configuration Using Barcodes

This and following sections provide programming barcodes to configure your reader by changing the default settings. For details about additional methods of programming, see "Configuration Methods" on page 15.

You must first enable your reader to read barcodes in order to use this section. If you have not done this, go to Setup, starting on page 17 **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 363 for initial configuration in order to set the default values and select the interface for your application.

The following configuration parameters are applicable to all Gryphon models covered in this manual, unless otherwise indicated. The items are divided into logical groups, making it easy to find the desired function based on its reference group.

Interface Configuration:

- "RS-232 ONLY Interface" on page 43
- "RS-232/USB-Com Interfaces" on page 48
- "Keyboard Interface" on page 57
- "USB-OEM Interface (available with special cable)" on page 69
- "IBM 46XX Interface (AVAILABLE WITH SPECIAL CABLE)" on page 71 (available with special cable)
- "Wand Emulation Interface" on page 75

Parameters common to all interface applications:

- "Data Format" on page 79 gives options to control the messages sent to the Host system.
- "Reading Parameters" on page 95 control various operating modes and indicators status functioning.

Symbology-specific parameters:

- "Code Selection" on page 111 provides configuration of a personalized mix of codes, code families and their options.

Model-specific parameters:

- "Wireless Features" on page 259 offers configuration of radio control parameters for RF and Bluetooth models.

Reading Configuration Barcodes

You must first enable your reader to read barcodes in order to use this section. If you have not done this, go to Setup, starting on page 17 and complete the appropriate procedure.

To program features:

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

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

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.

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

For detailed descriptions, programming information and examples for setting selected configuration items, see References, starting on page 283.

ENTER/EXIT PROGRAMMING MODE

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

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 ONLY INTERFACE

Use the programming barcodes 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 48.

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

Baud Rate

See page 283 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

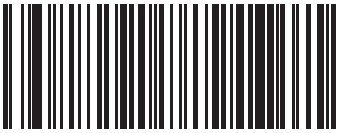
Baud Rate = 57,600

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 283 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 283 for more information.

DEFAULT

Parity = None

Parity = Even

Parity = Odd

Handshaking Control

See page 283 for more information about this feature.

DEFAULT

Handshaking Control = RTS

Handshaking Control = RTS/CTS

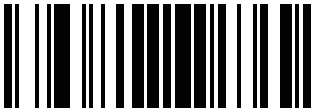
Handshaking Control = RTS/XON/XOFF

Handshaking Control = RTS On/CTS

Handshaking Control = RTS/CTS Scan Control

RS-232/USB-COM INTERFACES

The programming barcodes 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.

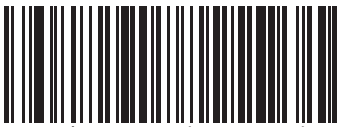


ENTER/EXIT PROGRAMMING MODE

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.

See page 284 for more information.



Intercharacter Delay = No Delay

Select Intercharacter Delay Setting

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

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 285 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 285 for more information.

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.

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

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.

page 286 for more information.

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 287 for more information on setting this feature.

Select ACK NAK Timeout Value Setting

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

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. See page 288 for more information.

Select ACK NAK Retry Count Setting

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 **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

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.

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.

See page 289 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.

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.

See page 290 in "References" for more information on setting this feature.

Select Enable Character Setting

DEFAULT

0x45 = Enable Character is 'E'

KEYBOARD INTERFACE

Use the programming barcodes 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.

Only the following interfaces support ALL Country Modes.

- USB Keyboard (without alternate key encoding)
- AT, PS/2 25-286, 30-286, 50, 50Z, 60, 70, 80, 90 & 95 w/Std Key Encoding
- 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 without Alternate Key
- Keyboard Wedge for IBM AT PS2 without alternate key encoding but without external keyboard
- Bluetooth HID Profile

All other interfaces support ONLY the following Country Modes: U.S., Belgium, Britain, France, Germany, Italy, Spain, Sweden.

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.

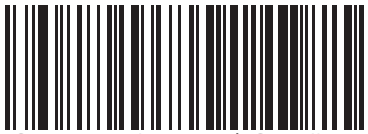
Country Mode = Czech Republic

Country Mode — continued

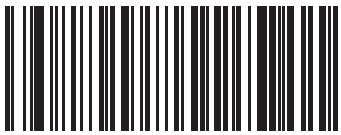

Country Mode = Denmark

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


Country Mode = France


Country Mode = French Canadian


Country Mode = Germany


Country Mode = Hungary

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


Country Mode = Italy


Country Mode = Japanese 106-key

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


Country Mode = Lithuanian

Country Mode — continued

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 = Spain

Country Mode = Sweden

Country Mode = Switzerland

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

Caps Lock State

This option specifies the format in which the reader sends character data. This applies to keyboard wedge interfaces and Bluetooth HID Profile. 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 Numbers Lock (Numlock) key while in keyboard wedge interface. This only applies to alternate key encoding interfaces. It does not apply to USB keyboard.

DEFAULT

Numlock = Numlock key unchanged

Numlock = Numlock key toggled

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+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 "Microsoft Windows Codepage 1252" on page 349).

DEFAULT


Wedge Send Control Characters = 00


Wedge Send Control Characters = 01


Wedge Send Control Characters = 02

ENTER/EXIT PROGRAMMING MODE

Wedge Quiet Interval

This option specifies the amount of time to look for keyboard activity before the reader breaks the keyboard connection in order to transmit data to host. The selectable range for this feature is from 0 to 990ms in 10ms increments.

This feature applies ONLY to the Keyboard Wedge interface.

See page 291 in “References” for detailed information and examples for setting this feature.

Select Wedge Quiet Interval Setting

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 **10 = Quiet Interval of 100 ms**

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.

This feature applies ONLY to the Keyboard Wedge interface and Bluetooth HID Profile.

See page 292 in "References" for detailed information and examples for setting this feature.

Intercharacter Delay = No Delay

Select Intercharacter Delay Setting

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 **00 = No Intercharacter Delay**

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 293 in “References” for detailed information and examples for setting this feature.

Set Intercode Delay

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 **00 = No Wedge Intercode Delay**

USB Keyboard Speed

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

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
(AVAILABLE WITH SPECIAL CABLE)

Feature settings for USB interfaces differ depending upon which host type the reader will be connected with. Use the feature settings in this chapter and "IBM 46XX Interface (AVAILABLE WITH SPECIAL CABLE)" on page 71 to specifically configure for the USB-OEM interface. Other USB interfaces are included in the appropriate chapter for their host type.

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

ENTER/EXIT PROGRAMMING MODE

USB-OEM Device Usage

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

Options are:

- Table Top Scanner
- Handheld Scanner

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

USB-OEM Device Usage = Handheld Scanner

DEFAULT

Interface Options

This feature provides for an interface-specific control mechanism.

Obey Scanner Configuration Host Commands

Ignore Scanner Configuration Host Commands

DEFAULT

IBM 46XX INTERFACE
(AVAILABLE WITH SPECIAL CABLE)

Use the barcodes in this section to configure programmable features for available IBM 46XX interfaces.

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

46xx Number of Host Resets

Specifies how many consecutive resets are processed before the reader starts a five-second period to allow the user to enter Programming Mode and configure the reader. The configurable range for this feature is 1 to 15 resets.

46xx Number of Host Resets = 1

46xx Number of Host Resets = 2

46xx Number of Host Resets = 3

46xx Number of Host Resets = 4

46xx Number of Host Resets = 5

46xx Number of Host Resets = 6

DEFAULT

46xx Number of Host Resets = 7

46xx Number of Host Resets — cont.


46xx Number of Host Resets = 8


46xx Number of Host Resets = 9


46xx Number of Host Resets = 10


46xx Number of Host Resets = 11


46xx Number of Host Resets = 12


46xx Number of Host Resets = 13


46xx Number of Host Resets = 14


46xx Number of Host Resets = 15

ENTER/EXIT PROGRAMMING MODE

Transmit Labels in Code 39 Format

This feature enable/disables translation to Code 39 before transmitting label data to an IBM-46XX or 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.

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

- USB-OEM: Code128, Code 93, and Codabar
- IBM-Port 5B: Code 128, Code 93, and Codabar
- IBM-Port 9B: Code 93 and Codabar

DEFAULT

Transmit Labels in Code 39 Format = IBM Standard Format

Transmit Labels in Code 39 Format = Code 39 Format

Interface Options

This feature provides for an interface-specific control mechanism.

Obey Scanner Configuration Host Commands

Ignore Scanner Configuration Host Commands

DEFAULT

WAND EMULATION INTERFACE

This chapter provides feature/settings configuration for the Wand Emulation interface.

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

ENTER/EXIT PROGRAMMING MODE

Wand Signal Speed

This feature specifies the speed of the Wand output signal per nominal bar or space. Choices are:

- 330 microseconds
- 660 microseconds

Wand Signal Speed = 330ms

Wand Signal Speed = 660ms

DEFAULT

Wand Polarity

This option specifies the polarity of the Wand output signal. Choices are:

- Quiet zones and spaces are high, bars are low
- Quiet zones and spaces are low, bars are high

TTL logic levels:
0V <= Low <= 0.7V
2.4V <= High <= 5.25V

Wand Polarity = Quiet Zones & Spaces High, Bars Low

Wand Polarity = Quiet Zones & Spaces Low, Bars High

DEFAULT

ENTER/EXIT PROGRAMMING MODE

Wand Idle State

This feature specifies the level of the Wand output signal when the reader is idle.

TTL logic levels:
0V <= Low <= 0.7V
2.4V <= High <= 5.25V

Wand Idle State = Low

DEFAULT

Wand Idle State = High

Transmit Noise

This option specifies the leading/trailing noise for the Wand interface.

DEFAULT

Transmit Noise = Disable

Transmit Noise = Transmit leading noise

Transmit Noise = Transmit trailing noise

Transmit Noise = Transmit leading and trailing noise

ENTER/EXIT PROGRAMMING MODE

Label Symbology Conversion

When this feature is enabled for the Wand Emulation interface, all barcode labels are converted to a single symbology.
Options are:

- No conversion
- Convert to Code 39 symbology
- Convert to Code 39 Full ASCII
- Convert to Code 128 symbology

DEFAULT

Label Symbology Conversion = No conversion

Label Symbology Conversion = Convert to Code 39

Label Symbology Conversion = Convert to Code 39 Full ASCII

Label Symbology Conversion = Convert to Code 128

DATA FORMAT

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 296 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 barcode data, also called a header) and/or as a suffix (in a position following the barcode data, also called a footer). See page 297 for more detailed instructions on setting this feature.

To configure this feature, scan the ENTER/EXIT PROGRAMMING MODE barcode above to place the unit in Programming Mode, then the "Set Global Prefix" or "Set Global Suffix," barcode 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 barcode to terminate the string. Exit programming mode by scanning the ENTER/EXIT barcode again.

Set Global Prefix

Set Global Suffix

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

No Global Prefix
Global Suffix = 0x0D (CR)

Global AIM ID

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 barcode 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)

DEFAULT

Global AIM ID = Disable

Global AIM ID = Enable

ENTER/EXIT PROGRAMMING MODE

GS1-128 AIM ID

If Global AIM ID is disabled, the AIM ID for GS1-128 can be enabled/disabled independently. The AIM ID for GS1-128 is a]C1,]C2 or]C3.

AIM IDs for other symbologies can be enabled/disabled independently as well. Contact Customer Support for assistance

GS1-128 AIM ID = Disable

GS1-128 AIM ID = Enable

DEFAULT

Label ID

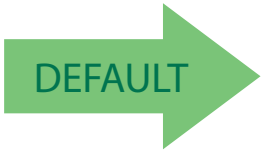
A Label ID is a customizable code of up to three ASCII characters (each can be one of hex 0x01–0xFF), used to identify a barcode (symbology) type. It can be appended previous to or following the transmitted barcode data depending upon how this option is enabled. This feature provides options for configuring 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 84). 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 81.

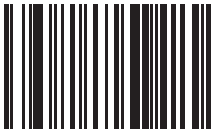
See Label ID, starting on page 299 of “References” for more information on setting this feature.

Label ID: Pre-loaded Sets

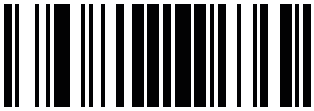
The reader supports two pre-loaded sets of Label IDs. See Label ID: Pre-loaded Sets, starting on page 299 for details on the USA set and the EU set.

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


Label ID Pre-loaded Set = EU Set



ENTER/EXIT PROGRAMMING MODE

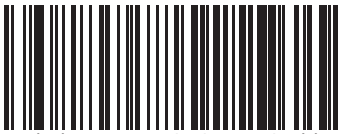
Label ID: Set Individually Per Symbology

This feature configures a Label ID individually for a single symbology. See Label ID: Set Individually Per Symbology, starting on page 301 for detailed instructions on setting this feature.

Label ID Control

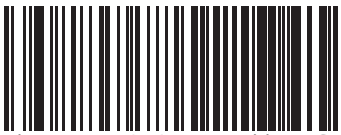
This option controls whether a Label ID is disabled, or sent as a prefix or suffix for a given symbology type.

DEFAULT



Label ID Transmission = Disable

Label ID Transmission = Enable as Prefix



Label ID Transmission = Enable as Suffix

CANCEL

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

Label ID Symbology Selection

This option selects the symbology for which a Label ID is to be configured. See "Label ID" on page 83 or page 301 in “References” for more detailed instructions.

Set UPC-A Label ID Character(s)

Set UPC-A/P2 Label ID Character(s)

Set UPC-A/P5 Label ID Character(s)

Set UPC-A/GS1-128 Label ID Character(s)

Set UPC-E Label ID Character(s)

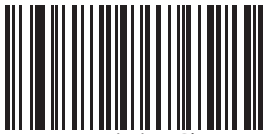
Set UPC-E/P2 Label ID Character(s)

Set UPC-E/P5 Label ID Character(s)

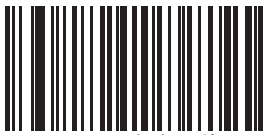
ENTER/EXIT PROGRAMMING MODE

Label ID Symbology Selection — continued

Set UPC-E/GS1-128 Label ID Character(s)

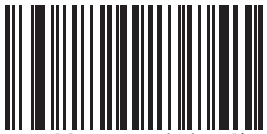


Set EAN 13 Label ID Character(s)



Set EAN 13/P2 Label ID Character(s)

Set EAN 13/P5 Label ID Character(s)



Set EAN 13/GS1-128 Label ID Character(s)

Set EAN 8 Label ID Character(s)

Set EAN 8/P2 Label ID Character(s)

Label ID Symbology Selection — continued

Set EAN 8/P5 Label ID Character(s)

Set EAN 8/GS1-128 Label ID Character(s)

Set GTIN Label ID Character(s)

Set GTIN/P2 Label ID Character(s)

Set GTIN/P5 Label ID Character(s)

Set GTIN/GS1-128 Label ID Character(s)

Set Code 39 Label ID Character(s)

ENTER/EXIT PROGRAMMING MODE

Label ID Symbology Selection — continued

Set Code 32 Label ID Character(s)

Set Code 39 CIP Label ID Character(s)

Set Code 128 Label ID Character(s)

Set GS1-128 Label ID Character(s)

Set ISBT 128 Label ID Character(s)

Set Codablock F Label ID Character(s)

Set Interleaved 2 of 5 Label ID Character(s)

Set Follett 2 of 5 Label ID Character(s)

Label ID Symbology Selection — continued

Set Interleaved 2 of 5 CIP HR Label ID Character(s)

Set Standard 2 of 5 Label ID Character(s)

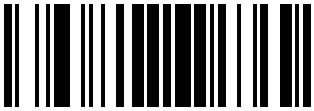
Set Industrial 2 of 5 Label ID Character(s)

Set IATA Label ID Character(s)

Set Datalogic 2 of 5 Label ID Character(s)

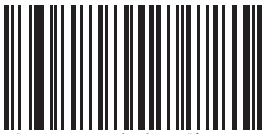
Set Codabar Label ID Character(s)

Set ABC Codabar Label ID Character(s)

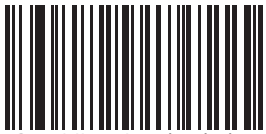


ENTER/EXIT PROGRAMMING MODE

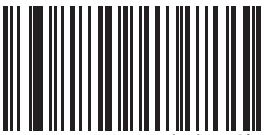
Label ID Symbology Selection — continued



Set Code 11 Label ID Character(s)



Set DataBar Omnidirectional Label ID Character(s)



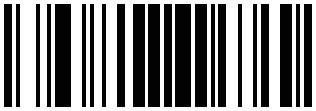
Set DataBar Expanded Label ID Character(s)

Set DataBar Limited Label ID Character(s)

Set Code 93 Label ID Character(s)

Set MSI Label ID Character(s)

Set Plessey Label ID Character(s)

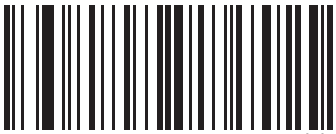


ENTER/EXIT PROGRAMMING MODE

Label ID Symbology Selection — continued

Set Anker Plessey Label ID Character(s)

Set Code 4 Label ID Character(s)



Set Code 5 Label ID Character(s)

ENTER/EXIT PROGRAMMING MODE

Set Global Mid Label ID Characters

Specifies mid-label ID that is added for transmission between the labels of a two-label pair.

To configure this feature, scan the ENTER/EXIT PROGRAMMING MODE barcode above to place the unit in Programming Mode, then the "Set Global Mid Label ID Character(s)" barcode 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 barcode to terminate the string. Exit programming mode by scanning the ENTER/EXIT barcode again.

Set Global Mid Label ID Character(s)

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

No Mid Label ID Character (00)

ENTER/EXIT PROGRAMMING MODE

Case Conversion

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

Case conversion affects ONLY scanned barcode 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

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.

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

Configure Character Conversion

DEFAULT

0xFFFFFFFFFFFFFFFF
(No character conversion)

READING PARAMETERS

ENTER/EXIT PROGRAMMING MODE

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

ENTER/EXIT PROGRAMMING MODE

Double Read Timeout — continued

Double Read Timeout = 0.8 Second

Double Read Timeout = 0.9 Second

Double Read Timeout = 1 Second

Label Gone Timeout

This feature sets the time after the last label segment is seen before the reader prepares for a new label. The timeout can be set within a range of 10 milliseconds to 2,550 milliseconds (2.55 seconds) in 10ms increments. Label Gone Timeout does not apply to scan modes that require a trigger pull for each label that is read. See page 304 in "References" for detailed instructions and examples for setting this feature.

Select Label Gone Timeout Setting

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 **016 = Timeout of 160 ms**

ENTER/EXIT PROGRAMMING MODE

Sleep Mode Timeout

This feature sets the amount of time that the reader will be idle before it enters into a low power Sleep Mode. When in Sleep Mode the reader can no longer receive commands from the Host or base station until it is woken up again by a trigger pull or being placed into a base station.

In order for the reader to enter Sleep Mode, the following conditions must be met:

Corded version (GD4132 only): RS-232 interface and trigger single, trigger multiple or trigger pulse.

Mobile version (GM4102 only): Sleep state is allowed only on the handheld (not on the base) when trigger single, trigger multiple or trigger pulse are set, and when the reader is not charging the battery.

This feature is not applicable to the Gryphon BT models

Sleep Mode Timeout = Disable

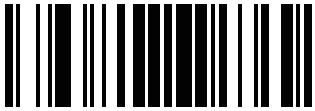
DEFAULT

Sleep Mode Timeout = 1 Second

Sleep Mode Timeout = 2 Seconds

Sleep Mode Timeout = 3 Seconds

Sleep Mode Timeout = 4 Seconds



ENTER/EXIT PROGRAMMING MODE

Sleep Mode Timeout — continued

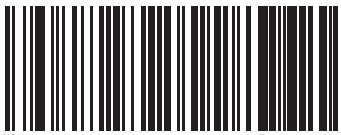
Sleep Mode Timeout = 5 Seconds

Sleep Mode Timeout = 6 Seconds

Sleep Mode Timeout = 7 Seconds

Sleep Mode Timeout = 8 Seconds

Sleep Mode Timeout = 9 Seconds



Sleep Mode Timeout = 10 Seconds

ENTER/EXIT PROGRAMMING MODE

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)

Power On Alert = Four Beeps

DEFAULT

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 barcode. .

This option, which uses CTS, is only valid for RS-232 interfaces. This item is not configurable for the GM4102/GBT 4102 models.

DEFAULT

Indicate Good Read = After Decode

Indicate Good Read = After Transmit

Indicate Good Read = After CTS Goes Inactive, Then Active

ENTER/EXIT PROGRAMMING MODE

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

ENTER/EXIT PROGRAMMING MODE

Good Read Beep Length

Good Read Beep Length = 60 msec

Good Read Beep Length = 80 msec

DEFAULT

Good Read Beep Length = 100 msec

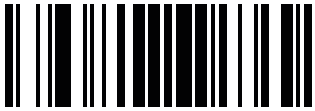
Good Read Beep Length = 120 msec

Good Read Beep Length = 140 msec

Good Read Beep Length = 160 msec

Good Read Beep Length = 180 msec

Good Read Beep Length = 200 msec



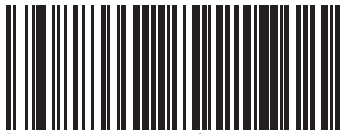
ENTER/EXIT PROGRAMMING MODE

Good Read Beep Volume

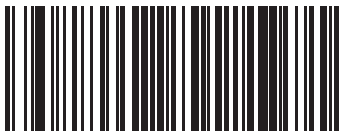
Selects the beeper volume (loudness) upon a good read beep. There are three selectable volume levels.

Good Read Beep Volume = Beeper Off

Good Read Beep Volume = Low



Good Read Beep Volume = Medium



Good Read Beep Volume = High

DEFAULT

ENTER/EXIT PROGRAMMING MODE

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.

See page 305 in “References” for detailed instructions and examples for setting this feature.

Select Good Read LED Duration Setting

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

003 = Good Read LED stays on for 300 ms

Indicators are dimmed during sleep.

ENTER/EXIT PROGRAMMING MODE

SCANNING FEATURES

Scan Mode

Selects the reader's scan operating mode. See page 306 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

Scan Mode = Trigger Object Sense c

ENTER/EXIT PROGRAMMING MODE

Stand Mode Triggered Timeout

This feature specifies the time to remain in Trigger Single mode after the trigger is pulled while in Stand Mode.

This timeout is only used when the Scan Mode is configured as Stand Mode.

Stand Mode Triggered Timeout = 0.5 Seconds

DEFAULT

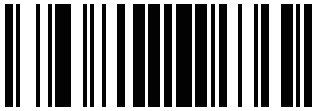
Stand Mode Triggered Timeout = 1.5 Seconds

Stand Mode Triggered Timeout = 2 Seconds

Stand Mode Triggered Timeout = 3 Seconds

Stand Mode Triggered Timeout = 4 Seconds

Stand Mode Triggered Timeout = 6 Seconds



ENTER/EXIT PROGRAMMING MODE

Stand Mode Triggered Timeout — continued

Stand Mode Triggered Timeout = 8 Seconds

Stand Mode Triggered Timeout =
Switch back to Trigger Single on trigger pull

Stand Detection

Specifies the behavior of the scanner when placed in a stand that contains autorecognition hardware.

Ignore Autorecognition

Switch to Stand Mode

DEFAULT

Switch to Always On

Switch to Flashing

ENTER/EXIT PROGRAMMING MODE

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

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 307 in “References” for descriptions of each feature

Select Scanning Active Time Setting

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 **005 = Scanning is active for 5 Seconds**

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.See page 308 in “References” for detailed information on setting this feature.

Select Flash ON Time Setting

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 **10 = Flash is ON for 1 Second**

Flash Off Time

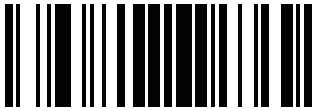
This feature specifies the OFF time for the indicator LED while in Flash Mode. The selectable range is 100 to 9,900 milliseconds (0.1 to 9.9 seconds), in 100 millisecond increments. See page 309 in “References” for detailed information on setting this feature.

Select Flash OFF Time Setting

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



ENTER/EXIT PROGRAMMING MODE

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)

CODE SELECTION

The reader supports the following symbologies (barcode types). Symbology-dependent options for each symbology are included in this chapter.

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

ENTER/EXIT PROGRAMMING MODE

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

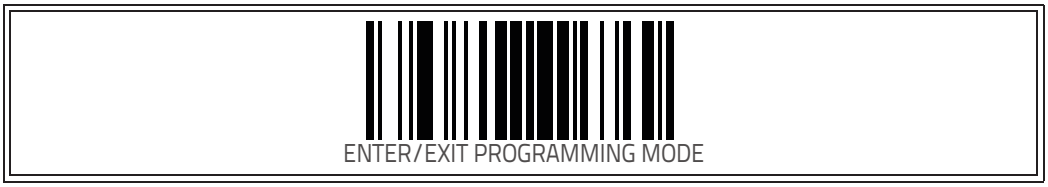
If you make a mistake before the last character, scan the CANCEL barcode to abort and not save the entry string. You can then start again at the beginning.

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

DISABLE ALL SYMBOLOGIES

Use this feature to disable all symbologies.

1. Scan the ENTER/EXIT PROGRAMMING barcode below.
2. Scan the Disable All Symbologies barcode.
3. Complete the programming sequence by scanning the ENTER/EXIT PROGRAMMING barcode.



ENTER/EXIT PROGRAMMING MODE

Disable All Symbologies

This does not disable the reading of programming labels.

ENTER/EXIT PROGRAMMING MODE

CODE EAN/UPC

Coupon Control

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

Coupon Control = Allow all coupon barcodes 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.

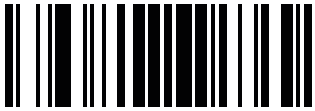
UPC-A Enable/Disable

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

UPC-A = Disable

DEFAULT

UPC-A = Enable



ENTER/EXIT PROGRAMMING MODE

UPC-A Check Character Transmission

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

UPC-A Check Character Transmission = Don't Send

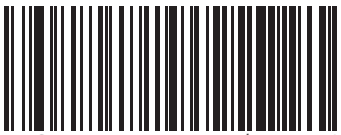
UPC-A Check Character Transmission = Send

DEFAULT

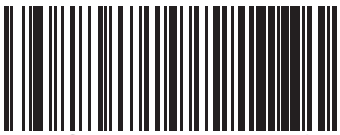
Expand UPC-A to EAN-13

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.

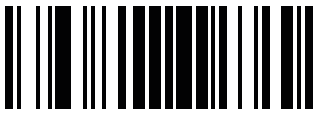
DEFAULT



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



UPC-A to EAN-13 = Expand



ENTER/EXIT PROGRAMMING MODE

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

UPC-A Number System Character = Transmit

DEFAULT

UPC-A Minimum Reads

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

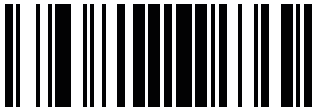
DEFAULT

UPC-A Minimum Reads = 1

UPC-A Minimum Reads = 2

UPC-A Minimum Reads = 3

UPC-A Minimum Reads = 4



ENTER/EXIT PROGRAMMING MODE

UPC-E

The following options apply to the UPC-E symbology.

UPC-E Enable/Disable

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

UPC-E = Disable

UPC-E = Enable

DEFAULT

UPC-E Check Character Transmission

Enable this option to transmit the check character along with UPC-E barcode data.

UPC-E Check Character Transmission = Don't Send

UPC-E Check Character Transmission = Send

DEFAULT

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

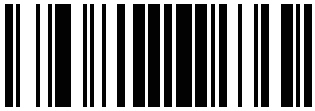
Expand UPC-E to UPC-A

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



ENTER/EXIT PROGRAMMING MODE

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

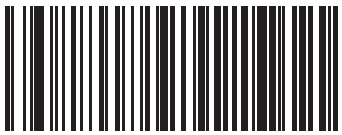
UPC-E Number System Character = Transmit

DEFAULT

UPC-E Minimum Reads

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

UPC-E Minimum Reads = 1



UPC-E Minimum Reads = 2

DEFAULT

UPC-E Minimum Reads = 3

UPC-E Minimum Reads = 4

ENTER/EXIT PROGRAMMING MODE

GTIN FORMATTING

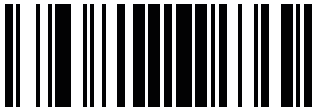
This feature enables/disables the ability to convert UPC–E, UPC–A, EAN 8, and EAN 13 labels into the GTIN 14–character format.

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



ENTER/EXIT PROGRAMMING MODE

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 barcodes.

EAN 13 = Disable

EAN 13 = Enable

DEFAULT

EAN 13 Check Character Transmission

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

EAN 13 Check Character Transmission = Don't Send

EAN 13 Check Character Transmission = Send

DEFAULT

ENTER/EXIT PROGRAMMING MODE

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

EAN-13 Flag 1 Char= Transmit

DEFAULT

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

ENTER/EXIT PROGRAMMING MODE

EAN 13 Minimum Reads

This feature specifies the minimum number of consecutive times an EAN 13 label must be decoded before it is accepted as good read.

DEFAULT

EAN 13 Minimum Reads = 1

EAN 13 Minimum Reads = 2

EAN 13 Minimum Reads = 3

EAN 13 Minimum Reads = 4

ISSN

The following options apply to the ISSN symbology.

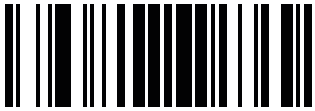
ISSN Enable/Disable

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

DEFAULT

ISSN = Disable

ISSN = Enable



ENTER/EXIT PROGRAMMING MODE

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 barcodes.

EAN 8 = Disable

EAN 8 = Enable

DEFAULT

EAN 8 Check Character Transmission

Enable this option to transmit the check character along with EAN 8 barcode 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 Minimum Reads

This feature specifies the minimum number of consecutive times an EAN 8 (Jan 8) label must be decoded before it is accepted as good read.

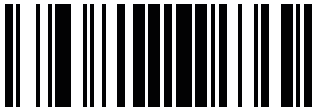
DEFAULT

EAN 8 Minimum Reads = 1

EAN 8 Minimum Reads = 2

EAN 8 Minimum Reads = 3

EAN 8 Minimum Reads = 4



ENTER/EXIT PROGRAMMING MODE

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 Decoding Level

Decoding Levels are used to configure a barcode symbology decoder to be very aggressive to very conservative depending on a particular customer's needs.

See page 294 for more information on this feature.

UPC/EAN Decoding Level = 1 (Conservative)

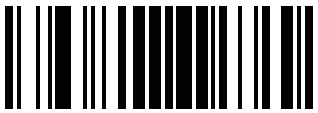
DEFAULT

UPC/EAN Decoding Level = 2

UPC/EAN Decoding Level = 3

UPC/EAN Decoding Level = 4

UPC/EAN Decoding Level = 5 (Aggressive)



ENTER/EXIT PROGRAMMING MODE

UPC/EAN Correlation

When correlation is enabled, the reader will combine label data from multiple scans when decoding. This will help the scanner read labels that have spots, voids and/or damaged areas. Enabling correlation will also increase the chances that a label will be read incorrectly.

DEFAULT

UPC/EAN Correlation = Disable

UPC/EAN Correlation = Enable

UPC/EAN Price Weight Check

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

DEFAULT

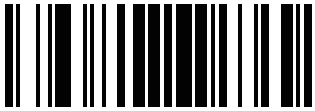
Price Weight Check = Disabled

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



ENTER/EXIT PROGRAMMING MODE

In-Store Minimum Reads

This feature specifies the minimum number of consecutive times an in-store label must be decoded before it is accepted as good read.

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

In-Store Minimum Reads = 1

In-Store Minimum Reads = 2

DEFAULT

In-Store Minimum Reads = 3

In-Store Minimum Reads = 4

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):

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

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 134.)

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

ENTER/EXIT PROGRAMMING MODE

Optional Add-On Timer (continued)

Optional Add-on Timer = 60ms

Optional Add-on Timer = 70ms

DEFAULT

Optional Add-on Timer = 100ms

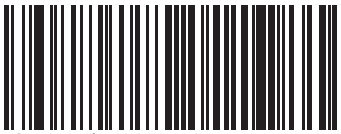
Optional Add-on Timer = 120ms

Optional Add-on Timer = 140ms

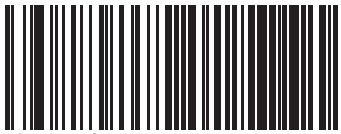
Optional Add-on Timer = 160ms

ENTER/EXIT PROGRAMMING MODE

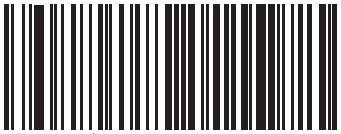
Optional Add-On Timer (continued)



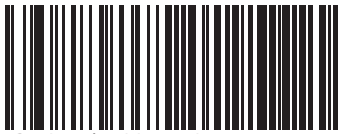
Optional Add-on Timer = 180ms



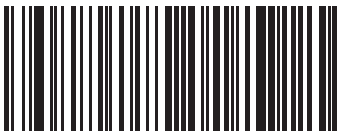
Optional Add-on Timer = 200ms



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

ENTER/EXIT PROGRAMMING MODE

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 131.

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

ENTER/EXIT PROGRAMMING MODE

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

ENTER/EXIT PROGRAMMING MODE

Optional GS1-128 Add-On Timer (continued)

Optional GS1-128 Add-On Timer = 180ms

Optional GS1-128 Add-On Timer = 200ms

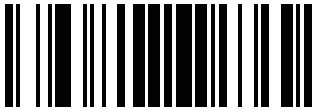
Optional GS1-128 Add-On Timer = 220ms

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



ENTER/EXIT PROGRAMMING MODE

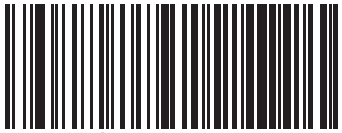
P2 Add-Ons Minimum Reads

This feature specifies the minimum number of times a P2 add-on must be read before it is marked as valid and then combined with a base label.

P2 Add-Ons Minimum Reads = 1

P2 Add-Ons Minimum Reads = 2

DEFAULT



P2 Add-Ons Minimum Reads = 3

P2 Add-Ons Minimum Reads = 4

ENTER/EXIT PROGRAMMING MODE

P5 Add-Ons Minimum Reads

This feature specifies the minimum number of times a P5 add-on must be read before it is marked as valid and then combined with a base label.

DEFAULT

P5 Add-Ons Minimum Reads = 1

P5 Add-Ons Minimum Reads = 2

P5 Add-Ons Minimum Reads = 3

P5 Add-Ons Minimum Reads = 4

ENTER/EXIT PROGRAMMING MODE

GS1-128 Add-Ons Minimum Reads

This feature specifies the minimum number of times an GS1-128 add-on must be read before it is marked as valid and then combined with a base label.

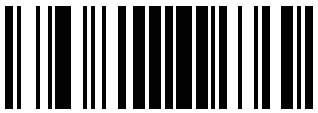
DEFAULT

GS1-128 Add-Ons Minimum Reads = 1

GS1-128 Add-Ons Minimum Reads = 2

GS1-128 Add-Ons Minimum Reads = 3

GS1-128 Add-Ons Minimum Reads = 4



ENTER/EXIT PROGRAMMING MODE

CODE 39

The following options apply to the Code 39 symbology.

Code 39 Enable/Disable

Code 39 = Disable

Code 39 = Enable

DEFAULT

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

DEFAULT

Code 39 Check Character Calculation = Don't Calculate

Code 39 Check Character Calculation = Calculate Std Check

Code 39 Check Character Calculation = Calculate Mod 7 Check

ENTER/EXIT PROGRAMMING MODE

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 barcode 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

ENTER/EXIT PROGRAMMING MODE

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 barcode, typically 10 times the width of the narrowest bar or space in the label.

Code 39 Quiet Zones = Quiet Zone on one side

Code 39 Quiet Zones = Quiet Zones on two sides

Code 39 Quiet Zones = Auto

DEFAULT

Code 39 Quiet Zones = Virtual Quiet Zones on two sides

Code 39 Quiet Zones = Small Quiet Zones on two sides

ENTER/EXIT PROGRAMMING MODE

Code 39 Minimum Reads

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

Code 39 Minimum Reads = 1

Code 39 Minimum Reads = 2

DEFAULT

Code 39 Minimum Reads = 3

Code 39 Minimum Reads = 4

ENTER/EXIT PROGRAMMING MODE

Code 39 Decoding Level

Decoding Levels are used to configure a barcode symbology decoder to be very aggressive to very conservative depending on a particular customer's needs. See page 294 for more information on this feature.

This configuration item applies to Code 39 and Code 32.

Code 39 Decoding Level = 1 (Conservative)

Code 39 Decoding Level = 2

Code 39 Decoding Level = 3

DEFAULT

Code 39 Decoding Level = 4

Code 39 Decoding Level = 5 (Aggressive)

ENTER/EXIT PROGRAMMING MODE

Code 39 Length Control

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

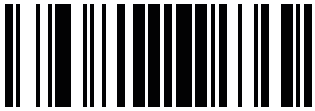
Variable Length: For variable length decoding, a minimum and maximum length may be set.

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



ENTER/EXIT PROGRAMMING MODE

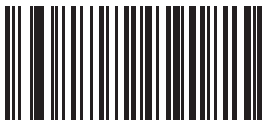
Code 39 Set Length 1

This feature specifies one of the barcode lengths for Code 39 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 barcode's data characters only. The length can be set from 0 to 50 characters.

Table 2 provides examples for setting Length 1. See page 294 for detailed instructions on setting this feature.

Table 2. 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**				

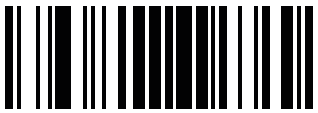


Select Code 39 Set Length 1 Setting

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

CANCEL

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



ENTER/EXIT PROGRAMMING MODE

Code 39 Set Length 2

This feature specifies one of the barcode lengths for Code 39 Length Control. 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 barcode's check, data, and full–ASCII shift characters. The length does not include start/stop characters.

Table 3 provides examples for setting Length 2. See page 295 for detailed instructions on setting this feature.

Table 3. 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 39Length 2 Setting

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 **50 = Length 2 is 50 Characters**

ENTER/EXIT PROGRAMMING MODE

Code 39 Interdigit Ratio

This feature specifies the ratio between an intercharacter space and module for Code 39 labels.

Code 39 Interdigit Ratio = Disable

Code 39 Interdigit Ratio = 1

Code 39 Interdigit Ratio = 2

Code 39 Interdigit Ratio = 3

DEFAULT

Code 39 Interdigit Ratio = 4

Code 39 Interdigit Ratio = 5

Code 39 Interdigit Ratio (continued)

Code 39 Interdigit Ratio = 6

Code 39 Interdigit Ratio = 7

Code 39 Interdigit Ratio = 8

Code 39 Interdigit Ratio = 9

Code 39 Interdigit Ratio = 10

ENTER/EXIT PROGRAMMING MODE

Code 39 Character Correlation

When correlation is enabled, the barcode reader will combine label data from multiple scans when decoding. Enabling correlation will help the scanner read labels that have some spots and/or voids. It may also help read labels that have damaged areas. Enabling correlation will also increase the chances that a label will be read incorrectly.

DEFAULT

Code 39 Character Correlation = Disable

Code 39 Character Correlation = Enable

Code 39 Stitching

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

Code 39 Stitching = Disable

DEFAULT

Code 39 Stitching = Enable

ENTER/EXIT PROGRAMMING MODE

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 barcodes.

DEFAULT

Code 32 = Disable

Code 32 = Enable

Code 32 Feature Setting Exceptions

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

CODE 39 QUIET ZONES on page 143
CODE 39 MINIMUM READS on page 144
CODE 39 DECODING LEVEL on page 145
CODE 39 INTERDIGIT RATIO on page 149
CODE 39 CHARACTER CORRELATION on page 151
CODE 39 STITCHING on page 151

ENTER/EXIT PROGRAMMING MODE

Code 32 Check Char Transmission

Enable this option to transmit the check character along with Code 32 barcode 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.

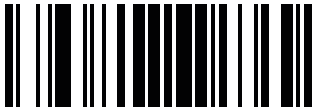
Code 39 CIP Enable/Disable

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

DEFAULT

Code 39 CIP = Disable

Code 39 CIP = Enable



ENTER/EXIT PROGRAMMING MODE

CODE 128

The following options apply to the Code 128 symbology.

Code 128 Enable/Disable

When disabled, the reader will not read Code 128 barcodes.

Code 128 = Disable

Code 128 = Enable

DEFAULT

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

ENTER/EXIT PROGRAMMING MODE

Code 128 Check Character Transmission

Enable this option to transmit the check character along with Code 128 barcode 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 Sub-Code Change Transmission

Enables/disables the transmission of "Sub–Code exchange" characters (NOT transmitted by standard decoding).

DEFAULT

Code 128 Sub-Code Change Transmission = Disable

Code 128 Sub-Code Change Transmission = Enable

ENTER/EXIT PROGRAMMING MODE

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 barcode and are typically 10 times the width of the narrowest bar or space in the label.

Code 128 Quiet Zones = No Quiet Zones

Code 128 Quiet Zones = Quiet Zone on one side

Code 128 Quiet Zones = Quiet Zones on two sides

Code 128 Quiet Zones = Auto

DEFAULT

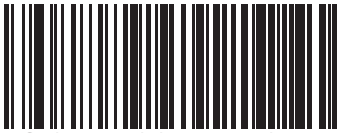
Code 128 Quiet Zones = Virtual Quiet Zones on two sides

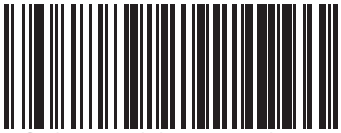
Code 128 Minimum Reads

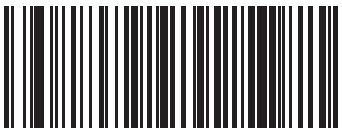
This feature specifies the minimum number of consecutive times a Code 128 label must be decoded before it is accepted as good read.

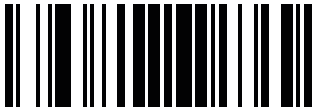
DEFAULT


Code 128 Minimum Reads = 1


Code 128 Minimum Reads = 2


Code 128 Minimum Reads = 3


Code 128 Minimum Reads = 4



ENTER/EXIT PROGRAMMING MODE

Code 128 Decoding Level

Decoding Levels are used to configure a barcode symbology decoder to be very aggressive to very conservative depending on a particular customer's needs. See page 294 for more information on this feature.

Code 128 Decoding Level = 1 (Conservative)

Code 128 Decoding Level = 2

Code 128 Decoding Level = 3

DEFAULT

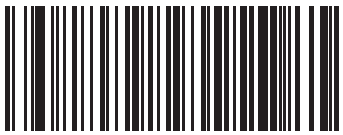
Code 128 Decoding Level = 4

Code 128 Decoding Level = 5 (Aggressive)

Code 128 Length Control

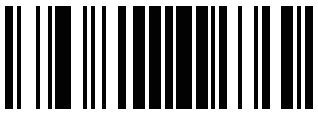
This feature specifies either variable length decoding or fixed length decoding for the Code 128 symbology. See page 294 for more information..

DEFAULT



Code 128 Length Control = Variable Length

Code 128 Length Control = Fixed Length



ENTER/EXIT PROGRAMMING MODE

Code 128 Set Length 1

Specifies one of the barcode lengths for Code 128 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 barcode's data characters only. The length can be set from 1 to 80 characters.

Table 4 provides some examples for setting Length 1. See page 294 for detailed instructions on setting this feature.

Table 4. 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 barcode to abort and not save the entry string. You can then start again at the beginning.

CANCEL

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

ENTER/EXIT PROGRAMMING MODE

Code 128 Set Length 2

This feature specifies one of the barcode lengths for Code 128 Length Control. 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 barcode'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 5 provides examples for setting Length 2. See page 295 for detailed instructions on setting this feature.

Table 5. 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'	'0' and 'F'	'5' AND 0'
5	**Scan ENTER/EXIT PROGRAMMING MODE**				

.

Select Code 128 Length 2 Setting

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 **80 = Length 2 is 80 Characters**

ENTER/EXIT PROGRAMMING MODE

Code 128 Character Correlation

When correlation is enabled, the barcode reader will combine label data from multiple scans when decoding. Enabling correlation will help the scanner read labels that have some spots and/or voids. It may also help read labels that have damaged areas. Enabling correlation will also increase the chances that a label will be read incorrectly.

DEFAULT

Code 128 Character Correlation = Disable

Code 128 Character Correlation = Enable

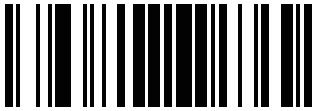
Code 128 Stitching

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

Code 128 Stitching = Disable

Code 128 Stitching = Enable

DEFAULT



ENTER/EXIT PROGRAMMING MODE

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

GS1-128 = Do not transmit GS1-128 labels

ENTER/EXIT PROGRAMMING MODE

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 **is enabled .**

DEFAULT

ISBT 128 Force Concatenation = Disable

ISBT 128 Force Concatenation = Enable

ENTER/EXIT PROGRAMMING MODE

ISBT 128 Concatenation Mode

Specifies the concatenation mode between Static and Dynamic.

This option is only valid when ISBT 128 Concatenation is enabled (see page <Links>11-164).

DEFAULT

ISBT 128 Concatenation Mode = Static

ISBT 128 Concatenation Mode = Dynamic

ENTER/EXIT PROGRAMMING MODE

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

To set up pairs of label types for concatenation, use the Datalogic Aladdin configuration application or contact Datalogic Technical Support, as described on page 11.

ENTER/EXIT PROGRAMMING MODE

CODABLOCK F

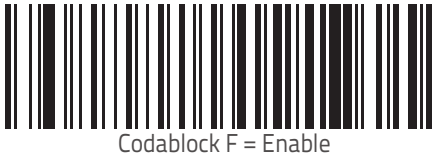
The following options apply to the Codablock F symbology.

Codablock F Enable/Disable

Enables/Disables ability of reader to decode Codablock F labels.

DEFAULT

Codablock F = Disable



Codablock F = Enable

Codablock F EAN Enable/Disable

Enables/Disables the Codablock F EAN subtype (code with FNC1 in the first position)..

DEFAULT

Codablock F EAN = Disable

Codablock F EAN = Enable

Codablock F AIM Check

Specifies if Check Digit calculation algorithm is AIM compliant or not.

Codablock F AIM Check = Disable

Codablock F AIM Check = Enable Check C

DEFAULT

Codablock F Length Control

This feature specifies either variable length decoding or fixed length decoding for the Codablock F 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

Codablock F Length Control = Variable Length

Codablock F = Fixed Length

ENTER/EXIT PROGRAMMING MODE

Codablock F Set Length 1

Specifies one of the barcode lengths for Codablock F 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 barcode's data characters only. Characters can be set from 03 to 255 characters.

Table 6 provides some examples for setting Length 1. See page 294 for detailed instructions on setting this feature.

Table 6. CODABLOCK F Length 1 Setting Examples

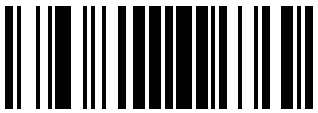
STEP	ACTION	EXAMPLES			
1	**Desired Setting**	03 Characters	07 Characters	15 Characters	50 Characters
2	**Scan ENTER/EXIT PROGRAMMING MODE**				
3	**Scan SELECT CODABLOCK F LENGTH 1 SETTING**				
4	**Scan Three Characters From** Appendix D, Keypad	'0', '0' and '3'	'0', '0' and '7'	'0','1' and '5'	'0','5' AND '0'
5	**Scan ENTER/EXIT PROGRAMMING MODE**				

Select Codablock F Length 1 Setting

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 **03 = Length 1 is 3 Characters**



ENTER/EXIT PROGRAMMING MODE

Codablock F Set Length 2

This feature specifies one of the barcode lengths for Codablock F Length Control. 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 barcode's check, data, and full-ASCII shift characters. The length does not include start/stop characters.

Table 7 provides examples for setting Length 2. See page 295 for detailed instructions on setting this feature.

Table 7. CODABLOCK F 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 CODABLOCK F LENGTH 2 SETTING**				
4	**Scan Three Characters From** Appendix D, Keypad	'0', '0' and '0'	'0', '0' and '7'	'0','1' and '5'	'0','5' AND '0'
5	**Scan ENTER/EXIT PROGRAMMING MODE**				

Select Codablock F Length 2 Setting

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 **100 = Length 2 is 100 Characters**

ENTER/EXIT PROGRAMMING MODE

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 barcodes.

DEFAULT

I 2 of 5 = Disable

I 2 of 5 = Enable

ENTER/EXIT PROGRAMMING MODE

I 2 of 5 Check Character Calculation

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

DEFAULT

I 2 of 5 Check Character Calculation = Disable

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

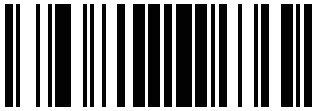
I 2 of 5 Check Character Calculation = Check German Parcel

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



ENTER/EXIT PROGRAMMING MODE

I 2 of 5 Check Character Transmission

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

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

I 2 of 5 Check Character Transmission = Send

DEFAULT

I 2 of 5 Minimum Reads

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

I 2 of 5 Minimum Reads = 1

I 2 of 5 Minimum Reads = 2

DEFAULT

I 2 of 5 Minimum Reads = 3

I 2 of 5 Minimum Reads = 4

2 of 5 Decoding Level

This configuration item applies to Interleaved 2 of 5, Datalogic 2 of 5 and Standard 2 of 5.

Decoding Levels are used to configure a barcode symbology decoder to be very aggressive to very conservative depending on a particular customer's needs. See page 294 for more information on this feature.

2 of 5 Decoding Level = 1 (Conservative)

2 of 5 Decoding Level = 2

2 of 5 Decoding Level = 3

DEFAULT

2 of 5 Decoding Level = 4

2 of 5 Decoding Level = 5 (Aggressive)

ENTER/EXIT PROGRAMMING MODE

I 2 of 5 Length Control

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

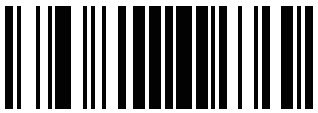
Variable Length: For variable length decoding, a minimum and maximum length may be set.

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



ENTER/EXIT PROGRAMMING MODE

I 2 of 5 Set Length 1

This feature specifies one of the barcode lengths for I 2 of 5 Length Control. 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 barcode's check and data characters. The length can be set from 2 to 50 characters in increments of two.

Table 8 provides some examples for setting Length 1. See page 294 for detailed instructions on setting this feature.

Table 8. I 2 of 5 Length 1 Setting Examples

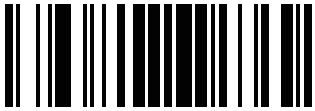
STEP	ACTION	EXAMPLES			
1	**Desired Setting**	2 Characters	6 Characters	14 Characters	50 Characters
2	**Pad with leading zeroes to yield two digits**	02	06	14	50
3	**Scan ENTER/EXIT PROGRAMMING MODE**				
4	**Scan SELECT I 2 of 5 LENGTH 1 SETTING**				
5	**Scan Two Characters From** Appendix D, Keypad	'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 barcode to abort and not save the entry string. You can then start again at the beginning.

CANCEL

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



ENTER/EXIT PROGRAMMING MODE

I 2 of 5 Set Length 2

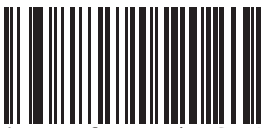
This feature specifies one of the barcode lengths for I 2 of 5 Length Control. Length 2 is the maximum label length if in Variable Length Mode, or the second fixed length if in Fixed Length Mode. The length includes the barcode's check and data characters.

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

Table 9 provides examples for setting Length 2. See page 295 for detailed instructions on setting this feature.

Table 9. 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 barcode to abort and not save the entry string. You can then start again at the beginning.

CANCEL

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

I 2 of 5 Character Correlation

When correlation is enabled, the barcode reader will combine label data from multiple scans when decoding. Enabling correlation will help the scanner read labels that have some spots and/or voids. It may also help read labels that have damaged areas. Enabling correlation will also increase the chances that a label will be read incorrectly.

DEFAULT

I 2 of 5 Character Correlation = Disable

I 2 of 5 Character Correlation = Enable

I 2 of 5 Stitching

This option enables/disables stitching for I 2 of 5 labels. When parts of a I 2 of 5 barcode are presented to the reader with this feature enabled, the barcode parts will be assembled by the reader's software, and the data will be decoded if all barcode proofing requirements are met.

DEFAULT

I 2 of 5 Stitching = Disable

I 2 of 5 Stitching = Enable

ENTER/EXIT PROGRAMMING MODE

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 imager to decode Follett 2 of 5 labels.

DEFAULT

Follett 2 of 5 = Disable

Follett 2 of 5 = Enable

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

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 barcodes.

DEFAULT

Standard 2 of 5 = Disable

Standard 2 of 5 = Enable

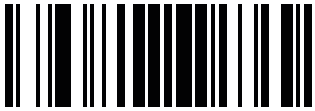
Standard 2 of 5 Check Character Calculation

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



ENTER/EXIT PROGRAMMING MODE

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

Standard 2 of 5 Check Character Transmission = Send

DEFAULT

Standard 2 of 5 Minimum Reads

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

Standard 2 of 5 Minimum Reads = 1

Standard 2 of 5 Minimum Reads = 2

DEFAULT

Standard 2 of 5 Minimum Reads = 3

Standard 2 of 5 Minimum Reads = 4

ENTER/EXIT PROGRAMMING MODE

Standard 2 of 5 Decoding Level

The Standard 2 of 5 Decoding Level feature is set using "2 of 5 Decoding Level" **on page 174.**

Standard 2 of 5 Length Control

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

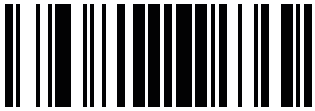
Variable Length: For variable length decoding, a minimum and maximum length may be set.

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



ENTER/EXIT PROGRAMMING MODE

Standard 2 of 5 Set Length 1

This feature specifies one of the barcode lengths for Standard 2 of 5 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 barcode's check and data characters. The length can be set from 1 to 50 characters.

Table 10 provides some examples for setting Length 1. See page 294 if you want detailed instructions on setting this feature.

Table 10. 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 barcode to abort and not save the entry string. You can then start again at the beginning.

CANCEL

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

ENTER/EXIT PROGRAMMING MODE

Standard 2 of 5 Set Length 2

This feature specifies one of the barcode lengths for Standard 2 of 5 Length Control. 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 barcode'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 11 provides examples for setting Length 2. See page 295 for detailed instructions on setting this feature.

Table 11. 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 barcode to abort and not save the entry string. You can then start again at the beginning.

CANCEL

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

ENTER/EXIT PROGRAMMING MODE

Standard 2 of 5 Character Correlation

When correlation is enabled, the barcode reader will combine label data from multiple scans when decoding. Enabling correlation will help the scanner read labels that have some spots and/or voids. It may also help read labels that have damaged areas. Enabling correlation will also increase the chances that a label will be read incorrectly.

DEFAULT

Standard 2 of 5 Character Correlation = Disable

Standard 2 of 5 Character Correlation = Enable

Standard 2 of 5 Stitching

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

DEFAULT

Standard 2 of 5 Stitching = Disable

Standard 2 of 5 Stitching = Enable

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

ENTER/EXIT PROGRAMMING MODE

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

DEFAULT

Industrial 2 of 5 Check Character Transmission = Enable

Industrial 2 of 5 Length Control

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

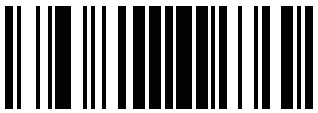
Variable Length: For variable length decoding, a minimum and maximum length may be set.

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



ENTER/EXIT PROGRAMMING MODE

Industrial 2 of 5 Set Length 1

This feature specifies one of the barcode lengths for Industrial 2 of 5 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 barcode's data characters only. The length can be set from 0 to 50 characters.

Table 12 provides some examples for setting Length 1. See page 294 if you want detailed instructions on setting this feature.

Table 12. 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 barcode to abort and not save the entry string. You can then start again at the beginning.

CANCEL

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

ENTER/EXIT PROGRAMMING MODE

Industrial 2 of 5 Set Length 2

This feature specifies one of the barcode lengths for Industrial 2 of 5 Length Control. 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 barcode'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 13 provides examples for setting Length 2. See page 295 for detailed instructions on setting this feature.

Table 13. 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 barcode to abort and not save the entry string. You can then start again at the beginning.

CANCEL

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

ENTER/EXIT PROGRAMMING MODE

Industrial 2 of 5 Minimum Reads

This feature specifies the minimum number of consecutive times an Industrial 2 of 5 label must be decoded before it is accepted as good read.

DEFAULT

Industrial 2 of 5 Minimum Reads = 1

Industrial 2 of 5 Minimum Reads = 2

Industrial 2 of 5 Minimum Reads = 3

Industrial 2 of 5 Minimum Reads = 4

Industrial 2 of 5 Stitching

Enables/disables fixed length stitching for Industrial 2 of 5.

DEFAULT

Industrial 2 of 5 Stitching = Disable

Industrial 2 of 5 Stitching = Enable

ENTER/EXIT PROGRAMMING MODE

Industrial 2 of 5 Character Correlation

Enable/disables character correlation for Industrial 2 of 5.

DEFAULT

Industrial 2 of 5 Character Correlation = Disable

Industrial 2 of 5 Character Correlation = Enable

ENTER/EXIT PROGRAMMING MODE

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

DEFAULT

IATA Check Character Transmission = Enable

ENTER/EXIT PROGRAMMING MODE

DATALOGIC 2 OF 5

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

Datalogic 2 of 5 Enable/Disable

When disabled, the reader will not read Datalogic 2 of 5 barcodes.

DEFAULT

Datalogic 2 of 5 = Disable

Datalogic 2 of 5 = Enable

Datalogic 2 of 5 Check Character Calculation

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

DEFAULT

Datalogic 2 of 5 Check Character Calculation = Disable

Datalogic 2 of 5 Check Character Calculation = Enable

ENTER/EXIT PROGRAMMING MODE

Datalogic 2 of 5 Minimum Reads

This feature specifies the minimum number of consecutive times an Datalogic 2 of 5 label must be decoded before it is accepted as good read.

I 2 of 5 Minimum Reads = 1

I 2 of 5 Minimum Reads = 2

DEFAULT

I 2 of 5 Minimum Reads = 3

I 2 of 5 Minimum Reads = 4

Datalogic 2 of 5 Decoding Level

The Datalogic 2 of 5 Decoding Level feature is set using "2 of 5 Decoding Level" **on page 174.**

ENTER/EXIT PROGRAMMING MODE

Datalogic 2 of 5 Length Control

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

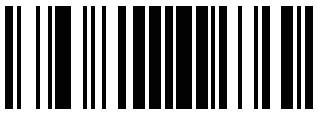
Variable Length: For variable length decoding, a minimum and maximum length may be set.

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

DEFAULT

Datalogic 2 of 5 Length Control = Variable Length

Datalogic 2 of 5 Length Control = Fixed Length



ENTER/EXIT PROGRAMMING MODE

Datalogic 2 of 5 Set Length 1

This feature specifies one of the barcode lengths for Datalogic 2 of 5 Length Control. 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 barcode's check and data characters. The length can be set from 2 to 50 characters in increments of two.

Table 14 provides some examples for setting Length 1. See page 294 for detailed instructions on setting this feature.

Table 14. Datalogic 2 of 5 Length 1 Setting Examples

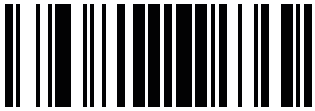
STEP	ACTION	EXAMPLES			
1	**Desired Setting**	2 Characters	6 Characters	14 Characters	50 Characters
2	**Pad with leading zeroes to yield two digits**	02	06	14	50
3	**Scan ENTER/EXIT PROGRAMMING MODE**				
4	**Scan SELECT Datalogic 2 of 5 LENGTH 1 SETTING**				
5	**Scan Two Characters From** Appendix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

Select Datalogic 2 of 5 Length 1 Setting

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 **06 = Length 1 is 6 Characters**



ENTER/EXIT PROGRAMMING MODE

Datalogic 2 of 5 Set Length 2

This feature specifies one of the barcode lengths for Datalogic 2 of 5 Length Control. Length 2 is the maximum label length if in Variable Length Mode, or the second 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. A setting of 0 specifies to ignore this length (only one fixed length).

Table 15 provides examples for setting Length 2. See page 295 for detailed instructions on setting this feature.

Table 15. Datalogic 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 DATALOGIC 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 Datalogic 2 of 5 Length 2 Setting

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 **50 = Length 2 is 50 Characters**

ENTER/EXIT PROGRAMMING MODE

Datalogic 2 of 5 Character Correlation

When correlation is enabled, the barcode reader will combine label data from multiple scans when decoding. Enabling correlation will help the scanner read labels that have some spots and/or voids. It may also help read labels that have damaged areas. Enabling correlation will also increase the chances that a label will be read incorrectly.

DEFAULT

I 2 of 5 Character Correlation = Disable

I 2 of 5 Character Correlation = Enable

Datalogic 2 of 5 Stitching

This option enables/disables stitching for Datalogic 2 of 5 labels. When parts of a Datalogic 2 of 5 barcode are presented to the reader with this feature enabled, the barcode parts will be assembled by the reader's software, and the data will be decoded if all barcode proofing requirements are met.

DEFAULT

Datalogic 2 of 5 Stitching = Disable

Datalogic 2 of 5 Stitching = Enable

ENTER/EXIT PROGRAMMING MODE

CODABAR

The following options apply to the Codabar symbology.

Codabar Enable/Disable

When disabled, the reader will not read Codabar barcodes.

DEFAULT

Codabar = Disable

Codabar = Enable

Codabar Check Character Calculation

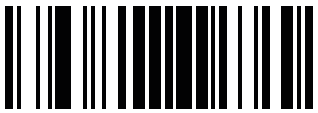
Enable this option to enables/disables calculation and verification of an optional Codabar check character. When disabled, any check character in the label is treated as a data character

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.



ENTER/EXIT PROGRAMMING MODE

Codabar Check Character Transmission

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

Codabar Check Character Transmission = Don't Send

Codabar Check Character Transmission = Send

DEFAULT

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

Codabar Start/Stop Character Transmission = Transmit

DEFAULT

ENTER/EXIT PROGRAMMING MODE

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

ENTER/EXIT PROGRAMMING MODE

Codabar Quiet Zones

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

Codabar Quiet Zones = Quiet Zone on one side

Codabar Quiet Zones = Quiet Zones on two sides

Codabar Quiet Zones = Auto

DEFAULT

Codabar Quiet Zones = Virtual Quiet Zones on two sides

Codabar Quiet Zones = Small Quiet Zones on two sides

Codabar Minimum Reads

This feature specifies the minimum number of consecutive times a Codabar label must be decoded before it is accepted as good read.

Codabar Minimum Reads = 1

Codabar Minimum Reads = 2

DEFAULT

Codabar Minimum Reads = 3

Codabar Minimum Reads = 4

ENTER/EXIT PROGRAMMING MODE

Codabar Decoding Level

Decoding Levels are used to configure a barcode symbology decoder to be very aggressive to very conservative, depending on a particular customer's needs. See page 294 for more information on this feature.

Codabar Decoding Level = 1 (Conservative)

Codabar Decoding Level = 2

Codabar Decoding Level = 3

DEFAULT

Codabar Decoding Level = 4

Codabar Decoding Level = 5

Codabar Length Control

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

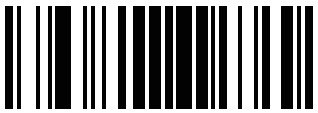
Variable Length: For variable length decoding, a minimum and maximum length may be set.

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

DEFAULT

Codabar Length Control = Variable Length

Codabar Length Control = Fixed Length



ENTER/EXIT PROGRAMMING MODE

Codabar Set Length 1

This feature specifies one of the barcode lengths for Codabar 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 barcode'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 16 provides some examples for setting Length 1. See page 294 for detailed instructions on setting this feature.

Table 16. Codabar Length 1 Setting Examples

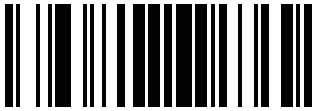
STEP	ACTION	EXAMPLES			
1	**Desired Setting (and pad with leading zeroes)**	03 Characters	09 Characters	15 Characters	50 Characters
2	**Scan ENTER/EXIT PROGRAMMING MODE**				
3	**Scan SELECT CODABAR LENGTH 1 SETTING**				
4	**Scan Two Characters From** Appendix D, Keypad	'0' and '3'	'0' and '9'	'1' and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

Select Codabar Length 1 Setting

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

CANCEL

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



ENTER/EXIT PROGRAMMING MODE

Codabar Set Length 2

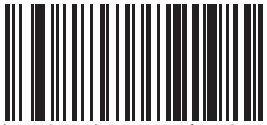
This feature specifies one of the barcode lengths for Codabar Length Control. Length 2 is the maximum label length if in Variable Length Mode, or the second fixed length if in Fixed Length Mode. The length includes the barcode's start, stop, check and data characters. The length must include at least 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 17 provides examples for setting Length 2. See page 295 for detailed instructions on setting this feature.

Table 17. 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 barcode to abort and not save the entry string. You can then start again at the beginning.

CANCEL

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

Codabar Interdigit Ratio

This feature specifies the ratio between an intercharacter space and module for Codabar labels.

Codabar Interdigit Ratio = Disable

Codabar Interdigit Ratio = 1

Codabar Interdigit Ratio = 2

Codabar Interdigit Ratio = 3

DEFAULT

Codabar Interdigit Ratio = 4

Codabar Interdigit Ratio = 5

ENTER/EXIT PROGRAMMING MODE

Codabar Interdigit Ratio (continued)

Codabar Interdigit Ratio = 6

Codabar Interdigit Ratio = 7

Codabar Interdigit Ratio = 8

Codabar Interdigit Ratio = 9

Codabar Interdigit Ratio = 10

ENTER/EXIT PROGRAMMING MODE

Codabar Character Correlation

When correlation is enabled, the barcode reader will combine label data from multiple scans when decoding. Enabling correlation will help the scanner read labels that have some spots and/or voids. It may also help read labels that have damaged areas. Enabling correlation will also increase the chances that a label will be read incorrectly.

DEFAULT

Codabar Character Correlation = Disable

Codabar Character Correlation = Enable

Codabar Stitching

This option enables/disables stitching for Codabar labels. When parts of a Codabar barcode are presented to the reader with this feature enabled, the barcode parts will be assembled by the reader's software, and the data will be decoded if all barcode proofing requirements are met.

DEFAULT

Codabar Stitching = Disable

Codabar Stitching = Enable

ENTER/EXIT PROGRAMMING MODE

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

ENTER/EXIT PROGRAMMING MODE

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

ENTER/EXIT PROGRAMMING MODE

CODE 11

The following options apply to the Code 11 symbology.

Code 11 Enable/Disable

When disabled, the reader will not read Code 11 barcodes.

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.

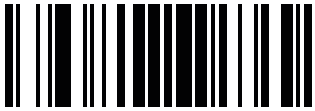
Code 11 Check Character Calculation = Disable

Code 11 Check Character Calculation = Check C

Code 11 Check Character Calculation = Check K

Code 11 Check Character Calculation = Check C and K

DEFAULT



ENTER/EXIT PROGRAMMING MODE

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

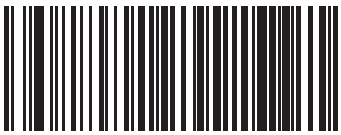
Code 11 Check Character Transmission = Send

DEFAULT

Code 11 Minimum Reads

This feature specifies the minimum number of consecutive times a Code 11 label must be decoded before it is accepted as good read.

Code 11 Minimum Reads = 1



Code 11 Minimum Reads = 2

DEFAULT

Code 11 Minimum Reads = 3

Code 11 Minimum Reads = 4

ENTER/EXIT PROGRAMMING MODE

Code 11 Length Control

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

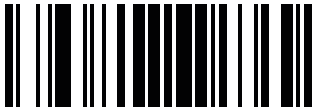
Variable Length: For variable length decoding, a minimum and maximum length may be set.

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



ENTER/EXIT PROGRAMMING MODE

Code 11 Set Length 1

This feature specifies one of the barcode lengths for Code 11 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 barcode's check and data characters. The length can be set from 2 to 50 characters.

Table 18 provides some examples for setting Length 1. See page 294 for detailed instructions on setting this feature.

Table 18. Code 11 Length 1 Setting Examples

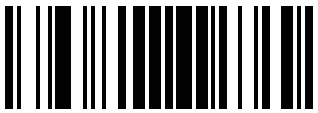
STEP	ACTION	EXAMPLES			
1	**Desired Setting (pad with leading zeroes)**	02 Characters	07 Characters	15 Characters	50 Characters
2	**Scan ENTER/EXIT PROGRAMMING MODE**				
3	**Scan SELECT CODE 11 LENGTH 1 SETTING**				
4	**Scan Two Characters From** Appendix D, Keypad	'0' and '2'	'0' and '7'	'1' and '5'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

Select Code 11 Set Length 1 Setting

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

CANCEL

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



ENTER/EXIT PROGRAMMING MODE

Code 11 Set Length 2

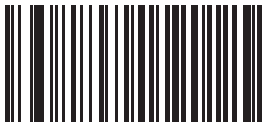
This feature specifies one of the barcode lengths for Code 11 Length Control. Length 2 is the maximum label length if in Variable Length Mode, or the second fixed length if in Fixed Length Mode. Length includes the barcode's check and data characters.

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

Table 19 provides examples for setting Length 2. See page 295 for detailed instructions on setting this feature.

Table 19. 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'	'0' and 'F'	'3' AND 2'
5	**Scan ENTER/EXIT PROGRAMMING MODE**				



Select Code 11 Length 2 Setting

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 **50 = Length 2 is 50 Characters**

Code 11 Interdigit Ratio

This feature specifies the ratio between an intercharacter space and module for Code 11 labels.

Code 11 Interdigit Ratio = Disable

Code 11 Interdigit Ratio = 1

Code 11 Interdigit Ratio = 2

Code11 Interdigit Ratio = 3

DEFAULT

Code 11 Interdigit Ratio = 4

Code 11 Interdigit Ratio = 5

Code 11 Interdigit Ratio (continued)

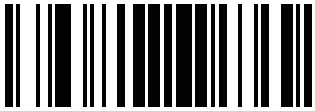
Code 11 Interdigit Ratio = 6

Code 11 Interdigit Ratio = 7

Code 11 Interdigit Ratio = 8

Code 11 Interdigit Ratio = 9

Code 11 Interdigit Ratio = 10

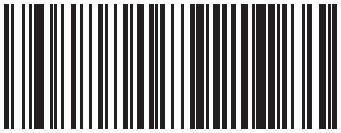


ENTER/EXIT PROGRAMMING MODE

Code 11 Decoding Level

Decoding Levels are used to configure a barcode symbology decoder to be very aggressive to very conservative depending on a particular customer's needs. See page 294 for more information on this feature.

Codabar Decoding Level = 1 (Conservative)



Codabar Decoding Level = 2

Codabar Decoding Level = 3

DEFAULT

Codabar Decoding Level = 4

Codabar Decoding Level = 5 (Aggressive)

Code 11 Character Correlation

When correlation is enabled, the barcode reader will combine label data from multiple scans when decoding. Enabling correlation will help the scanner read labels that have some spots and/or voids. It may also help read labels that have damaged areas. Enabling correlation will also increase the chances that a label will be read incorrectly.

DEFAULT

Code 11 Character Correlation = Disable

Code 11 Character Correlation = Enable

Code 11 Stitching

This option enables/disables stitching for Code 11 labels. When parts of a Code 11 barcode are presented to the reader with this feature enabled, the barcode parts will be assembled by the reader's software, and the data will be decoded if all barcode proofing requirements are met.

DEFAULT

Code 11 Stitching = Disable

Code 11 Stitching = Enable

ENTER/EXIT PROGRAMMING MODE

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 barcodes.

DEFAULT

GS1 DataBar™ Omnidirectional = Disable

GS1 DataBar™ Omnidirectional = Enable

GS1 DataBar™ Omnidirectional GS1-128 Emulation

When enabled, GS1 DataBar™ Omnidirectional barcodes 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

ENTER/EXIT PROGRAMMING MODE

GS1 DataBar™ Omnidirectional Minimum Reads

This feature specifies the minimum number of consecutive times a GS1 DataBar™ Omnidirectional label must be decoded before it is accepted as good read.

DEFAULT

GS1 DataBar™ Omnidirectional Minimum Reads = 1

GS1 DataBar™ Omnidirectional Minimum Reads = 2

GS1 DataBar™ Omnidirectional Minimum Reads = 3

GS1 DataBar™ Omnidirectional Minimum Reads = 4

ENTER/EXIT PROGRAMMING MODE

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 barcodes.

DEFAULT

GS1 DataBar™ Expanded = Disable

GS1 DataBar™ Expanded = Enable

GS1 DataBar™ Expanded GS1-128 Emulation

When enabled, GS1 DataBar™ Expanded barcodes 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

ENTER/EXIT PROGRAMMING MODE

GS1 DataBar™ Expanded Minimum Reads

This feature specifies the minimum number of consecutive times a GS1 DataBar™ Expanded label must be decoded before it is accepted as good read.

DEFAULT

GS1 DataBar™ Expanded Minimum Reads = 1

GS1 DataBar™ Expanded Minimum Reads = 2

GS1 DataBar™ Expanded Minimum Reads = 3

GS1 DataBar™ Expanded Minimum Reads = 4

GS1 DataBar™ Expanded Length Control

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

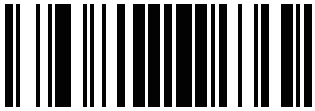
Variable Length: For variable-length decoding, a minimum length may be set.

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



ENTER/EXIT PROGRAMMING MODE

GS1 DataBar™ Expanded Set Length 1

This feature specifies one of the barcode lengths for GS1 DataBar™ Expanded 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 barcode's data characters only. The length can be set from 1 to 74 characters.

Table 20 provides some examples for setting Length 1. See page 294 for detailed instructions on setting this feature.

Table 20. GS1 DataBar™ Expanded Length 1 Setting Examples

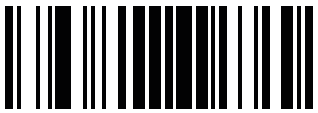
STEP	ACTION	EXAMPLES			
1	**Desired Setting**	01 Character	07 Characters	52 Characters	74 Characters
2	**Scan ENTER/EXIT PROGRAMMING MODE**				
3	**Scan SELECT GS1 DataBar™ EXPANDED LENGTH 1SETTING**				
4	**Scan Two Characters From** Appendix D, Keypad	'0' and '1'	'0' and '7'	'5' and '2'	'7' AND '4'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

Select GS1 DataBar™ Expanded Set Length 1 Setting

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

CANCEL

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



ENTER/EXIT PROGRAMMING MODE

GS1 DataBar™ Expanded Set Length 2

This feature specifies one of the barcode lengths for GS1 DataBar™ Expanded Length Control. 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 barcode'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 21 provides examples for setting Length 2. See page 295 for detailed instructions on setting this feature.

Table 21. 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 barcode to abort and not save the entry string. You can then start again at the beginning.

CANCEL

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

ENTER/EXIT PROGRAMMING MODE

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 barcodes.

DEFAULT

GS1 DataBar™ Limited = Disable

GS1 DataBar™ Limited = Enable

GS1 DataBar™ Limited GS1-128 Emulation

When enabled, GS1 DataBar™ Limited barcodes 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

ENTER/EXIT PROGRAMMING MODE

GS1 DataBar™ Limited Minimum Reads

This feature specifies the minimum number of consecutive times a GS1 DataBar™ Limited label must be decoded before it is accepted as good read.

DEFAULT

GS1 DataBar™ Limited Minimum Reads = 1

GS1 DataBar™ Limited Minimum Reads = 2

GS1 DataBar™ Limited Minimum Reads = 3

GS1 DataBar™ Limited Minimum Reads = 4

ENTER/EXIT PROGRAMMING MODE

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.

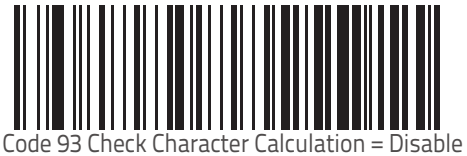
DEFAULT

Code 93 = Disable

Code 93 = Enable

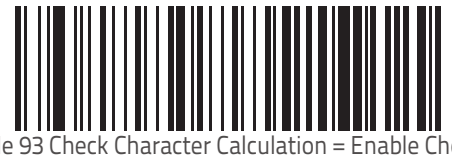
Code 93 Check Character Calculation

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

ENTER/EXIT PROGRAMMING MODE

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.

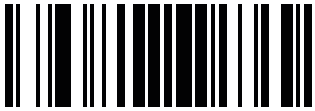
Variable Length: For variable length decoding, a minimum and maximum length may be set.

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

DEFAULT

Code 93 Length Control = Variable Length

Code 93 = Fixed Length



ENTER/EXIT PROGRAMMING MODE

Code 93 Set Length 1

Specifies one of the barcode lengths for Code 93 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 barcode's data characters only. The length can be set from 01 to 50 characters.

Table 22 provides some examples for setting Length 1. See page 294 for detailed instructions on setting this feature.

Table 22. 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 barcode 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 barcode lengths for Code 93 Length Control. 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 barcode'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 23 provides examples for setting Length 2. See page 295 for detailed instructions on setting this feature.

Table 23. 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 barcode to abort and not save the entry string. You can then start again at the beginning.

CANCEL

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

ENTER/EXIT PROGRAMMING MODE

Code 93 Minimum Reads

This feature specifies the minimum number of consecutive times a Code 93 label must be decoded before it is accepted as good read.

DEFAULT

Code 93 Minimum Reads = 1

Code 93 Minimum Reads = 2

Code 93 Minimum Reads = 3

Code 93 Minimum Reads = 4

Code 93 Decoding Level

Specifies the decoding level for Code 93. Decoding Levels are used to configure a barcode symbology decoder to be very aggressive to very conservative depending on a particular customer's needs. See page 294 for more information on this feature.

Code 93 Decoding Level = Disable

Code 93 Decoding Level = 1 (Conservative)

Code 93 Decoding Level = 2

Code 93 Decoding Level = 3

DEFAULT

Code 93 Decoding Level = 4

Code 93 Decoding Level = 5 (Aggressive)

ENTER/EXIT PROGRAMMING MODE

Code 93 Quiet Zones

Enables/disables quiet zones for Code 93.

Code 93 Quiet Zones = No Quiet Zones

Code 93 Quiet Zones = Quiet Zone on one side

Code 93 Quiet Zones = Quiet Zones on two sides

Code 93 Quiet Zones = Auto

DEFAULT

Code 93 Quiet Zones = Virtual Quiet Zones on two sides

Code 93 Stitching

Disable/enable fixed or variable length stitching for Code 93.

Code 93 Stitching = Disable

DEFAULT

Code 93 Stitching = Enable

Code 93 Character Correlation

Enables/disables Character Correlation for Code 93.

DEFAULT

Code 93 Character Correlation = Disable

Code 93 Character Correlation = Enable

ENTER/EXIT PROGRAMMING MODE

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

MSI Check Character Calculation = Enable Mod10

DEFAULT

MSI Check Character Calculation = Enable Mod11/10

MSI Check Character Calculation = Enable Mod10/10

ENTER/EXIT PROGRAMMING MODE

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.

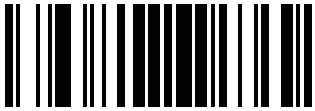
Variable Length: For variable length decoding, a minimum and maximum length may be set.

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

DEFAULT

MSI Length Control = Variable Length

MSI = Fixed Length



ENTER/EXIT PROGRAMMING MODE

MSI Set Length 1

This feature specifies one of the barcode lengths for MSI 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 barcode's data characters only. The length can be set from 01 to 50 characters.

Table 24 provides some examples for setting Length 1. See page 294 for detailed instructions on setting this feature.

Table 24. 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 barcode 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 barcode lengths for MSI Length Control. 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 barcode'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 25 provides examples for setting Length 2. See page 295 for detailed instructions on setting this feature.

Table 25. 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 barcode to abort and not save the entry string. You can then start again at the beginning.

CANCEL

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

ENTER/EXIT PROGRAMMING MODE

MSI Minimum Reads

This feature specifies the minimum number of consecutive times an MSI label must be decoded before it is accepted as good read.

MSI Minimum Reads = 1

MSI Minimum Reads = 2

MSI Minimum Reads = 3

MSI Minimum Reads = 4

DEFAULT

MSI Decoding Level

Specifies the decoding level for MSI. Decoding Levels are used to configure a barcode symbology decoder to be very aggressive to very conservative depending on a particular customer's needs. See page 294 for more information on this feature.

MSI Decoding Level = Disable

MSI Decoding Level = 1 (conservative)

MSI Decoding Level = 2

MSI Decoding Level = 3

DEFAULT

MSI Decoding Level = 4

MSI Decoding Level = 5 (aggressive)

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

ENTER/EXIT PROGRAMMING MODE

Plessey Check Character Calculation

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

Plessey Check Character Calculation = Disable

DEFAULT

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

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

ENTER/EXIT PROGRAMMING MODE

Plessey Length Control

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

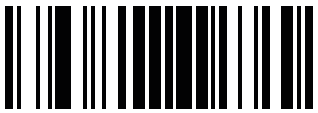
Variable Length: For variable length decoding, a minimum and maximum length may be set.

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

DEFAULT

Plessey Length Control = Variable Length

Plessey = Fixed Length



ENTER/EXIT PROGRAMMING MODE

Plessey Set Length 1

This feature specifies one of the barcode lengths for Plessey 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 barcode's data characters only. The length can be set from 01 to 50 characters.

Table 26 provides some examples for setting Length 1. See page 294 for detailed instructions on setting this feature.

Table 26. Plessey Length 1 Setting Examples

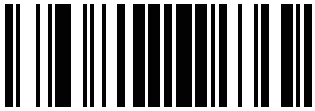
STEP	ACTION	EXAMPLES			
1	**Desired Setting**	01 Characters	07 Characters	15 Characters	50 Characters
2	**Scan ENTER/EXIT PROGRAMMING MODE**				
3	**Scan SELECT Plessey LENGTH 1 SETTING**				
4	**Scan Two Characters From** Appendix D, Keypad	'0' and '1'	'0' and '7'	'1' and '5'	'5' AND '0'
5	**Scan ENTER/EXIT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

Select Plessey Set Length 1 Setting

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

CANCEL

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



ENTER/EXIT PROGRAMMING MODE

Plessey Set Length 2

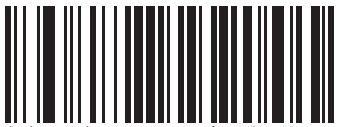
This feature specifies one of the barcode lengths for Plessey Length Control. Length 2 is the maximum label length if in Variable Length Mode, or the second fixed length if in Fixed Length Mode. Length includes the barcode's check, data, and full–ASCII shift characters. The length does not include start/stop 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 27 provides examples for setting Length 2. See page 295 for detailed instructions on setting this feature.

Table 27. 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**				

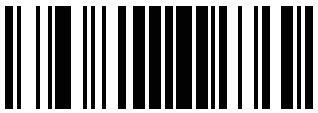


Select Plessey Length 2 Setting

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

CANCEL

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



ENTER/EXIT PROGRAMMING MODE

Plessey Minimum Reads

This feature specifies the minimum number of consecutive times a Plessey label must be decoded before it is accepted as good read.

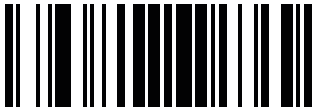
Plessey Minimum Reads = 1

Plessey Minimum Reads = 2

Plessey Minimum Reads = 3

Plessey Minimum Reads = 4

DEFAULT



ENTER/EXIT PROGRAMMING MODE

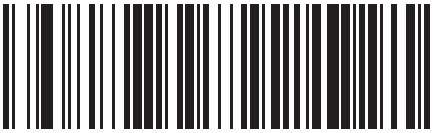
Plessey Decoding Level

Specifies the decoding level for Plessey. Decoding Levels are used to configure a barcode symbology decoder to be very aggressive to very conservative depending on a particular customer's needs. See page 294 for more information on this feature.

Plessey Decoding Level = Disable

Plessey Decoding Level = 1 (conservative)

Plessey Decoding Level = 2



Plessey Decoding Level = 3

DEFAULT

Plessey Decoding Level = 4

Plessey Decoding Level = 5 (aggressive)

Plessey Stitching

Enables/disables fixed length stitching for Plessey.

DEFAULT

Plessey Stitching = Disable

Plessey Stitching = Enable

Plessey Character Correlation

Enables/disables Character Correlation for Plessey.

DEFAULT

Plessey Character Correlation = Disable

Plessey Character Correlation = Enable

ENTER/EXIT PROGRAMMING MODE

CODE 4

The following options apply to the Code 4 symbology.

Code 4 Enable/Disable

Enables/Disables ability of imager to decode Code 4 labels.

DEFAULT

Code 4 = Disable

Code 4 = Enable

Code 4 Check Character Transmission

This feature enables/disables transmission of an optional Code 4 check character.

Code 4 Check Character Transmission = Don't Send

Code 4 Check Character Transmission = Send

DEFAULT

Code 4 Hex to Decimal Conversion

This feature enables/disables the conversion of hexidecimal label data to decimal label data.

Code 4 Hex to Decimal Conversion = Disable

Code 4 Hex to Decimal Conversion = Enable

DEFAULT

CODE 5

The following options apply to the Code 5 symbology.

Code 5 Enable/Disable

Enables/Disables ability of imager to decode Code 5 labels.

DEFAULT

Code 5 = Disable

Code 5 = Enable

ENTER/EXIT PROGRAMMING MODE

Code 5 Check Character Transmission

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

Code 5 Check Character Transmission = Don't Send

DEFAULT

Code 5 Check Character Transmission = Send

Code 5 Hex to Decimal Conversion

This feature enables/disables the conversion of hexidecimal label data to decimal label data.

Code 5 Hex to Decimal Conversion = Disable

DEFAULT

Code 5 Hex to Decimal Conversion = Enable

ENTER/EXIT PROGRAMMING MODE

CODE 4 AND CODE 5 COMMON CONFIGURATION ITEMS

The following options apply to both Code 4 and Code 5 symbologies.

Code 4 and 5 Decoding Level

Decoding Levels are used to configure a barcode symbology decoder to be very aggressive to very conservative depending on a particular customer's needs. See page 283 for more information on this feature.

This configuration item applies to Code 4 and Code 5.

Code 4 and Code 5 Decoding Level = 1 (conservative)

Code 4 and Code 5 Decoding Level = 2

Code 4 and Code 5 Decoding Level = 3

DEFAULT

Code 4 and Code 5 Decoding Level = 4

Code 4 and Code 5 Decoding Level = 5 (aggressive)

ENTER/EXIT PROGRAMMING MODE

Code 4 and Code 5 Minimum Reads

This feature specifies the minimum number of consecutive times a Code 4 or Code 5 label must be decoded before it is accepted as good read.

DEFAULT

Code 4 or Code 5 Minimum Reads = 1

Code 4 or Code 5 Minimum Reads = 2

Code 4 or Code 5 Minimum Reads = 3

Code 4 or Code 5 Minimum Reads = 4

NOTES

Chapter 4
Wireless Features

The features in this section are valid only for the GM4102 and GBT4102 models.

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

ENTER/EXIT PROGRAMMING MODE

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

DEFAULT

Good Transmission Beep = Enable

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

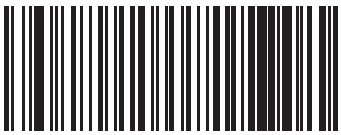

Beep Duration = 100 msec


Beep Duration = 120 msec


Beep Duration = 140 msec


Beep Duration = 160 msec


Beep Duration = 180 msec


Beep Duration = 200 msec

ENTER/EXIT PROGRAMMING MODE

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.

The defaults are different for the STAR and BT models.

DEFAULT

GM 4102 STAR default

Disconnect Beep = Disable

Disconnect Beep = Enable

DEFAULT

BT default

Base Station Beep

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

BT Base Station Beep = Disable

BT Base Station 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, reader must be linked to the Base Station and "Sleep Mode Timeout" on page 98 must be disabled. 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 — cont.

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 310 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. See page 310 for more information on this feature.

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.

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

Copy Configuration to Scanner

ENTER/EXIT PROGRAMMING MODE

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

Do not scan an ENTER/EXIT PROGRAMMING MODE label with this barcode.

Automatic Flash Update

This feature enables/disables the automatic flash update of a reader.

DEFAULT

Automatic Flash Update = Disable

Automatic Flash Update = Enable

Request Flash Update

Scan this barcode to request a flash update from a Base Station

kl qb

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

Request Flash Update

Powerdown Timeout

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

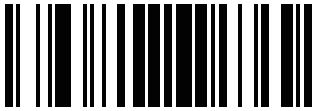
Powerdown Timeout = Disable

Powerdown Timeout = 10 minutes

Powerdown Timeout = 20 minutes

Powerdown Timeout = 30 minutes

DEFAULT



ENTER/EXIT PROGRAMMING MODE

Powerdown Timeout — continued

Powerdown Timeout = 60 Minutes (1 Hour)

Powerdown Timeout = 120 Minutes (2 Hours)

Powerdown Timeout = 4 Hours

Powerdown Timeout = 6 Hours

Powerdown Timeout = 8 Hours

Powerdown Timeout = 16 Hours

Powerdown Timeout = 24 Hours

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

Use this barcode to initiate sending of labels stored in batch memory.

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

Send Batch

Erase Batch Memory

Use this barcode to erase any labels stored in batch memory.

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

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 = 0.5 seconds

RF Batch Mode Transmit Delay = 1 second

RF Batch Mode Transmit Delay = 2.5 seconds

ENTER/EXIT PROGRAMMING MODE

DIRECT RADIO AUTOLINK

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

DEFAULT

Direct Radio Link = Unlink Label Required

Direct Radio Link = Automatic Unlinking

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 310 in "References" for detailed information and examples for setting this feature.

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.

This feature only applies if "Source Radio Address Transmission" on page 273 is enabled.

Set Source Radio Address Delimiter Character

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

00 = No Delimiter Character

ENTER/EXIT PROGRAMMING MODE

FEATURES FOR STAR MODELS ONLY

The features in this section are valid only for the Gryphon I GM4102 Star model:

- STAR Radio Protocol Timeout
- STAR Radio Transmit Mode

STAR Radio Protocol Timeout

This parameter sets the valid wait time before transmission between the hand-held 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 312 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

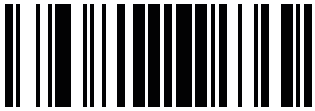
ACK from cradle

ACK when sent to host

ACK from host

ACK from host works only for RS232 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 315 for details.



ENTER/EXIT PROGRAMMING MODE

Bluetooth-Only Features

The features in this section are valid only for Gryphon Bluetooth models. Also reference the Setup section for instructions on Linking a BT Reader to a PC, starting on page 26.

Please update the list as below:

BT SECURITY FEATURES

The BT system can be set up to require a configurable PIN code to authenticate/connect BT devices, and encrypt the data. This can be done in one of two ways:

- The scanner can be programmed with a PIN code using the bar codes in this section.
- The Host can be set up to specify a custom security PIN code when a scanner attempts to connect. For more information about this feature, contact Datalogic Technical Support.

The Gryphon GBT4102 can be set up to require a PIN code when connecting to the host. If you are adding new equipment to a system that uses a custom security PIN, please read this section for information before proceeding.

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 279.
3. Scan the relevant bar code from "Set PIN Code" on page 279, then scan the desired alpha-numeric characters from the keypad in Appendix D, Keypad to set the PIN code.

See "BT-Only Features" on page 313 in "References" for more detailed information and examples for this feature.

BT Security Mode

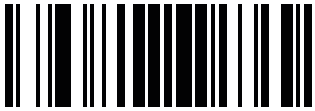
This feature enables/disables authentication and encryption of the BT link. Use the feature "BT Pin Code" on page 279 to specify the pin code used to authenticate the BT Link.

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 the disabled setting, 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



ENTER/EXIT PROGRAMMING MODE

BT Pin Code

After enabling Security Mode (see ""BT Security Mode" on page 278), specify whether you want to set a 4-digit or a 16-digit PIN Code. See page 313 for detailed information and examples for setting this feature.

Select PIN Code Length

DEFAULT

Select 4-character BT PIN Code

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 the inside back cover of this manual. See page 313 for detailed information and examples for setting this feature.

Set 4-character BT Pin Code

DEFAULT

To configure this feature, scan the ENTER/EXIT PROGRAMMING MODE bar code above, then the desired bar code , 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 barcode to abort and not save the entry string. You can then start again at the beginning.

BT HID FEATURES

BT HID Variable PIN Code

This feature specifies the selection available for Static or Variable Pin Code, when BT HID profile is configured.

Use Static PIN Code

DEFAULT

Use Variable PIN Code

BT HID ALT Mode

This feature Enables/Disables the ability to transmit correctly a label content to the host regardless of the BT HID Country Mode selected, when BT HID profile is configured.

HID ALT Mode = Disable

DEFAULT

HID ALT Mode = Enable

BT HID Send Unkown ASCII Char

This feature Enable/Disable the ability of a BT HH to transmit a label containing an unknown character to the host, when BT HID profile is configured.

HID Send Unkown ASCII Char = Disable

DEFAULT

HID Send Unkown ASCII Char = Enable

OTHER BT FEATURES

BT Poll Rate

This feature specifies the time between BT polls.


BT Poll Rate = Maximum BT Poll Rate


BT Poll Rate = 10 ms


BT Poll Rate = 20 ms

DEFAULT


BT Poll Rate = 30 ms


BT Poll Rate = 50 ms


BT Poll Rate = 100 ms

BT Poll Rate (continued)

BT Poll Rate = 150 ms

BT Poll Rate = 200 ms

BT Poll Rate = 500 ms

BT Poll Rate = 990 ms

Chapter 5 References

This section contains explanations and examples of selected barcode features. See the Configuration section for the actual barcode labels used to configure the reader.

RS-232 Parameters

RS-232 Only

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 barcode to enter Programming Mode.
4. Go to page 49 and scan the barcode: 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.

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.

This completes the procedure. See Table 28 for some examples of how to set this feature.

Table 28. 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.

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 52 and scan ENTER/EXIT PROGRAMMING MODE to enter Programming Mode.
4. Scan the barcode: SELECT ACK CHARACTER SETTING.
5. Scan the appropriate two alpha-numeric 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 barcode to exit.

See Table 29 for some examples of how to set this feature.

Table 29. 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.

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 52 and scan the ENTER/EXIT PROGRAMMING MODE barcode to enter Programming Mode.
4. Scan the barcode: SELECT NAK CHARACTER SETTING.
5. Scan the appropriate two alpha-numeric 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 barcode to exit Programming Mode.

This completes the procedure. See Table 30 for some examples of how to set this feature.

Table 30. 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 ACK 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 53 and scan the ENTER/EXIT PROGRAMMING MODE barcode to enter Programming Mode.
4. Scan the barcode: 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.

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 31 for some examples of how to set this feature.

Table 31. 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 54 and scan the ENTER/EXIT PROGRAMMING MODE barcode to enter Programming Mode.
4. Scan the barcode: 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.

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 32 for some examples of how to set this feature.

Table 32. 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.

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 56 and scan the ENTER/EXIT PROGRAMMING MODE barcode to enter Programming Mode.
4. Scan the barcode: SELECT DISABLE CHARACTER SETTING.
5. Scan the appropriate two alpha-numeric 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 barcode to exit Programming Mode.

This completes the procedure. See Table 33 for some examples of how to set this feature.

Table 33. 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.

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 56 and scan the ENTER/EXIT PROGRAMMING MODE barcode to enter Programming Mode.
4. Scan the barcode: SELECT ENABLE CHARACTER SETTING.
5. Scan the appropriate two alpha-numeric 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 barcode to exit Programming Mode.

This completes the procedure. See Table 34 for some examples of how to set this feature.

Table 34. 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 DISABLE 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.

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 63 and scan the ENTER/EXIT PROGRAMMING MODE barcode to enter Prog. Mode.
4. Scan the barcode: 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.

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.

This completes the procedure to set the Wedge Quiet Interval. See Table 35 for some examples of how to set this feature.

Table 35. 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.

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 64 and scan the ENTER/EXIT PROGRAMMING MODE barcode to enter Programming Mode.
4. Scan the barcode: 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.

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 36 for some examples of how to set this feature.

Table 36. 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 65 and scan the ENTER/EXIT PROGRAMMING MODE barcode to enter Programming Mode.
4. Scan the barcode: 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.

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 37 for some examples of how to set this feature.

Table 37. 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

Decoding Level

Decoding Levels are used to configure a barcode symbology decoder to be very aggressive to very conservative depending on a particular customer's needs.

- Level 1 results in a very conservative decoder at the expense of not being able to read poorly printed or damaged labels.
- Level 5 results in a very aggressive decoder. This aggressive behavior allows decoding of poorly printed and damaged labels at the expense of increasing the likelihood of decoding errors.
- Level 3, which is the default setting, allows the majority of product labels to be decoded.

There are many factors that determine when to change the decoding level for a particular symbology. These factors include spots, voids, non-uniform bar/space widths, damaged labels, etc. that may be experienced in some barcode labels. If there are many hard to read or damaged labels that cannot be decoded using a conservative setting, increase the decoding level to be more aggressive. If the majority of labels are very good quality labels, or there is a need to decrease the possibility of a decoder error, lower the decoding level to a more conservative level.

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 barcode 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 barcode'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 barcode to enter Programming Mode.
3. Scan the barcode 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.

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.

5. Scan the ENTER/EXIT PROGRAMMING MODE barcode to exit Prog Mode.

Set Length 2

This feature allows you to set one of the barcode 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 barcode to enter Programming Mode.
3. Scan the barcode 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.

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.

5. Scan the ENTER/EXIT PROGRAMMING MODE barcode to exit Programming Mode.

This completes the procedure.

Data Editing

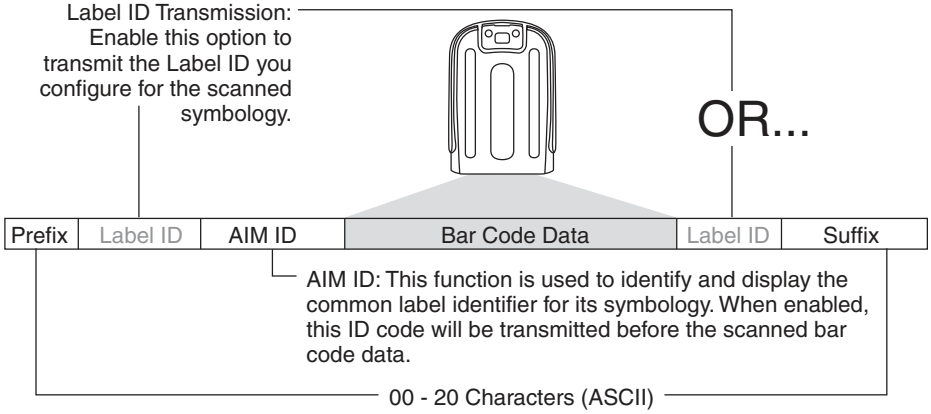
CAUTION

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

When a barcode is scanned, additional information can be sent to the host computer along with the barcode data. This combination of barcode 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 15 shows the available elements you can add to a message string:

Figure 15. Breakdown of a Message String



Additional advanced editing is available. See the Advanced formatting features in the Datalogic Aladdin configuration software, or contact Technical Support (described on page 11 for more information.

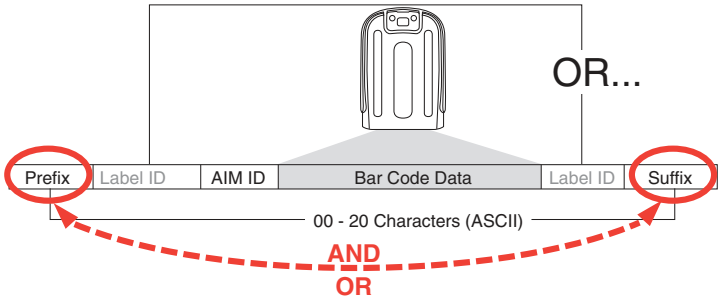
Please Keep In Mind...

- 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 Code Selection, starting on page 111) 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 barcode data) and/or as a suffix (in a position following the barcode data) as indicated in Figure 16.

Figure 16. 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 barcode data. In this example, we'll add a dollar sign ('$') as a prefix.
2. Go to page 80 and scan the ENTER/EXIT PROGRAMMING MODE barcode.
3. Scan the SET GLOBAL PREFIX barcode.
4. Reference the ASCII Chart on the inside back cover of this manual to find the hex value assigned to the desired character. The corresponding hex number for the '$' character is 24. To enter this selection code, scan the '2' and '4' barcodes from Appendix D, Keypad.

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.

5. If less than the expected string of 20 characters are selected, scan the ENTER/EXIT barcode to terminate the string.
6. Scan the ENTER/EXIT barcode once again to exit Programming Mode.
7. The resulting message string would appear as follows:

Scanned barcode data:**12345**

Resulting message string output: **$12345**

Global AIM ID

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

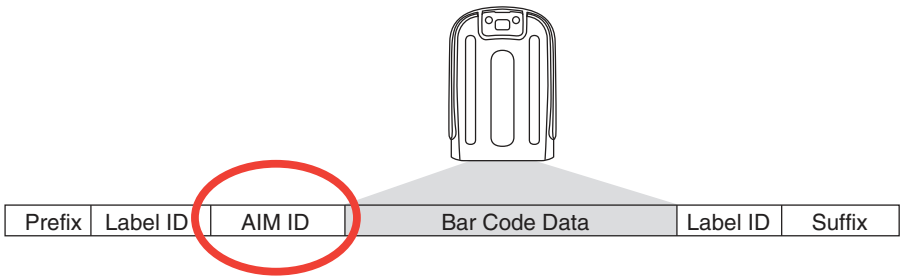
AIM label identifiers (as opposed to custom characters you select yourself as with label identifiers) can be included with scanned barcode data. AIM label identifiers consist of three characters as follows:

- 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 17. 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 barcode (symbology) type. It can be appended previous to or following the transmitted barcode 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 301). 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 81.

Label ID: Pre-loaded Sets

The reader supports two pre-loaded sets of Label IDs. Table 38 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 38. Label ID Pre-loaded Sets

Symbology	USA Label ID set		EU Label ID set	
	ASCII character	Hexidecimal value	ASCII character	Hexidecimal value
ABC Codabar	S	530000	S	530000
Anker Plessey	o	6F0000	o	6F0000
CODABAR	%	250000	R	520000
Codablock F	l	6C0000	m	6D0000
CODE11	CE	434500	b	620000
CODE128	#	230000	T	540000
CODE32	A	410000	X	580000
CODE39	*	2A0000	V	560000
CODE39 CIP	Y	590000	Y	590000
CODE4	4	340000	4	340000
CODE5	j	6A0000	j	6A0000
CODE93	&	260000	U	550000
DATALOGIC 2OF5	s	730000	s	730000
EAN13	F	460000	B	420000
EAN13 P2	F	460000	L	4C0000
EAN13 P5	F	460000	M	4D0000
EAN13 P8	F	460000	#	230000

Label ID Pre-Loaded Sets (continued)

Symbology	USA Label ID set		EU Label ID set	
	ASCII character	Hexidecimal value	ASCII character	Hexidecimal value
EAN8	FF	464600	A	410000
EAN8 P2	FF	464600	J	4A0000
EAN8 P5	FF	464600	K	4B0000
EAN8 P8	FF	464600	*	2A0000
FOLLETT 2OF5	O	4F0000	O	4F0000
GS1 DATABAR EXPANDED	RX	525800	t	740000
GS1 DATABAR LIMITED	RL	524C00	v	760000
GS1 DATABAR OMNIDIRECTIONAL	R4	523400	u	750000
GS1-128		000000	k	6B0000
GTIN	G	470000	$A	244100
GTIN2	G2	473200	$B	244200
GTIN5	G5	473500	$C	244300
GTIN8	G8	473800	$D	244400
IATA	IA	494100	&	260000
Industrial 2 of 5	W	570000	W	570000
Interleaved 2 of 5	i	690000	N	4E0000
Interleaved 2 of 5 CIP HR	e	650000	e	650000
ISBN	I	490000	@	400000
ISBT128	f	660000	f	660000
ISSN	n	6E0000	n	6E0000
MSI	@	400000	Z	5A0000
Plessey	a	610000	a	610000
S25	s	730000	P	500000
UPCA	A	410000	C	430000
UPCA P2	A	410000	F	460000
UPCA P5	A	410000	G	470000
UPCA P8	A	410000	Q	510000

Label ID: Set Individually Per Symbology

To configure a Label ID individually for a single symbology:

1. Go to page 84 and scan the ENTER/EXIT barcode.
2. Select Label ID position as either BEFORE (Enable as Prefix) or AFTER (Enable as suffix) by scanning the appropriate barcode in the section "Label ID Control" on page 84. Reference Figure 18 for Label ID positioning options if multiple identification features are enabled.
3. Scan a barcode to select the symbology for which you wish to configure a custom Label ID from the section "Label ID Symbology Selection" on page 85.
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 337 and scan the barcodes 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 39.

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 barcode to exit Label ID entry.
7. Scan the ENTER/EXIT barcode once again to exit Programming Mode.

This completes the steps to configure a Label ID for a given symbology.

Figure 18. Label ID Position Options

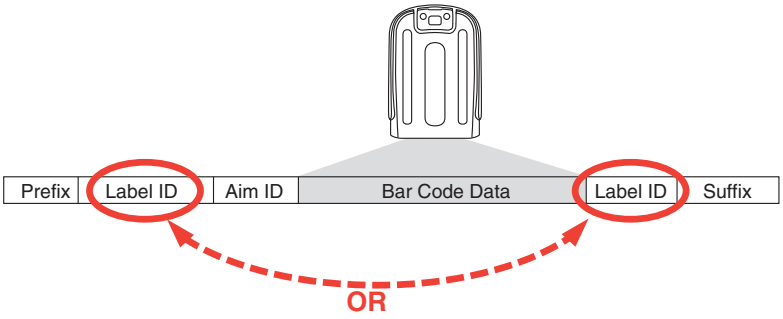


Table 39. Label ID Examples

STEP	ACTION	EXAMPLES			
1.	Scan the ENTER/EXIT barcode	(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 84	Enable as Prefix	Enable as Suffix	Enable as Prefix	Enable as Suffix
3.	Scan the barcode selecting the symbology type you wish to designate label ID characters for using Label ID Symbology Selection, starting on page 85.	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 barcodes in the section: Keypad, starting on page 337. 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.	44 42 2A	3D 43 33	2B	50 48
6.	Scan the ENTER/EXIT barcode	(Scanner exits Label ID entry)			
7.	Scan the ENTER/EXIT barcode once again	(Scanner exits Programming Mode)			
Result:		DB*[barcode data]	[barcode data]=C3	+[barcode data]	[barcode 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 94 and scan the ENTER/EXIT barcode.
2. Scan the “Configure Character Conversion” barcode.
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 barcodes representing the hex characters determined in the previous step.
5. Scan the ENTER/EXIT barcode to exit Programming Mode.

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

Reading Parameters

Label Gone Timeout

This feature sets the time after the last label segment is seen before the reader prepares for a new label. The timeout can be set within a range of 10 milliseconds to 2,550 milliseconds (2.55 seconds) in 10ms increments. Label Gone Timeout does not apply to scan modes that require a trigger pull for each label that is read

Follow these instructions to set this feature:

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 three digits. For example: 0 = 000, 5 = 005, 20 = 020, etc.
3. Go to page 97 and scan the ENTER/EXIT PROGRAMMING MODE barcode to enter Programming Mode.
4. Scan the barcode: SELECT LABEL GONE TIMEOUT SETTING.
5. Scan the appropriate three alpha-numeric characters 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.

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 40 for some examples of how to set this feature.

Table 40. Timeout Setting Examples

STEP	ACTION	EXAMPLES			
1	Desired Setting	50ms	150ms	1800ms (1.8 sec.)	2550ms (2.55 sec.)
2	Divide by 10 (and pad with leading zeroes)	005	015	180	255
3	Scan ENTER/EXIT PROGRAMMING MODE				
4	Scan SELECT LABEL GONE TIMEOUT SETTING				
5	Scan Three Characters From Appendix D, Keypad	'0', '0' and '5'	'0', '1' and '5'	'1', '8' and '0'	"2', '5' and '5'
6	Scan ENTER/EXIT PROGRAMMING MODE				

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 104 and scan the ENTER/EXIT PROGRAMMING MODE barcode to enter Programming Mode.
4. Scan the barcode: 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.

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 41 for some examples of how to set this feature.

Table 41. 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 LABEL GONE TIMEOUT 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[1] 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.

Flashing is the recommended scan mode for Gryphon L hands-free (stand mode) of operation

Always On: No trigger pull is required to read a barcode. 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 barcode. Scanning is turned on automatically when an item is placed in the reader's field of view. If the trigger is pulled, the reader acts as if it in single read mode. Double Read Timeout prevents undesired multiple reads while in this mode.

Trigger Object Sense: This mode is similar to Stand Mode, except that a trigger pull is required to activate the decoder.

1. Controlled by Flash On Time.

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 108 and scan the ENTER/EXIT PROGRAMMING MODE barcode to enter Programming Mode.
4. Scan the barcode: 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.

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 42 for some examples of how to set this feature.

Table 42. 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				

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 109 and scan the ENTER/EXIT PROGRAMMING MODE barcode to enter Programming Mode.
4. Scan the barcode: 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.

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 43 for some examples of how to set this feature.

Table 43. 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 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				

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 109 and scan the ENTER/EXIT PROGRAMMING MODE barcode to enter Programming Mode.
4. Scan the barcode: 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.

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 44 for some examples of how to set this feature.

Table 44. 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				

RF Features

Configuration Update

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.

This feature only applies if "Source Radio Address Transmission" on page 273 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 274 and scan the ENTER/EXIT PROGRAMMING MODE barcode to enter Programming Mode.
3. Scan the barcode: SET SOURCE RADIO ADDRESS DELIMITER CHARACTER.
4. Scan the appropriate two digits from the keypad in Appendix D, Keypad, that represent the hexidecimal characters which were determined in the steps above. You will hear a two-beep indication after the last character.

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.

5. Scan the ENTER/EXIT PROGRAMMING MODE barcode to exit Programming Mode.

This completes the procedure. See Table 45 for some examples of how to set this feature.

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 hand-held 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 275 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.

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 SELECT INTERCODE DELAY 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 pin code (either 4- or 16-characters) 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 278.
2. Specify the desired pin code length (4 or 16) by scanning the appropriate bar code in "Select PIN Code Length" on page 279.
3. Determine the desired characters. For example, D254 or TOR12345678135M
4. Convert the characters to hexadecimal using the ASCII Chart on the inside back cover of this manual.
5. Go to page 279 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.

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.

7. Scan the ENTER/EXIT PROGRAMMING MODE bar code to exit Programming Mode.

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.

Table 47. 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	53544F5231323334353637383133354D
6	Scan ENTER/EXIT PROGRAMMING MODE		

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.

Appendix A
Technical Specifications

Table 48 contains Physical and Performance Characteristics, User Environment and Regulatory information. Table 49 provides Standard Cable Pinouts.

Table 48. Technical Specifications

Item	Description
Physical Characteristics	
Color	White/Gray Gray/Gray
Dimensions	Height 7.1"/181 mm Length 3.9"/100 mm Width 2.8"/71 mm
Weight (without cable)	GD 4132 : Approximately 6.3 ounces/180 g GM4102/GBT4102: Approximately 8.7 ounces/246 g BC4032: Approximately 9.7 ounces/275 g
Electrical Characteristics	
Voltage & Current	GD4132 model: 5V±5% Input range. 2.4W max. 460 mA (max) at 5V 2.5 mA RS-232 sleep mode/ USB suspend BC4032 base: 4.75-14V; Input range. Power 8W max [a]; Imax 500mA when in host/bus powered mode[a].
Battery Type	Li-Ion battery pack
Charge time for full charge from full discharge	4,5 hours with 12v external power supply adapter[b]
	Max 22h hours with Host power (In this case no supply adapter is needed)[b]
Operating autonomy (continuous reading)	GM4102: 50,000 reads (typical) GBT4102: 30,000 reads (typical)

Item	Description
Performance Characteristics	GD41x0 model:
Light Source	Dual LEDs
Roll (Tilt) Tolerance	± 35° from normal
Pitch Tolerance	GD 4132/GM4102/GBT4102: ± 65°
Skew (Yaw) Tolerance	± 65°
Field of View	10" (25.4cm) wide at 12.5" (31.8cm) from the reader
Depth of Field (Typical) [c]	3 mil – 2.9" to 4.7" (7.5cm to 12cm) 13 mil [c] – 1.2" to 23.6" (3cm to 60cm) 20 mil – 1.2" to 31.5" (3cm to 80cm)
Minimum Element Width	3 mil
Print Contrast Minimum	15% minimum reflectance
Decode Capability	UPC/EAN/JAN, P2 /P5, ISBN/ISSN; Code 39, Code39 FullASCII; Italian Pharmacode 39, Code39 CIP; Code 128, GS1-128; C128 ISBT; Code 128 addons;I 2 of 5; Standard 2 of 5; I 2 of 5 CIP HR; Industrial 2 of 5; IATA; Datalogic 2 of 5; Follet 2 of 5; Code 11; Plessey, Anker Plessey; Codabar, ABC Codabar ; Code 93; MSI; GS1 DataBar™ Omni-directional, GS1 DataBar™ Limited, GS1 DataBar™ Expanded; Code 4, Code 5; Coda-block F, Codablock F EAN;
Interfaces Supported[d]	RS-232 Std, RS-232 Wincor-Nixdorf, RS-232 OPOS, IBM 46xx (available with special cable) (ports 5B and 9B), USB Com Std., USB Keyboard, USB Alternate Keyboard,USB OEM, Keyboard Wedge (AT with or w/o Alternate Key, IBM AT PS2 with or w/o Alternate Key, PC-XT, IBM 3153, IBM Terminals 31xx, 32xx,34xx, 37xx make only and make break keyboard, Digital Terminals VT2x, VT3xx, VT4xx, and Apple) and Wand Emulation.
User Environment	
Operating Temperature	GD 4132: 32° to 131° F (0° to 55° C) GM4102/GBT4102: 32° to 122° F (0° to 50° C)
Charging Temperature	32° to 104° F (0° to 40° C)
Storage Temperature	-4° to 158° F (-20° to 70° C) For long storage (1 months or more) it is recommended to keep the battery at low temperature condition (T < 45°C)
Humidity	Operating: 5% to 90% relative humidity, non-condensing
Drop Specifications	18 drops from 1.8 meters (5.9 feet) to concrete

Item	Description
Ambient Light Immunity	Up to 100,000 Lux
Contaminants Spray/ Rain/Dust/Particulates	IP52
ESD Level	16 KV

a. Typical input current measured under factory default configuration.
b. Charge Times are much lower when battery is within daily typical operating condition.
c. 13 mils DOF based on EAN. All others are Code 39. All labels grade A, typical environmental light, 20°C, label inclination 10°
d. See "Interface Selection" on page 30 for a listing of available interface sets by model type.

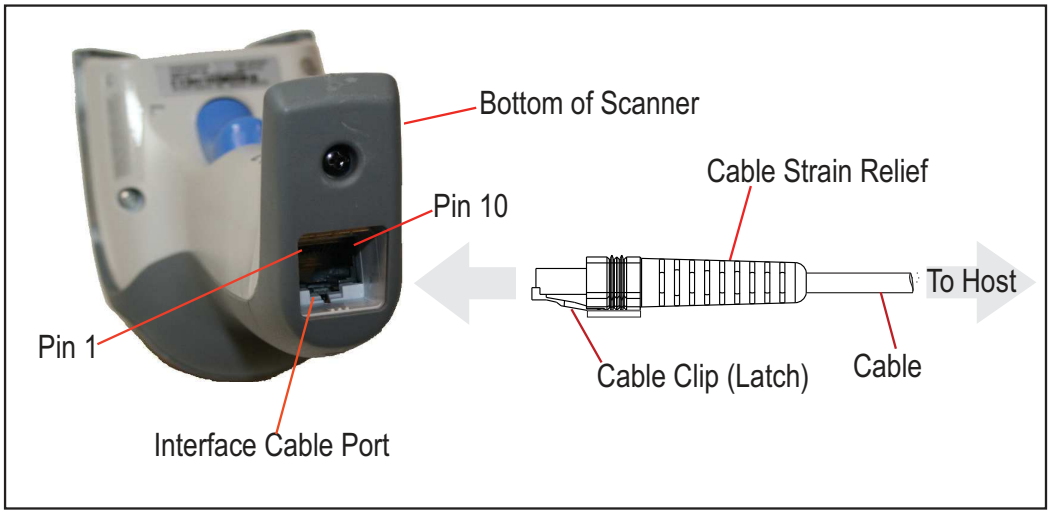
Item	Description
Regulatory	
Electrival Safety	See the Regulatory Addendum for each specific product for details.
EMI/RFI	
LED class safety	

Radio Features	Model		
	433MHz model	910 Mhz	BT
Working Center Frequency	433.920 MHz	910.000 MHz	2400 to 2483.5 MHz
Range (in open air)	30 m	30 m	30 m
Max. number of devices per base station	16	16	1

Standard Cable Pinouts

Figure 19 and Table 49 provide standard pinout information for the Base Station's interface cable.

Figure 19. Standard Cable Pinouts



The signal descriptions in Table 49 apply to the connector on the reader and are for reference only.

Table 49. Standard Cable Pinouts — Reader 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 barcode labels.

Table 50. 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/bi-tonal 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

a. Except when in sleep mode or when a Good Read LED Duration other than 00 is selected

Table 51. 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	CORRECTIVE ACTION
1	Configuration	Contact Helpdesk for assistance
2	Interface PCB	
4	Reader Module	
6	Digital PCB	
14	CPLD/Code Mismatch	

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
Base and handheld are exchanging data	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

BUTTON PUSH EVENT	CORDLESS	YELLOW INDICATOR	RED INDICATOR	GREEN INDICATOR
Push at power-up	Force device connection (Aladdin)	Off	Off	Slow blink Fast blink
< 1 sec (*)	UV LED On/Off	Off	Off	Off
1 to 5 sec	Paging	Off	Off	Fast blink
5 to 10 sec	Unlink (Only BT)	Off	Off	Slow blink
10 to 20 sec	Reset	Off	Fast blink	Off
> 20 sec	Restore factory defaults	Off	Slow blink	Off

(*) Only for models with UV Counterfeit Money Detector. See page 12 for more details

NOTES

Appendix B
Technical Specifications

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 barcodes for each parameter. A column has also been provided for recording of your preferred default settings for these same configurable features.

Table 52. Standard Defaults

Parameter	Default	Your Setting	Page Number
GLOBAL INTERFACE FEATURES			
Host Commands — Obey/Ignore	Obey		41
USB Suspend Mode	Disable		41
RS-232 ONLY			
Baud Rate	9600		44
Data Bits	8 Data Bits		45
Stop Bits	1 Stop Bit		45
Parity	None		46
Handshaking Control	RTS		47
RS-232/USB-Com			
Intercharacter Delay	No Delay		49
Beep On ASCII BEL	Disable		50
Beep On Not on File	Enable		50
ACK Character	‘ACK’		52
NAK Character	‘NAK’		52
ACK NAK Timeout Value	200 ms		53

Parameter	Default	Your Setting	Page Number
ACK NAK Retry Count	3 Retries		54
ACK NAK Error Handling	Ignore Errors Detected		55
Indicate Transmission Failure	Enable		55
Disable Character	'D'		56
Enable Character	'E'		56
KEYBOARD WEDGE			
Country Mode	U.S. Keyboard		58
Caps Lock StateCaps Lock State	Caps Lock OFF		61
Numlock	Numlock Key Unchanged		61
Send Control Characters	Control Character 00		62
Wedge Quiet Interval	100 ms		63
Intercharacter Delay	No Delay		64
Intercode Delay	100 ms		65
USB Keyboard Speed	1 ms		66
USB Keyboard Numeric Keypad	Standard Keys		68
USB-OEM			
USB-OEM Device Usage	Handheld Scanner		70
Interface Options	Ignore Host Configuration Commands		70
IBM 46xx (available with pecial cable)			
46xx Number of Host Resets	6		72
Transmit Labels in Code 39 Format	IBM Standard Format		74
Interface Options	Ignore Scanner Configuration Host Commands		74
Wand Emulation			
Wand Signal Speed	660 ms		76
Wand Polarity	Quiet Zones & Spaces High, Bars Low		76
Wand Idle State	High		77
Transmit Noise	Disable		77
Label Symbology Conversion	No conversion		78

Parameter	Default	Your Setting	Page Number
Data Format			
Global Prefix/Suffix	No Global Prefix Global Suffix = 0x0D (CR)		80
Global AIM ID	Disable		81
GS1-128 AIM ID	Enable		82
Label ID: Pre-loaded Sets	USA Set		83
Label ID Control	Disable		84
Set Global Mid Label ID Characters	No Mid Label ID Character		92
Case Conversion	Disable		93
Character Conversion	No Char Conversion		94
READING PARAMETERS			
Double Read Timeout	0.6 Second		95
Label Gone Timeout	160 ms		97
Sleep Mode Timeout	Disable		98
Power On Alert	4 Beeps		100
Good Read: When to Indicate	After Decode		100
Good Read Beep Type	Mono		101
Good Read Beep Frequency	Medium		101
Good Read Beep Length	80 ms		102
Good Read Beep Volume	High		103
Good Read LED Duration	300 ms		104
Scan Mode	Trigger Single		105
Stand Mode Triggered Timeout	0.5 second		106
Stand Detection	Switch to Stand mode		107
Stand Mode Sensitivity	Medium		108
Scanning Active Time	5 Seconds		108
Flash On Time	1 Second		109
Flash Off Time	600 ms		109
Green Spot Duration	300 ms		110

Parameter	Default	Your Setting	Page Number
Code Selection			
Coupon Control	Enable UPCA coupon decoding		114
UPC-A			
UPC-A Enable/Disable	Enable		114
UPC-A Check Character Transmission	Enable		115
Expand UPC-A to EAN-13	Don't Expand		115
UPC-A Number System Character Transmission	Transmit		116
UPC-A Minimum Reads	1		116
UPC-E			
UPC-E Enable/Disable	Enable		117
UPC-E Check Character Transmission	Send		117
Expand UPC-E to EAN-13	Don't Expand		118
Expand UPC-E to UPC-A	Don't Expand		118
UPC-E Number System Character Transmission	Transmit		119
UPC-E Minimum Reads	2		119
GTIN			
GTIN Formatting	Disable		120
EAN 13 (Jan 13)			
EAN 13 Enable/Disable	Enable		121
EAN 13 Check Character Transmission	Send		121
EAN-13 Flag 1 Character	Transmit		122
EAN-13 ISBN Conversion	Disable		122
EAN 13 Minimum Reads	1		123
ISSN			
ISSN Enable/Disable	Disable		124
EAN 8			
EAN 8 Enable/Disable	Enable		125
EAN 8 Check Character Transmission	Send		125
Expand EAN 8 to EAN 13	Disable		126
EAN 8 Minimum Reads	1		126

Parameter	Default	Your Setting	Page Number
UPC/EAN Global Settings			
UPC/EAN Decoding Level	2		127
UPC/EAN Correlation	Disable		128
UPC/EAN Price Weight Check	Disable		128
In-Store Minimum Reads	2		129
Add-Ons			
Optional Add-ons	Disable P2, P5 and GS1-128		130
Optional Add-On Timer	70 ms		131
Optional GS1-128 Add-On Timer	Disable		134
P2 Add-Ons Minimum Reads	2		137
P5 Add-Ons Minimum Reads	1		138
GS1-128 Add-Ons Minimum Reads	1		139
Code 39			
Code 39 Enable/Disable	Enable		140
Code 39 Check Character Calculation	Don't Calculate		140
Code 39 Check Character Transmission	Don't Send		141
Code 39 Start/Stop Character Transmission	Don't Transmit		142
Code 39 Full ASCII	Disable		142
Code 39 Quiet Zones	Auto		143
Code 39 Minimum Reads	2		144
Code 39 Decoding Level	3		145
Code 39 Length Control	Variable		146
Code 39 Set Length 1	2		147
Code 39 Set Length 2	50		148
Code 39 Interdigit Ratio	4		149
Code 39 Character Correlation	Disable		151
Code 39 Stitching	Enable		151
Code 32 (Italian Pharmaceutical Code)			
Code 32 Enable/Disable	Disable		152
Code 32 Feature Setting Exceptions	N/A		152
Code 32 Check Char Transmission	Don't Send		153

Parameter	Default	Your Setting	Page Number
Code 32 Start/Stop Character Transmission	Don't Transmit		153
Code 39 CIP (French Pharmaceutical Code)			
Code 39 CIP Enable/Disable	Disable		152
Code 128			
Code 128 Enable/Disable	Enable		155
Expand Code 128 to Code 39	Don't Expand		155
Code 128 Check Character Transmission	Send		156
Code 128 Function Character Transmission	Don't Send		156
Code 128 Sub-Code Change Transmission	Disable		156
Code 128 Quiet Zones	Auto		157
Code 128 Minimum Reads	1		158
Code 128 Decoding Level	3		159
Code 128 Length Control	Variable		159
Code 128 Set Length 1	1		160
Code 128 Set Length 2	80		161
Code 128 Character Correlation	Disable		162
Code 128 Stitching	Enable		162
GS1-128			
GS1-128 Enable	Transmit in GS1-128 data format		163
ISBT 128			
ISBT 128 Concatenation	Disable		164
ISBT 128 Force Concatenation	Disable		164
ISBT 128 Concatenation Mode	Static		165
ISBT 128 Dynamic Concatenation Timeout	200 msec		166
ISBT 128 Advanced Concatenation Options	Disable		166
Codablock F			
Codablock F Enable/Disable	Disable		167
Codablock F EAN Enable/Disable	Disable		167
Codablock F AIM Check	Enable check C		168
Codablock F Length Control	Variable		168
Codablock F Set Length 1	3 characters		169

Parameter	Default	Your Setting	Page Number
Codablock F Set Length 2	100 characters		170
Interleaved 2 of 5			
I 2 of 5 Enable/Disable	Disable		171
I 2 of 5 Check Character Calculation	Disable		172
I 2 of 5 Check Character Transmission	Send		173
I 2 of 5 Minimum Reads	2		194
2 of 5 Decoding Level	3		194
I 2 of 5 Length Control	Variable		175
I 2 of 5 Set Length 1	6		176
I 2 of 5 Set Length 2	50		177
I 2 of 5 Character Correlation	Disable		178
I 2 of 5 Stitching	Disable		178
Follett 2 of 5			
Follett 2 of 5 Enable/Disable	Disable		179
Interleaved 2 of 5 CIP HR			
Interleaved 2 of 5 CIP HR Enable/Disable	Disable		179
Standard 2 of 5			
Standard 2 of 5 Enable/Disable	Disable		180
Standard 2 of 5 Check Character Calculation	Disable		180
Standard 2 of 5 Check Character Transmission	Send		181
Standard 2 of 5 Minimum Reads	2		181
Standard 2 of 5 Decoding Level	3		182
Standard 2 of 5 Length Control	Variable		182
Standard 2 of 5 Set Length 1	8		183
Standard 2 of 5 Set Length 2	50		184
Standard 2 of 5 Character Correlation	Disable		185
Standard 2 of 5 Stitching	Disable		185
Industrial 2 of 5			
Industrial 2 of 5 Enable/Disable	Disable		186
Industrial 2 of 5 Check Character Calculation	Disable		186

Parameter	Default	Your Setting	Page Number
Industrial 2 of 5 Check Character Transmission	Enable		187
Industrial 2 of 5 Length Control	Variable		187
Industrial 2 of 5 Set Length 1	1		188
Industrial 2 of 5 Set Length 2	50		189
Industrial 2 of 5 Minimum Reads	1		190
Industrial 2 of 5 Stitching	Disable		190
Industrial 2 of 5 Character Correlation	Disable		191
Code IATA			
IATA Enable/Disable	Disable		192
IATA Check Character Transmission	Enable		192
Datalogic 2 of 5			
Datalogic 2 of 5 Enable/Disable	Disable		193
Datalogic 2 of 5 Check Character Calculation	Disable		193
Datalogic 2 of 5 Minimum Reads	2		194
Datalogic 2 of 5 Decoding Level	3		194
Datalogic 2 of 5 Length Control	Variable		195
Datalogic 2 of 5 Set Length 1	6 characters		196
Datalogic 2 of 5 Set Length 2	50		197
Datalogic 2 of 5 Character Correlation	Disable		198
Datalogic 2 of 5 Stitching	Disable		198
Codabar			
Codabar Enable/Disable	Disable		199
Codabar Check Character Calculation	Don't Calculate		199
Codabar Check Character Transmission	Send		200
Codabar Start/Stop Character Transmission	Transmit		200
Codabar Start/Stop Character Set	abcd/abcd		201
Codabar Start/Stop Character Match	Don't Require Match		201
Codabar Quiet Zones	Auto		202
Codabar Minimum Reads	2		203
Codabar Decoding Level	3		204

Parameter	Default	Your Setting	Page Number
Codabar Length Control	Variable		204
Codabar Set Length 1	3		206
Codabar Set Length 2	50		207
Codabar Interdigit Ratio	4		208
Codabar Character Correlation	Disable		210
Codabar Stitching	Disable		210
ABC Codabar			
ABC Codabar Enable/Disable	Disable		211
ABC Codabar Concatenation Mode	Static		211
ABC Codabar Dynamic Concatenation Timeout	200 msec		212
ABC Codabar Force Concatenation	Disable		213
Code 11			
Code 11 Enable/Disable	Disable		214
Code 11 Check Character Calculation	Check C and K		214
Code 11 Check Character Transmission	Send		215
Code 11 Minimum Reads	2		215
Code 11 Length Control	Variable		216
Code 11 Set Length 1	4		217
Code 11 Set Length 2	50		218
Code 11 Interdigit Ratio	4		219
Code 11 Decoding Level	3		221
Code 11 Character Correlation	Disable		222
Code 11 Stitching	Disable		222
GS1 DataBar™ Omnidirectional			
GS1 DataBar™ Omnidirectional Enable/ Disable	Disable		223
GS1 DataBar™ Omnidirectional GS1-128 Emulation	Disable		223
GS1 DataBar™ Omnidirectional Minimum Reads	1		224
GS1 DataBar™ Expanded			
GS1 DataBar™ Expanded Enable/Disable	Disable		225

Parameter	Default	Your Setting	Page Number
GS1 DataBar™ Expanded GS1-128 Emulation	Disable		225
GS1 DataBar™ Expanded Minimum Reads	1		226
GS1 DataBar™ Expanded Length Control	Variable		226
GS1 DataBar™ Expanded Set Length 1	1		227
GS1 DataBar™ Expanded Set Length 2	74		228
GS1 DataBar™ Limited			
GS1 DataBar™ Limited Enable/Disable	Disable		229
GS1 DataBar™ Limited GS1-128 Emulation	Disable		229
GS1 DataBar™ Limited Minimum Reads	1		230
Code 93			
Code 93 Enable/Disable	Disable		231
Code 93 Check Character Calculation	Enable Check C and K		231
Code 93 Check Character Transmission	Disable		232
Code 93 Length Control	Variable		232
Code 93 Set Length 1	1		233
Code 93 Set Length 2	50		234
Code 93 Minimum Reads	1		235
Code 93 Decoding Level	3		236
Code 93 Quiet Zones	Auto		237
Code 93 Stitching	Enable		238
Code 93 Character Correlation	Disable		238
MSI			
MSI Enable/Disable	Disable		239
MSI Check Character Calculation	Enable Mod10		239
MSI Check Character Transmission	Enable		240
MSI Length Control	Variable		241
MSI Set Length 1	1		241
MSI Set Length 2	50		242
MSI Minimum Reads	4		243
MSI Decoding Level	3		244

Parameter	Default	Your Setting	Page Number
Plessey			
Plessey Enable/Disable	Disable		245
Plessey Check Character Calculation	Enable Plessey std. check char. verification		246
Plessey Check Character Transmission	Enable		246
Plessey Length Control	Variable		247
Plessey Set Length 1	1		248
Plessey Set Length 2	50		249
Plessey Minimum Reads	4		250
Plessey Decoding Level	3		251
Plessey Stitching	Disable		252
Plessey Character Correlation	Disable		252
Code 4			
Code 4 Enable/Disable	Disable		253
Code 4 Check Character Transmission	Send		253
Code 4 Hex to Decimal Conversion	Enable		254
Code 5			
Code 5 Enable/Disable	Disable		254
Code 5 Check Character Transmission	Send		255
Code 5 Hex to Decimal Conversion	Enable		255
Code 4 and 5 Common Configuration Items			
Code 4 and 5 Decoding Level	3		256
Code 4 and Code 5 Minimum Reads	1		257
WIRELESS Features			
Good Transmission Beep	Enable		261
Beep Frequency	Low		261
Beep Duration	80 msec		262
Beep Volume	High		263
Disconnect Beep	Enable		263
Base Station Beep	Enable		264
Leash Alarm	Disable		264
Automatic Configuration Update	Enable		266

Parameter	Default	Your Setting	Page Number
Automatic Flash Update	Disable		267
Powerdown Timeout	30 minutes		268
Batch Mode	Disable		270
RF Batch Mode Transmit Delay	No Delay		272
Direct Radio AutoLink	Unlink label required		273
Source Radio Address Transmission	Do not include		273
Source Radio Address Delimiter Character	No Delimiter Character		274
Features for Star Models Only			
STAR Radio Protocol Timeout	2 seconds		275
STAR Radio Transmit Mode	ACK from cradle		275
Bluetooth-Only Features			
BT Security Mode	Disable		278
Select PIN Code Length	Select 4-character BT PIN Code		279
Set PIN Code	31323334 = Default PIN Code is 1234		279
BT HID Variable PIN Code	Use Static PIN Code		280
BT HID ALT Mode	Disable		280
BT HID Send Unkown ASCII Char	Disable		280
BT Poll Rate	20 ms		281

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

Code 39

Code 128

Interleaved 2 of 5

Code 32

Codabar

Code 93

Code 11

GS1 DataBar™ (RSS)

NOTE

GS1 DataBar™ variants must be enabled to read the bar codes below (see "GS1 DataBar™ Omnidirectional" on page 79).

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

Appendix C
Keypad

Use the barcodes in this appendix to enter numbers as you would select digits/characters from a keypad.


6


7


8


9

HID Variable PIN Code


Cancel an incomplete HID Variable PIN Code


Exit HID Variable PIN Code


A


B


C


D


E


F

NOTES

Appendix D
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 -348.)

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 Alt Right+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 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	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 — cont.

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	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 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	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 — cont.

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	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 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	F13	F14	F15	F16	↑	↓	←	→					Cl ↓	Cl ↑	

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					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 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	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 60. 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 61. 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 62. 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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