DATALOGIC™

Magellan® 8300/8400

Product Reference Guide

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7.1 Datalogic will defend End User against any claim in a lawsuit that the Datalogic Product furnished hereunder infringe a United States patent or copyright of a third party and Datalogic will pay any damages finally awarded against End User by a court of competent jurisdiction that are attributable to such claim or will pay End User's part of any settlement that is attributable to such claim, provided, that 1) End User notifies Datalogic promptly in writing of the claim, 2) Datalogic controls the defense or settlement of the claim, and 3) End User cooperates fully with Datalogic in such defense or settlement. All notices of a claim should be sent to Datalogic Scanning Holdings, Inc., Legal Department, 959 Terry Street, Eugene, OR 97402.

7.2 In the defense or settlement of any such claim, Datalogic may, at its option, 1) procure for End User the right to continue using the Datalogic Product, 2) modify the Datalogic Product so that it becomes non-infringing, 3) replace the Datalogic Product with an equivalent product not subject to such claim, or 4) provide End User an opportunity to return the Datalogic Product and receive a refund of the purchase price paid, less a reasonable allowance for use.

7.3 Datalogic shall have no liability to End User for claims of infringement based upon 1) the use of any Datalogic Product in combination with any product which Datalogic has not either furnished or authorized for use with such Datalogic Product 2) the use of any Datalogic Product designed, manufactured, or modified to the specifications of End User, or 3) End User's modification of the Datalogic Product without written authorization from Datalogic.

7.4 THE FOREGOING STATES DATALOGIC'S COMPLETE AND ENTIRE OBLIGATION CONCERNING CLAIMS OF PATENT, COPYRIGHT, OR OTHER INTELLECTUAL PROPERTY INFRINGEMENT, CANCELS AND SUPERSEDES ANY PRIOR AGREEMENTS, WHETHER ORAL OR WRITTEN, BETWEEN THE PARTIES CONCERNING SUCH CLAIMS, AND WILL NOT BE MODIFIED OR AMENDED BY ANY PAST, CONTEMPORANEOUS, OR FUTURE AGREEMENTS OR DEALINGS BETWEEN THE PARTIES, WHETHER ORAL OR WRITTEN, EXCEPT AS SET FORTH IN A FUTURE WRITING SIGNED BY BOTH PARTIES.

8. Limitation Of Liability.

EXCEPT AS PROVIDED IN SECTION 7, DATALOGIC SHALL NOT BE LIABLE FOR ANY CLAIMS AGAINST END USER BY ANY OTHER PARTY. IN NO EVENT SHALL DATALOGIC'S LIABILITY FOR DAMAGES, IF ANY, WHETHER BASED UPON CONTRACT, TORT (INCLUDING NEGLIGENCE), PRODUCT LIABILITY, STRICT LIABILITY, WARRANTY, OR ANY OTHER BASIS, EXCEED THE PRICE OR FEE PAID BY END USER FOR THE DATALOGIC PRODUCT. UNDER NO CIRCUMSTANCES SHALL DATALOGIC BE LIABLE TO END USER OR ANY THIRD PARTY FOR LOST PROFITS, LOST DATA, INTERRUPTION OF BUSINESS OR SERVICE, OR FOR ANY OTHER SPECIAL, CONSEQUENTIAL, CONTINGENT, INDIRECT, INCIDENTAL, PUNITIVE, EXEMPLARY, OR OTHER SIMILAR DAMAGES, EVEN IF DATALOGIC HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

9. Government Restricted Rights; International Use.

9.1 Use, duplication, or disclosure of the Software by the U.S. Government is subject to the restrictions for computer software developed at private expense as set forth in the U.S. Federal Acquisition Regulations at FAR 52.227-14(g), or 52.227-19 or in the Rights in Technical Data and Computer Software clause at DFARS 252.227-7013(c)(1)(ii), whichever is applicable.

9.2 If End User is using the Datalogic Product outside of the United States, End User must comply with the applicable local laws of the country in which the Datalogic Product is used, with U.S. export control laws, and with the English language version of this Agreement. The provisions of the "United Nations Convention on International Sale of Goods" shall not apply to this Agreement.

10. Termination.

10.1 Either party may terminate this Agreement or any license granted under this Agreement at any time upon written notice if the other party breaches any provision of this Agreement.

10.2 Upon termination of this Agreement, End User immediately shall cease using any non-embedded software and shall return to Datalogic or destroy all non-embedded software covered by this Agreement, and shall furnish Datalogic with a certificate of compliance with this provision signed by an officer or authorized representative of End User. For embedded software, End User agrees to sign a waiver prepared by Datalogic concerning further use of the embedded Software. End User's resumed or continued use of the embedded Software after termination shall constitute End User's agreement to be bound by the terms and conditions of this Agreement for such use.

11. General Provisions.

11.1 Entire Agreement; Amendment. This document contains the entire agreement between the parties relating to the licensing of the Software and supersedes all prior or contemporaneous agreements, written or oral, between the parties concerning the licensing of the Software. This Agreement may not be changed, amended, or modified except by written document signed by Datalogic.

11.2 Notice. All notices required or authorized under this Agreement shall be given in writing, and shall be effective when received, with evidence of receipt. Notices to Datalogic shall be sent to the attention of Contract Administration, Datalogic Scanning Holdings, Inc., 959 Terry Street, Eugene, OR 97402, or such other address as may be specified by Datalogic in writing.

11.3 Waiver. A party's failure to enforce any of the terms and conditions of this Agreement shall not prevent the party's later enforcement of such terms and conditions.

11.4 Governing Law; Venue: This Agreement and the rights of the parties hereunder shall be governed by and construed in accordance with the laws of the State of Oregon U.S.A, without regard to the rules governing conflicts of law. The state or federal courts of the State of Oregon located in either Multnomah or Lane counties shall have exclusive jurisdiction over all matters regarding this Agreement, except that Datalogic shall have the right, at its absolute discretion, to initiate proceedings in the courts of any other state, country, or territory in which End User resides, or in which any of End User's assets are located.

11.5 Attorneys' Fees. In the event an action is brought to enforce the terms and conditions of this Agreement, the prevailing party shall be entitled to reasonable attorneys' fees, both at trial and on appeal.

- END -

Chapter 1
Introduction

This Product Reference Guide contains comprehensive instructions on scanner or scanner/scale installation. Either model may be termed "scanner" for the purpose of simplicity in this manual. Also included are feature configuration using special programming feature bar code labels and advanced user information as described in the following chapter descriptions.

Manual Overview

Chapter 1, Introduction, outlines the manual's contents, details features and specifications, provides regulatory and safety information, and lists the symbologies (bar code types) the scanner will read.

Chapter 2, Site Preparation and Installation, presents physical dimensions for the scanner or scanner/scale and popular accessories, and provides counter preparation and installation procedures. Cable routing, connection and testing are additionally detailed in this chapter.

Chapter 3, Operation and Maintenance, contains use and maintenance instructions; providing details about operator controls, programming and diagnostic modes, scale "zeroing" and calibration. Scanner and scale routine maintenance is also outlined in this chapter.

Chapter 4, Problem Isolation, outlines the three scanner/scale test modes: Selftest, Operational Tests and Diagnostic Tests. Procedures for system problem and troubleshooting flowcharts to aid in problem resolution are also presented in this chapter.

Chapter 5, Calibration, explains scale calibration and verification procedures, including procedures for calibrating the scale in pounds as well as kilograms.

Chapter 6, Programming, highlights the function(s) of each programmable feature and provides a dedicated set of bar codes for configuring scanner and scanner/scale features. This chapter is organized by the categories: General Features, Interface Related Features and Symbology Related Features.

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

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

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

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

Appendix E, Keyboard Function Key Mappings, summarizes the keyboard models, their defined protocol, scancode set, and some unique features. Other tables in this chapter provide the function key maps associated with each of the scancode sets.

Appendix F, Factory Defaults, lists factory default programmable settings for common interfaces.

Appendix G, Handheld Data Format Requirements, contains application notes describing the general format of data accepted by the scanner through the auxilliary port as transmitted from a handheld scanner.

How to Use This Manual

Reference the first chapter of this manual for a general description of the product's features and an outline of the manual's contents and organization. View the remaining chapters for procedures regarding scanner or scanner/scale installation, operation, maintenance, calibration and bar code programming.

Manual Conventions

	'NOTE' blocks contain information that is helpful and recommended. They provide information that is critical to operations and/or procedures described in this manual.
LEGAL NOTE	'LEGAL NOTE' blocks indicate procedures or activities which may be regulated under law by governmental agencies. It is your responsibility to ensure compliance with the regulations that govern installation of weighing devices.
	'CAUTION' blocks inform you that proper handling (adherence to the procedures described) is required to avoid damage to equipment and/or property.
	'WARNING' blocks alert you to potential physical harm or injury. These statements do not include potentially fatal hazards, which would be designated as 'DANGER' blocks. Use of this product does not warrant the need for a DANGER block.

Technical Support

Datalogic Website Support

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

Datalogic Website TekForum

Search for information on the TekForum by clicking on the Support link on the Datalogic home page. Browse the TekForum to find answers to your questions about common technical issues.

Reseller Technical Support

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

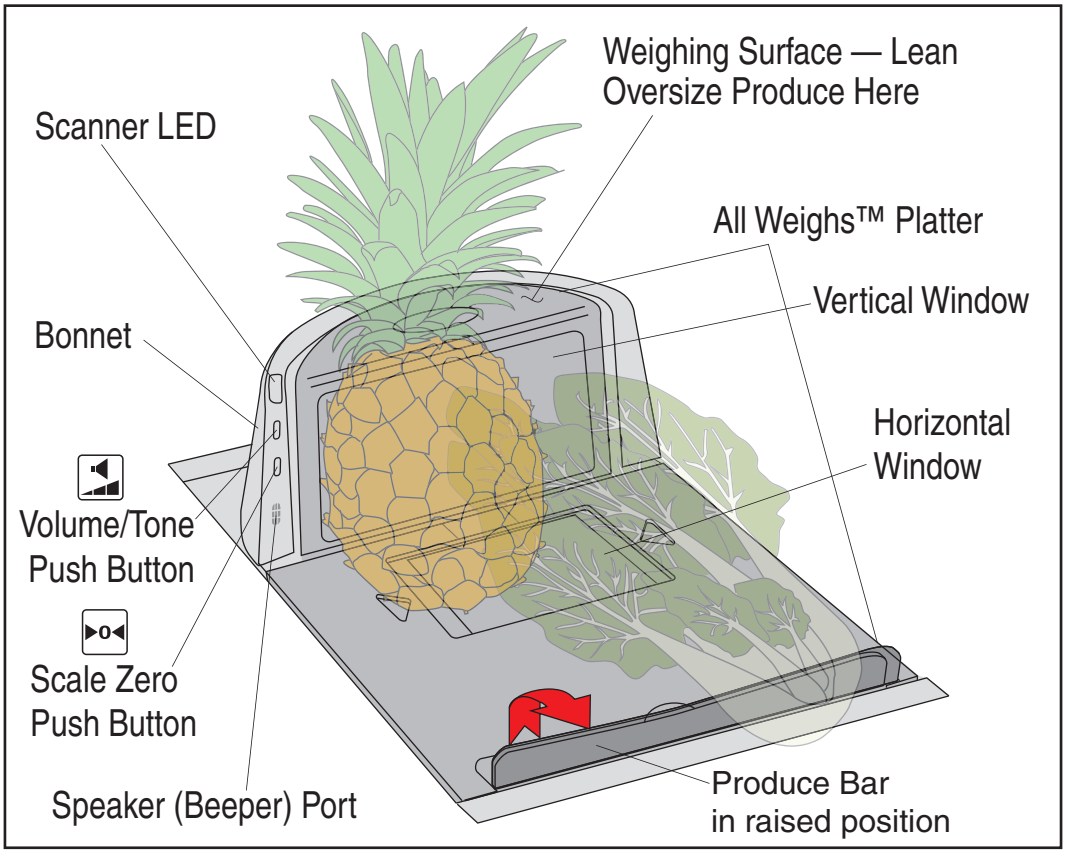
Telephone Technical Support

If you do not have internet or email access, you may contact Datalogic technical support at (541) 349-8281.

Scanner and Scanner/Scale Nomenclature

Controls, indicators and other nomenclature are shown in Figure 1-1.

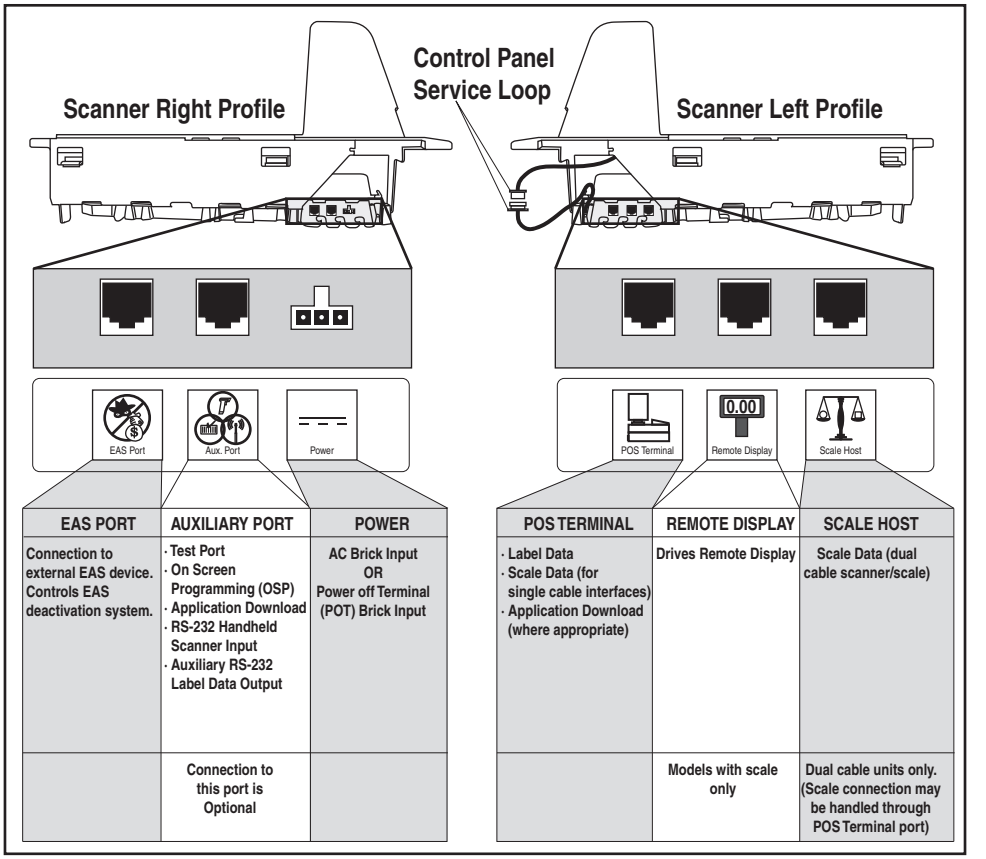
Figure 1-1. Scanner/Scale Nomenclature



Connections

Two connector panels are located on either side of the scanner as shown in Figure 1-2. The appearance of these panels will vary depending upon the factory options purchased with your model. Additionally, a service "pig-tail" extends from the scanner's base to connect the control panel cable from the Bonnet area.

Figure 1-2. Connectors



Physical Parameters

This chapter provides specifications for performance, environmental and electrical parameters. Reference Chapter 2, Site Preparation and Installation, for physical measurements of all models and some accessories.

Scanning

The scanner has a scan zone between the two windows where the scanner projects laser light in order to scan items. Two separate projections, one from the horizontal window and one from the vertical window, combine to form a zone where bar code labels are read. Refer to Chapter 3, Scanning Items, for more information.

Deactivating EAS Labels

Deactivation of EAS (Electronic Article Surveillance) anti-theft labels is an additional function that can be performed by the scanner. More information about this feature can be referenced under the following topics:

- Chapter 3, Deactivating Security Labels
- Chapter 6, EAS Features

Weighing

Specifications for scale capacity, settling time, minimum and maximum static weight, zeroing, and warm-up time are given below. For more information regarding the topic: Proper Weighing Technique, refer to Chapter 3, Operation and Maintenance in this manual.

Rated Weight Capacity

The scale's operational weight capacity is:

- 30.00 pounds, displayed in 0.01 increments
  OR
- 15.000 kilograms, displayed in 0.005 increments.

Minimum Increment

The minimum weight that can be accurately measured by the scale is 0.01 lb. (0.005 kg).

Maximum Static Weight (Overload)

A maximum static weight of 150 pounds (68 kg) can be sustained by the scale without incurring damage or degrading performance.

Automatic Zero Maintenance

The scale's software constantly monitors and adjusts the Zero point as long as the deviation is within acceptable limits, while compensating for any debris accumulation or removal. During power-up, the scale automatically re-zeros after verifying that all subsystems are functional. Additionally, the scale may be manually "zeroed" by pushing the Scale Zero Push Button located at the bottom of the control panel.

Warm-Up Time

There are two pertinent warm-up times that apply to the scanner or scanner/scale:

NOTE

The two warm-up periods can be performed concurrently, thereby reducing the total required warm-up time to 60 minutes.

Thermal Equilibrium

When the unit is moved from a cooler temperature (such as a storage area) to a warmer environment (such as a checkstand location), 60 minutes must be allowed to acclimate the unit to ambient conditions prior to calibration or operation.

Power-up

Once installed and powered up, a warm-up time of 15 minutes must be allowed before calibrating or performing weighing operations.

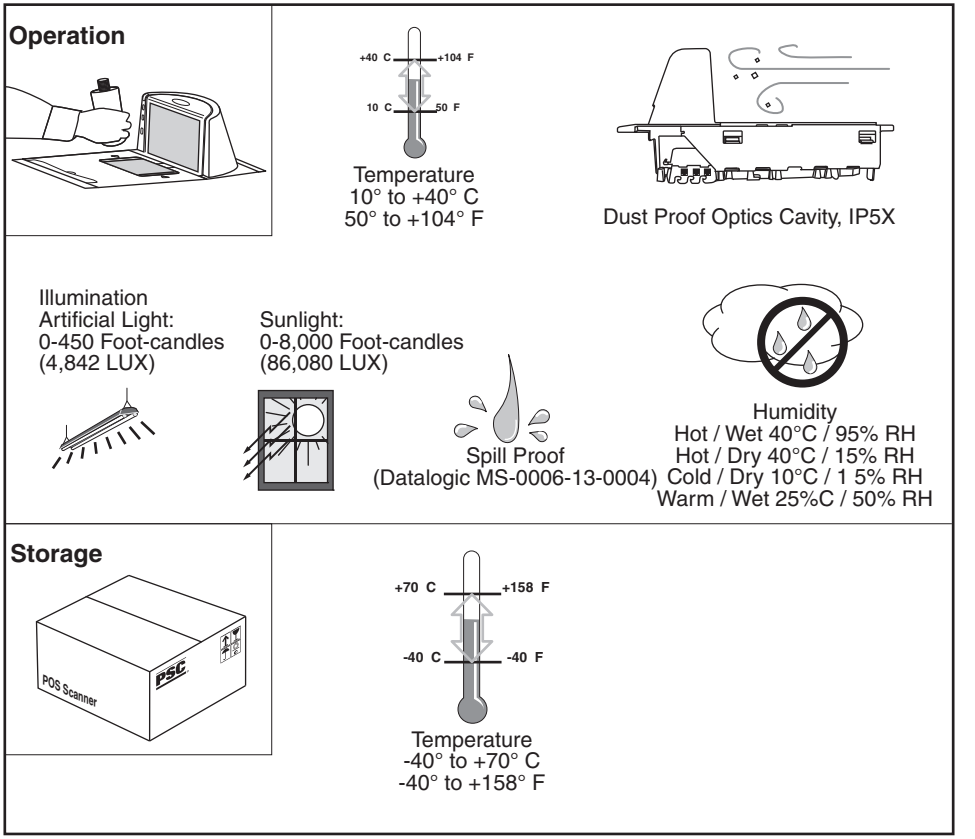
User Configurable Warm-up

The user may configure the unit for a pre-programmed warm-up time that is activated every time the scanner is powered up. During this time, the scale is viewed by the POS terminal as off-line.

NOTE

Contact Technical Support to learn more about this advanced programmable feature.

Figure 1-3. Environmental Specifications



Electrical Specifications

Before installation, always verify that the site's electrical service meets the scanner/scale's requirements. The scanner has been engineered for compatibility with most international electrical systems operating in ranges from 100 to 240VAC at 50-60 Hz. Verify that the power source will supply "clean" electrical power to the equipment; that is, it must be free of excess electrical noise.

Power Supply

Power Off the Terminal (P.O.T)

Certain units can receive power directly from the terminal (P.O.T.). A USB adapter "brick" connects the scanner to IBM-USB 12V ports.

NOTE

Power supplied from the terminal does not include auxiliary power for alternative scales.

AC Adapter

Units which do not receive power directly from the terminal will use either a Listed Class 2 or Listed LPS power source which supplies power directly to the unit. When using such an AC Adapter, make sure to connect using the correct IEC power cord for unique and international power connections. If the cord will not plug into your AC power receptacle, the power cord shipped is not compatible with your electrical system. Please contact your distributor immediately to receive the necessary information and components to ensure electrical compatibility.

VOLTAGE	FREQUENCY	PART NUMBER
100-240VAC ±10%	50-60 Hz	8-0858

CAUTION

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

NOTE

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

Laser and Product Safety

Laser safety requirements are based on IEC Standard Publication 60825-1 (2001) and CDRH 21CFR, Chapter 1, Subchapter J and (CDRH) Laser Product Performance Standard, User information [1040.10(h)1]:

- User Maintenance. No user maintenance of the laser system other than cleaning of the scan windows is required.
- Radiant Energy. The scanner is an IEC Class 1 and CDRH IIa laser product. The system uses two embedded Class 3A Visible Laser Diodes (VLDs) operating at 650.0 or 670.0 nm, in an opto-mechanical scanner, resulting in less than 3.9µW radiated power as observed through a 7mm aperture and averaged over 10 seconds. Maximum emitted peak output power at the lower (sealed) window is 850µW. No attempt should be made by the user to remove the protective housing of the scanner/scale.
- Laser Light Viewing. The horizontal and vertical scan windows are the only apertures through which laser light may be observed in this product.

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

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

CAUTION

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

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

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

Safety precautions to be taken:

CAUTION

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

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

WARNING

This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- **Reorient or relocate the receiving antenna.**
- **Increase the separation between the equipment and receiver.**
- **Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.**
- **Consult the dealer or an experienced radio or television technician for help.**

Canadian Notice

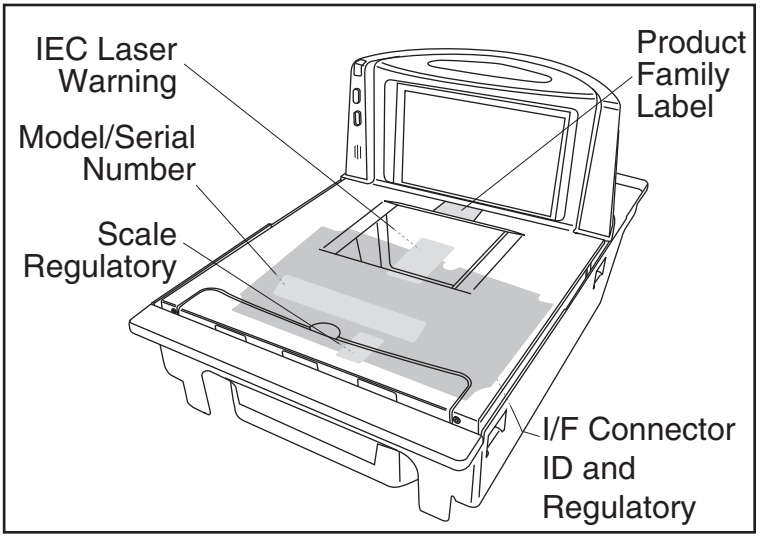
This equipment does not exceed the Class B limits for radio noise emissions as described in the Radio Interference Regulations of the Canadian Department of Communications.

Le present appareil numerique n'emet pas de bruits radioelectriques depassant les limites applicables aux appareils numeriques de la classe B prescrites dans le Reglement sur le brouillage radioelectrique edicte par le ministere des Communications du Canada.

Labeling

Regulatory, reference and safety labeling is shown in Figure 1-4.

Figure 1-4. Labeling



Agency Compliances

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

COUNTRY	COMPLIANCE	COMMENTS
Electrical		
United States	UL 60950	
State of California	Energy Efficiency Standard	
Canada	CAN/CSA 60950	
Europe	TÜV EN 60950	
Mexico	NOM	
Korea	K-Mark	
Argentina	IRAM	
Taiwan	BSMI	
China	CCC	
Japan	PSE	
Australia/New Zealand	AS/NZ 60950	
Emisions		
United States	47CFR Part 15J	FCC Class B
Canada	ICES-0003	Class B
Europe	EN 55022	Class B
Australia/New Zealand	AS/NZS 3548	
Japan	VCCI	Class B
Taiwan	CNS 13438 BSMI	
Korea	Mic Mark	

COUNTRY	COMPLIANCE	COMMENTS
ROW	CISPR 22	Class B
Laser Safety		
United States	CDRH, 21CFR Part 1040	CDRH Class IIa laser device
Europe	IEC 825 EN60 825	Class 1 Class 1
Weights & Measures		
United States	NIST Handbook 44	(Dept. of Commerce)
Canada	Measures Canada	
Argentina		
Australia/New Zealand		
Brazil		
EC Countries		
Mexico	NOM	
Puerto Rico		
Singapore		
Jamaica		
ROW	OIML R76	
Russia		

Contact Datalogic® Product Marketing at (541) 683-5700, or your Datalogic representative for a complete listing of approvals for other countries.

Bar Codes Supported

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

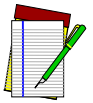
Retail Codes

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

Industrial Codes

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

Dual Bar Codes for Japan (2 label read)



NOTE

The following qualifications apply to Dual Bar Codes for Japan:

- Two label combined transmission
- Two label global midamble (see Chapter 6, Programming, for more details)
- Two label flag is set by selecting any 4 digits as the flag

Chapter 2

Site Preparation and Installation

This chapter provides a reference for preparing most checkstands to receive the scanner or scanner/scale. Included are physical parameters and instructions for checkstand preparation, power and ventilation considerations, cable routing information and unit installation.

Site Preparation lists all procedures necessary to prepare the checkstand. The instructions that follow, titled Checkstand Preparation, detail steps for the scanner only and scanner/scale variations that are available (shown in Figure 2-1) to facilitate easy installation into almost any checkstand application around the world.

Once the procedures in this chapter are complete, the scanner is ready for scanning operation[1]; with the exception that if a scanner/scale was installed, calibration will be required before placing the unit into operation. You must consult the local weights and measures authority to ensure that all legal requirements are met concerning calibration and certification. Chapter 5, Calibration, contains detailed procedures for calibrating the scale in either pounds or kilograms.

1. Electronic Article Surveillance (EAS) operation requires the installation of an aftermarket purchased EAS system..

Models

Scanner and scanner/scale models (reference Figure 2-1) are available in different lengths, allowing them to fit with little or no modification into openings cut for previously installed scanners such as Datalogic® Magellan® scanners, or NCR® scanner models 7820/24 and 7870. Other models are designed for applications with smaller footprint requirements.

Figure 2-1 provides simplified illustrations of short, medium and long models. The appearance of your unit may vary. Scanner/scale models also offer an option for a raised Produce Rail, or a flip-up Produce Bar as shown in Figure 2-3.

Figure 2-1. Model Examples

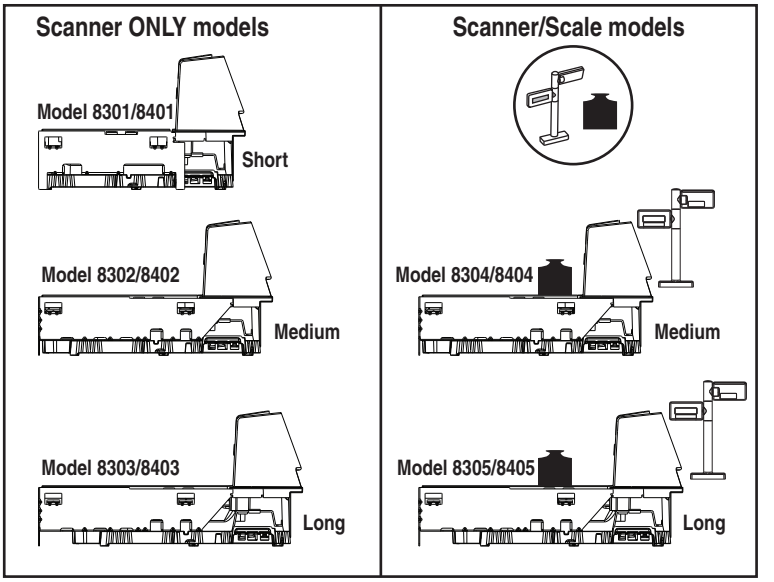


Figure 2-2. Flanged and Shelf Model Examples

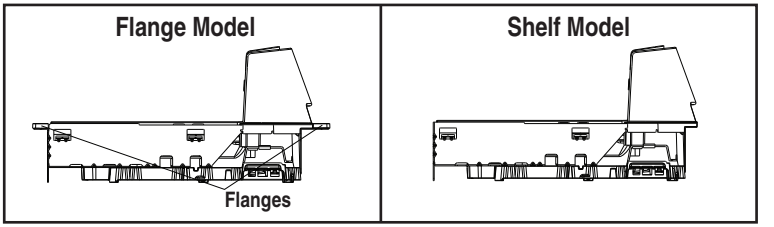
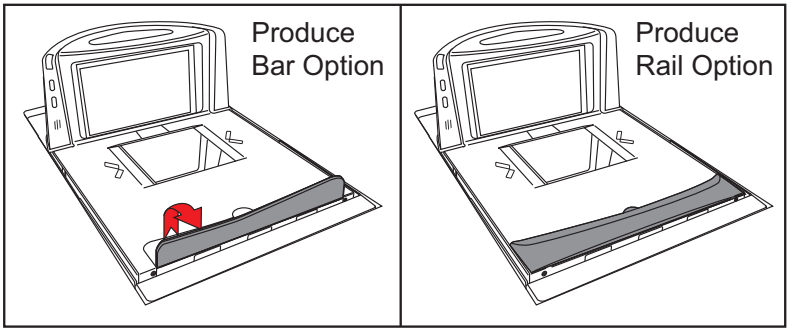


Figure 2-3. Produce Bar and Produce Rail



Pre-Installation Considerations

It should be noted that the scope of this manual does not encompass all factors related to worker safety and checkstand design. It does, however, offer a list of considerations that may be helpful in ensuring greater safety and productivity. Careful planning using these general guidelines should result in a more efficient, comfortable work environment.

The U.S. Bureau of Labor Statistics reports that the incidence of repetitive motion injuries has increased dramatically in recent years. Checkstand design and scanner installation and operation procedures can reduce the risk of repetitive motion injuries, but not eliminate it.

Although there are currently no formal guidelines for checkstand ergonomics, the Food Marketing Institute (FMI) and the National Institute of Occupational Safety (NIOSH) of the Department of Health and Human Services have released the reports listed at the end of these recommendations. These reports contain useful suggestions for ergonomic improvement of checkstand designs and scanner installation, maintenance and usage. Portions of the reports are summarized below. For copies of the complete reports, or to inquire about any modifications to the recommendations, contact FMI and NIOSH at the addresses listed at the end of these recommendations.

Checkstand Design

1. Select a design which allows load-sharing by several muscle groups (for example designs which allow the cashier to use both hands for scanning and bagging).
2. Select checkstands which deliver products to the cashier on an input belt and do not require the unloading of items from a cart. These designs put less stress on the cashiers' shoulders and back.
3. Minimize the distance between the input and take-away conveyors (i.e., the distance the cashier has to reach to move the products).
4. Minimize the width of the input conveyor to reduce the cashier's reach to items on the far side of the belt; use a diverter to direct products closer to the cashier.
5. Select a design which encourages the cashier to slide products across the scanner rather than gripping and lifting. Make sure the horizontal surface of the scanner is flush with all surrounding surfaces.
6. Choose a design which integrates the scanner and scale to eliminate extended reaches and lifts during weighing tasks.
7. Provide an easily accessible bag stand at a height 13 - 17 inches (33 - 43.2 cm) lower than the top surface of the checkstand to reduce stresses to the shoulders, elbows, and risks associated with lifting products into bags.
8. Do not position the bag stand between the cashier and the scanner, due to the increased reach involved.
9. Position the scanner's horizontal scanning surface 34 - 36 inches (86.4 - 91.4 cm) above the floor. Maintain a minimum of five inches (12.7 cm) clearance between elbows and work surfaces.
10. Provide adjustable keyboard mounting (height, tilt, and horizontal reach).
11. Position the printer, cash drawer, and other checkstand devices the cashier uses within easy reach (less than 18 inches/45.7 cm).
12. Provide adequate toe space, foot rests or rails, antifatigue mats, and where feasible, an adjustable seat or stand against which the cashiers can lean.

Scanner Installation

1. Mount the horizontal surface of the scanner flush with the counter-top to encourage slide scanning rather than lifting.
2. Position the centerline of the scanner read area 8 - 10 inches (20.3 - 25.4 cm) from the edge of the checkstand (cashier side).

Scanner Maintenance

1. Keep scanner windows clean. This will improve productivity and reduce rescans.
2. Replace scanner glass when excessive scratches are evident.

References

Anonymous, 1992, “Ergonomic Improvement of Scanning Checkstand Designs”,
Food Marketing Institute
800 Connecticut Ave. N.W.
Washington, D.C. 20006

Grant, Katharyn A. et al., 1992, “Ergonomic Evaluation of Checkstand Designs in the Retail Food Industry”,
National Institute of Occupational Safety and Health
4676 Columbia Parkway
Cincinnati, Ohio 45226

Scanner Usage

1. Minimize handling of heavy/bulky products. Leave these items in the cart and use an alternative entry method such as key entry of short PLUs, or handheld scanning.
2. Regularly train cashiers in proper scanning methods and ergonomics principles, such as:

- Develop a smooth fluid motion during scanning, sharing work equally between hands.
- Use the entire hand for grasping and lifting items.
- Since the scanner reads labels on all four sides plus the top and bottom, there is no need to turn a bar code toward either of the scanner windows.
- Develop efficient scanning motions, not necessarily faster hand movements. Simply slide the item across the scanner's horizontal window with as little orientation motion as necessary.
- Leave items in an upright position; do not lift and tilt.
- Learn how the scanner functions and where the scanning area is located.
- Do not favor either the vertical or horizontal window; slide items across the scanner in their natural orientations on the checkstand as much as possible.

Site Preparation Overview

Consider the following factors before installing the scanner or scanner/scale and its optional Remote Scale Display.

Ventilation Requirements — The scanner operates without the use of a ventilation fan. As long as there is adequate convective air flow and no major heat producing equipment in close proximity, the unit's housing provides adequate heat dissipation. The air temperature in the checkstand around the scanner must not exceed 104°F (40°C).

Service Access Requirements — Routine operations such as 'zeroing' and calibration do not require removal of the scanner from the checkstand or disassembly of the product. The installer should plan service access for the AC/DC Power Supply and cables.

Recommended Power Installation — Since the typical grocery environment includes conveyor belts and electric motors, care should be taken to ensure that the scanner has a supply of "clean" power (power without excessive electrical noise). A wiring diagram shows the recommended wiring that will provide the scanner with a "clean" source of power. Refer to Figure 2-6.

Counter Preparation — Since the majority of grocery checkout lanes are designed as "left-hand take away," the counter drawings in this chapter focus on this counter design. Simply reverse the layout for a "right-hand take away" requirement. The unit scans equally well in either of these two configurations.

Liquid Drainage — Should a liquid spill occur, ensure that moisture can flow through the checkstand without pooling.

Leveling — Plan ahead and provide screws/bolts in the checkstand mounts and a leveling guide (board) to allow leveling of the scanner or scanner/scale within the counter. Use a 0.375" thick board to replicate the mounting flange on the long scanner or scanner/scale, and adjust screws or bolts until the board is flush within the counter. Use a 4.0" wide board stood on its end to adjust leveling screws/bolts in rail support applications.

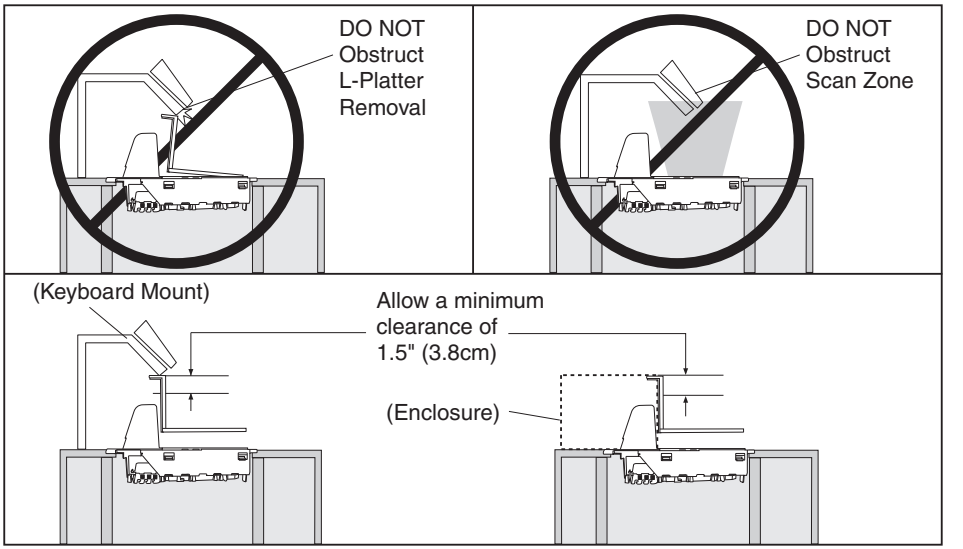
Cable Routing — Placement of the scanner/scale should be planned to allow easy access to other components as well as optimize communication between the scanner, the POS terminal, the optional Remote Scale Display and any EAS peripheral equipment. Do not route interface cables near any electrical motors or other sources of electromagnetic interference.

Remote Scale Display Placement — The customer, and checker in some instances, must be able to easily view and read the Remote Scale Display. Ambient light and mounting height considerations are discussed later in this chapter.

Vertical Clearance — Provision must be made to allow adequate space above the scanner bonnet for removal and replacement of an L-shaped platter. Optimal clearance permits the platter to be grasped at its top vertical edge and lifted for removal without obstruction (such as a fixed keyboard mount or any type of enclosure). Should such an enclosure be

unavoidable, an alternate method of platter removal using two coins may be employed, however a minimum vertical clearance of 1.5” (3.8 cm) MUST be provided (reference Figure 2-4). Another consideration is that the scan zone must be kept free of obstructions such as enclosures, keyboard mounts, etc.

Figure 2-4. Vertical Clearance



Ventilation and Spacing

The scanner/scale’s perimeter housing has been designed to provide adequate space for convective cooling and unrestricted movement of the weighing apparatus. Figure 2-5 shows the debris chutes and ventilation slots. The checkstand design must allow:

- The ambient air temperature inside the checkstand adjacent to the scanner must not exceed 104°F (40°C).

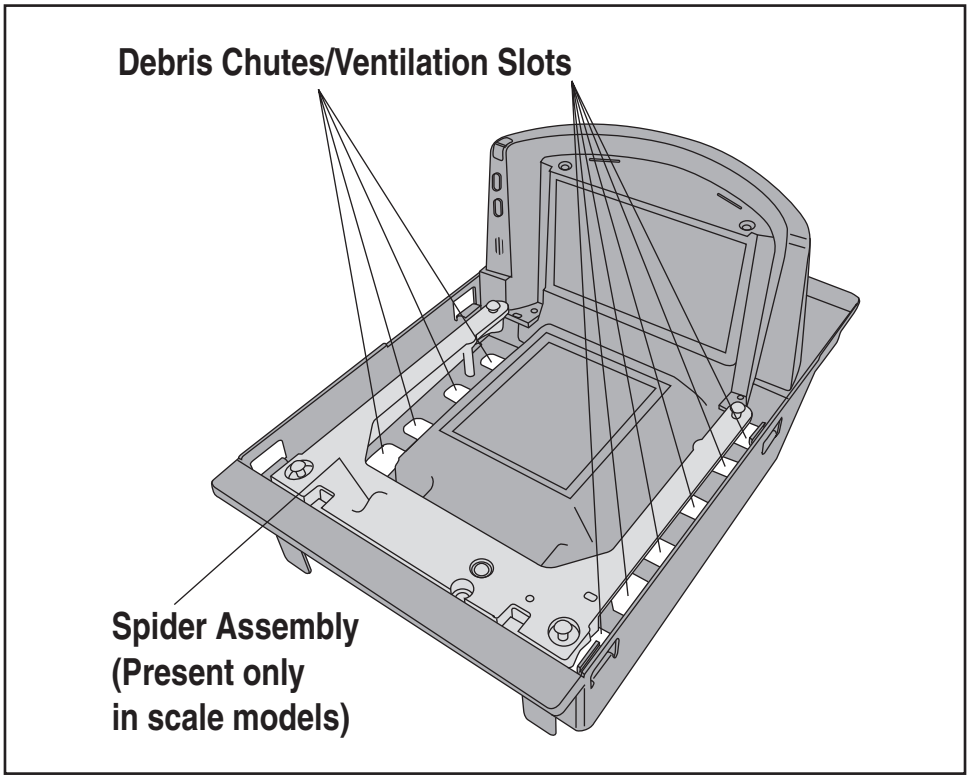
- A source of air that provides adequate cooling by convective air flow.

NOTE

DO NOT place the scanner in a close-fitting, fully enclosed checkstand. Provide a MINIMUM of 16 square inches (103.2 square centimeters) of air intake from below the installation for sufficient convective cooling.

If motors, conveyor belts, or other heat producing equipment are located near the scanner, forced air ventilation may be required. In most installations, a 30 cfm (.84 cmm) axial fan should provide sufficient air movement. If a ventilation fan is installed, one with a removable filter that may be washed or replaced is recommended.

Figure 2-5. Debris Chutes & Ventilation Slots



Service Access

The scanner and scanner/scale have been engineered to allow performance of all routine service and maintenance (such as “zeroing” and calibration) without removing the scanner from the checkstand. Additionally all cable connections made at the scanner can be connected and removed while the unit is sitting on the countertop. The installer should provide service access to all remaining cable connectors as well as the AC/DC Power Supply (if installed).

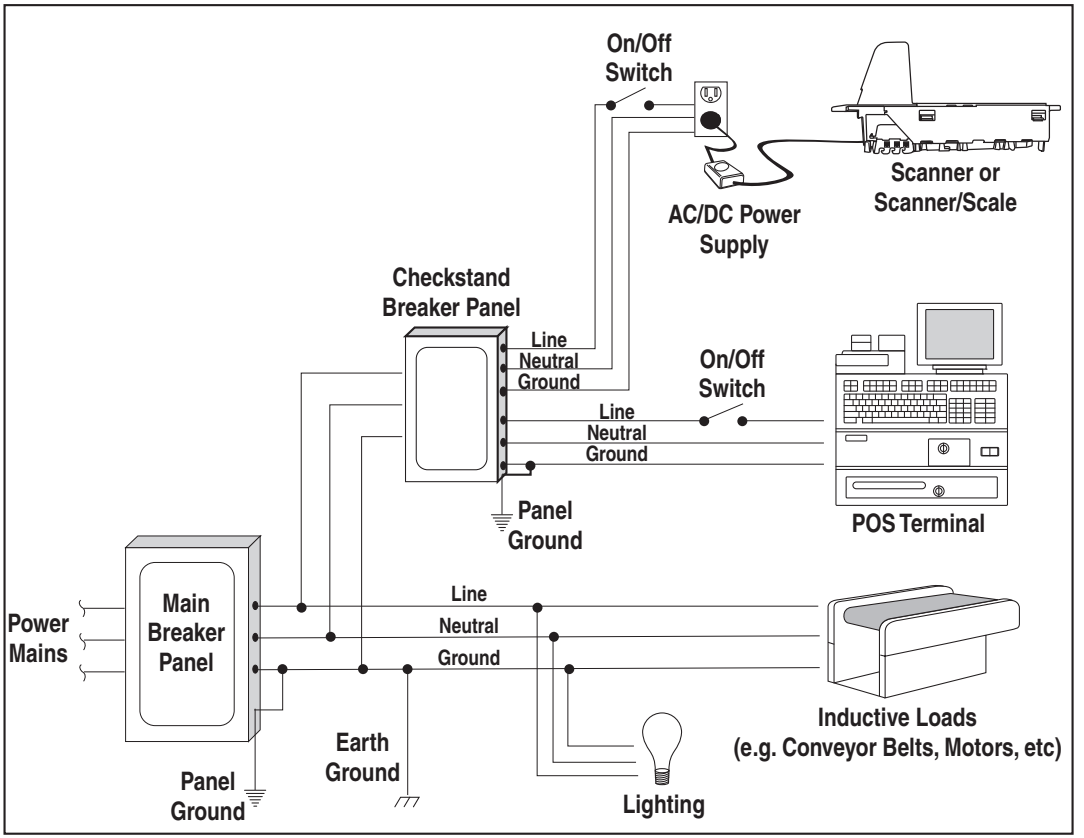
Power Installation

Reference the wiring diagram in Figure 2-6 for the recommended fusing arrangement.

Grounding

The AC/DC Power Supply should have an AC outlet with a clean earth ground. If you are not sure how to verify the amount of electrical noise (interference) on the power line, ask a qualified electrician to measure the input line voltage.

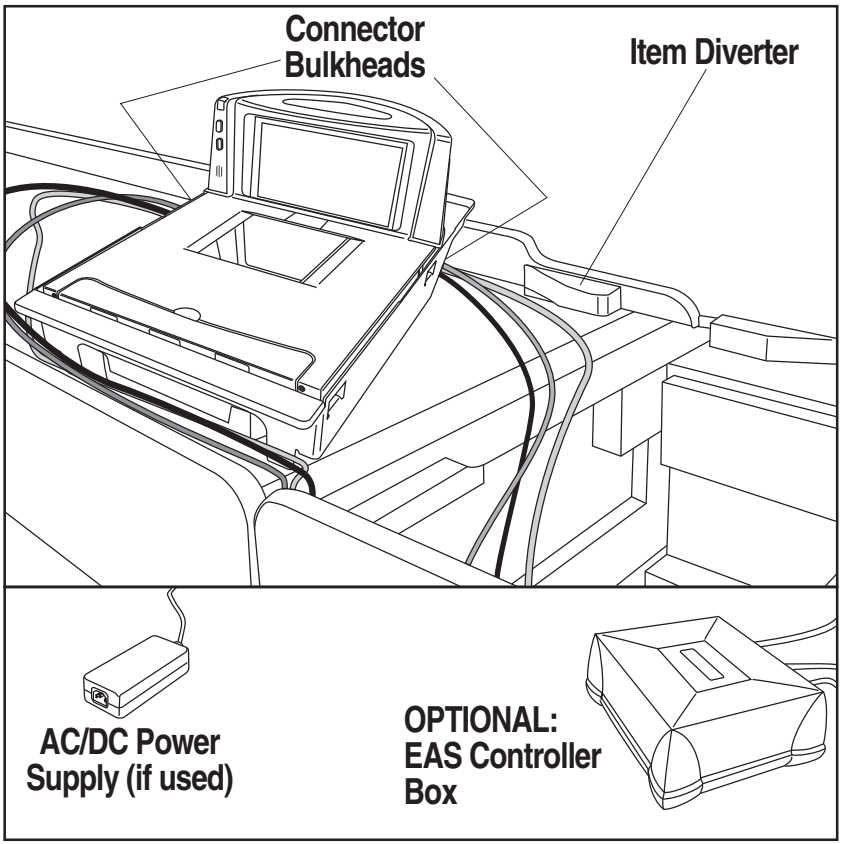
Figure 2-6. Input Power Wiring



Checkstand Preparation

Reference Figure 2-7. When performing a first time installation into a new checkstand, verify before cutting that room will be allowed for cabling, the AC/DC Power Supply, and any EAS peripheral equipment (such as controller boxes, etc.). When making the opening, take extra care to accurately cut to the correct dimensions. Mounting may require installation of support(s), countertop routing, or other such devices. Depending upon checkstand design, you may wish to install an item diverter to direct items toward the scan window. See the instructions in this manual titled "Counter Cutout" for more details concerning the location and preparation of the opening.

Figure 2-7. Installation Overview



Liquid Spills and Moisture

Select a checkstand design which allows fluids to flow through, and directs liquids away from any electronic equipment or storage areas.

Counter Cutout

The most important consideration when planning the counter opening for the scanner is the operator's comfortable reaching distance. The ideal, ergonomically sound installation allows items to be directed within easy reach, and a scanning area requiring no lifting or special orientation of items. If you haven't already read the information at the beginning of this chapter titled, Pre-Installation Considerations, please do so before continuing these instructions.

The symmetrical design of the scanner permits the operator to easily pass items from one hand to the other while scanning (either from right-to-left or left-to-right). With the unique 360- scan zone, scanning is accomplished in one fluid motion. The operator simply slides the item from the conveyor belt or diverter area through the scanning area and passes the item to the other hand, which in turn bags it or places it on a take-away conveyor belt. Movement should flow naturally over the surface of the scanner.

Note that the following guidelines for preparing an existing checkstand to accept a scanner, or incorporating the unit into a new checkstand design will not be accurate for all installations. Although these guidelines will suffice for most standard installations, the installer may need to make adjustments for varying counter heights and thicknesses, support design, or other checkstand limitations.

Figure 2-8 shows a typical "left-hand-take-away" checkstand design.

Follow these basic steps to install the unit:

1. Select a position for the scanner that offers a smooth product flow which best accommodates the reaching distance of the average operator.
2. Cut the opening in the countertop. Reference Table 2-1 to find the cut-out dimensions for your model. Flange and shelf mount dimensions are provided for your convenience.

3. Install the AC/DC Power Supply, the Remote Scale Display cable (if Remote Display is used) and the interface cable(s) observing the following:

   Interface cables (and display cable, if applicable) should be routed away from all highly inductive electrical devices, like motors and conveyor belts, and even away from the unit's power cable if possible.

   Cables should be easy to remove in the event that replacement is required. A little planning now will save a lot of frustration later.

4. Connect and verify all system operations.

The scanner should be installed so that leading and trailing edges of the L -Platter are flush with the countertop to enhance smooth, slide-through scanning (reference the insert in Figure 2-8). Keep in mind that the debris chutes on both sides of the platter provide the necessary clearance for proper scale operation if you are installing a scanner/scale (you won't need to provide an additional gap for that).

Table 2-1. Cut-Out Dimension References

MODEL(s)	TYPE	FLANGE/SHELF OPTION	DIMENSIONAL REFERENCE
8301/8401	Short Scanner	Shelf	Figure 2-9
8302/8304 8402/8404	Medium Scanner or Scanner/Scale	Shelf	Figure 2-11
8302/8304 8402/8404	Medium Scanner or Scanner/Scale	Flange	Figure 2-13
8303/8305 8403/8405	Long Scanner or Scanner/Scale	Shelf	Figure 2-15
8303/8305 8403/8405	Long Scanner or Scanner/Scale	Flange	Figure 2-17

Figure 2-8. Typical Checkstand Design & Cutout Location

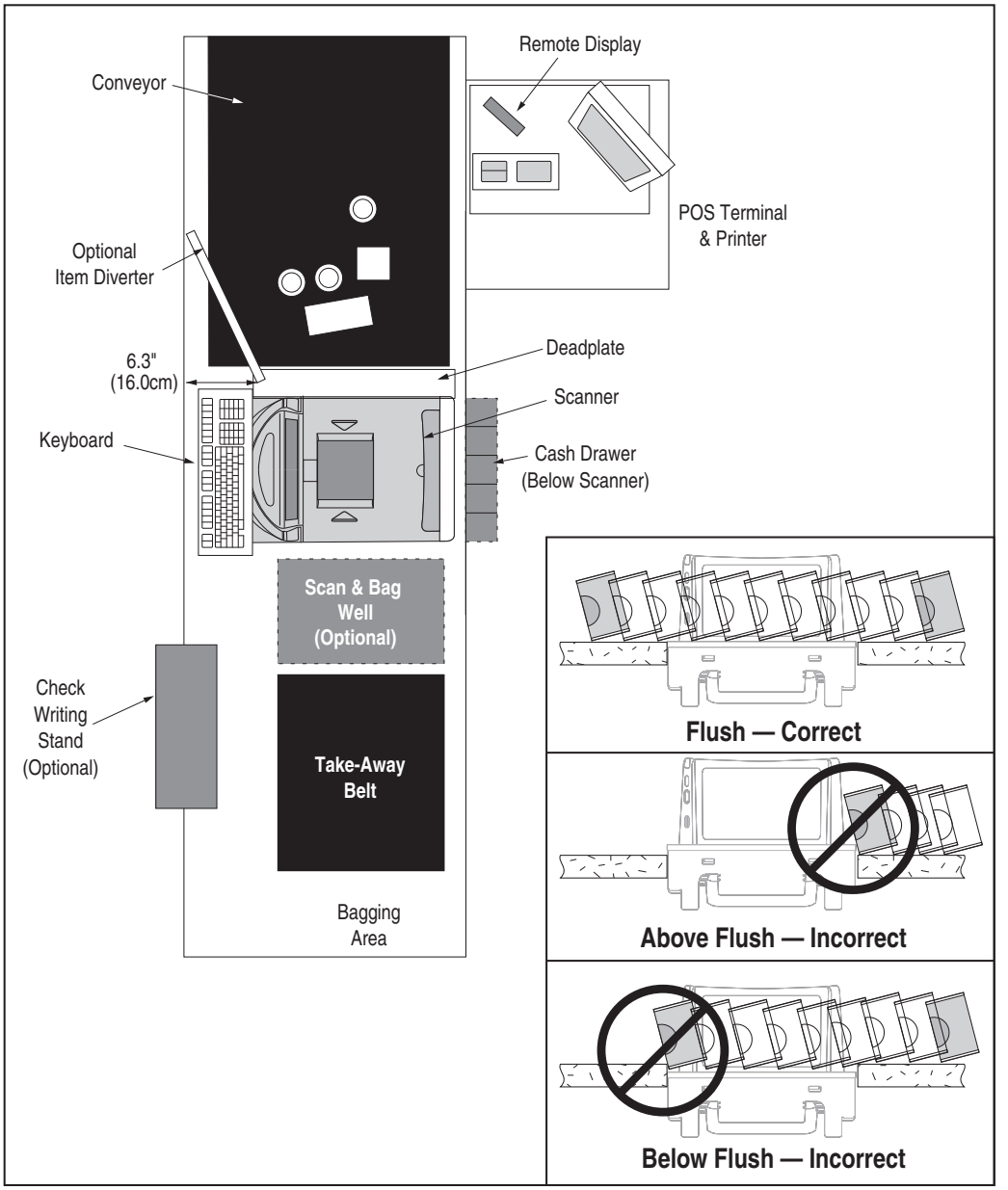


Figure 2-9. Short Shelf Model 8301/8401 Cutout Dimensions

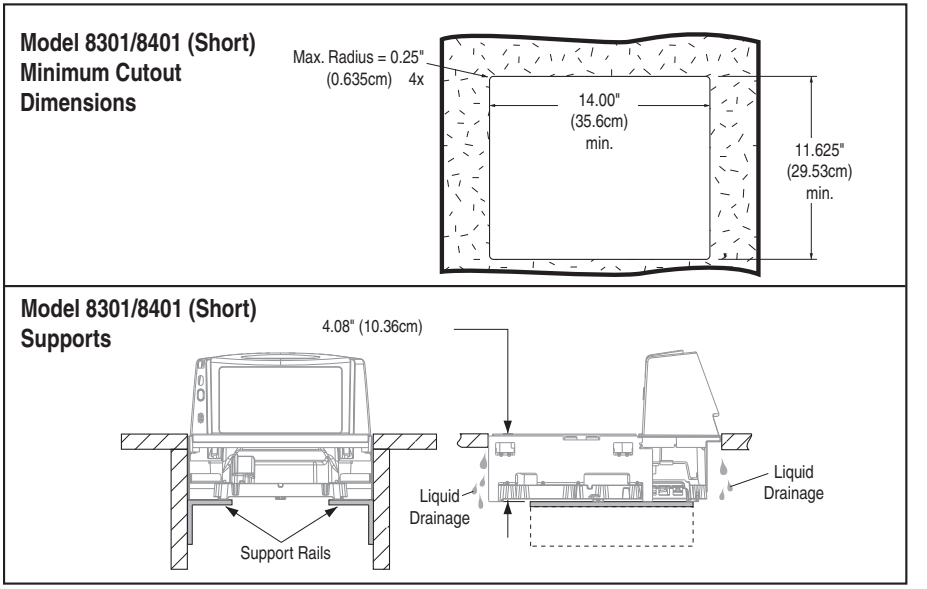


Figure 2-10. Short Shelf Model 8301/8401 Scanner Reference Dimensions

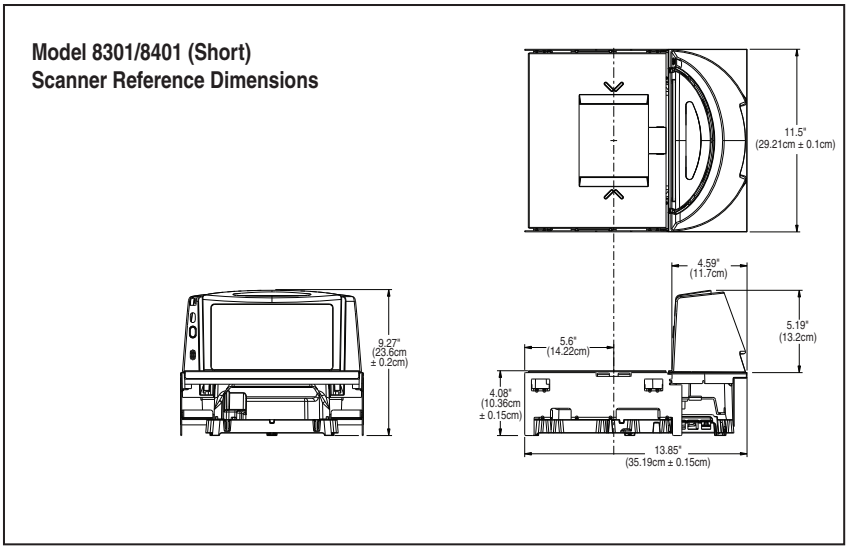


Figure 2-11. Medium Shelf Models 8302/8304/8402/8404 Cutout Dimensions

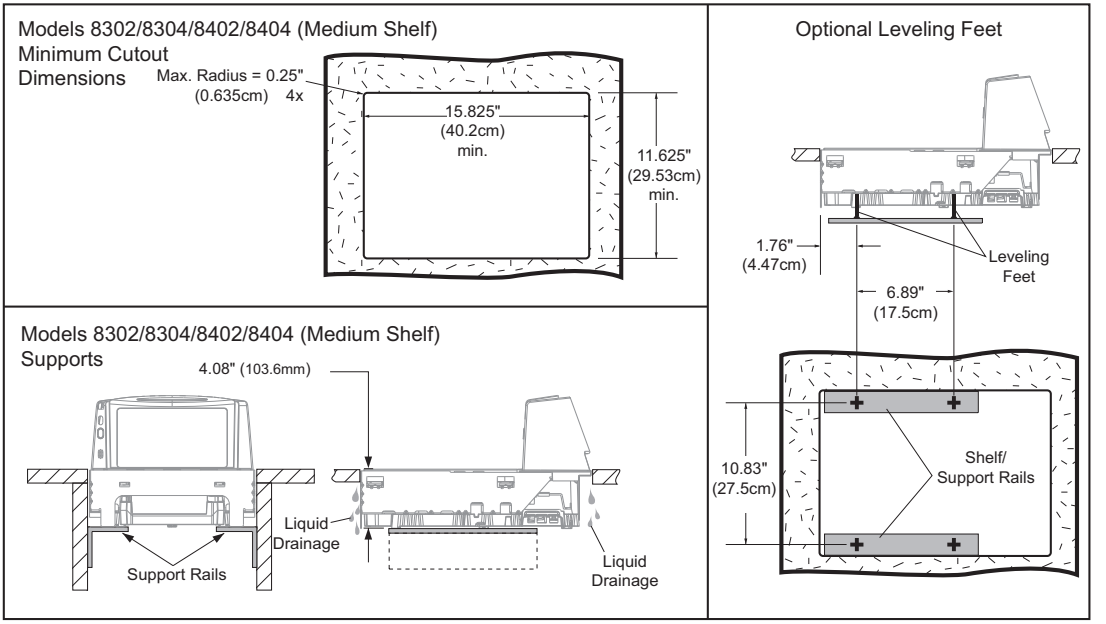


Figure 2-12. Medium Shelf Models 8302/8304/8402/8404 Scanner Reference Dimensions

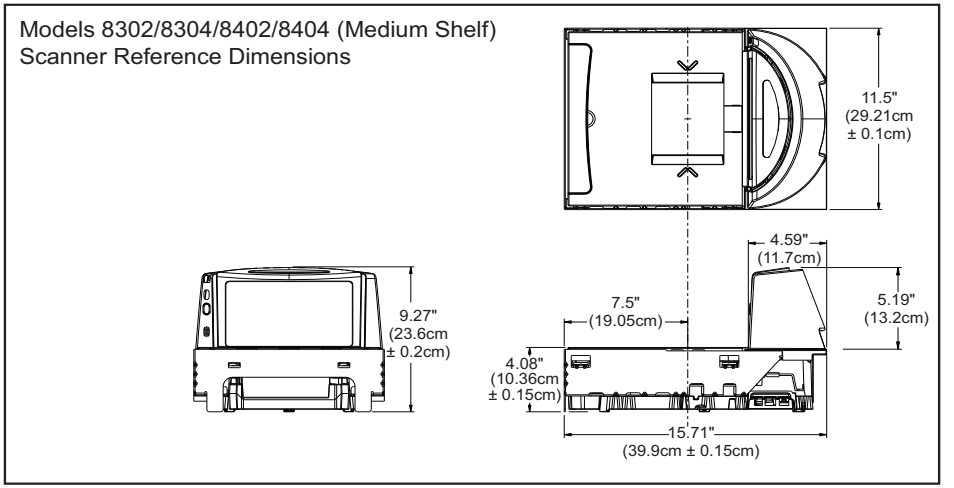


Figure 2-13. Medium Flanged Models 8302/8304/8402/8404 Cutout Dimensions

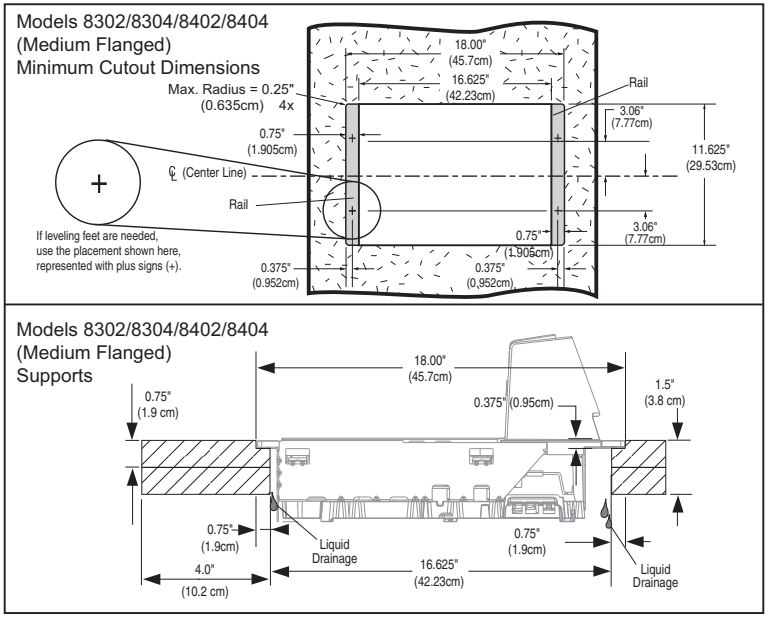


Figure 2-14. Medium Flanged Models 8302/8304/8402/8404 Scanner Reference Dimensions

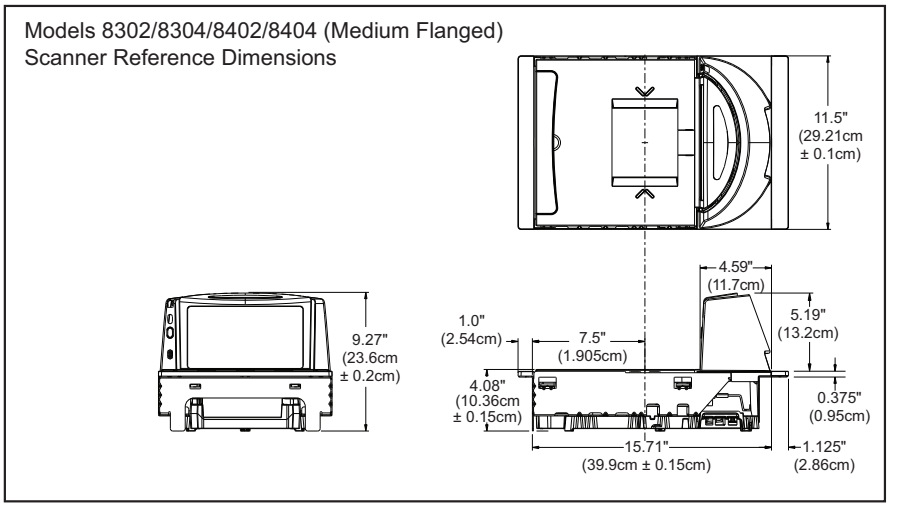


Figure 2-15. Long Shelf Models 8303/8305/8403/8405 Cutout Dimensions

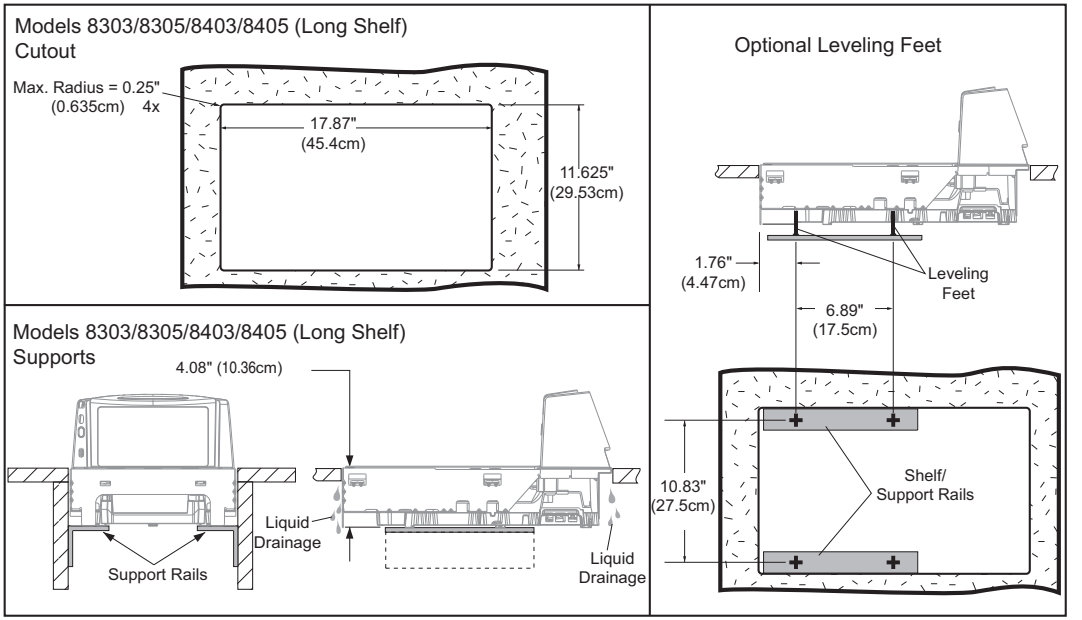


Figure 2-16. Long Shelf Models 8303/8305/8403/8405 Scanner Reference Dimensions

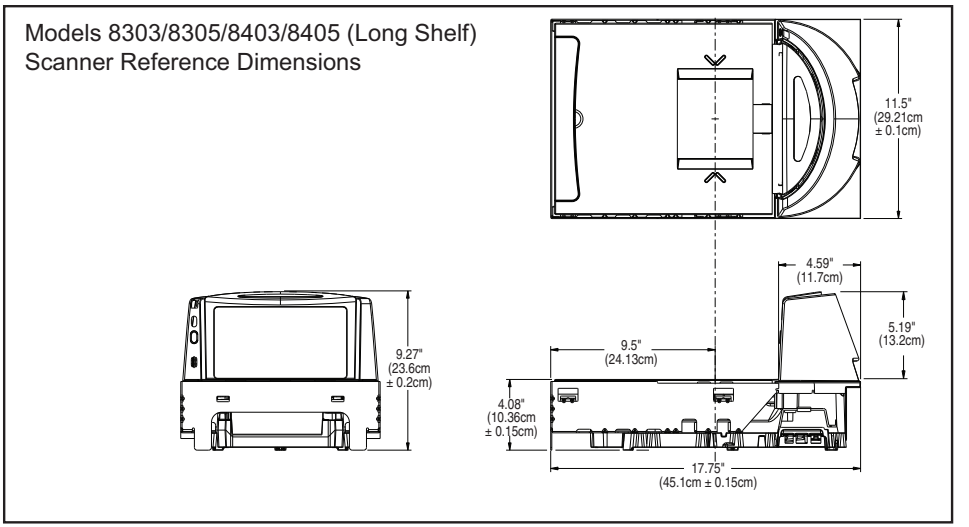


Figure 2-17. Long Flanged Models 8303/8305/8403/8405 Cutout Dimensions

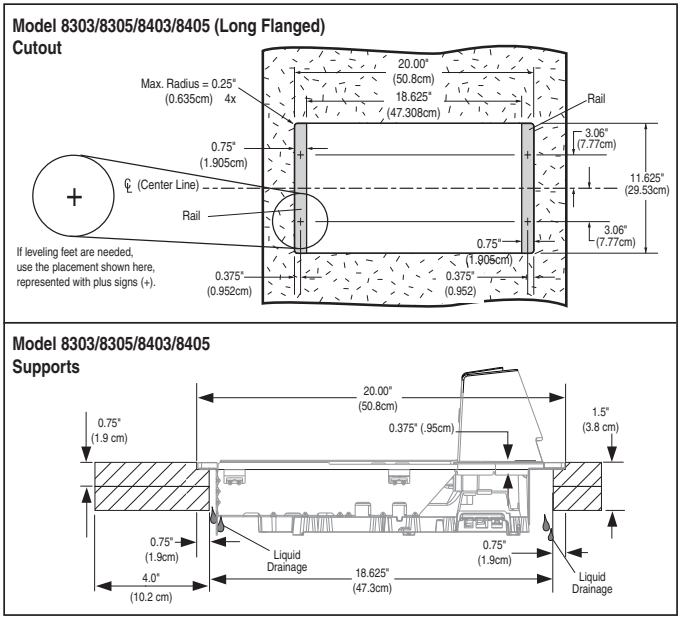
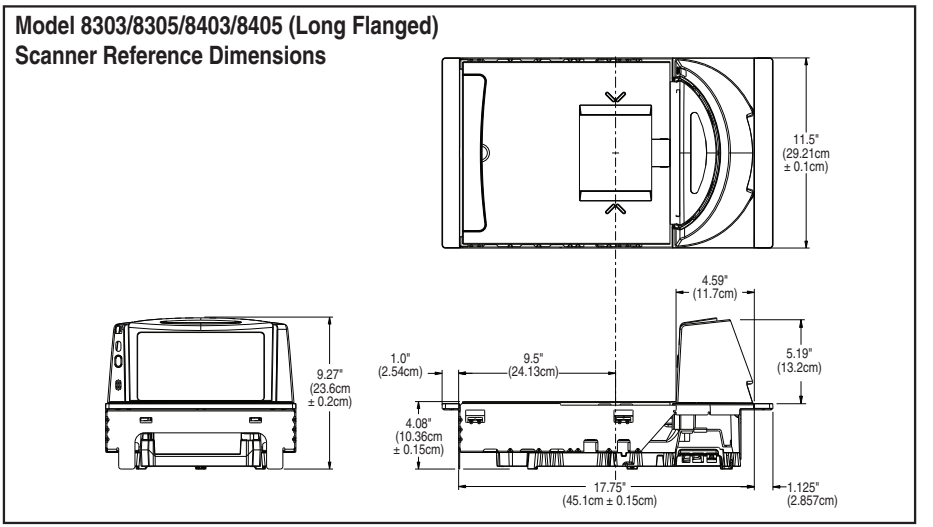


Figure 2-18. Long Flanged Models 8303/8305/8403/8405 Scanner Reference Dimensions



Checkstand Mounting

There are a number of things to take into account when installing the unit into a checkstand. Key factors are ergonomic/worker safety, loading capacity and stability. Consider the scanner or scanner/scale's weight when calculating the robustness of construction needed to support it as well as maximum capacity of weighed and scanned items.

NOTE

If you choose to rout a countertop with a thickness of 0.75" (1.9 cm) plywood, you'll need to add a backing strip that supports the area routed out for the support flanges (see Figure 2-7). This support strip should minimally be made of 0.75" (1.9 cm) thick plywood and be approximately 4.0" (10.2 cm) wide and 14.0" (35.6 cm) long. This strip should be glued as well as screwed to the underside of the countertop.

Checkstand Vibration

Proper function of the scanner/scale is dependent upon an installation which minimizes excess vibration from conveyor belts, fans, and other such equipment. See Chapter 4, Scale Error Reporting, if vibration is suspected of causing operational problems.

Installation Overview

The preceding Site Preparation Overview dealt with installed location and counter preparations to accommodate the scanner or scanner/scale. Having completed those steps, physical installation of the scanner or scanner/scale can begin. The following instructions apply to all models.

This chapter describes:

1. Unpacking the unit.
2. Verifying operation before connecting to a POS system.
3. Routing and connecting cables.
4. Validating that your scanner communication parameters match the POS terminal's system requirements.
5. Confirming connection to the (optional) EAS system.

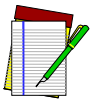
6. Functional testing to verify operation when connected to the POS system.

The following text describes each of these steps.

Unpacking

To unpack the unit:

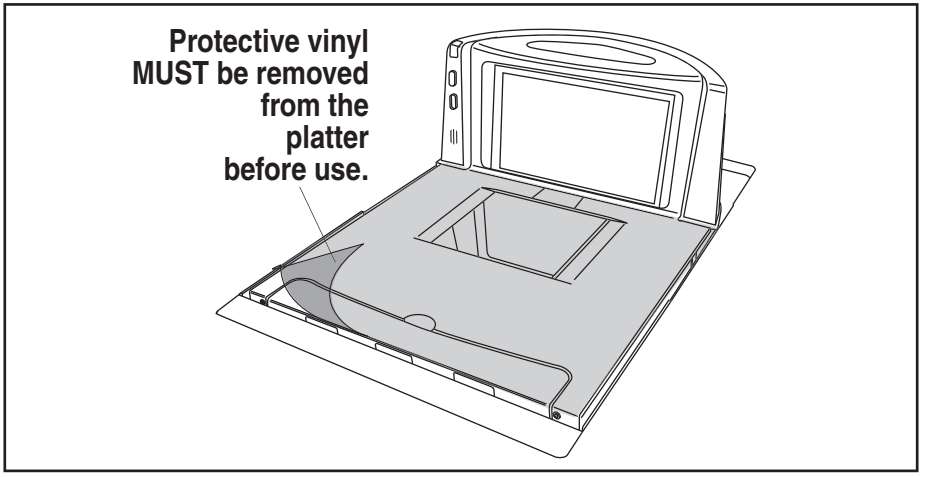
- Inspect the package for signs of damage that may have occurred during shipping. If damage is found, report it to your carrier immediately.
- Lift out the accessory box containing the AC/DC Power Supply, optional Remote Scale Display and cable (if present), and the Quick Reference Guide.
- Remove the Quick Reference Guide and familiarize yourself with the unit's controls and features. Leave the guide at the checkstand when the installation is complete.
- Remove the protective packing and carefully lift the unit from the carton. Be sure to save the box and all packing material. In the event of failure, the unit must be returned to the factory in its original packaging.
- Carefully lift off the L-Platter as shown in Figure 2-27 and remove the protective foam pieces securing the weigh mechanism. Set the platter back in place.



NOTE

For added protection during shipment, the L-Platter is covered with a tight-fitting layer of vinyl as shown in Figure 2-19. This vinyl layer MUST BE REMOVED before placing the unit into service.

Figure 2-19. Remove Protective Vinyl



- Proceed to the Operational Verification instructions below.

Operational Verification

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

1. *EAS units ONLY*: It could be necessary that EAS connections be made previous to power-up. Reference the EAS system manufacturer's instructions for more details.
2. *Scanner/Scale units ONLY*: If the unit is a scanner/scale, connect the Remote Scale Display to the proper connector on the unit's connector panel (refer to Figure 2-23). Note that if the Remote Scale Display is not connected, a scanner power-up Selftest will sound a long, low beep, and the number "8" will appear on the 7-segment display indicating a remote display error. Power-down, connect a known-good Remote Display to the appropriate port, and restart to correct this problem. Alternatively, you can disable the Remote Display using programming bar codes (see Chapter 6, Programming, for more information).
3. Connect the power cable at the scanner, then at the AC outlet.

When power is applied to the unit, the normal indicator sequence is:

- The scanner indicator (top-most, green LED) will be lit (dim) steadily.
- The 7-segment display will flash the number '8'. indicating initialization.
- If the Selftest detects a problem, the 7-segment display will display a number code. Refer to Chapter 4, Problem Isolation, for a description of failure codes and problem isolation procedures.

NOTE

Scale calibration may be necessary to obtain a zero reading on the display on rare occasions.

4. The unit should be permitted to reach thermal equilibrium before proceeding to the next steps. (Reference the topic Warm-Up Time in Chapter 1, Introduction.) When the unit is moved from a cooler temperature (such as a storage area) to a warmer environment (such as a checkstand location), a period of 60 minutes must be allowed to acclimate the unit to ambient conditions. Once installed and powered up, a "power-up" warm-up period of 15 minutes must be allowed before calibrating or performing weighing operations. These two warm-up periods may run concurrently.
5. Verify that the scanner or scanner/scale passes an operational test by observing the following:

Scanner — Pass UPC/EAN bar code labels in front of the scanner's windows. Since the interface cable is not yet connected to the POS terminal, the scanner may be limited to reading only one or two labels (see the note that follows). The scanner indicates when each label has been successfully read by flashing the green scanner light and emitting a good read tone (beep). Some host interface types may "chirp" instead of beeping.

NOTE

When not connected to the host, the scanner may be limited to reading only one or two labels. (This limitation is dependent upon the interface type.) To scan multiple labels without connecting to the host, place the unit in Scanner Diagnostic Mode by pressing the Volume/Tone Push Button for four seconds.

EAS System — The way in which EAS labels are deactivated is dependent upon which aftermarket EAS system was purchased and installed. See the user's manuals and other documentation accompanying that EAS equipment.

Scale — If the Yellow (bottom) LED/Button is not lit, press that button momentarily. If the scale is operating correctly, the yellow LED will illuminate and remain on steady, and the display will show a reading of 0.00 lb (0.000 kg for metric). If the display is blank or a - 0 - is displayed, it may be necessary to calibrate the scale before continuing. Refer to Chapter 5, Calibration, for calibration procedures.

Remote Scale Display — Check to verify that 0.00 lb (0.000 kg for metric) is displayed, then place an item on the weighing platter. Verify that the display shows a weight and that the yellow LED goes out. Remove the item and observe that Remote Scale Display shows 0.00 lb (0.000 kg for metric) and that the yellow LED is On.

6. Unplug the AC power cord from the outlet and disconnect the power cord and Remote Scale Display cable from the scanner's connector panel.

After you have verified that the scanner, EAS system and scale (if present) are completely functional, continue with the following procedures to complete the installation.

Diagnostic Modes

Two diagnostic modes are available which allow you to initiate scanner or scale diagnostic tests, as well as verify the scanner's ability to read bar codes.

Scanner Diagnostic Mode

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

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

While in Scanner Diagnostic Mode, identification numbers for interface[1] type, firmware and configuration will scroll continually across the scanner's 7-segment FRU (Field Replaceable Unit) display. This is useful information for field diagnostics. See Figure 4-1 for the location of the display. For example, if the dual cable RS-232 interface (type 05) were enabled, the firmware designation was R96-1234, and the configuration was R96-5593, the following would be shown (slowly, with blanking between each of the items):

IF-05 r96-1234 r96-5593.

To exit Scanner Diagnostic Mode, cycle power to the unit or press and hold the Volume/Tone Push Button for eight seconds to reset the scanner. See Chapter 3, Scanner and Scale Reset for more information about unit resets.

1. A listing of scanner interface identification numbers is available in Chapter 6, Programming, under the topic, Interface Type.

Scale Diagnostic Mode

To enter Scale Diagnostic Mode, press the Scale Zero Push Button for approximately four seconds. Six rapid tones will be sounded, indicating the unit is leaving normal operation and entering Scale Diagnostic Mode. The Remote Display will flash a '1' across the display while the dignostic routine is being run. When diagnostics are completed successfully, the display will indicate that the unit has passed the diagnostic test by displaying PASS. Next, the display shows a listing of how many times the unit has been calibrated and zeroed in the form of: c XXX where x equals the number of times the scale has been calibrated. Next, the unit will display Zero XXXX where x is the number of times the scale has been zeroed. Finally, all segments will be displayed in the form of: -18.8.88 to allow visual verification of display function.
If the diagnostics routine is not completed successfully, the scanner will sound a series of tones and the Remote Display will show an error code. Turn to Chapter 4, Problem Isolation, for a description of error codes.

Press the Scale Zero Push Button once more to reset the unit and exit Scale Diagnostic Mode. See Chapter 3, Scanner and Scale Reset for more information about unit resets.

Cables & Connections

Considerations when routing the power and interface cables for the scanner and scanner/scale are:

- Ensure that cables are not pinched, kinked or pierced.
- Do not route interface cables in close proximity to electrical motors or other sources of electromagnetic interference.

Do not plug the AC power cord into the outlet at this time. It is a good practice to always connect the power cable to the scanner first before plugging it into the AC receptacle. The procedures titled, Set-Up, provided later in this chapter will instruct you to connect the power cord at that time. Figure 2-20 illustrates the basic cable routing scheme.

Figure 2-20. Cable Routing

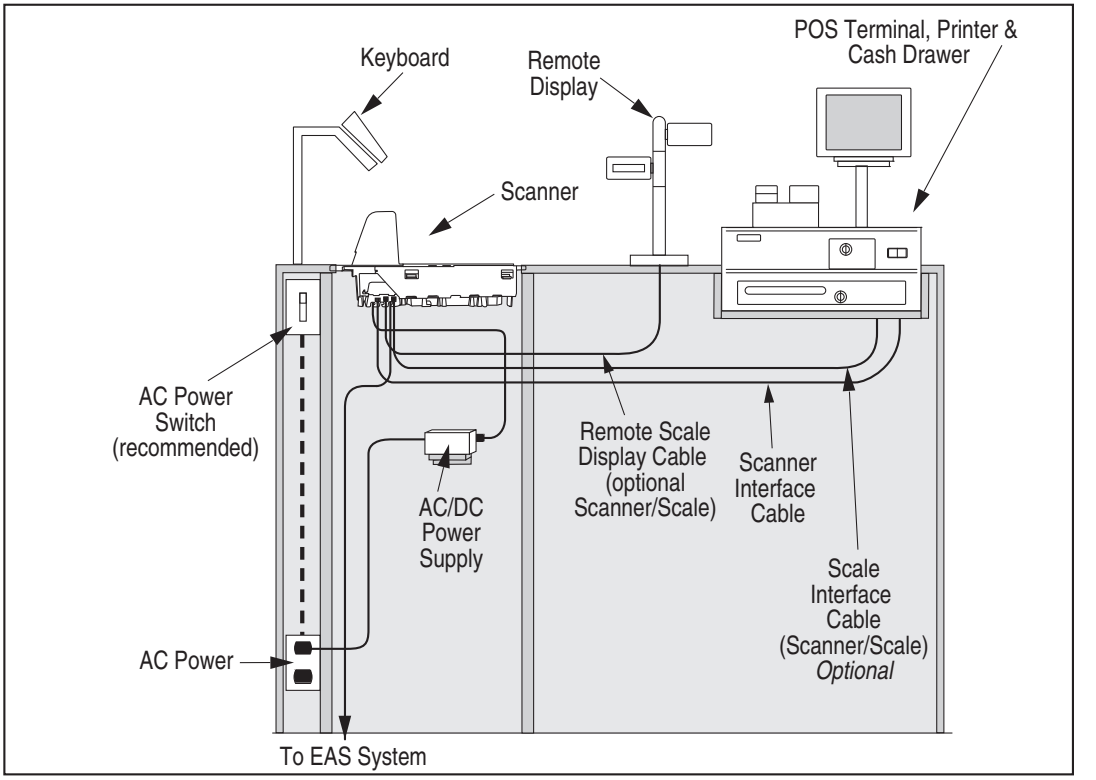
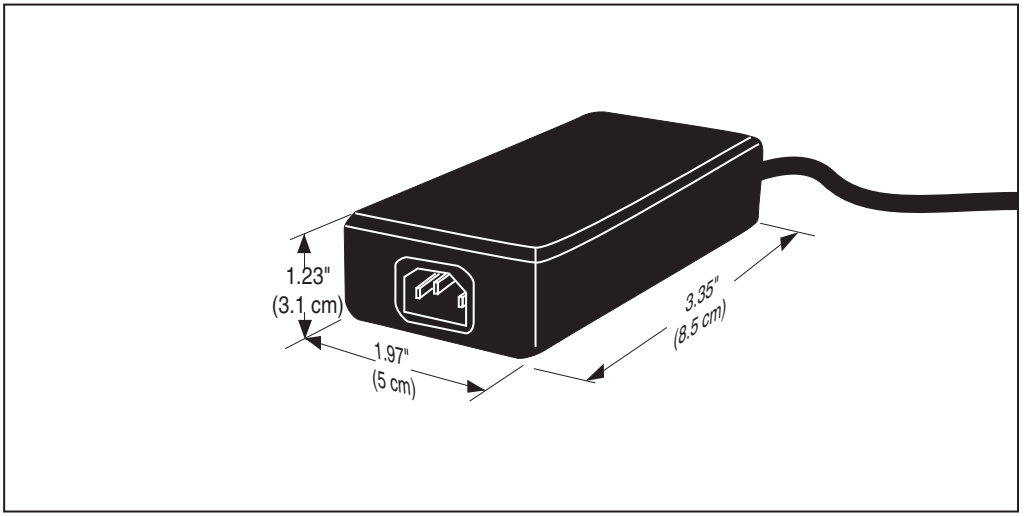


Figure 2-21 provides physical dimensions for the AC/DC Adapter (part number 8-0582).

Figure 2-21. Physical Measurements: AC/DC Adapter



Remote Scale Display Placement/Installation

The modular Remote Display is designed so that single display heads can be stacked to form a dual display as shown in Figure 2-22a in order to address the specific viewing needs of both the customer and the cashier. Factors to consider when installing this device are:

- Lighting Considerations
- Viewing Angle
- Remote Display Cabling

Lighting Considerations

The display(s) will be easily readable unless placed in direct sunlight or other very strong light sources. Light interference will not be a factor in most installations. For best viewing, the display head(s) can each be rotated up to 180° around the post and/or tilted 15° backward or forward.

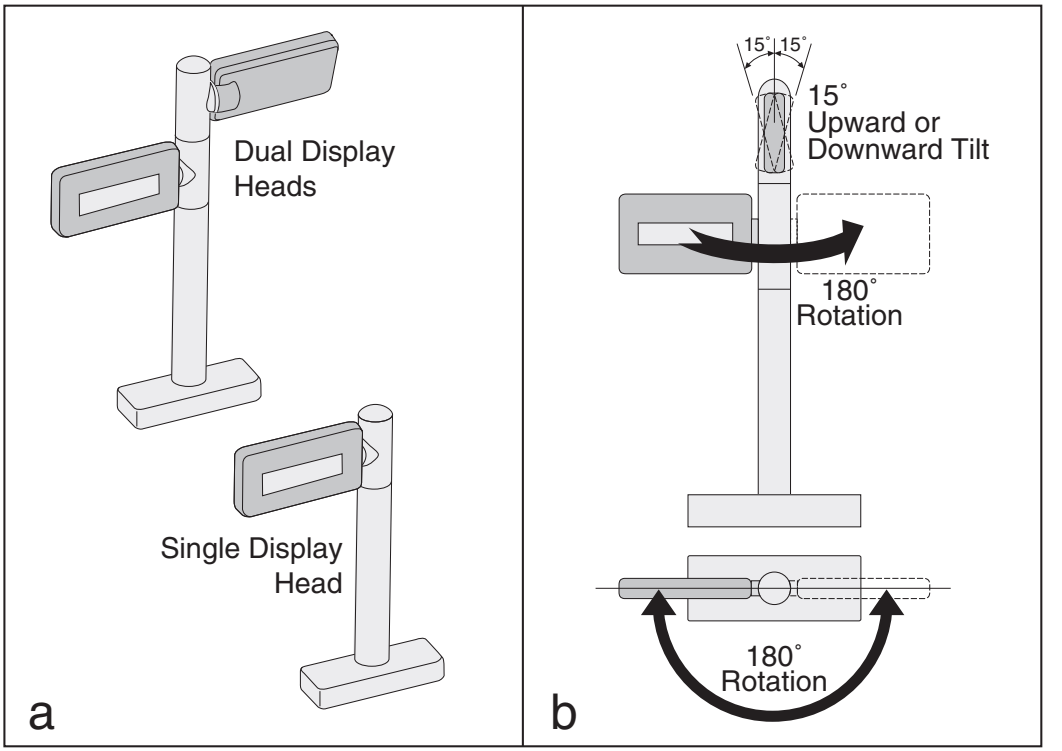
Viewing Angle

The optimum display angle is directly facing the viewer. Tilt and rotatioin adjustments can be made as shown in Figure 2-22b. To ensure that displays are easily readable for customers/cashiers of average height, display heads should be between 48” to 60” (122 to 152 cm) from the floor.

NOTE

Check with local Weights and Measures authorities regarding proper positioning of scale displays used in retail trade.

Figure 2-22. Modular/Adjustable Remote Scale Display



Remote Display Cabling

Your installation should also take into account the routing of Remote Display cabling. Ensure that distance and obstacles spanned by the routed cable will not kink, pinch or stretch it. Also keep in mind you may need to drill a hole through which to route it.

NOTE

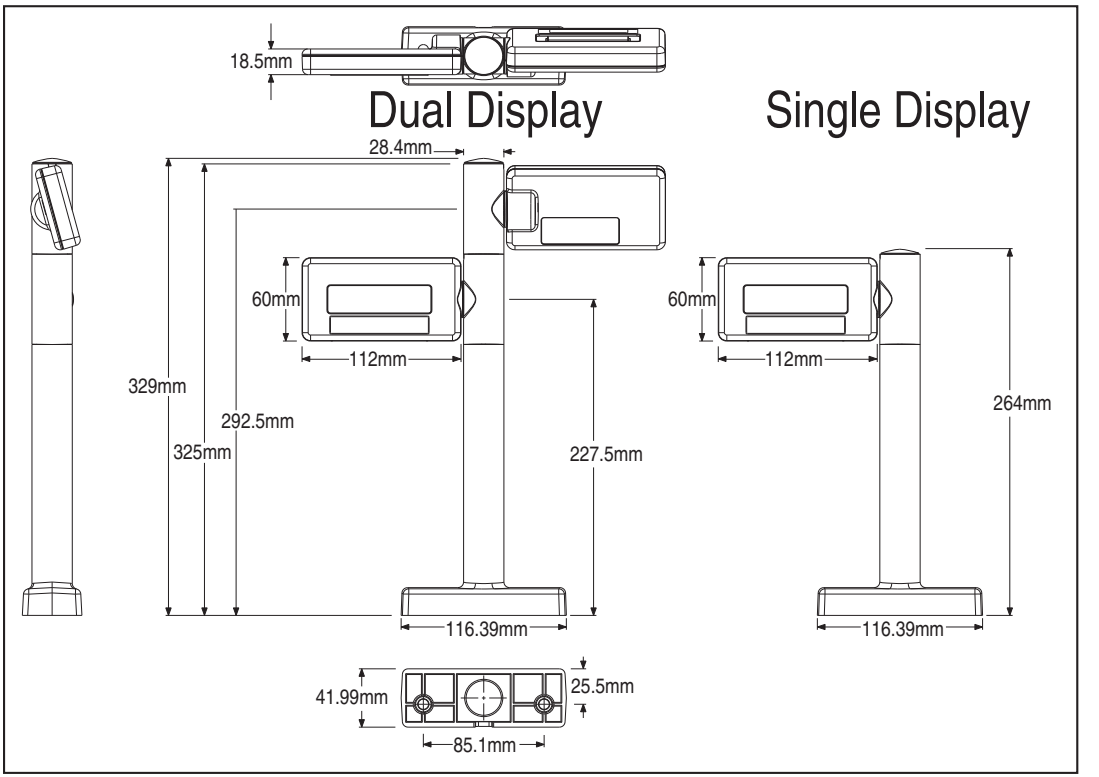
The Remote Scale Display connector end may be secured with a rubber band during shipping to prevent damage to the "locking tabs" (see Figure 2-24). After routing the cable, remove this rubber band before connecting. Failure to remove the band will keep the connector from latching properly.

Placing and Installing the Remote Scale Display

Reference Figure 2-24 while performing these procedures.

1. Determine where you want to install the Remote Scale Display based on your counter design, the viewing angle, lighting considerations and cable routing discussed previously. Reference Figure 2-22 for the display's physical dimensions. Optimally, the display(s) should be approximately eye level to the viewer(s).
2. Use the template provided in Figure 2-25 to mark locations of the mounting screw and cable routing holes. The mounting screw holes are on 3-1/2" (85.1 mm) centers. The cable can either be routed through a $^{3}/_{4}$" (19 mm) diameter hole directly under the mounting base or through the cutout in the back of the base (see Figure 2-24).
3. Drill the mounting screw holes using a drill bit of the appropriate diameter for your mounting screws or bolts.
4. Drill the cable routing hole using a $^{3}/_{4}$" (19 mm) drill bit (optional).

Figure 2-23. Physical Measurements: Remote Display



5. Feed the entire length of the Remote Scale Display interface cable through the cable routing hole so that the assembled Remote Scale Display can be positioned over the mounting screw holes.
6. If present, remove the rubber band from the connector end.
7. Install mounting screws or bolts to complete the installation of the Remote Scale Display. Take care not to pinch or pierce the interface cable while securing the Remote Scale Display to the checkstand.

Figure 2-24. Remote Scale Display Mounting

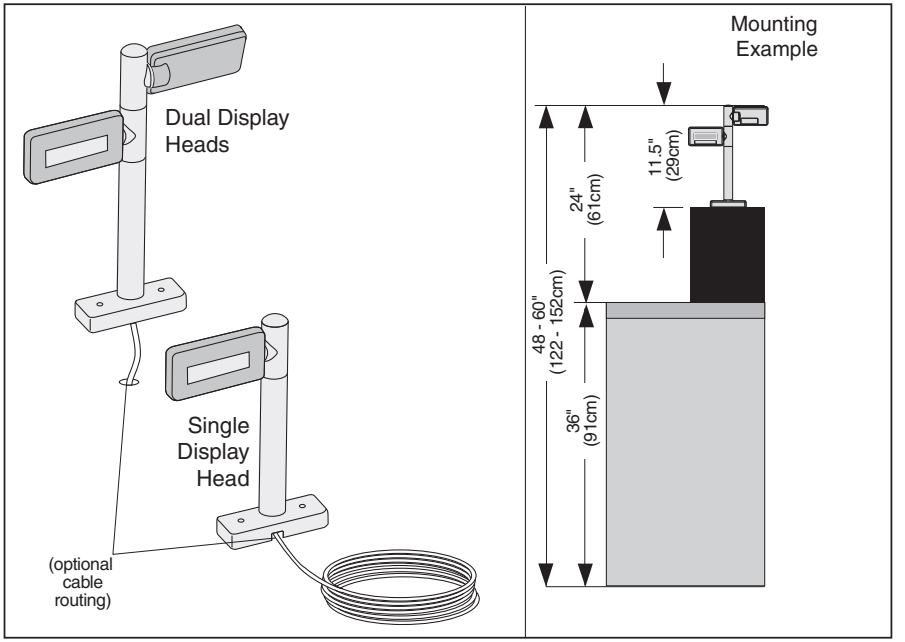
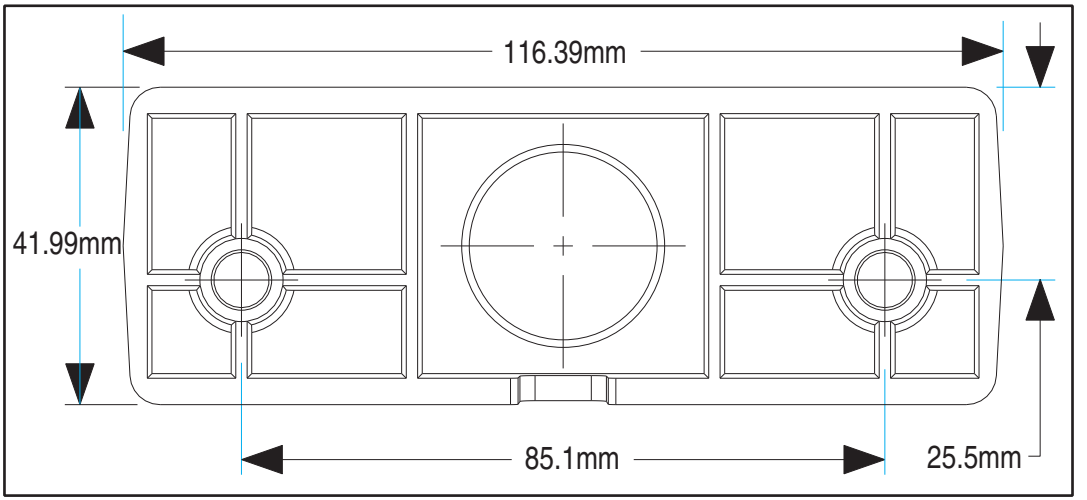


Figure 2-25. Remote Scale Display Mounting Template



Changing Weighing Modes

Your scanner/scale has been programmed for weighing in either pounds or kilograms depending upon the initial operating environment that was specified when you ordered your scanner/scale. If you need to change from pounds to kilograms or vice-versa, call technical support.

You can verify that the scale is set correctly for your country's requirements by observing that the Remote Scale Display shows the appropriate measurement symbol (lb or kg) when the power-up Selftest is completed.

LEGAL NOTE

Any time the scale weighing mode is changed, the scale must be re-calibrated before commercial use.

Set-Up & Installation

These setup and installation procedures assume that you have already prepared your checkstand to receive the scanner or scanner/scale. If you have not already made the counter cutout and routed power and interface cables, do so now as described in the previous instructions. If your checkstand has been prepared, proceed as follows:

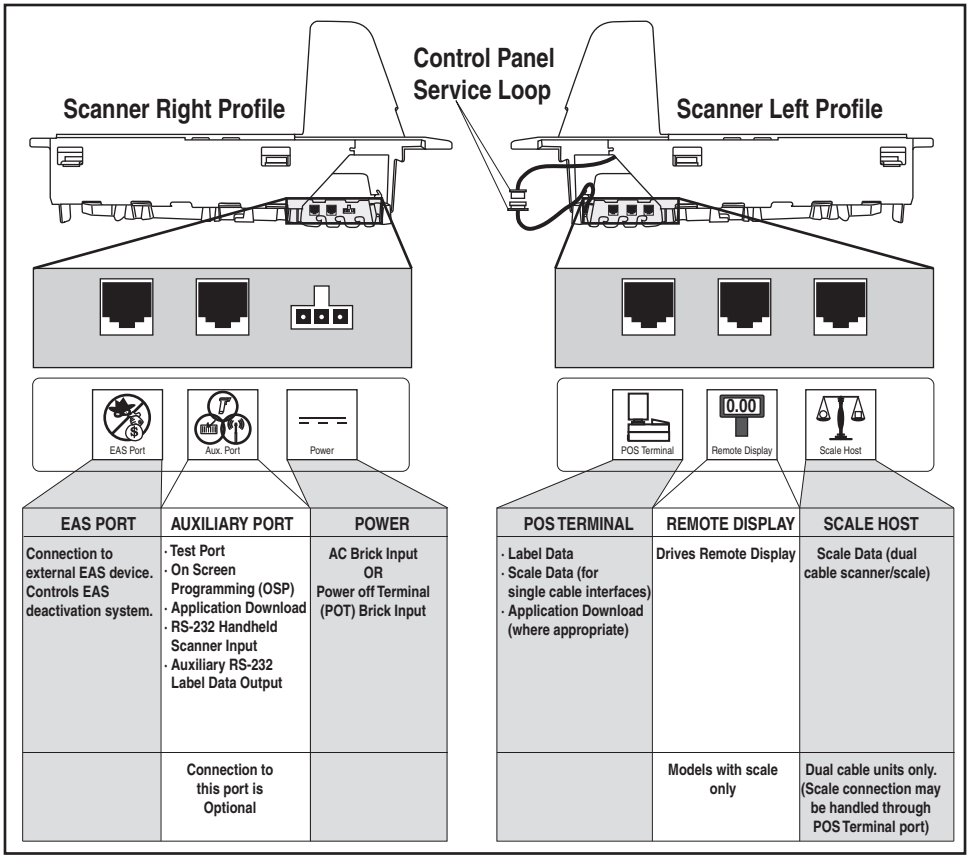
Set-up

1. Place the scanner on the checkstand next to the counter cutout.
2. Make all connections to peripheral devices, such as the Remote Scale Display (see Figure 2-24) and, if your installation includes an EAS system, refer to that manufacturer's instructions for connection and start-up procedures.
3. Route the cables up through the cutout and connect the scanner and scale interface cable(s), EAS cable and Remote Scale Display cable (optional) to the scanner. Some POS terminals require two interface cables; one for the scanner interface and one for the scale interface. Refer to Figure 2-26 for cable connection locations.

If you have a scanner with no scale, there will be only one interface cable to the POS terminal.

4. Connect the power cord to the scanner and route the other end down through the checkstand to the AC power outlet. DO NOT plug the power cord in at this time.

Figure 2-26. Connecting Cables to the Scanner/Scale

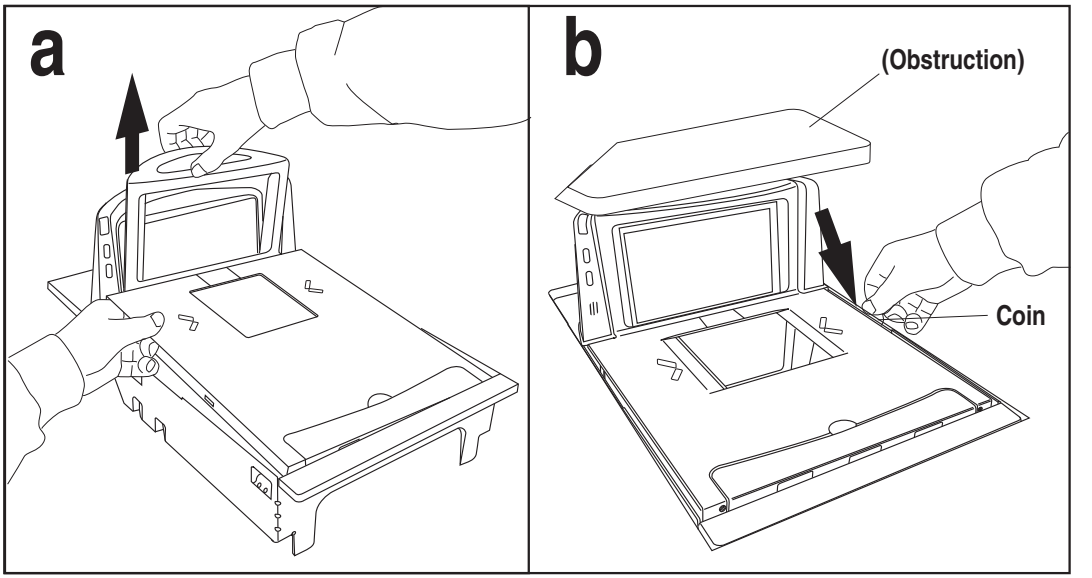


1. Make sure that all cables are firmly attached (except that the AC/DC power supply should not be connected to the AC outlet yet). Reference Figure 2-7 and Figure 2-26.
2. Remove the platter to gain access to the interior lift handle. Grasp the platter in the positions shown in Figure 2-27 and gently lift it from the scanner. If the top edge of the platter is blocked, you may find it easier to grasp the platter vertical bezel as shown in Figure 2-27b.

NOTE

Figure 2-27 illustrates an L-shaped weigh platter, which features a vertical bezel. Your platter may not contain a vertical bezel.

Figure 2-27. Removing the Platter



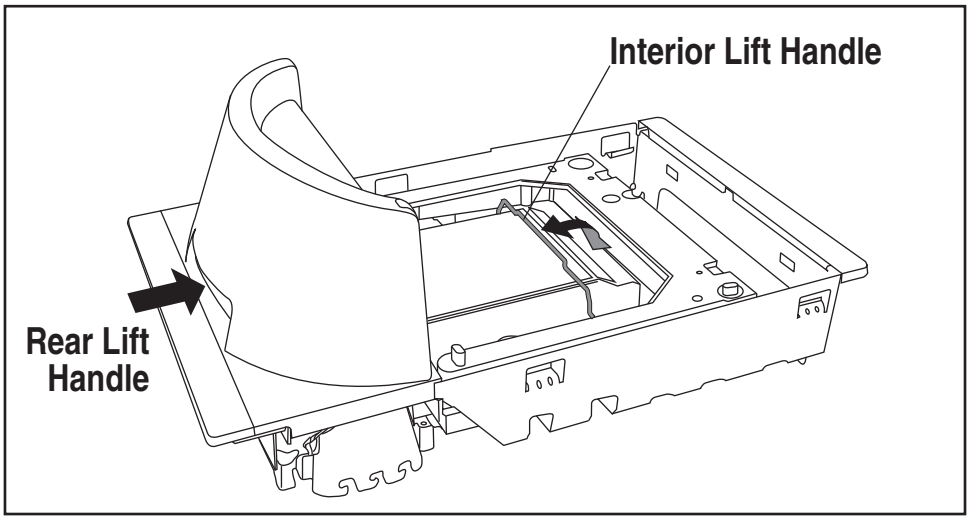
3. Rotate the Interior Lift Handle up as shown in Figure 2-28 and hook the fingers of both hands in the lift handles indicated. DO NOT attempt to lift the unit using the plastic edges, scale frame, or any features other than the lift handles.
4. Lower the unit into the counter opening, ensuring that none of the cables are pinched, pierced or crimped.
5. Re-install the Platter and verify that it is flush or just below flush with the countertop. This is necessary to provide smooth scanning from either direction. Make adjustments as needed to align the platter with the counter by moving support rails up or down, or consider installing screws in positions that will allow their use in adjusting the unit's position.

NOTE

Failure to install a scanner/scale in a stable and level position will inhibit weighing, calibration and zeroing operations. The platter MUST make unobstructed contact with all of its supports for proper weighing operation.

6. Once installation is complete, proceed with the Operational Verification procedures that follow.

Figure 2-28. Using the Lift Handles

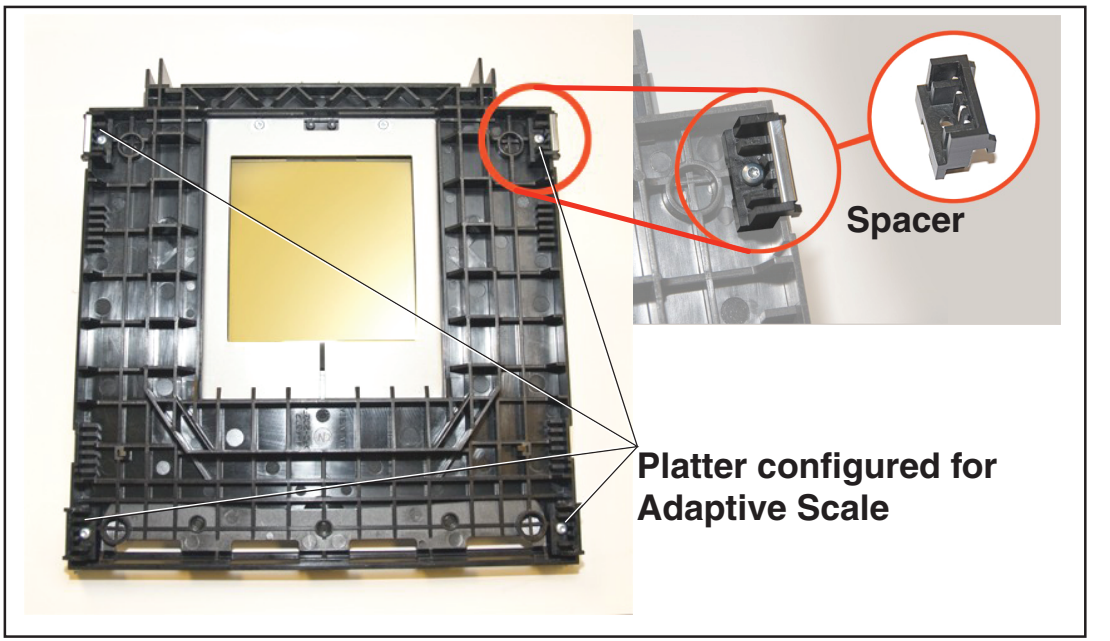


Adaptive Scale Platter Option

Some Platters have been shipped with installed spacers on their undersides at all four corners. These specially-configured Platters are provided for customers wishing to add an adaptive scale to their unit at a later date. Until such time as the adaptive scale is installed, the four spacers should be left in place to ensure that the Platter rests evenly at its correct height when positioned on the scanner.

To remove the spacers, loosen and remove the single screw for each as shown in Figure 2-29.

Figure 2-29. Removing the Adaptive Scale Spacers



System Power-Up Recap

The System Power-Up procedure may vary depending upon the requirements of your POS system. It is generally a good practice to power-down (switch off) all equipment prior to connecting cables. Check with your System Supervisor and/or refer to your POS terminal manual for proper power-down and power-up procedures and interface requirements when connecting any peripheral device.

If you have not identified any specific requirements for your POS system, follow these steps.

1. Power-down the POS terminal.
2. Ensure that power is disconnected from the scanner.
3. Connect the scanner and scale interface cables to your POS terminal. This connection may use one or two cables depending upon your POS terminal interface.
4. [EAS units ONLY] Connect the EAS interface cable.

NOTE

SENSORMATIC EAS SYSTEMS:
Always Apply power to the EAS Controller box before powering on the scanner.

5. Connect the Remote Display cable if your model is a scanner/scale and make any connections to optional equipment, such as a handheld scanner.

6. Power-up the scanner or scanner/scale by connecting the power cord to an AC power outlet. Wait for the unit to complete the Self test routine (10 seconds maximum). Successful scanner power-up is signified by any or all of the following:

   - Facet wheel shows movement

   - Lasers turn on

   - Status LED(s) turn on

   - Speaker sounds tone(s)

   - Remote display [if present] shows message

   - A single red dot is visible on the 7-segment display

7. Power-up the POS terminal. Verify that scanning, deactivation and weighing functions are operational and that data is properly communicated between the scanner and your POS system. (Scan, deactivate and weigh a few items.) If problems are encountered, refer to Chapter 4, Problem Isolation.

8. You have now completed installation and system integration of the scanner or scanner/scale. At this point, the scale must be calibrated and certified in accordance with the requirements of your state and/or local requirements. Refer to Chapter 5, Calibration, for calibration procedures.

Chapter 3

Operation and Maintenance

The information contained in this chapter describes how to operate and maintain the scanner, and optional scale and EAS systems. Topics include "how to's" on scanning, EAS label deactivation, weighing, re-zeroing the scale, removing the top cover and cleaning the upper and lower windows.

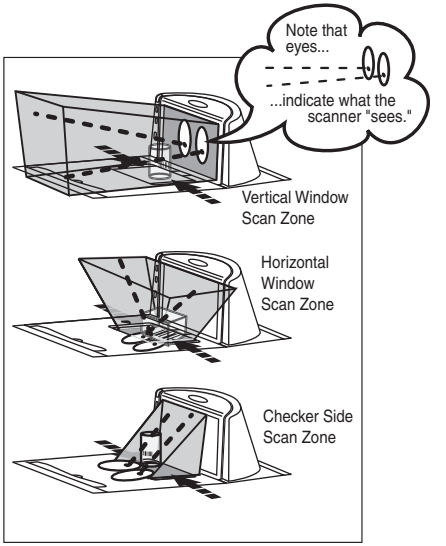
Scanning Items

To scan items using the scanner, slide or push them through the scan zone as shown in Figure 3-1. The scanner will work equally well with either a left-to-right or right-to-left motion through the scan zone. There is rarely a need to reorient an item's bar code since the scanner has a 360 degree view around an item.

NOTE

"Limited Scanning Mode" is entered by default by interfaces such as USB and IBM until a Point Of Sale (POS) terminal enables scanning. This mode allows the scanner to read labels without a host interface enabled. The scanner will only process programming labels and emit a bad label read indication ("chirp") for all other labels.

Figure 3-1. Scan Zone



Proper Scanning Technique

The scanner was designed to provide the ultimate in ergonomic enhancements for Point-Of-Sale (POS) scanning. To take advantage of these advancements:

Practice the techniques below to improve scanning efficiency:

- Move the product across the horizontal window (See Figure 3-1).
- Since the scanner can reads labels 360 degrees around the product, don't favor either the horizontal or vertical scan windows. Keep items in their natural orientation.
- Remember to slide or push items rather than picking them up. By avoiding any gripping, twisting and rotation of your hands and wrists, you can prevent repetitive motion injuries. This technique also relieves you from lifting possibly thousands of pounds per day.
- Develop a smooth fluid motion during scanning, sharing work equally between hands.
- Use the entire hand for grasping and lifting items.

- Develop efficient scanning motions, not necessarily faster hand movements.
- Learn typical locations for bar codes on packages; avoid “flipping” or rotating the items during scanning.
- Learn how the scanner functions and where the scanning area is located.

Deactivating Security Labels

EAS (Electronic Article Surveillance) labels can be detected and deactivated by a system equipped with this option. This is accomplished by means of a deactivation antenna mounted under the scanner platter. EAS labels should be brought near the antenna to be deactivated. Reference the documentation for the EAS device for more details about its installation and function.

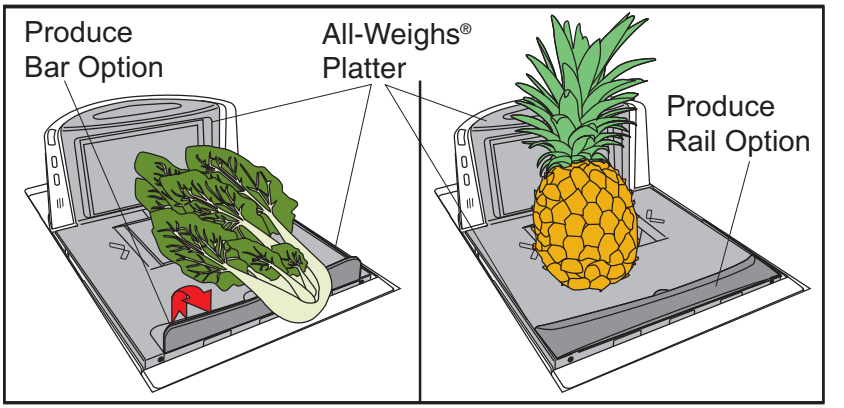
Proper Weighing Technique

1. The L-shaped All-Weighs™ platter allows you to place items anywhere on its surface, including leaning against its vertical section, to be weighed accurately. The "Produce Rail" or (when raised) the "Produce Bar" also provide a convenient way to ensure items do not rest on the counter or other non-weighing surfaces. (Reference Figure 3-2.)

NOTE

It is important that items rest entirely on the platter for their full weight to be accurately recorded.

Figure 3-2. All-Weighs™ Platter & Item Placement



2. Once weighed items are in place, enter PLU (price Look-Up) data as described in your POS system instructions. Item weight is displayed on the Remote Display and/or the host display.
3. Remove the item from the weigh platter.

Operational Controls

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

Operational Modes

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

Power-Up/Selftest & Pre-Operation

Pre-Operation describes those steps that must be successfully completed before the scanner sounds the initial good read tone and illuminates the lamps indicating the scanner and/or scale are ready for operation. These steps include Power-Up Selftest, Error Reporting, and Operational Configuration.

Power-Up/Selftest

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

NOTE

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

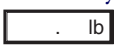
Error Reporting

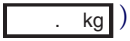
If a fatal error is detected during Selftest or operation, the unit will not advance to Normal Operation Mode. Selftest diagnostics will cause the unit to sound a long, low tone and/or display an error message on the 7-segment display indicating where the failure occurred. These messages are coded to assist the repair technician in identifying the failed component. If an error is indicated, make note of it and contact your supervisor or technical support representative. A table containing descriptions of these error codes is included in Chapter 4, Problem Isolation.

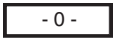
If a non-fatal[1] error is detected (such as the loss of one of the two lasers), the unit will sound a long, low tone and display a number on the 7-segment display. The unit will advance to Normal Operating Mode, but performance may be affected until a correction or repair is made.

Operational Configuration

Once Selftest diagnostics have been successfully run, a tone is emitted (if configured to do so, and the unit enters an operational configuration state. The scanner or scanner/scale will automatically load your specific interface settings which are required to communicate with the host system. There are two conditions that must be met before the unit can enter Operating Mode:

- No bar code label can be in the scan volume while the unit is in this state. Progress is halted until the label has been removed, thereby ensuring that no extraneous bar code data is send to the host.
- If your scanner has a scale, the scale cannot be in motion (usually caused by excessive vibration in the checkstand) for this test to succeed. A "Scale in Motion" status will be indicated by displaying a period and the applicable weight unit (lb 

or kg 

) that is selected.
- The scale must be able to "capture" zero weight. The 

display will be seen if there is a weight on the platter at power-up. Removing the weight or pressing the Scale Zero Push Button should allow the scale to find zero.

1. Scanner behavior under non-fatal error conditions is configurable. See Chapter 6, Programming for more details.

- When the scanner or scanner/scale completes its Selftest successfully, it emits a tone (when configured to do so) and enters Operating Mode.

Operating Mode

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

Normal Operation

This condition is indicated by the scanner green LED being on dim and steady. For scanner/scale models, the scale yellow LED indicates that the scale senses a weight of zero on the platter. If you have a scanner without scale model, the yellow lamp will not be lit when the scanner is ready for scanning.

NOTE

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

Once the scanner enters Normal Operation, it begins a countdown sequence. If there is no activity during a preset period of time (also called time-out[1]), the unit will shut off the laser and/or motor in order to prolong the life of the electrical and mechanical components. Once the scanner has timed out, it enters Sleep Mode.

1. "Timeout" and "Sleep Mode" time delays are programmable features that can be selected through use of the programming labels included in Chapter 6, Programming.

Sleep Mode

After the scanner has been left idle for a preset period of time, the laser and/or motor automatically turns off (goes to sleep). This state is called Sleep Mode, and is indicated by a "slow" blink of the green light (blinking at a 2-second rate). To wake up the unit, press anywhere on the weigh platter (scanner/scale models only), press the Volume Selection switch or wave your hand over the horizontal window. The unit will recognize any of these signals as a wake-up call and instantly return to Normal Operation.

Additional Functions

Additional scanner and scale functions include programming, running scanner or scale diagnostics, initiating a reset, zeroing the scale, and calibrating the scale.

Programming

When your scanner or scanner/scale is shipped from the factory it is configured to work with the POS system interface at your store and read the bar code symbologies you designated. If you need to change this configuration information for any reason, Chapter 6, Programming, contains special bar code labels for changing the unit's settings.

Diagnostic Mode

Refer to Chapter 2, Diagnostic Modes, for details about running scanner and scale diagnostics. Turn to Chapter 4, Problem Isolation, for a description of error codes resulting from diagnostics.

Scanner and Scale Reset

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

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

Scale Adjustments

The scale allows two user adjustments: zeroing and calibration. The first, and most frequently performed, is 'zeroing' the scale. This operation resets the scale's "at rest" reading to zero which must be within the range of - 0.2 pounds (- 0.09kg) to +0.6 pounds (0.27kg) since the last calibration. While the 'at rest' reading remains within the zero range, the scale will automatically adjust itself to true zero. The scale also automatically zeros itself on power-up if the weight present on the scale is within these defined limits.

Zeroing the Scale

The zeroing operation may be performed by checkers and other store personnel. Pressing and releasing the Scale Zero Push Button should return the scale to Normal Operation. If the zero point moves out of the zero range due to debris accumulation or other causes, pressing the Scale Zero Push Button will not reset the zero point. In this case the weigh platter must be cleaned, debris chutes cleared of debris or the scale must be recalibrated.

With the scanner/scale powered-up and at operating temperature:

1. Remove everything from the weighing surface of the scanner/scale.
2. Press the Scale Zero Push Button. (See Figure 1-1).
3. The Zero[1] light will turn on and the display will show 0.00 lb (0.000 kg). If it does not, see Chapter 4, Problem Isolation.
4. You have completed the scale zeroing function.

Calibrating the Scale

The second adjustment, calibration, defines and sets a standard reference weight range against which all product weights are compared. If your scale is set for weighing in pounds, this range is 0 - 30 pounds, and, if your scale is set for weighing in kilograms, the range is 0 - 15 kilograms. The scale must be calibrated upon initial installation, whenever the scale cannot be zeroed, when the scale diagnostics indicate a calibration error, when the weighing measure (pounds or kilograms) is changed, or when the scale module has been replaced.

Normally, once the scale has been calibrated, the calibration must be verified and/or approved by a local regulatory body. In many areas of the United States, the scale calibration switch must be sealed before being placed into service. Consult the agency responsible for regulating weighing devices in your area to ensure that you are meeting all legal and regulatory requirements. Chapter 5, Calibration, describes the calibration sequence and verification process.

Calibration can only be performed if the tamper seal that secures access to the Calibration Switch is broken and the switch cover is removed. Breaking the seal may *legally* render the scale inoperable until it has been recertified and a new seal attached. Consult your local regulations before removing the calibration seal if you are unsure of the legal requirements. Although the scale will physically continue to weigh products, a broken seal may require recertification by a proper authority as designated by your local laws.

1. Zero light operation is configurable.

Operational Maintenance

The scanner or scanner/scale will provide dependable service for many years. The following maintenance procedures will keep your scanner or scanner/scale operating at peak performance.

Cleaning the Platter and Scan Windows. Clean the exterior surfaces of the horizontal and vertical scan windows at least twice daily with a nonabrasive, mild, water-based glass cleaner and paper towels or lint-free cleaning tissues. The textured plastic surfaces and stainless steel can also be cleaned using the same cleaning agents.

Cleaning the Air Gap/Debris Chutes & Drip Rail. Daily, clear the debris chutes between the platter and the outer housing. Most items can be cleared from the debris chutes by carefully running a thin stiff object like a credit card along all sides of the weighing surface. If necessary, remove the top cover to clear the debris chutes and drip rail.

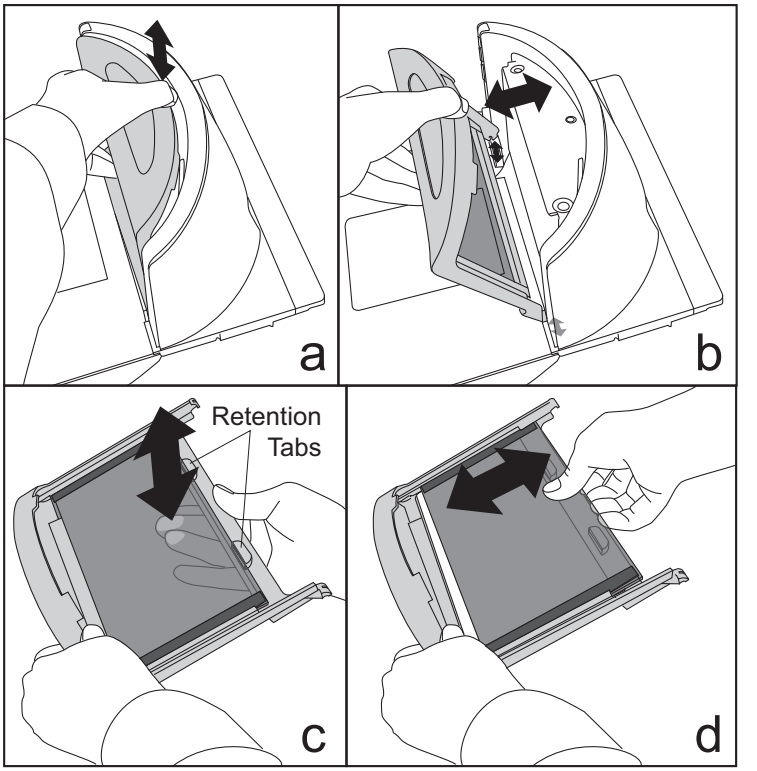
Vertical Scan Window Replacement

The Vertical Scan Window is a replaceable part. Follow the instructions below to remove and replace a standard or L-Platter Vertical Scan Window.

Standard Vertical Scan Window Removal

1. Lift up on the vertical bezel as shown in Figure 3-3a and tilt its top up and away from the scanner as shown in Figure 3-3b.

Figure 3-3. Removing/Reinstalling the Vertical Bezel



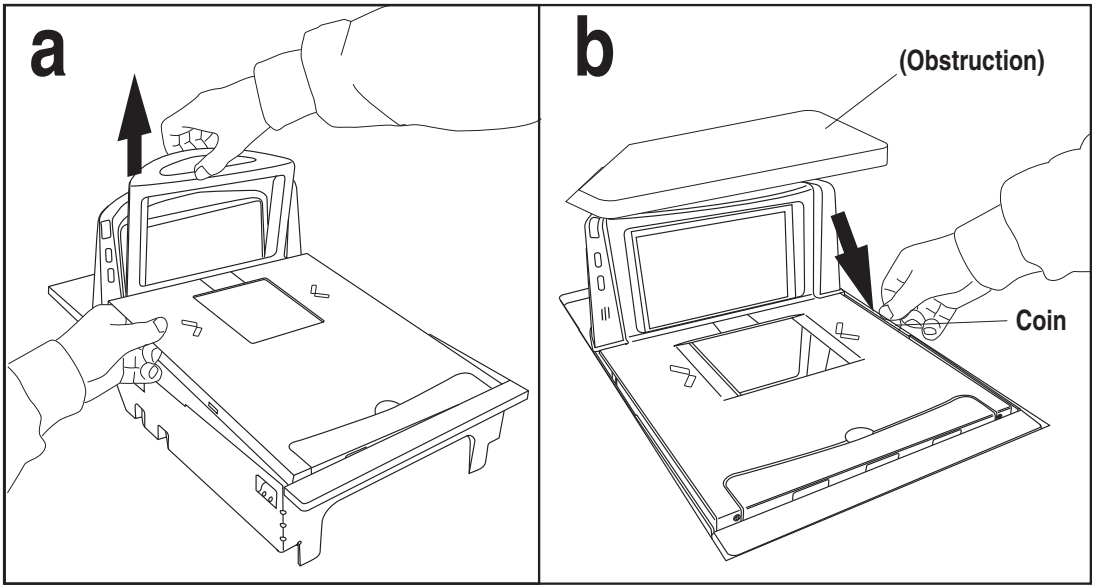
2. Press from the opposite side to release the edge of the Vertical Scan Window from the two retention tabs shown in Figure 3-3c.
3. Slide the window from the bezel as shown in Figure 3-3d. Carefully dispose of any damaged glass.

4. Fully seat the new Vertical Scan Window into the window channel, engaging it within the retention tabs. Reference Figure 3-3d and Figure 3-3c.
5. Clean both sides of the new Vertical Scan Window using a paper towel or lint free cleaning tissues dampened with a mild, water-based glass cleaner. DO NOT use abrasive cleaners or pads.
6. Tilt in the bezel to seat the two ears at the bottom corners of the bezel into their holes in the scanner and push in on the top of the bezel to securely snap it in place (see Figure 3-3b). Vertical Scan Window replacement is now complete.

L-Platter Vertical Scan Window Removal

1. Grasp the platter as shown in Figure 3-4 and gently lift it from the scanner.

Figure 3-4. L-Platter Removal/Reinstallation



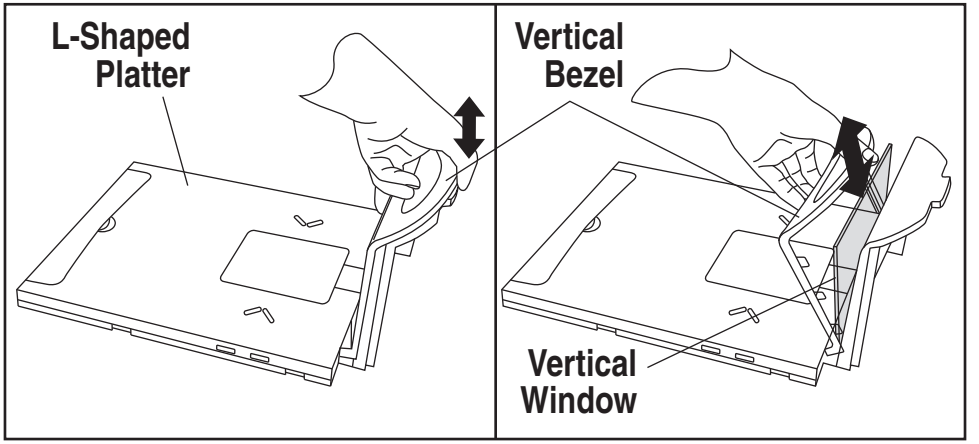
2. If the top edge of the platter is blocked, you may find it easier to use a coin to lift up an edge of the platter as shown in Figure 3-4b, then grasp the platter vertical bezel or other exposed edge.

NOTE

Use caution to avoid damage to the now exposed horizontal and Vertical Scan Windows. If cleaning of these windows is necessary, use a nonabrasive, mild, water-based glass cleaner and paper towels or lint-free cleaning tissues and take care to avoid scratching these windows (damage to the windows can degrade scanning performance).

3. The Vertical Scan Window is held in place by two tabs each on its top and bottom edges. To remove it, carefully push out on the top as shown in Figure 3-5 and lift it out. Carefully dispose of any damaged glass.

Figure 3-5. Vertical Scan Window Removal/Replacement



4. Fully seat the new Vertical Scan Window into the window channel within its bottom retention tabs. Tilt the window in to engage the two tabs at the top of the retainer and carefully snap the window to secure it in place.
5. Clean both sides of the new Vertical Scan Window using a paper towel or lint free cleaning tissues dampened with a mild, water-based glass cleaner. DO NOT use abrasive cleaners or pads.
6. Re-install the platter. Vertical Scan Window replacement is now complete.

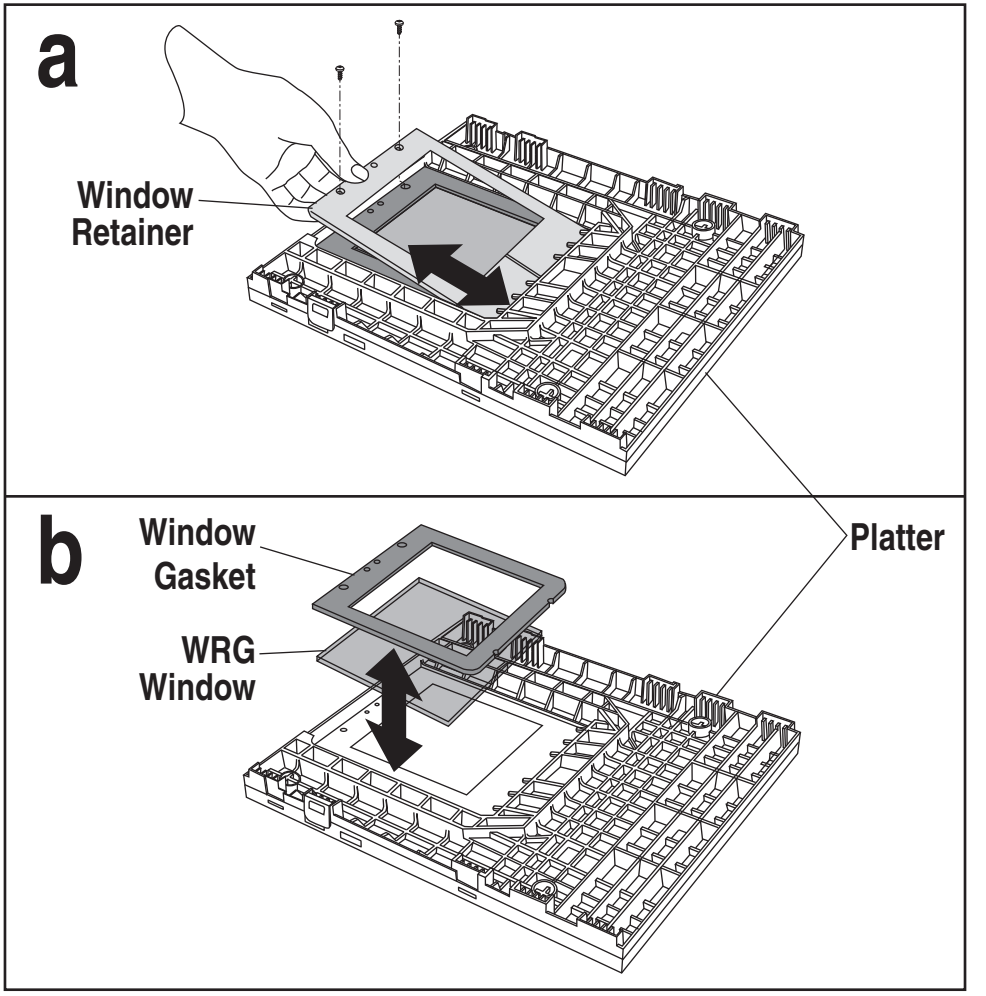
Horizontal Scan Window Replacement (WRG)

Wear Resistant Glass (WRG) horizontal scan windows are replaceable and can be removed and replaced following the instructions below.

NOTE **Sapphire glass does not require replacement, so it is permanently fastened in place. Do not attempt to remove Sapphire glass from the platter.**

1. Remove the Platter from the scanner as shown in Figure 3-4.
2. Turn the platter upside down on a clean, dry surface and remove the two screws shown in Figure 3-6a. Retain the screws for later re-installation.
3. Tilt the Window Retainer up and away from the platter as shown.
4. Lift out the Window Gasket and WRG Window from the Platter as shown in Figure 3-6b and carefully dispose of any damaged glass.
5. Position the new WRG Window and its gasket as shown in Figure 3-6b.
6. Guide the Window Retainer to seat its edge under the tabs and match the screw holes as shown in Figure 3-6a.
7. Secure the retainer in position using the original two screws.
8. Clean both sides of the new WRG window using a paper towel or lint free cleaning tissues dampened with a mild, water-based glass cleaner. DO NOT use abrasive cleaners or pads.
9. Re-install the platter. WRG Window replacement is now complete.

Figure 3-6. Removing/Replacing the WRG Window



Chapter 4
Problem Isolation

In the event of a suspected functional problem, use the troubleshooting references provided in this chapter. This useful information will help you to identify and resolve the cause of the problem.

The scanner/scale has a number of features that indicate when a scanner or scale problem occurs. The unit may:

- emit a series of tones
- light the 7-segment (FRU status) display
- flash one or more LEDs
- display error codes on the Remote Display (if installed)

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

Power-Up Selftest

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

Operational Tests

These are the tests that run continually during Normal Operation and Sleep Mode. Firmware checks all subsystems, accessory connections and the POS interface to verify everything is operating normally. If a problem is detected at any time, a long, low tone is sounded, an error code is shown on the 7-segment display, and operation may be halted. If you press the Volume/Tone Push Button at that time, a series of tones will be sounded that matches the error code displayed.

Diagnostic Tests

See Chapter 2, Diagnostic Modes, for details about running diagnostic tests for the scanner and/or scale. If a problem is discovered during diagnostics, the scanner will provide feedback about the source of the problem. The remainder of this chapter describes these failure indications and includes troubleshooting flowcharts to help isolate the problem.

Diagnostic Procedures

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

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

Error Codes

If an error is detected, the scanner will sound a long low tone (for one second) and alternately flash its LEDs, indicating a failure. Following the long low tone, an error code will appear on the 7-segment display (refer to Figure 4-1). Pressing the Volume/Tone Push button will cause the scanner to sound a series of beeps corresponding to that error code. Table 4-1 on the following page describes what these codes mean and what action should be taken for each.

NOTE

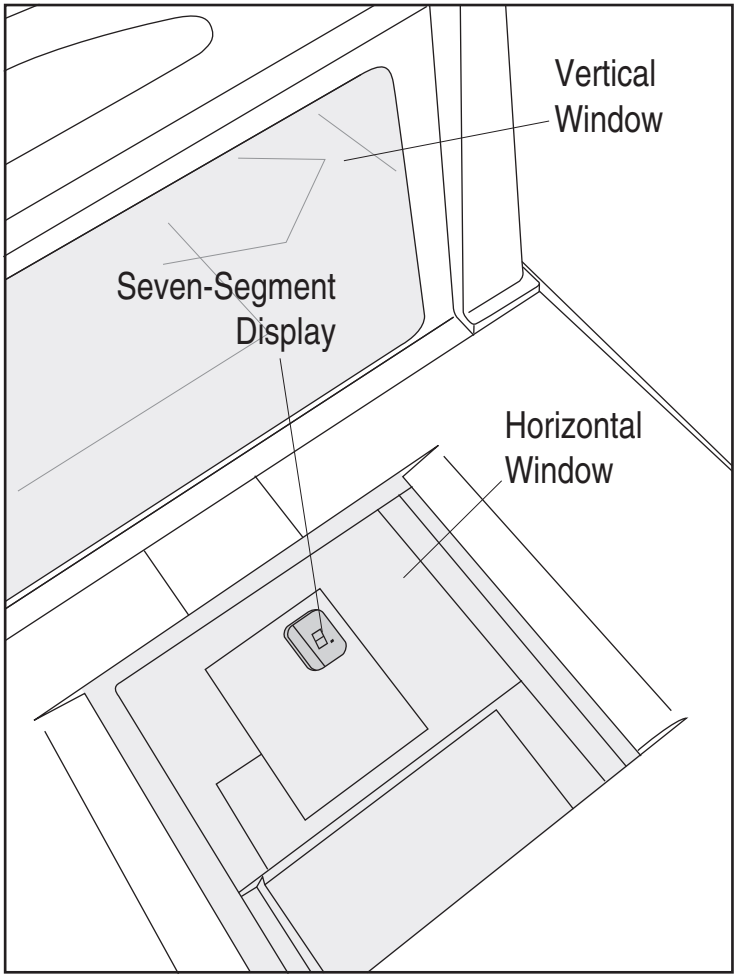
When troubleshooting, always remember to check all cable connections first before proceeding with other problem isolation steps.

Table 4-1. Error Codes

Error Code	Probable Cause	Corrective Action
0 Blinking	Configuration	No POS interface has been selected (Null interface). See Chapter 6, Interface Type to select the required interface using programming bar codes.
1	Configuration Error	See Chapter 6, Programming, for details about configuring the scanner using programming bar codes.
2	Interface Board	Unplug unit and call technical support personnel.
3	Motor	Unplug unit and call technical support personnel.
4	Horizontal Laser[a]	Call technical support personnel.
5	Vertical Laser[a]	Call technical support personnel.
6	Digital Board	Unplug unit and call technical support personnel.
7	Scale	See the topic Scale Error Reporting in this chapter for problem identification and corrective actions.
8	Remote Display	Connect the Remote Display. If necessary, replace display or cable. Alternatively, you can disable the Remote Display using the programming procedures described inChapter 6.
A	Control Button Stuck	Check to see if either of the buttons is stuck; free it if possible. If neither button is stuck, call technical support personnel.
B	Hardware ID	Call technical support personnel.
C	Scale Calibration	Calibrate scale or call technical support personnel.
E	CPLD ID	Call technical support personnel.
Decimal Point	3.3 V Present	If not lit, call technical support personnel

a. If only one laser is non-functional, the scanner may continue to work (this is a configurable feature); however, the 7-segment display will show the error code indicating the failed laser. If both lasers have failed, the 7-segment display will display either a 4 or a 5, and the scanner will cease to function until serviced. No alternate blinking of lamps will occur if only one laser has failed.

Figure 4-1. 7-Segment LED Display



Scale Error Reporting

Scale diagnostics uses the Remote Scale Display and the Zero Status lamp to communicate specific scale failures. The following chart shows the Remote Display messages, the Scale Status lamp indication, the problem that the scale is experiencing and what action should be taken. When troubleshooting, always remember to check all cable connections first before proceeding with other problem isolation steps.

Remote Display	Scale Status Lamp	Problem Description	Action Required
E _1	Flash, pause, 1 blink, long pause, repeat sequence.	Too much motion at power-up.	Check for stable installation. Change scale motion filter using the labels found in Chapter 6; restart. If problem persists, scale may require calibration.
E__2	Flash, pause, 2 blinks, long pause, repeat sequence.	Calibration lost.	Call technical support personnel. Recalibrate; restart; recertify (if required).
E__3	Flash, pause, 3 blinks, long pause, repeat sequence.	Scale communication lost. Internal scanner/scale problem.	Call technical support personnel; report error.
E__4	Flash, pause, 4 blinks, long pause, repeat sequence.	Scale module failure.	Call technical support personnel; report error.
E__5	Flash, pause, 5 blinks, long pause, repeat sequence.	Internal software fault.	Call technical support personnel; report error.

Other Scale Reporting

Remote Display	Scale Status Lamp	Problem Description	Action Required
- 0 -	Off	Cannot zero at power- up or weight remains on scale for more than 2 minutes or weight has not returned to zero between POS weight requests[a].	- Check debris chutes. - Verify that the weigh platter moves freely. - Remove item(s) from scale - Press Scale Zero Push Button - for more information. - If the scale still fails to zero, recalibrate the scale.

a. This is a configurable feature.

Flowcharts

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

Figure 4-2. Problem Isolation: Start

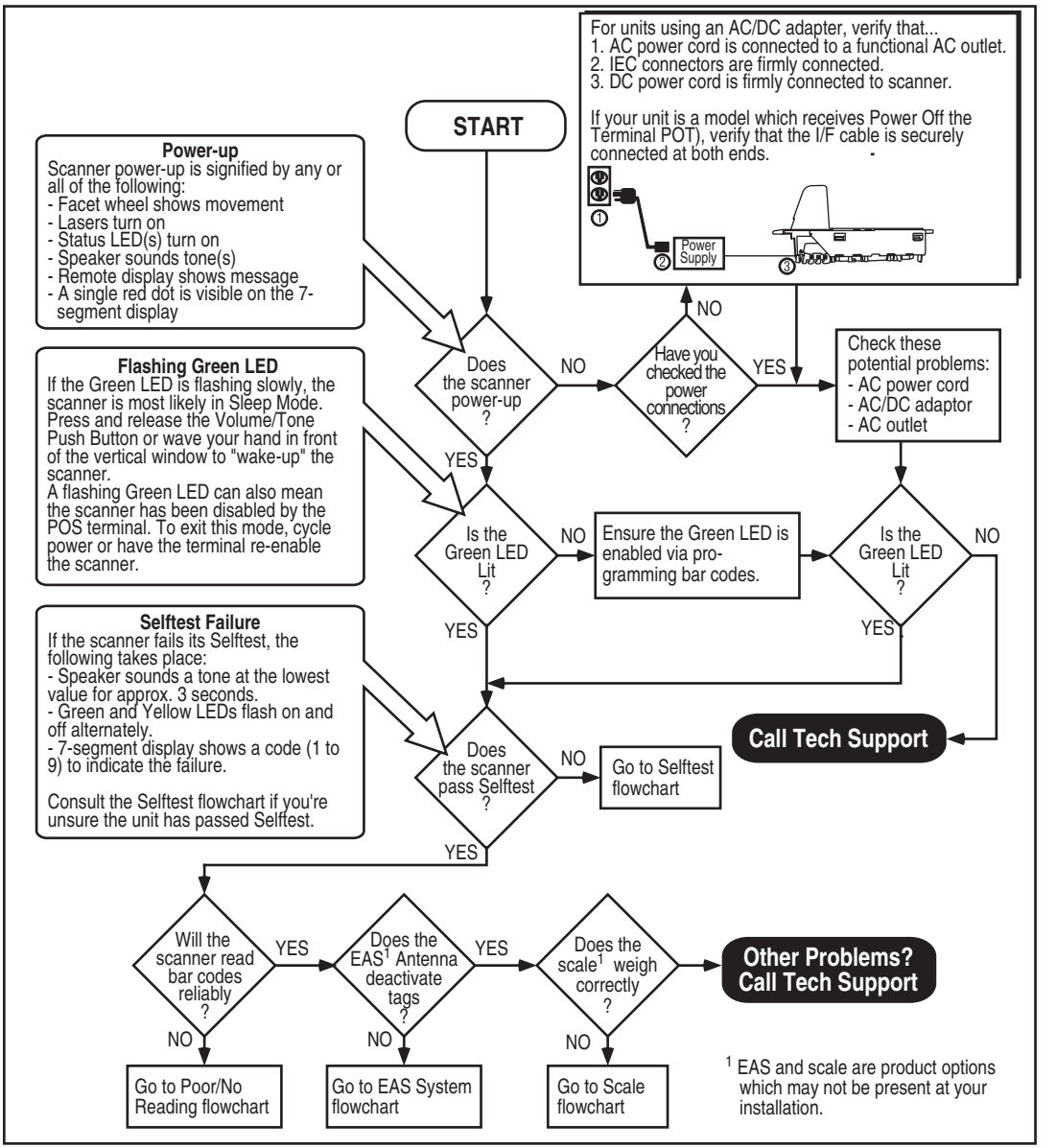


Figure 4-3. Problem Isolation: Selftest

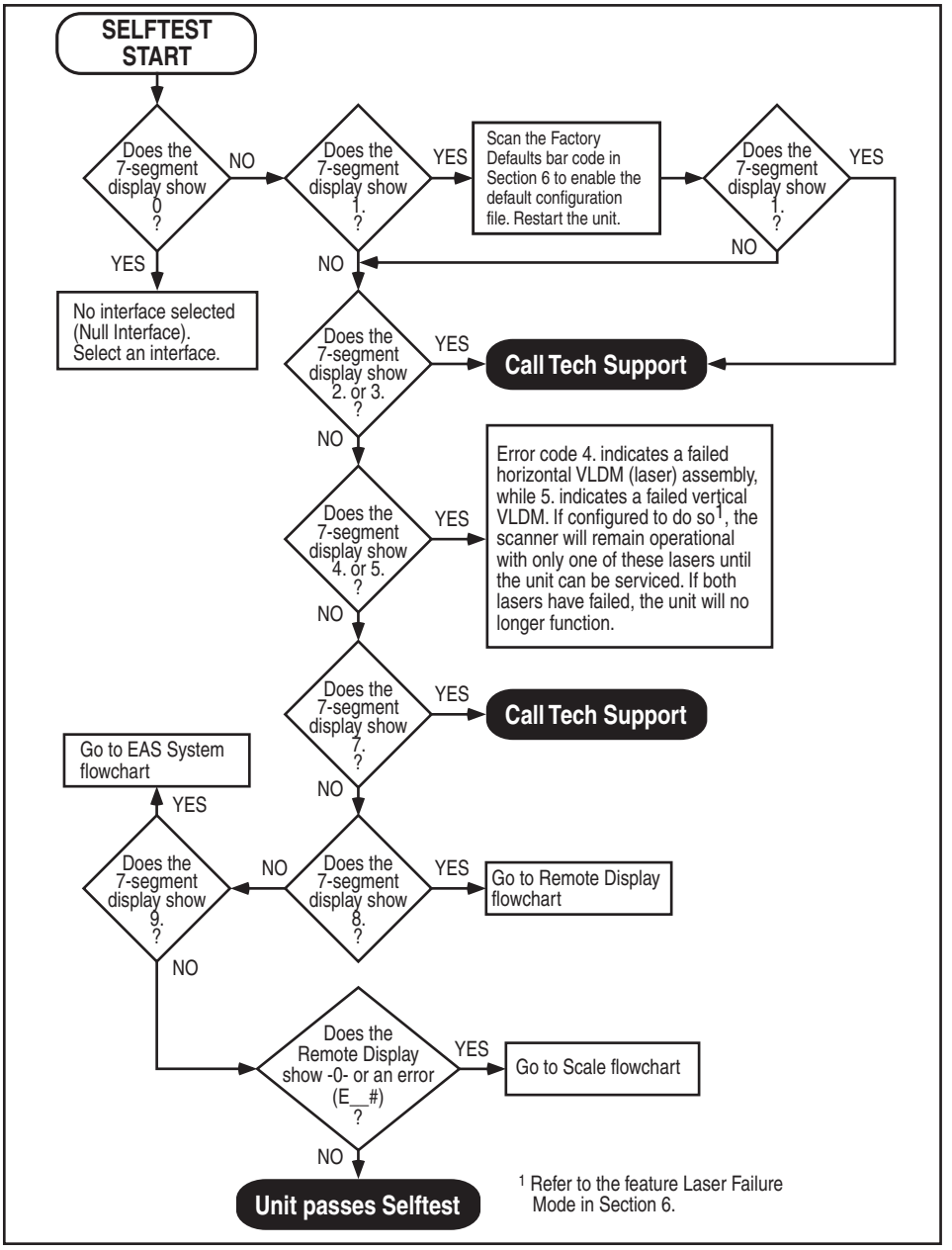


Figure 4-4. Problem Isolation: Poor/No Reading

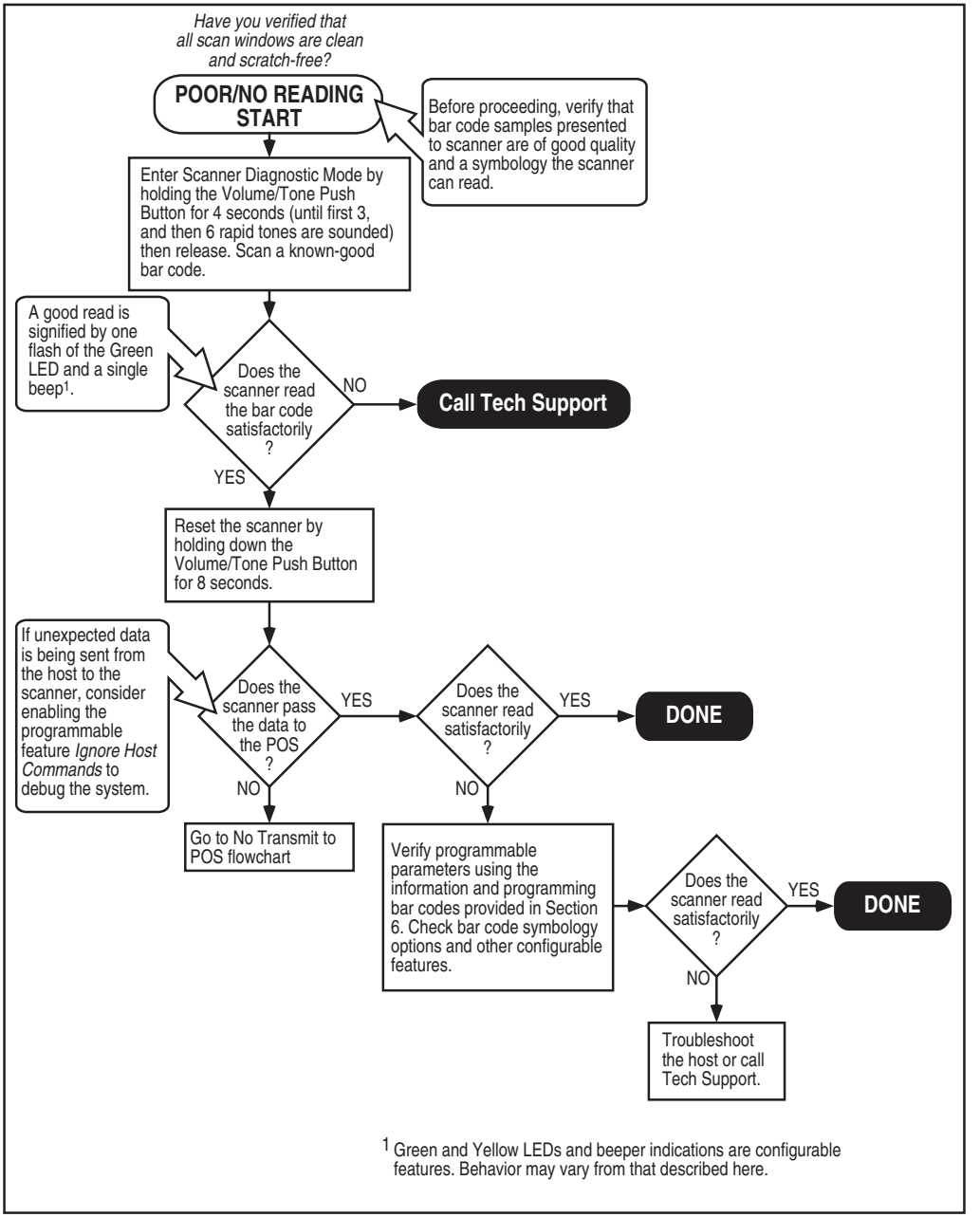


Figure 4-5. Problem Isolation: No Transmit to POS

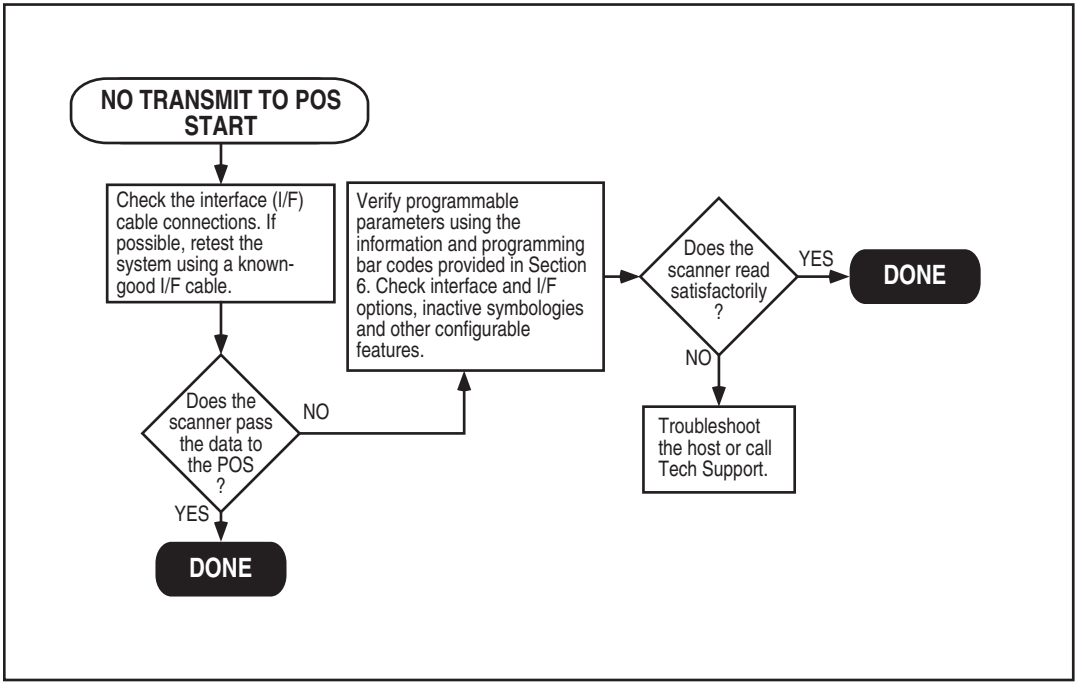


Figure 4-6. Problem Isolation: Scale

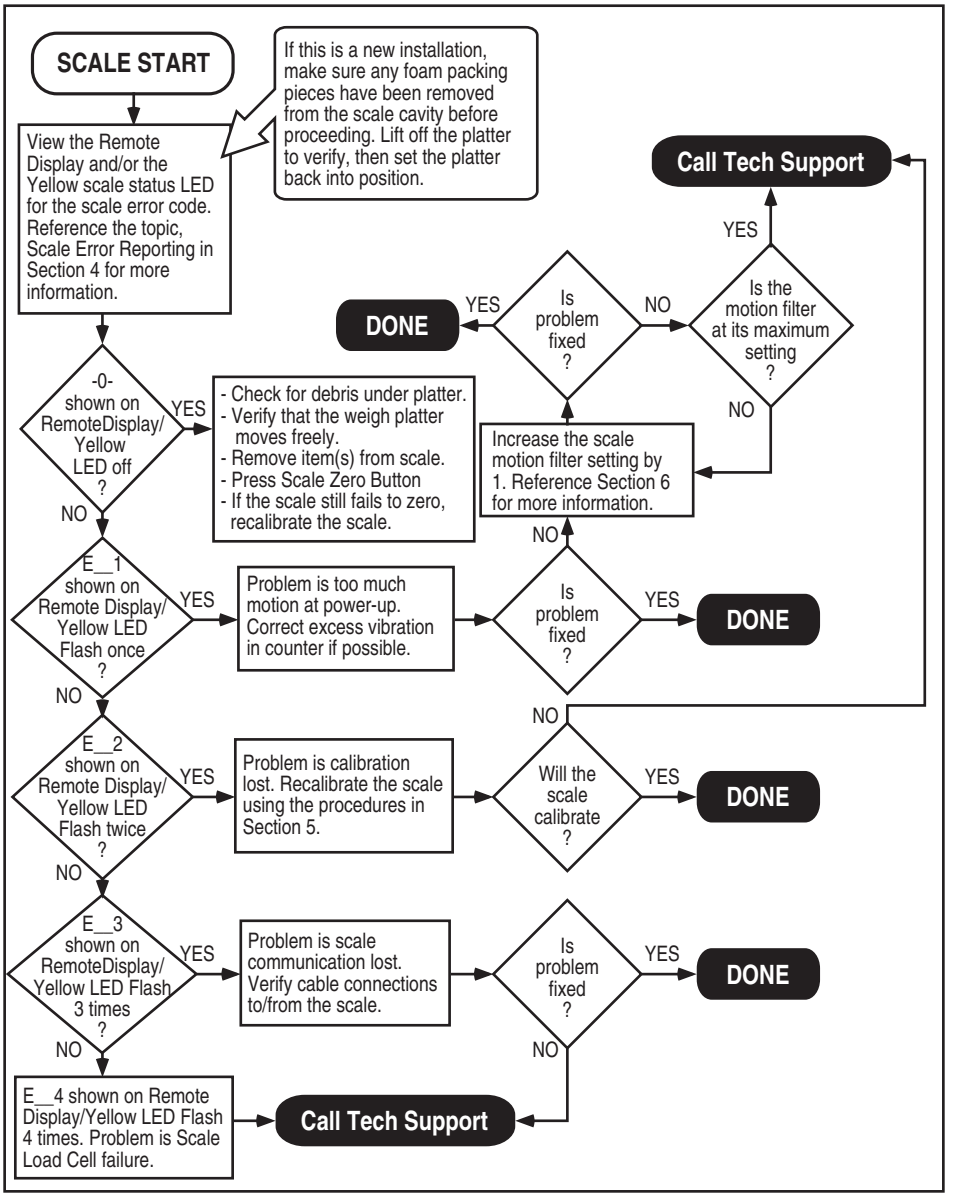


Figure 4-7. Problem Isolation: Remote Display

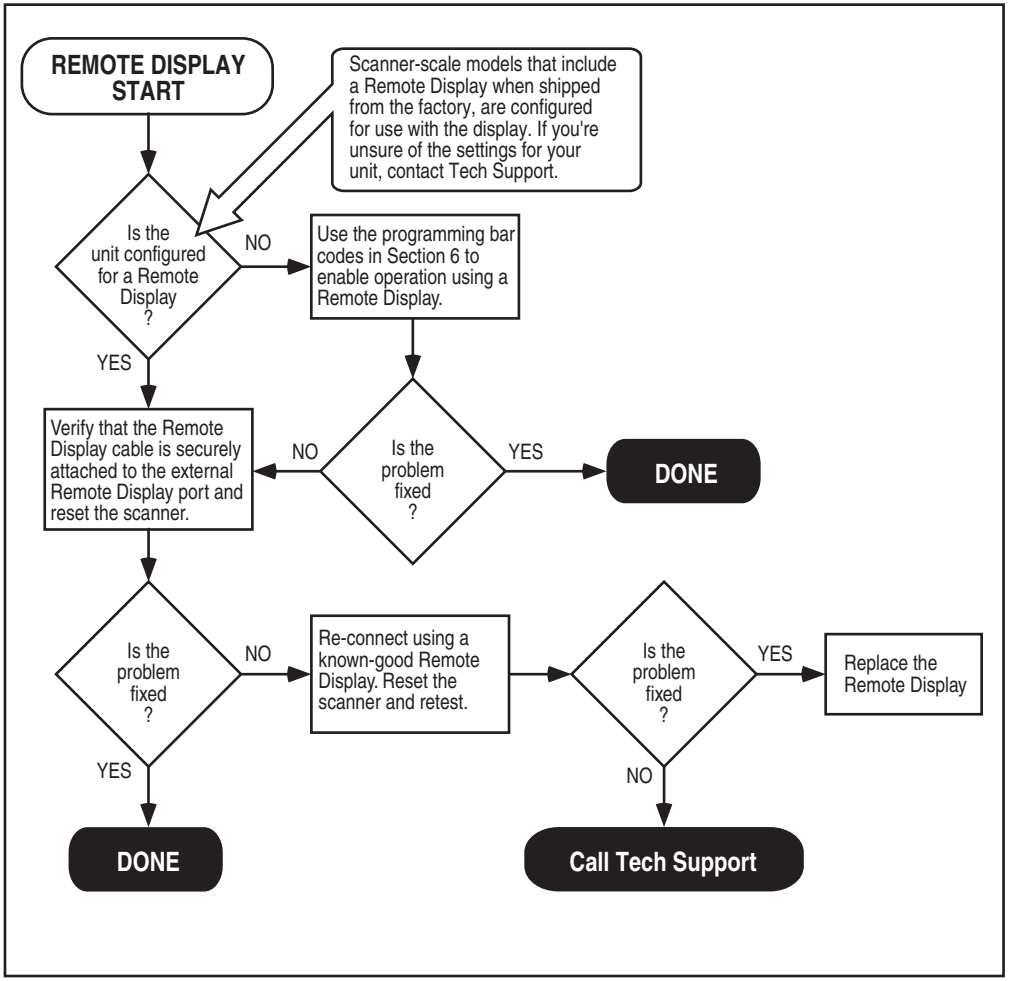
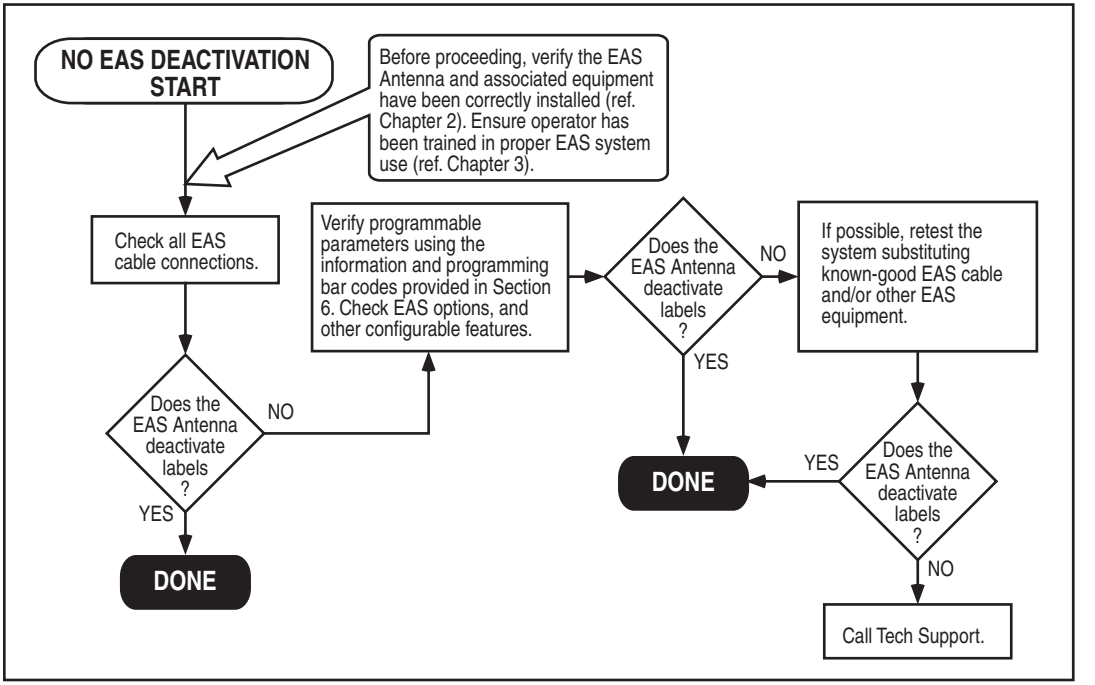


Figure 4-8. Problem Isolation: EAS System



Chapter 5
Calibration

A number of situations require the scale to be calibrated. They are:

- at initial installation of the scanner/scale
- if the scale cannot be re-zeroed
- if you change the weight measure from pounds to kilograms or vice-versa
- if diagnostics indicate a calibration error
- the weigh module has been replaced

Follow the procedures on the following pages to ensure that the scanner/scale will meet Weights and Measurement requirements.

LEGAL NOTE

Certification of the scanner/scale's weighing apparatus is subject to Federal, State and Local Weights and Measures statutes and is restricted to authorized government agencies and/or duly registered agents thereof. Anytime a scale is calibrated, it should be properly sealed with a lead and wire or paper seal before being placed into service.

It is your responsibility to check with the appropriate authorities in your area to ensure compliance with pertinent regulations before removing any official seals or placing a newly calibrated scanner/scale into service.

Description of Calibration Sequence

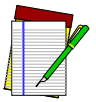
The Calibration Sequence sets the scale to an accurate reference point for weighing. This process involves the use of a Field Standard Weight Set (31.5-pounds) for calibration in pounds, (18.5-kilograms) for Metric. Once calibration has been successfully completed, the scanner/scale uses the certified weight as a reference for subsequent weighing activities.

These verification procedures follow the *U.S. National Institute of Standards and Technology 44 Handbook* guidelines for bench/counter scale installations.

If any of these tests fail to meet the required weight indications, you must calibrate the scanner/scale. Refer to the calibration procedures in this chapter for the proper procedures.

You may be required by state and/or local regulations to have procedures other than these performed by a certified technician or verification official.

Access to the calibration switch should be restricted with a paper or a wire and lead seal after the calibration has been performed if required by your local regulatory agency.



NOTE

The Calibration Sequence must be performed without removing the scanner/scale from its installed position.

The following tools and supplies will be required to perform the calibration process:

- 31.5 pound Field Standard Weight Set[1]. (English calibration only).
- 18.5 kilogram Field Standard Weight Set[2]. (Metric calibration only).

1. NOTE: Throughout the calibration procedures, specified weights may be achieved by using a combination of weights from this set. *eg.* 20 lbs may be made up of one 10.00 lb. weight and two 5.00 lb. weights.
2. NOTE: Throughout the calibration procedures, specific weights may be achieved by using a combination of weights from this set. *eg.* 10 kgs. may be made up of one 5.00 kg. and five 1.00 kg. weights.

- Lead/Wire or Paper Seal (as required by law).

Motion Test

This test verifies that the scale will not 'zero' when the weighing surface of the scanner/scale is in motion.

1. Verify that the Yellow LED[1] is on and the Remote Display reads 0.00 pounds or 0.000 kilograms.
2. Press lightly on the weigh platter of the scanner/scale with one hand and at the same time press and release the Zero Push Button on the operator's panel. The Yellow LED should turn Off and the Remote Display should not display 0.00 pounds or 0.000 kilograms.
3. Remove your hand from the weighing platform and verify that the Yellow LED is On and the Remote Display reads 0.00 pounds or 0.000 kilograms.

Automatic Zero Tracking Test

This test verifies that the scanner/scale automatic zero tracking mechanism is operating correctly.

1. Place 0.006 pounds (3 grams for metric) on the center of the weighing platform. The entire weight must be placed on the weighing platform at once for this test to be valid. The Yellow LED should go Off and the Remote Display should read 0.01 pounds (0.005 kilograms).

NOTE

The scanner/scale has an adaptive zero capture mechanism that re-zeros the scale over time if there is a slow change in the zero level; thus if all the weight is not placed on the weighing surface at one time, the Yellow LED will remain On and the Remote Display will read 0.00 pounds (0.000 kilograms). When the weight is removed, the Yellow LED will turn off and the display will show a minus sign [— . lb]. Press the Zero Push Button to re-zero the scale.

1. Yellow LED indications can be configured via feature programming and may not be enabled for certain functions.

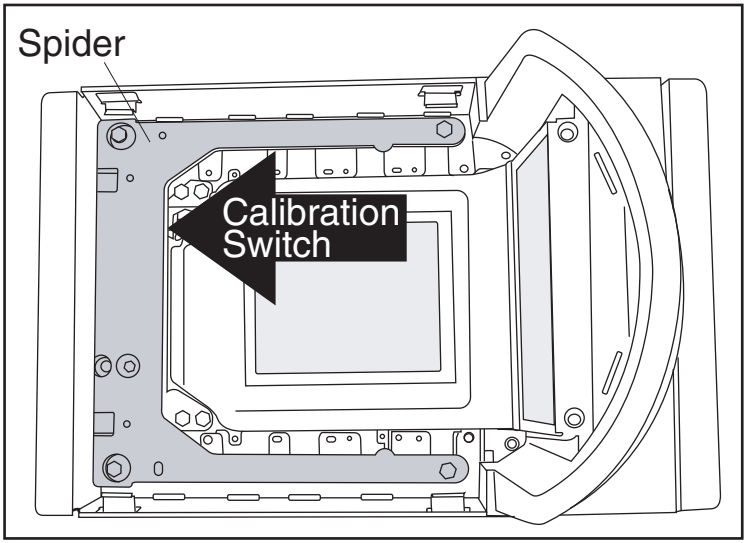
Preparing the Scanner/Scale for Calibration

1. Assure that the scanner/scale is stable, secure and properly installed. (Refer to Chapter 2, Site Preparation and Installation, for instructions on the proper installation of the scanner/scale).
2. Power-up the scanner/scale.
3. Allow the unit to reach temperature equilibrium for at least one hour. If the scanner/scale is already at room temperature, allow at least 15 minutes for acclimatization.
4. Before performing the calibration, the scanner/scale must be pre-stressed with a weight of more than 30 pounds (15kg). With power turned on, place the entire weight set (including the case) on the weighing surface of the scale. The display should show an underscore and three hyphens , which is the overweight indication.
5. Remove all weight from the weighing surface and ensure that there are no obstructions in the debris chutes of the scanner/scale. See Figure 2-5.

Calibrating the Scale (Pounds & Kilograms)

1. Before proceeding, ensure that the scanner/scale has been prepared for this process by performing the preceding steps titled, Preparing the Scanner/Scale for Calibration.
2. Remove the weigh platter and make sure that there are no obstructions in the debris chutes.
3. Cut and remove the seal that secures the calibration switch access cover as shown in Figure 5-1. The seal may not be present if this is the initial installation of the scanner/scale.

Figure 5-1. Calibration Switch Access



4. Press and release the Calibration Switch to place the scanner/scale in Calibration Mode. The scanner/scale will sound a tone indicating it is in Calibration Mode. If the motor was spinning when you initiated Calibration Mode, the motor will stop and the Yellow LED will begin flashing indicating the scale is in Calibration Mode. The display will show the message “ESCL” (empty scale).
5. Reinstall the weigh platter.
6. Press the Zero Push Button. The Yellow LED will go out for approximately 10 seconds (or less) and the Remote Display will alternately display [----] and [_ _ _ _] until the scale is ready to proceed.
7. When the scale is ready, the Yellow LED will begin blinking again and the display will show the message “Ad20 (add twenty pounds)” or “Ad10 (add ten kilograms).” The scanner/scale will also sound one tone if the scale is weighing in kilograms or two tones for pounds. Place the correct weight (twenty pounds for calibration in pounds, or ten kilograms for metric calibration) from the Field Standard Weight set on the center of the weighing area and press the Zero Push Button again.

8. The Yellow LED will extinguish for approximately 10 seconds and the Remote Display will alternately display and until the scale is ready to proceed.

9. If the calibration was successful, the speaker sounds a single tone, the Scale Status LED begins blinking again, and "End-" appears in the Remote Display.

10. If the calibration was not successful, the speaker will sound five tones indicating a scale failure, and the Scale Status LED will blink twice, strobe (fast blinks) and then continually repeat this sequence until reset. Remove all weight from the Weigh Platter, and repeat the procedure starting with step 7.

11. Press the Zero Push Button again to permanently store the calibration data and exit Calibration Mode. You have completed the calibration of the scanner/scale. The unit's calibration must now be verified as required by state and/or local weights and measures regulations. The verification procedure must be performed to assure that a scale will pass Weights and Measures requirements before it is placed into commercial/retail service.

You have completed the scale calibration procedure. You must now continue with the calibration verification tests to complete the scale's calibration. If you are weighing in pounds, continue with the following procedures to verify that the scale was successfully calibrated and that it weighs properly. If you are weighing in kilograms, turn to the instructions titled, Calibration Verification (Kilograms), later in this chapter.

Calibration Verification (U.S. Pounds)

Once you have completed the calibration sequence, you may be required to perform these step-by-step verification procedures. These procedures follow the *National Institute of Standards and Technology Handbook-44* guidelines for grocery scale installations. You may be required by state or local law to have these procedures performed by a certified technician or verified by a proper official.

These calibration verification procedures cover five different tests:

- Increasing-Load Test
- Shift Test
- Blanking Test
- Decreasing-Load Test
- Return to Zero Test

Increasing-Load Test (Phase 1)

This test checks Scale operation with five, ten and fifteen pound weights.

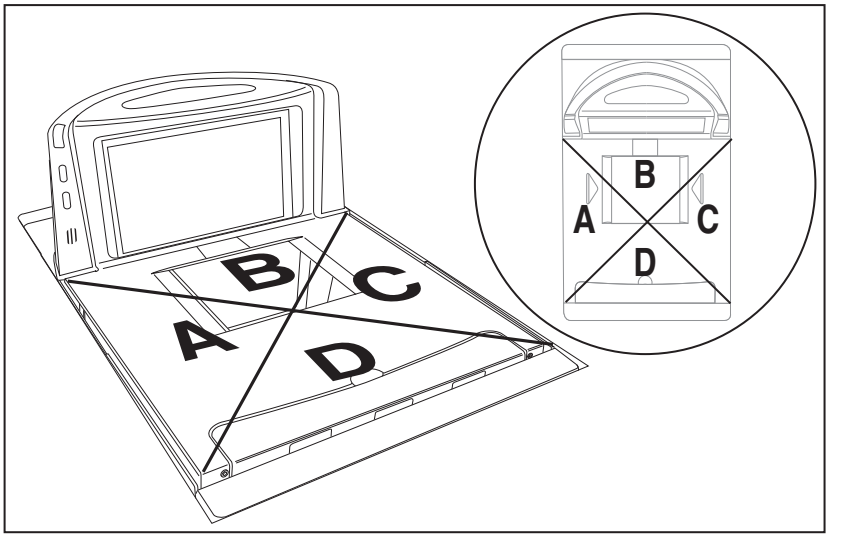
1. Check that the display reads 0.00 lb. when at rest with nothing on the weighing surface. (The Yellow LED is steadily lit).
2. Place a five-pound weight on the center of the weighing surface and check that the display reads 5.00 lb.
3. Place an additional five pounds on the center of the weighing surface and check that the display reads between 9.99 and 10.01 lb.
4. Place an additional five pounds on the center of the weighing surface and check that the display reads between 14.99 and 15.01. Remove the weights and verify that the display reads 0.00.
5. You have completed the Increasing-Load Test (Phase 1).

Shift Test

The Shift Test checks to ensure that items placed anywhere on the weighing surface of the scanner/scale are weighed properly. Refer to Figure 5-2 when performing this test.

1. Place and remove in succession, a fifteen-pound load on the center of each of the four quadrants (A, B, C, and D in Figure 5-2) of the scanner/scale's weigh platter. Verify that a reading of between 14.99 and 15.01 lb registers under load and that the display returns to 0.00 between each load.
2. After verifying the accuracy of each quadrant of the weighing surface, remove all weight from the scale. You have completed the Shift Test.

Figure 5-2. Shift Test



Increasing- Load Test (Phase 2)

After completing the Shift Test, you must complete the Increasing Load Test using 20.0, 25.0 and 30.0 pounds of weight.

NOTE

The upper limit of the scale is configurable according to POS interface type and may not necessarily be set at 30 pounds, which is the standard setting. For this test, continue to place weights in five pound increments only up to the upper weight limit set for your scale.

1. With the scale starting at zero, place 20.0 pounds in the center of the weighing surface and check that the display reads between 19.99 and 20.01 lb.
2. Place an additional five pounds in the center of the weighing surface, increasing the load to 25.0 pounds and check that the display reads between 24.99 and 25.01 lb.
3. Place an additional five pounds in the center of the weighing surface increasing the load to 30.0 pounds and check that the display reads between 29.99 and 30.01 lb.
4. Remove the weights and verify that the display reads 0.00.

Blanking Test

This test ensures that the scanner/scale will indicate its weighing capability has been exceeded if a weight greater than 0.05 pounds over its maximum upper weight limit is placed upon the unit.

1. Place weights that total the upper weight limit plus 0.051 pounds on the scale. For example: If the upper limit is set at 30 pounds, place weights equaling 30.051 pounds.
2. Verify that the display shows a dash and three hyphens (_ - - -). This is the overweight indication.

NOTE

The scanner/scale may blank (show an underscore and three hyphens) at any weight greater than its upper limit, but must blank when the upper limit plus 0.051 pounds are set upon the weighing surface.

Decreasing-Load Test

This test ensures that the scanner/scale responds properly when a heavy object is followed by a significantly smaller object.

1. Place a 30.0-pound load on the scale and verify that the display shows between 29.99 and 30.01 pounds.

NOTE

If the upper weight limit for your scale is not set at 30 pounds, begin by placing weight equaling your upper limit setting.

2. Remove weights to leave 20 pounds on the scale. Check that the display shows between 19.99 and 20.01.
3. Remove another 15.0 pounds from the scale and check that the scale reads 5.00 lb.
4. You have completed the Decreasing Load Test.

Return to Zero Test

This test ensures that, after all other tests have been completed successfully, the scanner/scale returns to zero. Remove all weights from the scale and verify that the scale reads 0.00 lb.

After completing this test, close the calibration access cover and seal per local Weights and Measures requirements. This final step must agree with the legal requirements of your state or local government.

You have completed the calibration and verification process for weighing in pounds.

If the scanner/scale passes all these tests,

1. Remove the weigh platter, install the calibration switch cover and install a seal (if required).
2. Reinstall the weigh platter.

If the scanner/scale fails any of these tests, it should be serviced by a qualified technician.

Calibration Verification (Kilograms)

Once you have completed the calibration sequence, you may be required to perform these step-by-step verification procedures. These procedures follow the *National Institute of Standards and Technology Handbook-44* guidelines for grocery scale installations. You may be required by state or local law to have these procedures performed by a certified technician or verified by a proper official.

These calibration verification procedures cover five different tests:

- Increasing-Load Test
- Shift Test
- Blanking Test
- Decreasing-Load Test
- Return to Zero Test

Increasing-Load Test (Phase 1)

This test checks Scale operation for increasing loads from 0.100 kg and 7.50 kg.

1. Check that the display reads 0.000 kg when at rest with nothing on the weighing surface. (The Yellow LED is steadily lit).
2. Place a 100 gram weight on the center of the weighing surface and check that the display reads 0.100 kg.
3. Place an additional 200 grams on the center of the weighing surface and check that the display reads 0.300 kg.
4. Place an additional 200 grams on the center of the weighing surface and check that the display reads 0.500 kg.
5. Place an additional 100 grams on the center of the weighing surface and check that the display reads 0.600 kg.
6. Place an additional 100 grams on the center of the weighing surface and check that the display reads 0.700 kg.
7. Place an additional 100 grams on the center of the weighing surface and check that the display reads 0.800 kg.

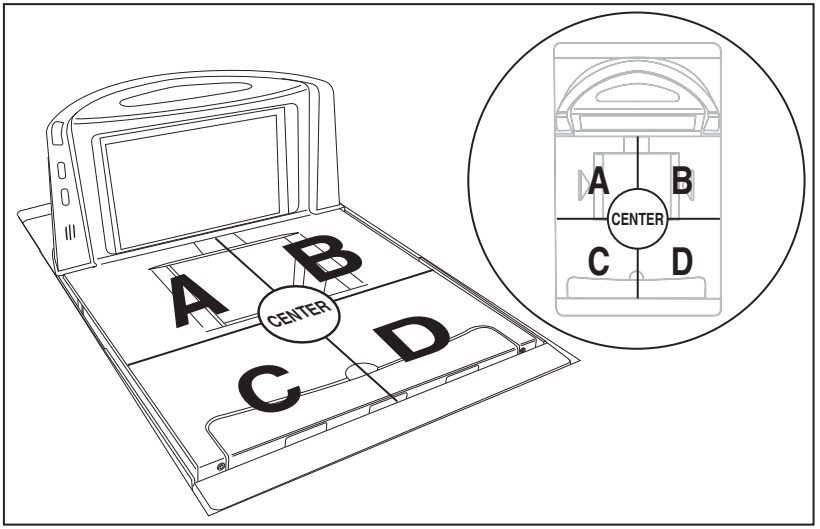
8. Place an additional 200 grams on the center of the weighing surface and check that the display reads 1.000 kg.
9. Increase the weight on the scale to 7.50 kg on the center of the weighing surface and check that the display reads between 7.495 and 7.505 kg.
10. Remove the weights and verify that the display reads 0.000 kg. You have completed the Increasing-Load Test (Phase 1).

Shift Test (Metric)

The Shift Test checks to ensure that items placed anywhere on the weighing surface of the scanner/scale are weighed properly. Refer to Figure 5-3 when performing this test.

1. Place and remove in succession, a 5.0 kilogram load on the center of each of the four quadrants (A, B, C, and D in Figure 5-3) and in the center of the scanner/scale's weighing platform. Verify that the display shows a reading of between 4.995 and 5.005 kg for each quadrant/center test and that the display returns to 0.000 between each load.
2. After verifying the accuracy of each quadrant and the center of the weighing surface, remove all weight from the scale. You have completed the Shift Test.

Figure 5-3. European Shift Test (Metric)



Increasing- Load Test (Phase 2)

After completing the Shift Test, you must complete the Increasing Load Test using 10.00, 12.50 and 15 kilograms of weight.

NOTE

The upper limit of the scale is configurable according to POS interface type and may not necessarily be set at 15 kilograms, which is the standard setting. For this test, continue to place weights in 2.50 kilgram increments only up to the upper weight limit set for your scale.

1. Place 10.00 kilograms in the center of the weighing surface and check that the display reads between 9.990 kg and 10.010 kg.
2. Place an additional 2.50 kilograms in the center of the weighing surface and check that the display reads between 12.490 kg and 12.510 kg.
3. Place an additional 2.50 kilograms in the center of the weighing surface and check that the display reads between 14.990 kg and 15.010 kg.
4. Remove the weights and verify that the display reads 0.000 kg.

5. You have completed phase two of the increasing load test.

Blanking Test

This test ensures that the scanner/scale will indicate its weighing capability has been exceeded if a weight greater than 0.82 over its maximum upper weight limit is placed upon the unit.

1. Place weights that total the upper limit plus 0.82 kilograms on the weigh platter. For example: If the upper limit is set at 15 kilograms, place weights equaling 15.82 kilograms.
2. Verify that the display shows a dash and three hyphens (_ - - -). This is the overweight indication.

NOTE

The scanner/scale may blank (show an underscore and three hyphens) at any weight greater than its upper limit, but must blank when the upper limit plus 0.82 pounds are set upon the weighing surface.

Decreasing-Load Test

This test ensures that the scanner/scale responds properly when a heavy object is followed by a significantly smaller object.

1. Place weights that total 15.8 kilograms.

NOTE

If the upper weight limit for your scale is not set at 15 kilograms, begin by placing weight equaling your upper limit setting plus 0.8 kilograms.

2. Remove weights to leave 10 kilograms on the scale and verify that the display shows between 9.990 and 10.010 kilograms.
3. Remove an additional 9.00 kilograms from the scale and check that the scale reads 1.000 kg.
4. You have completed the Decreasing Load Test.

Return to Zero Test

This test ensures that, after all other tests have been completed successfully, the scanner/scale returns to zero. Without any weight on the weigh platter, verify that the scale reads 0.000 kg.

You have completed the calibration and verification process for weighing in kilograms.

If the scanner/scale passes all these tests,

1. Remove the weigh platter, install the calibration switch cover and install a seal (if required).
2. Reinstall the weigh platter.

If the scanner/scale fails any of these tests, it should be serviced by a qualified technician.

NOTES

Chapter 6
Programming

Introduction to Label Programming

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

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

Understanding the Basics

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

Integrating the Scanner With Your Host System

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

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

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

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

Customizing Your Scanner's Operation

Most scanner programming falls within three general categories:

- General Scanner Features — are features common to all interface types. Examples include beeper adjustments such as volume and length, read verification settings, etc.
- EAS Features — control the settings for interfacing with the [optional] EAS device.

- Interface Related Features — are the mandatory settings necessary to allow communication with your host terminal. Examples of these settings are: RS-232 baud rate and parity.

CAUTION

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

NOTE

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

- Symbology Programming — gives the scanner the capability to autodiscriminate as few as one, and as many as all available symbologies. For optimal scanner performance enable only those symbologies required. Additionally the scanner may be programmed with the standard options available for the various symbologies, such as check digit, minimum label length, fixed and variable length bar codes, etc.

If you experience difficulties, have questions or require additional information, contact your local distributor, or call your dealer or sales representative.

Programming Overview

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

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

NOTE

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

Programming via Handheld Device

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

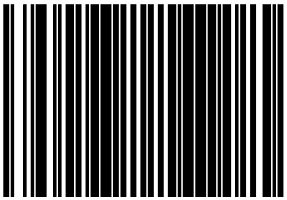
What Is Programming Mode?

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

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

Entering and Exiting Programming Mode.

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



SWITCH LABEL

Programming Session

A typical programming session is conducted as follows:

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

NOTE

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

NOTE

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

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

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

NOTE

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

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

   The scanner will exit Programming Mode under the following conditions:

   — the programming sequence has been completed or the SWITCH bar code is scanned

   — five minutes have passed without scanning activity. Any data programmed during the current session will be ignored[1], and the scanner will reset and revert to its condition previous to initiating the exited session.

   — power is disconnected. Disconnecting power during Programming Mode, before scanning the SWITCH bar code, will cause all new settings to be ignored. On power-up, the scanner will return to previous settings.

4. Maintain a good record of all changes made to ensure that you know if the original factory settings have been changed.

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

Programming Sequence

To modify a scanner feature (item), the programming bar codes contained in this manual must be scanned in a given sequence depending upon the feature being programmed (as shown in Table 6-1). There are three possible programming sequences:

NOTE

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

A. Programming sample A (the most commonly used format) demonstrates how three bar codes are scanned in sequence to do the following:

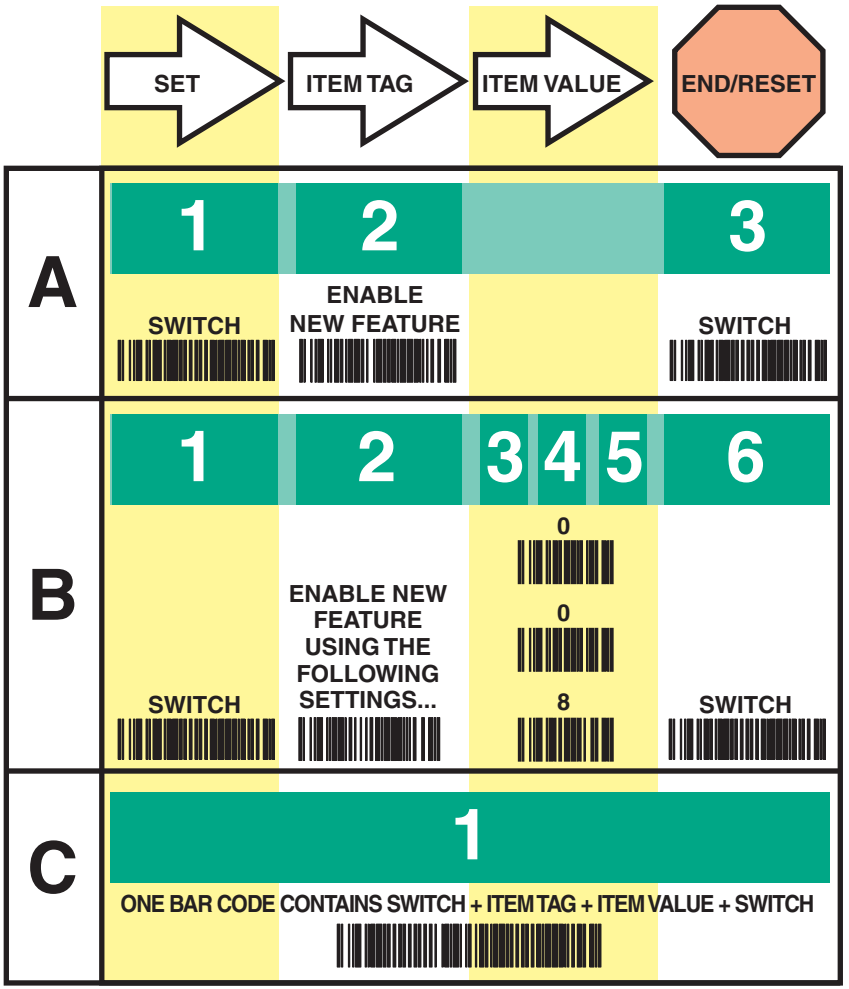
   1. Place the scanner in Programming Mode (SWITCH bar code).
   2. Scan the Item Tag[1] that will enable the new feature.
   3. End the programming session and reset the scanner (SWITCH bar code).

B. Sample B provides an example of a programming feature requiring the entry of a range value. Like sample A, the scanner is placed in Programming Mode and an Item Tag[1] is scanned. Then, a value must be entered before ending the programming session. In the example, three digits must be scanned from the number pad in Appendix C. This type of format, requiring several bar codes, is necessary to allow flexible programming for item values with larger numeric ranges.

C. The programming sequence shown in example C requires scanning of a single, extended length bar code. This special programming bar code contains all the data necessary to enter Programming Mode, set the Item Tag[1] and Item Value, and exit Programming Mode (all in one step).

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

Table 6-1. Programming Sequence



LED and Beeper Indicators

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

If You Make a Mistake...

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

Return to Factory Settings

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

CAUTION

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

NOTE

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

RETURN TO FACTORY SETTINGS

Test Mode

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

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

NOTE

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

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

TEST MODE = DISABLE

TEST MODE = ENABLE

General Scanner Features

Scanner Button Options

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

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

To set this feature:

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

SCANNER BUTTON OPTIONS = DISABLE SCANNER BUTTON

Scanner Button Options — continued

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

SCANNER BUTTON OPTIONS = ENABLE STANDARD FUNCTIONS

SCANNER BUTTON OPTIONS = ENABLE RESET ONLY

Double Read Timeout

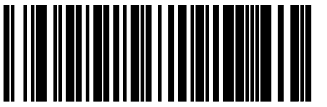
The Double Read Timeout feature sets a time limit that determines how much time must pass before reading the same label again (e.g. two identical items in succession).

To set the Double Read Timeout:

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

NOTE

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



DOUBLE READ TIMEOUT = 400ms

DOUBLE READ TIMEOUT = 600ms

Double Read Timeout — continued

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

DOUBLE READ TIMEOUT = 800ms

DOUBLE READ TIMEOUT = 1 SECOND

Laser Timeout

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

To set the Laser Timeout:

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

LASER TIMEOUT = 5 MINUTES

Laser Timeout — continued

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

LASER TIMEOUT = 10 MINUTES

LASER TIMEOUT = 15 MINUTES

Motor Timeout

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

NOTE

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

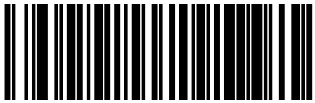
To set the Motor Timeout:

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

MOTOR TIMEOUT = 5 MINUTES

Motor Timeout — continued

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

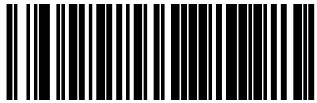


MOTOR TIMEOUT = 10 MINUTES

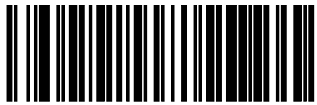
MOTOR TIMEOUT = 15 MINUTES

Motor Timeout — continued

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



MOTOR TIMEOUT = 30 MINUTES



MOTOR TIMEOUT = 60 MINUTES

Label Gone Timeout

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

To set the Label Gone Timeout:

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

Label Gone Timeout — continued

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

LABEL GONE TIMEOUT = 160 mS

LABEL GONE TIMEOUT = 250 mS

Label Gone Timeout — continued

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

LABEL GONE TIMEOUT = 500 mS

LABEL GONE TIMEOUT = 1 Second

Auxiliary Port Mode

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

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

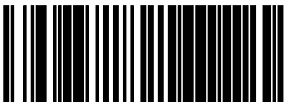
NOTE

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

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

To set this feature:

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

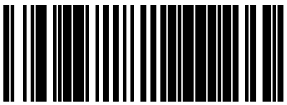


AUXILIARY PORT MODE = DISABLE

Auxiliary Port Mode — continued

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

AUXILIARY PORT MODE = EXTERNAL HANDHELD INPUT



AUXILIARY PORT MODE = PIR/CT

Auxiliary Port Baud Rate

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

NOTE

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

To specify the Auxiliary Port Baud Rate:

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

AUXILIARY PORT BAUD RATE = 1200

AUXILIARY PORT BAUD RATE = 2400

Auxiliary Port Baud Rate — continued

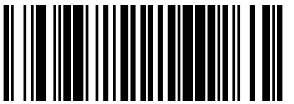
Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.

RS-232 BAUD RATE = 4800

RS-232 BAUD RATE = 9600

Auxiliary Port Baud Rate — continued

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

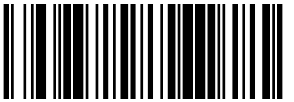


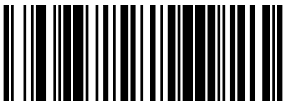
RS-232 BAUD RATE = 19200

RS-232 BAUD RATE = 38400

Auxiliary Port Baud Rate — continued

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


RS-232 BAUD RATE = 57600


RS-232 BAUD RATE = 115200

Laser Failure Mode

This configuration item selects whether the scanner should continue operating if only one laser is functional. (The scanner has two lasers: One for the horizontal window, and one for the vertical window.) Options for this feature are:

- Single Laser Failure OK — The scanner can still operate even if one laser is no longer functional. In this mode the scanner will read only from the window associated with the operational laser. This provides the user the ability to continue working until the unit is serviced. The 7-segment display will show the error code for the failed laser (reference Chapter 4, Error Codes), but the scanner will continue to function.
- Single Laser Failure Fatal — If it is desirable to have maximum performance or nothing at all, Laser Failure Mode should be selected as fatal. Upon single laser failure, the scanner will sound an error tone and cease scanning functions until serviced.

To set this feature:

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

LASER FAILURE MODE = SINGLE LASER FAILURE OK

LASER FAILURE MODE = SINGLE LASER FAILURE FATAL

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

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

NOTE

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

To set this feature:

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

PIR/CT = DISABLE

PIR/CT = ENABLE

Indication Features

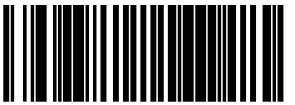
Green LED Idle State

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

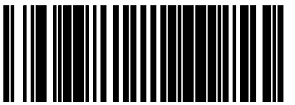
- Off
- On dim

To set the LED Idle State:

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



GREEN LED IDLE STATE = OFF



GREEN LED IDLE STATE = ON DIM

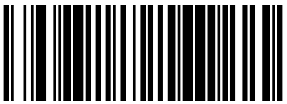
Power-up Beep Control

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

- No beep
- One beep
- Three beeps

To set the Power-up Beep:

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


POWER-UP BEEP = OFF

POWER-UP BEEP = ONE BEEP

Good Read Beep Control

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

To set this feature:

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

GOOD READ BEEP = DISABLE

GOOD READ BEEP = ENABLE

Good Read Beep Frequency

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

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

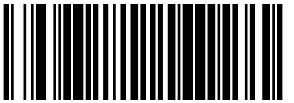
To set the Good Read Beep Frequency:

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

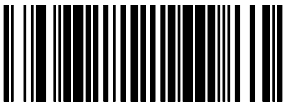
GOOD READ BEEP FREQUENCY = LOW

Good Read Beep Frequency — continued

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



GOOD READ BEEP FREQUENCY = MEDIUM



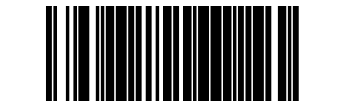
GOOD READ BEEP FREQUENCY = HIGH

Good Read Beep Length

Specifies the duration of a good read beep.

To set the good read beep length:

1. Scan the SWITCH bar code.
2. Scan the bar code, SET GOOD READ BEEP LENGTH. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in Appendix C that represent the desired good read beep length setting. The selectable range is 1-255, which is the timeout in 10-millisecond increments. Pad all single and double digit numbers with leading zeroes to yield a three-digit entry (001-255).
   Examples:
   001 = 10ms
   005 = 50ms
   040 = 400ms
   250 = 2,500ms (2.5 seconds)
4. The scanner will automatically exit Programming Mode when the appropriate amount of digits have been scanned


SET GOOD READ BEEP LENGTH

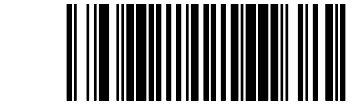
Good Read Beep Volume

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

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

To set the Good Read Beep Volume:

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

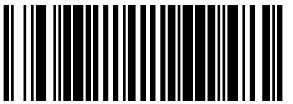


GOOD READ BEEP VOLUME = LOWEST

Good Read Beep Volume — continued

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

GOOD READ BEEP VOLUME = MEDIUM LOW



GOOD READ BEEP VOLUME = MEDIUM

Good Read Beep Volume — continued

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

GOOD READ BEEP VOLUME = HIGHEST

Good Read When to Indicate

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

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

NOTE

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

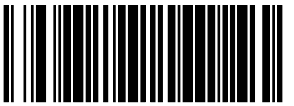
To set the Good Read When to Indicate feature:

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

GOOD READ = INDICATE AFTER DECODE

Good Read When to Indicate — continued

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



GOOD READ = INDICATE AFTER TRANSMIT

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

Scale Features

Scale Enable

Use this feature to enable or disable scale operation.

NOTE

Recalibration/recertification may be required when adding scale functionality. Consult your local Weights and Measures authority.

If this feature is enabled the scanner will expect that it is to function as a scanner-scale, and will indicate an error if it is not a scale-equipped unit. See Chapter 4, Error Codes, for more information.

To set this feature:

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

SCALE = DISABLE

SCALE = ENABLE

Scale Enforced Zero Return

This feature enables/disables the enforced zero return of the scale. Three settings are available for this feature:

- Disable
- Scale Must Return to Zero Weight Within Two Minutes — Scale will require re-zeroing if a non-zero weight is left on for more than two minutes or if the scale is below zero.
- Scale Must Return to Zero Weight Between Weight Requests — Re-zeroing is required if weight doesn't return to zero between weight requests from the POS, plus scale will require re-zeroing if a non-zero weight is left on for more than two minutes or if the scale is below zero.
- Non-Zero for Two Minutes — Re-zeroing is required if weight does not return to zero within two minutes.

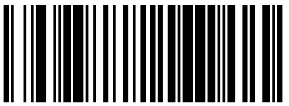
To set this feature:

1. Scan the SWITCH bar code.
2. Scan your selection from the bar codes below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan. The strategy is to select the lowest possible filter level needed that allows normal scale operation.
3. Complete the programming sequence by scanning the SWITCH bar code.

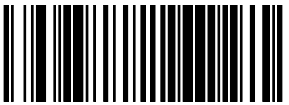
SCALE ENFORCED ZERO RETURN = DISABLE

Scale Enforced Zero Return — continued

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



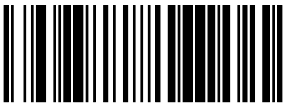
SCALE ENFORCED ZERO RETURN =
NON-ZERO FOR 2 MINUTES OR BELOW ZERO



SCALE ENFORCED ZERO RETURN = NON-ZERO FOR 2 MINUTES OR BELOW ZERO OR NO ZERO BETWEEN WEIGHTS

Scale Enforced Zero Return — continued

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



SCALE ENFORCED ZERO RETURN =
NON-ZERO FOR 2 MINUTES

Scale Interface Type

Use this feature to select the scale interface type. Choices are:

- No Scale Interface
- RS-232 — SASI
- RS-232 — ICL

To set the Scale Interface Type:

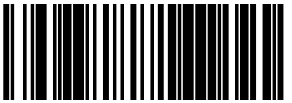
1. Scan the SWITCH bar code.
2. Scan your selection from the bar codes below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.

SCALE INTERFACE TYPE = NO SCALE INTERFACE

SCALE INTERFACE TYPE = RS-232 — SASI

Scale Interface Type — continued

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



SCALE INTERFACE TYPE = RS-232 — ICL

Scale Calibration Notification

When enabled, this feature allows the host to be notified of a calibration event.

To set this feature:

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

SCALE CALIBRATION NOTIFICATION = DISABLE

SCALE CALIBRATION NOTIFICATION = ENABLE

Scale Intercharacter Delay

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

To specify the intercharacter delay:

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

   001 = 10ms

   005 = 50ms

   040 = 400ms

   100 = 1,000ms (1 second)
4. The scanner will automatically exit Programming Mode when the appropriate amount of digits have been scanned.

SCALE INTERCHARACTER DELAY

Remote Display — Enable/Disable

The scanner-scale can be configured to operate with or without a Remote Display.

Recalibration/recertification may be required when adding a Remote Display. Consult your local Weights and Measures authority.

NOTE **If this feature is enabled the scanner-scale will expect that it is connected to a Remote Display, and will indicate an error if one is not. See Chapter 4, Error Codes, for more information.**

REMOTE DISPLAY = DISABLE

REMOTE DISPLAY = ENABLE

EAS Features

EAS Active State

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

To set the EAS Active State:

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

EAS ACTIVE STATE = ACTIVE LOW

EAS ACTIVE STATE = ACTIVE HIGH

EAS Timeout

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

To set the EAS Timeout:

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

   000 = EAS timeout disabled

   001 = 10ms

   005 = 50ms

   040 = 400ms

   250 = 2,500ms (2.5 seconds)

NOTE

A setting of 0 (000) disables this feature.

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

SET EAS TIMEOUT

Interface Related Features

Interface Type

Specifies the current scanner interface. Selections are:

INTERFACE (I/F) TYPE	I/F I.D. NUMBER[a]
RS-232 Standard	05
RS-232 Wincor-Nixdorf	12
RS-232 Single Cable	20
IBM USB	45
IBM Port 17	04
IBM Port 5B	08
IBM Port 9B	23
USB Keyboard	35
NOT USER-SELECTABLE	
Null Interface	7-segment FRU display indicates 0 at start-up (accompanied by trill beep for approx. 2 seconds)

INTERFACE (I/F) TYPE	I/F I.D. NUMBER[a]
Keyboard Wedge A	25
Keyboard Wedge B	26
Keyboard Wedge C	27
Keyboard Wedge D	28
Keyboard Wedge E	29
Keyboard Wedge F	2A
Keyboard Wedge G	31
Keyboard Wedge H	32
Keyboard Wedge I	33
Keyboard Wedge J	34

a. To access a scanner's interface identification number, place the scanner in Scanner Diagnostic Mode and view the 7-segment FRU display (reference Chapter 2, Scanner Diagnostic Mode, for more information).

Interface Type — continued

NOTE

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

NOTE

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

To select the desired interface:

CAUTION

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

NOTE

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

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

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

NOTE

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

5. Connect new interface cable(s).

RS-232 Interface Selection

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

CAUTION

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

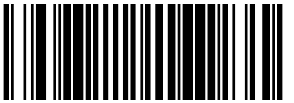
INTERFACE TYPE = RS-232 STANDARD

RS-232 Wincor-Nixdorf Interface Selection

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

CAUTION

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



INTERFACE TYPE = RS-232 WINCOR-NIXDORF

RS-232 Single Cable Interface Selection

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

CAUTION

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

NOTE

Single cable installations require connection at the POS Terminal (host) port. The Scale Host port connection is not used for this interface.

INTERFACE TYPE = RS-232 SINGLE CABLE

IBM USB Interface Selection

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

CAUTION

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

NOTE

Single cable installations require connection at the POS Terminal (host) port. The Scale Host port connection is not used for this interface.

INTERFACE TYPE = IBM USB

IBM Port 17 Interface Selection

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

CAUTION

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

NOTE

Single cable installations require connection at the POS Terminal (host) port. The Scale Host port connection is not used for this interface.

INTERFACE TYPE = IBM PORT 17

IBM Port 5B Interface Selection

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

CAUTION

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

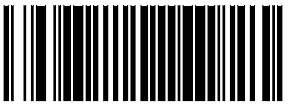
INTERFACE TYPE = IBM PORT 5B

IBM Port 9B Interface Selection

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

CAUTION

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



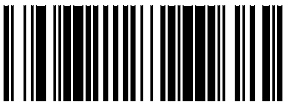
INTERFACE TYPE = IBM PORT 9B

USB Keyboard Interface Selection

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

CAUTION

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



INTERFACE TYPE = USB KEYBOARD

Keyboard Wedge A Interface Selection

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

CAUTION

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

INTERFACE TYPE = KEYBOARD WEDGE A

Keyboard Wedge B Interface Selection

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

CAUTION

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

INTERFACE TYPE = KEYBOARD WEDGE B

Keyboard Wedge C Interface Selection

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

CAUTION

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

INTERFACE TYPE = KEYBOARD WEDGE C

Keyboard Wedge D Interface Selection

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

CAUTION

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

INTERFACE TYPE = KEYBOARD WEDGE D

Keyboard Wedge E Interface Selection

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

CAUTION

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

INTERFACE TYPE = KEYBOARD WEDGE E

Keyboard Wedge F Interface Selection

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

CAUTION

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

INTERFACE TYPE = KEYBOARD WEDGE F

Keyboard Wedge G Interface Selection

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

CAUTION

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

INTERFACE TYPE = KEYBOARD WEDGE G

Keyboard Wedge H Interface Selection

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

CAUTION

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

INTERFACE TYPE = KEYBOARD WEDGE H

Keyboard Wedge I Interface Selection

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

CAUTION

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

INTERFACE TYPE = KEYBOARD WEDGE I

Keyboard Wedge J Interface Selection

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

CAUTION

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

INTERFACE TYPE = KEYBOARD WEDGE J

Maximum Host-Transmitted Message Length

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

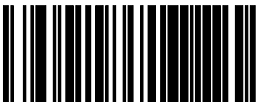
To set the Maximum Host-Transmitted Message Length:

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

NOTE

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

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



SET MAXIMUM HOST-TRANSMITTED MESSAGE LENGTH

Number of Host Transmission Buffers

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

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

To select the Number of Host Transmission Buffers:

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

NUMBER OF HOST TRANSMISSION BUFFERS = 1

NUMBER OF HOST TRANSMISSION BUFFERS = 2

AIM ID

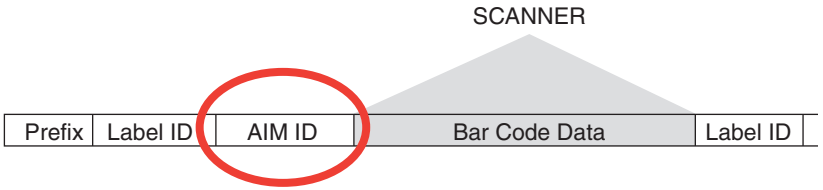
AIM label identifiers (as opposed to custom characters you select yourself as with label identifiers) can be included with scanned bar code data. AIM label identifiers consist of three characters as follows:

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

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

a. ISBN (X with a 0 modifier character)

Figure 6-1. AIM ID



AIM ID — continued

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

AIM ID: DISABLE

AIM ID: ENABLE

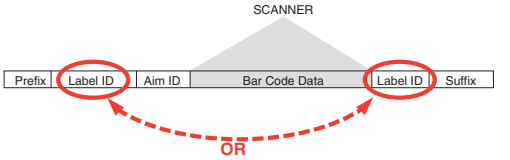
Label ID Control

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

To configure a Label ID:

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

Figure 6-2. Label ID Position Options



Label ID Control — continued

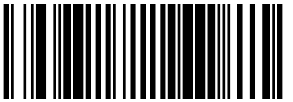
Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.

LABEL ID TRANSMISSION: DISABLE

LABEL ID TRANSMISSION: BEFORE BAR CODE DATA

Label ID Control — continued

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



LABEL ID TRANSMISSION: AFTER BAR CODE DATA

Global Prefix

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

To specify the Global Prefix Character(s):

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

NOTE

To specify "no Global Prefix," scan 00.

4. If designating the full 20 hex pairs, the scanner will automatically exit Programming Mode when the appropriate amount of digits have been scanned. If designating less than 20 hex pairs, you can end the programming sequence early by scanning the TERMINATE SEQUENCE bar code.
5. Complete the programming sequence by scanning the SWITCH bar code.

Global Prefix — continued

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

SET GLOBAL PREFIX

TERMINATE SEQUENCE

Global Suffix

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

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

To set the Global Suffix:

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

GLOBAL SUFFIX = NO GLOBAL SUFFIX

Global Suffix — continued

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

GLOBAL SUFFIX = CR

GLOBAL SUFFIX = CR LF

Case Conversion

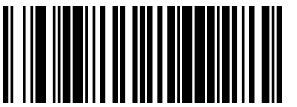
Changes the case of all alphabetic characters to upper or lower case.

Choices are:

- No case conversion
- Upper case
- Lower case

To configure this feature:

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



CASE CONVERSION = NO CASE CONVERSION

Case Conversion — continued

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

CASE CONVERSION = UPPER CASE

CASE CONVERSION = LOWER CASE

IBM Features

IBM Interface Options

IBM interfaces offer specific control over interaction with certain devices.

NOTE

The IBM USB interface provides its own set of options. Refer to the feature, IBM USB Scanner Device Type, in this chapter.

Options for this feature are as follows:

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

To set this feature:

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

IBM INTERFACE OPTION = FULL HOST INTERFACE SUPPORT

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

IBM Number of Host Resets

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

To set the number of host resets:

1. Scan the SWITCH bar code.
2. Scan the bar code, SET IBM NUMBER OF HOST RESETS. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in Appendix C that represent the desired number of host resets. The selectable range is 1-15 resets. Pad all single and double digit numbers with leading zeroes to yield a three-digit entry (001-015).
   Examples:
   001 = 1 reset
   005 = 5 resets
   011= 11 resets
4. The scanner will automatically exit Programming Mode when the appropriate amount of digits have been scanned

SET IBM NUMBER OF HOST RESETS

IBM Scale Address

NOTE

This feature applies to IBM Port 17 ONLY.

Specifies IBM scale address for IBM Port 17. The following three addresses are available:

- 6A
- 6B
- 6E

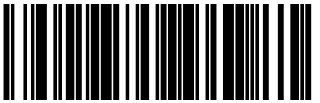
To set the IBM Scale Address:

1. Scan the SWITCH bar code.
2. Scan the bar code below or from the following page that represents the desired scale address designation.
3. Complete the programming sequence by scanning the SWITCH bar code.

IBM SCALE ADDRESS = 6A

IBM Scale Address — continued

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



IBM SCALE ADDRESS = 6B

IBM SCALE ADDRESS = 6E

IBM Transmit Labels in Code 39 Format

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

NOTE

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

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

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

IBM TRANSMIT LABELS IN CODE 39 FORMAT = DISABLE

IBM TRANSMIT LABELS IN CODE 39 FORMAT = ENABLE

IBM Label Slicing Control

Enables/disables the slicing of IBM-46XX host transmission data into multiple pieces when a label is longer than the length specified by IBM Maximum Label Slice Length.

Options are:

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

To set this feature:

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

IBM LABEL SLICING CONTROL = DISABLE LABEL SLICING

IBM LABEL SLICING CONTROL = ENABLE LABEL SLICING

IBM Maximum Label Slice Length

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

NOTE

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

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

SET IBM MAXIMUM LABEL SLICE LENGTH

IBM USB Scanner Device Type

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

- Table Top Scanner
- Handheld Scanner

To set this feature:

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

IBM USB SCANNER DEVICE TYPE = TABLE TOP SCANNER

IBM USB SCANNER DEVICE TYPE = HANDHELD SCANNER

RS-232 Features

RS-232 Baud Rate

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

NOTE

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

To specify the RS-232 Baud Rate:

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

RS-232 BAUD RATE = 1200

RS-232 BAUD RATE = 2400

RS-232 Baud Rate — continued

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

RS-232 BAUD RATE = 4800

RS-232 BAUD RATE = 9600

RS-232 Baud Rate — continued

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

RS-232 BAUD RATE = 19200

RS-232 BAUD RATE = 38400

RS-232 Baud Rate — continued

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

RS-232 BAUD RATE = 57600

RS-232 BAUD RATE = 115200

RS-232 Number of Data Bits

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

NOTE

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

To set this feature:

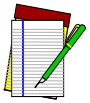
1. Scan the SWITCH bar code.
2. Scan the bar code below representing the desired Data Bit setting. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar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

RS-232 NUMBER OF DATA BITS = 7

RS-232 NUMBER OF DATA BITS = 8

RS-232 Number of Stop Bits

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



NOTE

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

To set this feature:

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

RS-232 NUMBER OF STOP BITS = 1

RS-232 NUMBER OF STOP BITS = 2

RS-232 Parity

Specifies parity required for sending and receiving data.

NOTE

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

Options for this setting are:

- RS-232 PARITY = NONE
- RS-232 PARITY = EVEN
- RS-232 PARITY = ODD

To set this feature:

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

RS-232 PARITY = NONE

RS-232 Parity — continued

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

RS-232 PARITY = EVEN

RS-232 PARITY = ODD

RS-232 Hardware Control

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

Options are:

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

To set this feature:

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

RS-232 HARDWARE CONTROL = DISABLE

RS-232 Hardware Control — continued

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

RS-232 HARDWARE CONTROL = ENABLE CTS FLOW CONTROL

RS-232 HARDWARE CONTROL = ENABLE CTS SCAN CONTROL

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

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

RS-232 Intercharacter Delay

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

To set the RS-232 Intercharacter Delay:

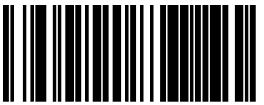
1. Scan the SWITCH bar code.
2. Scan the bar code below, SET RS-232 INTERCHARACTER DELAY. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in Appendix C that represent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

   001 = 10ms

   005 = 50ms

   040 = 400ms

   100 = 1,000ms (1 second)
4. The scanner will automatically exit Programming Mode when the appropriate amount of digits have been scanned.



SET RS-232 INTERCHARACTER DELAY

RS-232 Software Flow Control

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

NOTE

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

To set this feature:

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

RS-232 SOFTWARE FLOW CONTROL = DISABLE

RS-232 SOFTWARE FLOW CONTROL = ENABLE

RS-232 Host Echo

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

NOTE

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

To enable/disable this feature:

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

RS-232 HOST ECHO = DISABLE

RS-232 HOST ECHO = ENABLE

RS-232 Host Echo Quiet Interval

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

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

To set the Host Echo Quiet Interval:

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

SET RS-232 HOST ECHO QUIET INTERVAL

RS-232 Ignore Host Commands

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

To set this feature:

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

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

RS-232 IGNORE HOST COMMANDS = ENABLE

RS-232 TTL

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

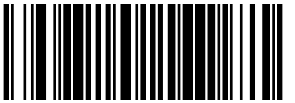
Choices are:

- Normal RS-232 levels
- TTL levels

To set this feature:

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

RS-232 LEVELS = NORMAL RS-232



RS-232 LEVELS = TTL

RS-232 TTL Invert

Enables/disables inversion of TTL.

To set this feature:

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

RS-232 TTL INVERT = NO INVERT

RS-232 TTL INVERT = INVERT

RS-232 ICL DC1 Character Delay Enable

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

To set this feature:

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

RS-232 ICL DC1 CHARACTER DELAY = DISABLE

RS-232 ICL DC1 CHARACTER DELAY = ENABLE

RS-232 Team POS ICL Scale

Enables/disables the ability of the scanner to enter TEAM POS ICL Scale mode.

To set this feature:

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

RS-232 TEAM POS ICL SCALE MODE = DISABLE

RS-232 TEAM POS ICL SCALE MODE = ENABLE

RS-232 Beep on ASCII BEL

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

- Disable
- Enable

To enable/disable this feature:

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

RS-232 BEEP ON ASCII BEL = DISABLE

RS-232 BEEP ON ASCII BEL = ENABLE

RS-232 Beep After Weigh

Enables/disables the ability of the scanner to beep after weight data is transmitted to the host. Scale interfaces that support this item are: RS-232 ICL, RS-232 SASI, and RS-232 Single Cable.

To enable/disable the Beep After Weigh feature:

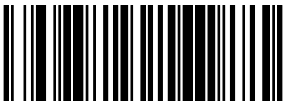
1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.

BEEP AFTER WEIGH = DISABLE

BEEP AFTER WEIGH = ENABLE

RS-232 Beep on Not on File

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



RS-232 BEEP ON NOT ON FILE = DISABLE

RS-232 BEEP ON NOT ON FILE = ENABLE

RS-232 ACK NAK Enable

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

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

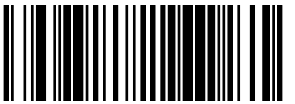
To select the option for RS-232 ACK NAK Enable:

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

RS-232 ACK NAK = DISABLE

RS-232 ACK/NAK = LABEL TRANSMISSION

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



RS-232 ACK/NAK = HOST ACKNOWLEDGEMENT

RS-232 ACK/NAK = LABEL & HOST

RS-232 ACK Character

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

NOTE

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

To specify the RS-232 ACK Character:

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

SET RS-232 ACK CHARACTER

RS-232 NAK Character

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

NOTE

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

To specify the RS-232 NAK Character:

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

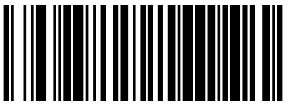
SET RS-232 NAK CHARACTER

RS-232 Retry on ACK NAK Timeout

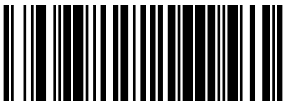
This option specifies the action scanner performs on expiration of the RS-232 ACK NAK Timeout Value.

To set this feature:

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



RS-232 RETRY ON ACK NAK TIMEOUT = DISABLE



RS-232 RETRY ON ACK NAK TIMEOUT = ENABLE

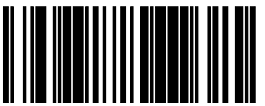
RS-232 ACK NAK Timeout Value

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

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

To set the ACK NAK Timeout Value:

1. Scan the SWITCH bar code.
2. Scan the bar code below, SET RS-232 ACK NAK TIMEOUT VALUE. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in Appendix C that represent the desired timeout. A setting of 0 specifies an infinite timeout. The remaining selectable range is 1-75, which is the timeout in 200-millisecond increments. Pad all single digit numbers with leading zeroes to yield a three-digit entry (000-075).
   Examples:
   000 = Infinite timeout
   001 = 200ms
   005 = 1,000ms (1 second)
   040 = 8,000ms (8 seconds)
   075 = 15,000ms (15 seconds)
4. The scanner will automatically exit Programming Mode when the appropriate amount of digits have been scanned.



SET RS-232 ACK NAK TIMEOUT VALUE

RS-232 ACK NAK Retry Count

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

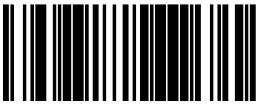
To set the RS-232 ACK NAK Retry Count:

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

NOTE

A setting of 255 specifies "retry forever."

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



SET RS-232 ACK NAK RETRY COUNT

RS-232 ACK NAK Error Handling

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

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

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

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

RS-232 ACK NAK ERROR HANDLING = IGNORE ERRORS

RS-232 ACK NAK Error Handling — continued

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

RS-232 ACK NAK ERROR HANDLING = ASSUME ACK

RS-232 ACK NAK ERROR HANDLING = ASSUME NAK

RS-232 Indicate Transmission Failure

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

RS-232 INDICATE TRANSMISSION FAILURE = DISABLE

RS-232 INDICATE TRANSMISSION FAILURE = ENABLE

Single Cable RS-232 Options

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

- RS-232 Baud Rate on page 96
- RS-232 Number of Data Bits on page 100
- RS-232 Number of Stop Bits on page 101
- RS-232 Parity on page 102
- RS-232 Software Flow Control on page 108
- RS-232 Beep After Weigh on page 117
- RS-232 Beep on Not on File on page 118

Single Cable RS-232 Scanner Only Protocol

This sets the type of interface protocol that will be used in Single Cable RS-232.

Options are:

- Scanner/scale RS-232 protocol
- Scanner only RS-232 protocol

To set this feature:

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

SINGLE CABLE RS-232 PROTOCOL = SCANNER/SCALE

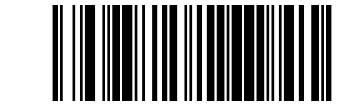
SINGLE CABLE RS-232 PROTOCOL = SCANNER ONLY

Single Cable RS-232 Stale Weight Timeout

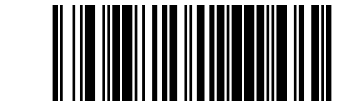
Specifies the amount of time (in 10 msec increments) that scale data is presented to the host before being discarded.

To set the Timeout:

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



STALE WEIGHT TIMEOUT = 200 msec



STALE WEIGHT TIMEOUT = 230 msec

Single Cable RS-232 Stale Weight Timeout — continued

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

STALE WEIGHT TIMEOUT = 250 msec

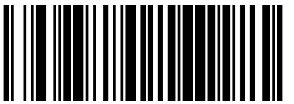
STALE WEIGHT TIMEOUT = 330 msec

Single Cable RS-232 Scale — Transmit Weight Digits

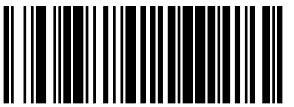
Specifies whether the scale transmits weight data as five digits or as four digits.

To set this feature:

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



TRANSMIT WEIGHT DIGITS = FIVE DIGITS



TRANSMIT WEIGHT DIGITS = FOUR DIGITS

Single Cable Manufacturer Extensions

Enables/Disables manufacturer[1] extensions to the Single Cable RS-232 interface. These extensions communicate scale calibration information to the host.

To set this feature:

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

SINGLE CABLE MANUFACTURER EXTENSIONS = DISABLE

SINGLE CABLE MANUFACTURER EXTENSIONS = ENABLE

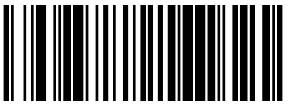
1. The manufacturer of the scanner.

Single Cable Pacesetter Plus Enable

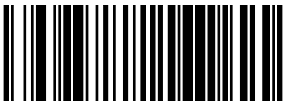
Enables/disables the scanner's ability to send Pacesetter Plus information as trailers to UPC/EAN label data.

To set this feature:

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



SINGLE CABLE PACESETTER PLUS = DISABLE



SINGLE CABLE PACESETTER PLUS = ENABLE

Single Cable RS-232 RTS CTS Selection

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

Choices are:

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

To set this feature:

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

RTS CTS SELECTION = OPTION 0

RTS CTS SELECTION = OPTION 1

Single Cable RS-232 RTS CTS Selection — continued

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

RTS CTS SELECTION = OPTION 2

RTS CTS SELECTION = OPTION 3

Single Cable RS-232 RTS CTS Selection — continued

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

RTS CTS SELECTION = OPTION 4

RTS CTS SELECTION = OPTION 5

Single Cable RS-232 Use BCC

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

To set this feature:

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

SINGLE CABLE RS-232 USE BCC = DISABLE

SINGLE CABLE RS-232 USE BCC = ENABLE

Single Cable RS-232 Use ACK/NAK

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

To set this feature:

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

SINGLE CABLE RS-232 USE ACK/NAK = DISABLE

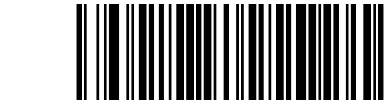
SINGLE CABLE RS-232 USE ACK/NAK = ENABLE

Single Cable RS-232 Use STX

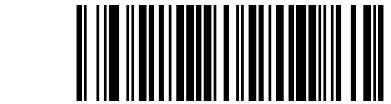
Enables/disables the ability of the scanner to use STX.

To set this feature:

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



SINGLE CABLE RS-232 USE STX = DISABLE



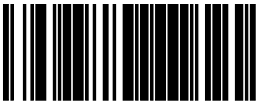
SINGLE CABLE RS-232 USE STX = ENABLE

Set Single Cable RS-232 STX Character

This feature selects the STX character.

To specify the STX Character:

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



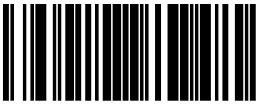
SET SINGLE CABLE RS-232 STX CHARACTER

Set Single Cable RS-232 ETX Character

Allows selection of the ETX character.

To specify the ETX Character:

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



SET SINGLE CABLE RS-232 ETX CHARACTER

Keyboard Wedge/USB Keyboard Features

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

Keyboard Interface — Keyboard Layout

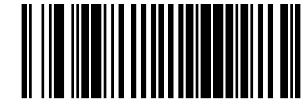
This feature specifies the country/language to be supported by the keyboard.

To set this feature:

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

Keyboard Interface — Keyboard Layout — continued

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



KEYBOARD LAYOUT = BRITAIN

KEYBOARD LAYOUT = DENMARK

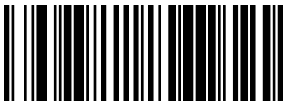
Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.

KEYBOARD LAYOUT = FRANCE

KEYBOARD LAYOUT = GERMANY

Keyboard Interface — Keyboard Layout — continued

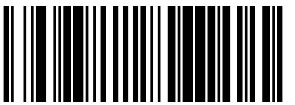
Remember to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.


KEYBOARD LAYOUT = ITALY

KEYBOARD LAYOUT = NORWAY

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

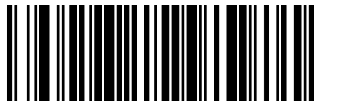
KEYBOARD LAYOUT = PORTUGAL



KEYBOARD LAYOUT = SPAIN

Keyboard Interface — Keyboard Layout — continued

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



KEYBOARD LAYOUT = SWEDEN

KEYBOARD LAYOUT = SWITZERLAND

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

KEYBOARD LAYOUT = JAPANESE 106 KEY

KEYBOARD LAYOUT = HUNGARY

Keyboard Interface — Keyboard Layout — continued

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

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

KEYBOARD LAYOUT = ROMANIA

KEYBOARD LAYOUT = CROATIA

Keyboard Interface — Keyboard Layout — continued

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

KEYBOARD LAYOUT = POLAND

Keyboard Interface Quiet Interval

Specifies amount of time to look for keyboard activity before scanner breaks keyboard connection in order to transmit data to host.

To set the Keyboard Interface Quiet Interval:

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

SET KEYBOARD INTERFACE QUIET INTERVAL

Keyboard Interface Caps Lock State

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

Choices are:

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

To set this feature:

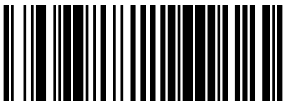
1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.

CAPS LOCK STATE = OFF

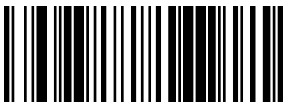
CAPS LOCK STATE = CAPS LOCK ON

Keyboard Interface Caps Lock State — continued

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



CAPS LOCK STATE = SHIFT LOCK ON



CAPS LOCK STATE = CAPS LOCK COMPENSATION MODE

Keyboard Interface — Keyboard Simulation

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

NOTE

This feature does not apply to the USB Keyboard interface.

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

To set this feature:

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

KEYBOARD SIMULATION = DISABLE

KEYBOARD SIMULATION = ENABLE

Keyboard Interface — Control Characters

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

NOTE

This feature does not apply to the USB Keyboard interface.

Choices are:

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

To set this feature:

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

CONTROL CHARACTERS = DISABLE

Keyboard Interface — Control Characters — continued

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

CONTROL CHARACTERS = ENABLE TRANSMISSION OF CTL CHARACTERS

CONTROL CHARACTERS = ENABLE FUNCTION KEY MAPPING

Keyboard Interface — Intercharacter Delay

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

To specify the intercharacter delay:

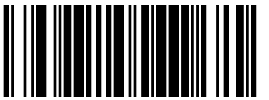
1. Scan the SWITCH bar code.
2. Scan the bar code below, SET KEYBOARD WEDGE INTERCHARACTER DELAY. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in Appendix C that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

   001 = 10ms

   005 = 50ms

   040 = 400ms

   100 = 1,000ms (1 second)
4. The scanner will automatically exit Programming Mode when the appropriate amount of digits have been scanned.



SET KEYBOARD WEDGE INTERCHARACTER DELAY

NOTE

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

Coupon Control

Used to control the method of processing coupon labels.

Options are:

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

To set this feature:

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

COUPON CONTROL = DISABLE

Coupon Control — continued

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

COUPON CONTROL = ENABLE UPC/EAN COUPON DECODING

COUPON CONTROL = ENABLE DATABAR COUPON DECODING

UPC-A Enable

Enables/disables the ability of the scanner to decode UPC-A labels.

To set this feature:

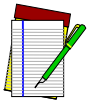
1. Scan the SWITCH bar code.
2. Scan either the enable or disable bar code below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.

UPC-A = DISABLE

UPC-A = ENABLE

UPC-A Number System Character Transmission

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



NOTE

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

To set this feature:

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

UPC-A NUMBER SYSTEM CHARACTER TRANSMISSION = DISABLE

UPC-A NUMBER SYSTEM CHARACTER TRANSMISSION = ENABLE

UPC-A Check Character Transmission

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

To set this feature:

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

UPC-A CHECK CHARACTER TRANSMISSION = DISABLE

UPC-A CHECK CHARACTER TRANSMISSION = ENABLE

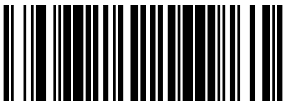
Expand UPC-A to EAN-13

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

To set this feature:

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

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



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

UPC-A Label ID

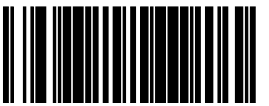
This feature specifies a UPC-A label ID to be added to bar code data.

NOTE

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

To set this feature:

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



SET UPC-A LABEL ID

UPC-A 2-Digit Supplemental Label ID

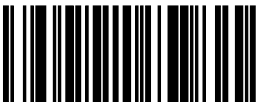
This feature specifies a UPC-A 2-Digit Supplemental label ID to be added to bar code data.

NOTE

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

To set this feature:

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



SET UPC-A 2-DIGIT SUPPLEMENTAL LABEL ID

UPC-A 5-Digit Supplemental Label ID

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

NOTE

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

To set this feature:

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

SET UPC-A 5-DIGIT SUPPLEMENTAL LABEL ID

UPC-A 128 Supplemental Label ID

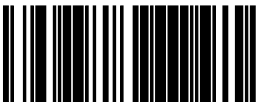
This feature specifies a UPC-A 128 Supplemental label ID to be added to bar code data.

NOTE

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

To set this feature:

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



SET UPC-A 128 SUPPLEMENTAL LABEL ID

UPC-A Minimum Reads

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

To set this feature:

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

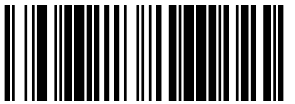
Complete the programming sequence by scanning the SWITCH bar code.

UPC-A MINIMUM READS = 1

UPC-A MINIMUM READS = 2

UPC-A Minimum Reads — continued

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



UPC-A MINIMUM READS = 3

UPC-A MINIMUM READS = 4

UPC-E Enable

Enables/disables the ability of the scanner to decode UPC-E labels.

To set this feature:

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

UPC-E = DISABLE

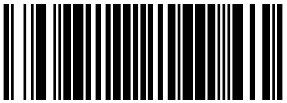
UPC-E = ENABLE

UPC-E Number System Character Transmission

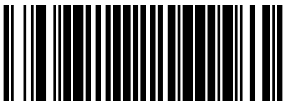
Enables/disables transmission of a UPC-E number system character.

To set this feature:

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



UPC-E NUMBER SYSTEM CHARACTER TRANSMISSION = DISABLE



UPC-E NUMBER SYSTEM CHARACTER TRANSMISSION = ENABLE

UPC-E Check Character Transmission

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

To set this feature:

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

UPC-E CHECK CHARACTER TRANSMISSION = DISABLE

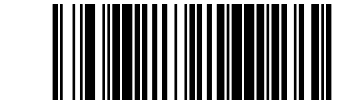
UPC-E CHECK CHARACTER TRANSMISSION = ENABLE

Expand UPC-E to UPC-A

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

To set this feature:

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



EXPAND UPC-E TO UPC-A = DISABLE

EXPAND UPC-E TO UPC-A = ENABLE

Expand UPC-E to EAN-13

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

To set this feature:

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

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

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

UPC-E Label ID

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

NOTE

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

To set this feature:

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

SET UPC-E LABEL ID

UPC-E 2-Digit Supplemental Label ID

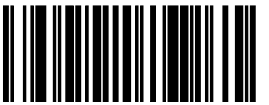
This feature specifies a UPC-E 2-Digit Supplemental label ID to be added to bar code data.

NOTE

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

To set this feature:

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



SET UPC-E 2-DIGIT SUPPLEMENTAL LABEL ID

UPC-E 5-Digit Supplemental Label ID

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

NOTE

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

To set this feature:

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

SET UPC-E 5-DIGIT SUPPLEMENTAL LABEL ID

UPC-E 128 Supplemental Label ID

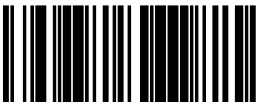
This feature specifies a UPC-E 128 Supplemental label ID to be added to bar code data.

NOTE

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

To set this feature:

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



SET UPC-E 128 SUPPLEMENTAL LABEL ID

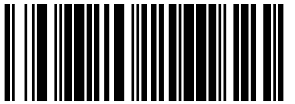
UPC-E Minimum Reads

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

To set this feature:

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

Complete the programming sequence by scanning the SWITCH bar code.

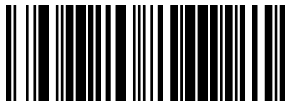


UPC-E MINIMUM READS = 1

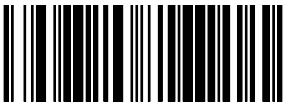
UPC-E MINIMUM READS = 2

UPC-E Minimum Reads — continued

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



UPC-E MINIMUM READS = 3



UPC-E MINIMUM READS = 4

EAN-13 Enable

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

To set this feature:

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

EAN-13 = DISABLE

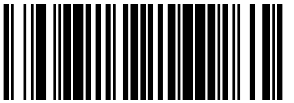
EAN-13 = ENABLE

EAN-13 First Character Transmission

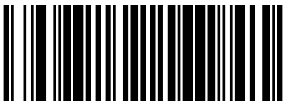
Enables/disables transmission of EAN/JAN-13 first character.

To set this feature:

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



EAN-13 FIRST CHARACTER TRANSMISSION = DISABLE



EAN-13 FIRST CHARACTER TRANSMISSION = ENABLE

EAN-13 Check Character Transmission

Enables/disables transmission of an EAN/JAN-13 check character.

To set this feature:

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

EAN-13 CHECK CHARACTER TRANSMISSION = DISABLE

EAN-13 CHECK CHARACTER TRANSMISSION = ENABLE

EAN-13 ISBN Conversion Enable

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

NOTE

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

To set this feature:

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

EAN-13 ISBN Conversion= DISABLE

EAN-13 ISBN Conversion = ENABLE

EAN 13 Label ID

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

To set this feature:

NOTE

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

To set this feature:

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

SET EAN 13 LABEL ID

EAN-13 2-Digit Supplemental Label ID

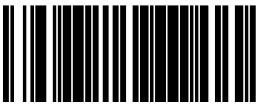
This feature specifies an EAN-13 2-Digit Supplemental label ID to be added to bar code data.

NOTE

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

To set this feature:

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



SET EAN-13 2-DIGIT SUPPLEMENTAL LABEL ID

EAN-13 5-Digit Supplemental Label ID

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

NOTE

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

To set this feature:

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

SET EAN-13 5-DIGIT SUPPLEMENTAL LABEL ID

EAN-13 128 Supplemental Label ID

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

NOTE

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

To set this feature:

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

SET EAN-13 128 SUPPLEMENTAL LABEL ID = DISABLE

EAN-13 Minimum Reads

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

To set this feature:

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

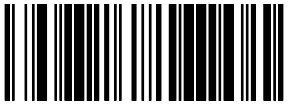
Complete the programming sequence by scanning the SWITCH bar code.

EAN-13 MINIMUM READS = 1

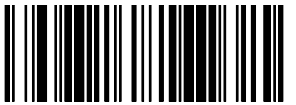
EAN-13 MINIMUM READS = 2

EAN-13 Minimum Reads — continued

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



EAN-13 MINIMUM READS = 3



EAN-13 MINIMUM READS = 4

Bookland Label ID

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

NOTE

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

To set this feature:

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

SET BOOKLAND LABEL ID

EAN-8 Enable

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

To set this feature:

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

EAN-8 = DISABLE

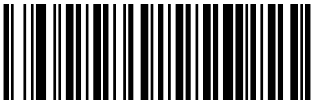
EAN-8 = ENABLE

EAN-8 Check Character Transmission

Enables/disables transmission of an EAN/JAN-8 check character.

To set this feature:

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



EAN-8 CHECK CHARACTER TRANSMISSION = DISABLE

EAN-8 CHECK CHARACTER TRANSMISSION = ENABLE

Expand EAN-8 to EAN-13

Enables/disables expansion of EAN/JAN-8 labels to EAN/JAN-13.

To set this feature:

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

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

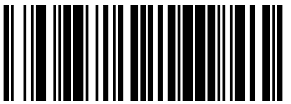
EXPAND EAN/JAN-8 TO EAN/JAN-13 = ENABLE

EAN-8/JAN-8 Guard Insertion

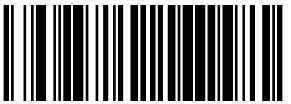
Enables/Disables the ability of the scanner to insert a guard pattern into an otherwise complete EAN-8 segment it has received.

To set this feature:

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



EAN-8/JAN-8 GUARD INSERTION = DISABLE



EAN-8/JAN-8 GUARD INSERTION = ENABLE

EAN-8/JAN-8 Guard Substitution

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

To set this feature:

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

EAN-8/JAN-8 GUARD SUBSTITUTION = DISABLE

EAN-8/JAN-8 GUARD SUBSTITUTION = ENABLE

EAN-8/JAN-8 Both Guards Substitution

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

To set this feature:

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

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

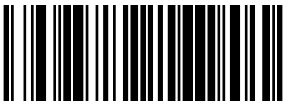
EAN-8/JAN-8 BOTH GUARDS SUBSTITUTION = ENABLE

EAN-8 Stitch Exact Label Halves

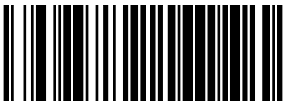
When enabled, this allows the scanner the ability to stitch exact EAN-8 label haves with no overlapping characters.

To set this feature:

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



EAN-8 STITCH EXACT LABEL HALVES = DISABLE



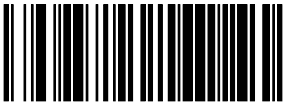
EAN-8 STITCH EXACT LABEL HALVES = ENABLE

EAN-8 Stitch Unlike Label Halves

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

To set this feature:

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



EAN-8 STITCH UNLIKE LABEL HALVES = DISABLE

EAN-8 STITCH UNLIKE LABEL HALVES = ENABLE

EAN 8 Label ID

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

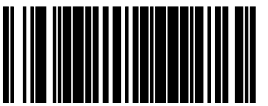
To set this feature:

NOTE

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

To set this feature:

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



SET EAN 8 LABEL ID

EAN-8 2-Digit Supplemental Label ID

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

NOTE

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

To set this feature:

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

SET EAN-8 2-DIGIT SUPPLEMENTAL LABEL ID

EAN-8 5-Digit Supplemental Label ID

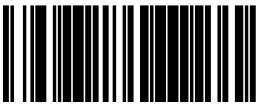
This feature specifies an EAN-8 5-Digit Supplemental label ID to be added to bar code data.

NOTE

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

To set this feature:

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



SET EAN-8 5-DIGIT SUPPLEMENTAL LABEL ID

EAN-8 128 Supplemental Label ID

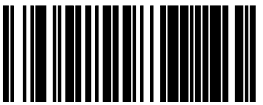
This feature specifies an EAN-8 128 Supplemental label ID to be added to bar code data.

NOTE

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

To set this feature:

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



SET EAN-8 128 SUPPLEMENTAL LABEL ID

EAN-8 Decoding Levels

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

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

CAUTION

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

To set this feature:

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

NOTE

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

EAN-8 Decoding Levels — continued

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

EAN-8 DECODING LEVELS = VERY CONSERVATIVE

EAN-8 DECODING LEVELS = SLIGHTLY MORE AGGRESSIVE

EAN-8 Decoding Levels — continued

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

EAN-8 DECODING LEVELS = MODERATELY AGGRESSIVE

EAN-8 DECODING LEVELS = VERY AGGRESSIVE

EAN-8 Minimum Reads

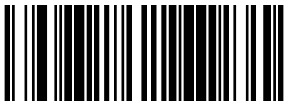
Specifies the minimum number of consecutive times an EAN-8 label must be decoded before it is accepted as a good read.

To set this feature:

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

Complete the programming sequence by scanning the SWITCH bar code.

EAN-8 MINIMUM READS = 1

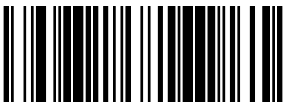


EAN-8 MINIMUM READS = 2

EAN-8 Minimum Reads — continued

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

EAN-8 MINIMUM READS = 3



EAN-8 MINIMUM READS = 4

EAN-8 Minimum Segment Length

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

To set this feature:

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

Complete the programming sequence by scanning the SWITCH bar code.

EAN-8 MINIMUM SEGMENT LENGTH = 5 CHARACTERS

EAN-8 MINIMUM SEGMENT LENGTH = 6 CHARACTERS

EAN-8 Minimum Segment Length — continued

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

EAN-8 MINIMUM SEGMENT LENGTH = 7 CHARACTERS

EAN-8 MINIMUM SEGMENT LENGTH = 8 CHARACTERS

EAN-8 Minimum Segment Length — continued

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

EAN-8 MINIMUM SEGMENT LENGTH = 9 CHARACTERS

EAN-8 MINIMUM SEGMENT LENGTH = 10 CHARACTERS

EAN-8 Minimum Segment Length — continued

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

EAN-8 MINIMUM SEGMENT LENGTH = 11 CHARACTERS

EAN-8 MINIMUM SEGMENT LENGTH = 12 CHARACTERS

EAN-8 Minimum Segment Length — continued

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

EAN-8 MINIMUM SEGMENT LENGTH = 13 CHARACTERS

EAN-8 MINIMUM SEGMENT LENGTH = 14 CHARACTERS

EAN-8 Minimum Segment Length — continued

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

EAN-8 MINIMUM SEGMENT LENGTH = 15 CHARACTERS

Other UPC/EAN Options

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

- Price Weight Check
- In-Store Label Minimum Reads
- Enable EAN Two Label
- EAN Two Label Minimum Reads
- Addons

Price Weight Check

Enables/disables calculation and verification of price/weight check digits. Applies to all UPC-A and EAN/JAN-13 labels with eligible[1] Number System/First Character digits.

Options are:

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

To set this feature:

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

PRICE WEIGHT CHECK = DISABLE

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

Price Weight Check — continued

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

PRICE WEIGHT CHECK = 4-DIGIT PRICE/WEIGHT

PRICE WEIGHT CHECK = 5-DIGIT PRICE/WEIGHT

Price Weight Check — continued

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

PRICE WEIGHT CHECK = 4-DIGIT EUROPEAN PRICE/WEIGHT

PRICE WEIGHT CHECK = 5-DIGIT EUROPEAN PRICE/WEIGHT

In-Store Label Minimum Reads

Specifies the minimum number of consecutive times an In-Store[1] label must be decoded before it is accepted as a good read.

To set this feature:

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

Complete the programming sequence by scanning the SWITCH bar code.

IN-STORE MINIMUM READS = 1

IN-STORE MINIMUM READS = 2

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

In-Store Label Minimum Reads — continued

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

IN-STORE MINIMUM READS = 3

IN-STORE MINIMUM READS = 4

Enable EAN Two Label

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

To set this feature:

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

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

EAN TWO LABEL = DISABLE

EAN TWO LABEL = ENABLE

EAN Two Label Combined Transmission

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

To set this feature:

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

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

EAN TWO LABEL COMBINED TRANSMISSION = DISABLE

EAN TWO LABEL COMBINED TRANSMISSION = ENABLE

UPC/EAN Guard Insertion

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

To set this feature:

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

UPC/EAN GUARD INSERTION = DISABLE

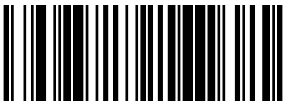
UPC/EAN GUARD INSERTION = ENABLE

UPC/EAN Stitch Exact Label Halves

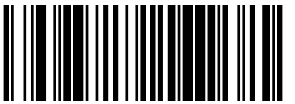
When enabled, this allows the scanner the ability to stitch exact UPC-A / EAN-13 label haves with no overlapping characters.

To set this feature:

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



UPC/EAN STITCH EXACT LABEL HALVES = DISABLE



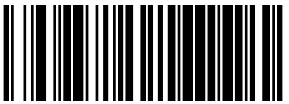
UPC/EAN STITCH EXACT LABEL HALVES = ENABLE

UPC/EAN Stitch Unlike Label Halves

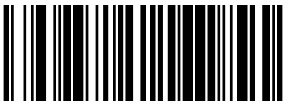
When enabled, this allows the scanner the ability to stitch two UPC-A / EAN-13 label halves together that may contain differing characters.

To set this feature:

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



UPC/EAN STITCH UNLIKE LABEL HALVES = DISABLE



UPC/EAN STITCH UNLIKE LABEL HALVES = ENABLE

UPC/EAN Character Reconstruction

Enables/Disables character reconstruction on UPC/EAN labels.

To set this feature:

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

UPC/EAN CHARACTER RECONSTRUCTION = DISABLE

UPC/EAN CHARACTER RECONSTRUCTION = ENABLE

EAN Two Label Minimum Reads

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

To set this feature:

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

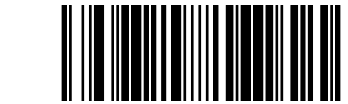
Complete the programming sequence by scanning the SWITCH bar code.

EAN TWO LABEL MINIMUM READS = 1

EAN TWO LABEL MINIMUM READS = 2

EAN Two Label Minimum Reads — continued

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



EAN TWO LABEL MINIMUM READS = 3

EAN TWO LABEL MINIMUM READS = 4

UPC/EAN Correlation

This feature enables/disables character correlation for UPC/EAN.

To set this feature:

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

Complete the programming sequence by scanning the SWITCH bar code.

UPC/EAN CORRELATION = DISABLE

UPC/EAN CORRELATION = ENABLE

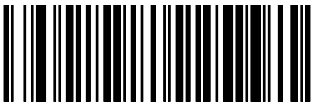
UPC/EAN Minimum Segment Length

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

To set this feature:

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

Complete the programming sequence by scanning the SWITCH bar code.



UPC/EAN MINIMUM SEGMENT LENGTH = 5 CHARACTERS

UPC/EAN MINIMUM SEGMENT LENGTH = 6 CHARACTERS

UPC/EAN Minimum Segment Length — continued

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

UPC/EAN MINIMUM SEGMENT LENGTH = 7 CHARACTERS

UPC/EAN MINIMUM SEGMENT LENGTH = 8 CHARACTERS

UPC/EAN Minimum Segment Length — continued

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

UPC/EAN MINIMUM SEGMENT LENGTH = 9 CHARACTERS

UPC/EAN MINIMUM SEGMENT LENGTH = 10 CHARACTERS

UPC/EAN Minimum Segment Length — continued

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

UPC/EAN MINIMUM SEGMENT LENGTH = 11 CHARACTERS

UPC/EAN MINIMUM SEGMENT LENGTH = 12 CHARACTERS

UPC/EAN Minimum Segment Length — continued

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

UPC/EAN MINIMUM SEGMENT LENGTH = 13 CHARACTERS

UPC/EAN MINIMUM SEGMENT LENGTH = 14 CHARACTERS

UPC/EAN Minimum Segment Length — continued

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

UPC/EAN MINIMUM SEGMENT LENGTH = 15 CHARACTERS

Addons

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

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

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

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

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

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

NOTE

To set this feature:

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

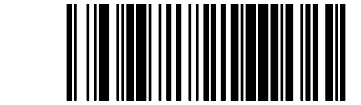
Addons — continued

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

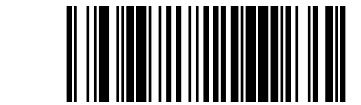
OPTIONAL 2-DIGIT ADD-ONS = DISABLE

OPTIONAL 2-DIGIT ADD-ONS = ENABLE

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



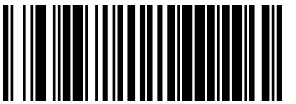
OPTIONAL 5-DIGIT ADD-ONS = DISABLE



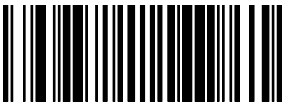
OPTIONAL 5-DIGIT ADD-ONS = ENABLE

Addons — continued

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



OPTIONAL CODE 128 ADD-ONS = DISABLE



OPTIONAL CODE 128 ADD-ONS = ENABLE

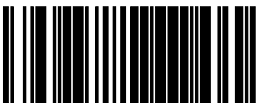
Addon Timer

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

To set the Addon Timer:

1. Scan the SWITCH bar code.
2. Scan the bar code, SET ADDON TIMER DURATION below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in Appendix C that represent the desired Addon Timer Duration. The selectable range is 1-10, which is the timeout in 10-millisecond increments. Pad all single and double digit numbers with leading zeroes to yield a three-digit entry (001-010).
   Examples:
   001 = 10ms
   003 = 30ms
   008 = 80ms

Complete the programming sequence by scanning the SWITCH bar code.



SET ADDON TIMER DURATION

2-Digit Add-ons Minimum Reads

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

To set this feature:

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

Complete the programming sequence by scanning the SWITCH bar code.

2-DIGIT ADD-ONS MINIMUM READS = 1

2-DIGIT ADD-ONS MINIMUM READS = 2

2-Digit Add-ons Minimum Reads — continued

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

2-DIGIT ADD-ONS MINIMUM READS = 3

2-DIGIT ADD-ONS MINIMUM READS = 4

5-Digit Add-ons Minimum Reads

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

To set this feature:

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

Complete the programming sequence by scanning the SWITCH bar code.

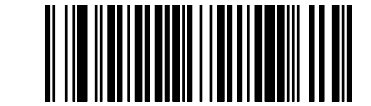
5-DIGIT ADD-ONS MINIMUM READS = 1

5-DIGIT ADD-ONS MINIMUM READS = 2

5-Digit Add-ons Minimum Reads — continued

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

5-DIGIT ADD-ONS MINIMUM READS = 3



5-DIGIT ADD-ONS MINIMUM READS = 4

Code 128 Add-ons Minimum Reads

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

To set this feature:

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

Complete the programming sequence by scanning the SWITCH bar code.

CODE 128 ADD-ONS MINIMUM READS = 1

CODE 128 ADD-ONS MINIMUM READS = 2

Code 128 Add-ons Minimum Reads — continued

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

CODE 128 ADD-ONS MINIMUM READS = 3

CODE 128 ADD-ONS MINIMUM READS = 4

GTIN Enable

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

NOTE

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

To set this feature:

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

GTIN = DISABLE

GTIN = ENABLE

GTIN Label ID

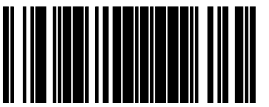
This feature specifies a GTIN label ID to be added to bar code data when GTIN conversion is enabled.

NOTE

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

To set this feature:

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



SET GTIN LABEL ID

GTIN 2-Digit Supplemental Label ID

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

NOTE

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

To set this feature:

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

SET GTIN 2-DIGIT SUPPLEMENTAL LABEL ID

GTIN 5-Digit Supplemental Label ID

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

NOTE

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

To set this feature:

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

SET GTIN 5-DIGIT SUPPLEMENTAL LABEL ID

GTIN Code 128 Supplemental Label ID

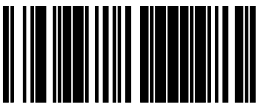
This feature specifies a GTIN label ID to be added to bar code data when GTIN conversion is enabled and Code 128 supplemental addon bar code labels are converted

NOTE

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

To set this feature:

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



SET GTIN CODE 128 SUPPLEMENTAL LABEL ID

DataBar Omnidirectional Enable

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

NOTE

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

To set this feature:

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

DataBar Omnidirectional = DISABLE

DataBar Omnidirectional = ENABLE

DataBar Omnidirectional/EAN-128 Emulation

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

To set this feature:

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

DataBar Omnidirectional/EAN-128 EMULATION = DISABLE

DataBar Omnidirectional/EAN-128 EMULATION = ENABLE

DataBar Omnidirectional Label ID

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

To set this feature:

NOTE

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

To set this feature:

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

SET DataBar Omnidirectional LABEL ID

DataBar Omnidirectional Minimum Reads

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

To set this feature:

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

Complete the programming sequence by scanning the SWITCH bar code.

DataBar Omnidirectional MINIMUM READS = 1

DataBar Omnidirectional MINIMUM READS = 2

DataBar Omnidirectional Minimum Reads — continued

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

DataBar Omnidirectional MINIMUM READS = 3

DataBar Omnidirectional MINIMUM READS = 4

DataBar Expanded Enable

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

NOTE

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

To set this feature:

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

DataBar Expanded = DISABLE

DataBar Expanded = ENABLE

DataBar Expanded EAN-128 Emulation

Enables/disables EAN-128 emulation for DataBar Expanded.

To set this feature:

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

DataBar Expanded/EAN-128 EMULATION = DISABLE

DataBar Expanded/EAN-128 EMULATION = ENABLE

DataBar Expanded Label ID

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

NOTE

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

To set this feature:

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

SET DataBar Expanded LABEL ID

DataBar Expanded Length Control

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

To set this feature:

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

NOTE

You must now set the features DataBar Expanded Length 1 **and** DataBar Expanded Length 2**.**

DataBar Expanded LENGTH CONTROL = VARIABLE-LENGTH

DataBar Expanded LENGTH CONTROL = FIXED-LENGTH

DataBar Expanded Length 1

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

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, SET DataBar Expanded LENGTH 1 below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in Appendix C that represent the desired label length. The selectable range for this option is 01 to 74. Pad all single and double digit numbers with leading zeroes to yield a three-digit entry (001-074).
4. Complete the programming sequence by scanning the SWITCH bar code.

SET DataBar Expanded LENGTH 1

DataBar Expanded Length 2

Length 2 is the maximum label length if in variable length mode, or the second fixed length if in fixed length mode (see DataBar Expanded Length Control). Length includes the barcode's check and data characters.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, SET DataBar Expanded LENGTH 2 below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in Appendix C that represent the desired label length. A setting of 000 will ignore this length (only one fixed length), otherwise, the selectable range for this option is 001 to 074. Pad all single and double digit numbers with leading zeroes to yield a three-digit entry (001-074).
4. Complete the programming sequence by scanning the SWITCH bar code.

SET DataBar Expanded LENGTH 2

DataBar Expanded Minimum Reads

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

To set this feature:

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

Complete the programming sequence by scanning the SWITCH bar code.

DataBar Expanded MINIMUM READS = 1

DataBar Expanded MINIMUM READS = 2

DataBar Expanded Minimum Reads — continued

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

DataBar Expanded MINIMUM READS = 3

DataBar Expanded MINIMUM READS = 4

Code 39 Enable

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

To set this feature:

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

CODE 39 = DISABLE

CODE 39 = ENABLE

Code 39 Start Stop Character Transmission

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

NOTE

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

To set this feature:

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

CODE 39 START STOP CHARACTER TRANSMISSION = DISABLE

CODE 39 START STOP CHARACTER TRANSMISSION = ENABLE

Code 39 Check Character Calculation

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

NOTE

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

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

To set this feature:

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

CODE 39 CHECK CHARACTER CALCULATION = DISABLE

CODE 39 CHECK CHARACTER CALCULATION = ENABLE

Code 39 Check Character Transmission

Enables/disables transmission of optional Code 39 check character.

To set this feature:

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

CODE 39 CHECK CHARACTER TRANSMISSION = DISABLE

CODE 39 CHECK CHARACTER TRANSMISSION = ENABLE

Code 39 Full ASCII

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

To set this feature:

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

CODE 39 FULL ASCII = DISABLE

CODE 39 FULL ASCII = ENABLE

Code 39 Label ID

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

NOTE

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

To set this feature:

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

SET CODE 39 LABEL ID

Code 39 Require Quiet Zones

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

To set this feature:

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

CODE 39 REQUIRE QUIET ZONES = DISABLE

CODE 39 REQUIRE QUIET ZONES = ENABLE

Code 39 Length Control

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

To set this feature:

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

NOTE

You must now set the features Code 39 Length 1 **and** Code 39 Length 2**.**

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

CODE 39 LENGTH CONTROL = VARIABLE-LENGTH

CODE 39 LENGTH CONTROL = FIXED-LENGTH

Code 39 Length 1

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

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, SET CODE 39 LENGTH 1 below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in Appendix C that represent the desired label length. The selectable range for this option is 001 to 050. Pad all single and double digit numbers with leading zeroes to yield a three-digit entry (001-050).
4. Complete the programming sequence by scanning the SWITCH bar code.

SET CODE 39 LENGTH 1

Code 39 Length 2

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

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, SET CODE 39 LENGTH 2 below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in Appendix C that represent the desired fixed label length. A setting of 000 will ignore this length (only one fixed length), otherwise, the selectable range for this option is 001 to 050. Pad all single and double digit numbers with leading zeroes to yield a three-digit entry (001-050).
4. Complete the programming sequence by scanning the SWITCH bar code.

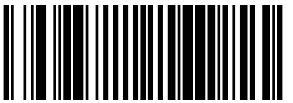
Code 39 Correlation

This feature enables/disables character correlation for Code 39.

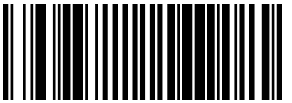
To set this feature:

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

Complete the programming sequence by scanning the SWITCH bar code.



CODE 39 CORRELATION = DISABLE



CODE 39 CORRELATION = ENABLE

Code 39 Stitching

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

To set this feature:

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

Complete the programming sequence by scanning the SWITCH bar code.

CODE 39 STITCHING = DISABLE

CODE 39 STITCHING = ENABLE

Code 39 Minimum Reads

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

To set this feature:

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

Complete the programming sequence by scanning the SWITCH bar code.

CODE 39 MINIMUM READS = 1

CODE 39 MINIMUM READS = 2

Code 39 Minimum Reads — continued

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

CODE 39 MINIMUM READS = 3

CODE 39 MINIMUM READS = 4

Pharmacode 39 Enable

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

To set this feature:

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

PHARMACODE 39 = DISABLE

PHARMACODE 39 = ENABLE

Pharmacode 39 Start Stop Character Transmission

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

To set this feature:

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

PHARMACODE 39 START STOP CHARACTER TRANSMISSION = DISABLE

PHARMACODE 39 START STOP CHARACTER TRANSMISSION = ENABLE

Pharmacode 39 Check Character Transmission

Enables/disables transmission of Pharmacode 39 check character.

To set this feature:

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

PHARMACODE 39 CHECK CHARACTER TRANSMISSION = DISABLE

PHARMACODE 39 CHECK CHARACTER TRANSMISSION = ENABLE

Pharmacode 39 Label ID

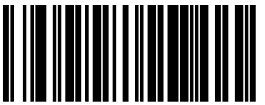
This feature specifies a Pharmacode 39 label ID to be added to bar code data.

NOTE

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

To set this feature:

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



SET PHARMACODE 39 LABEL ID

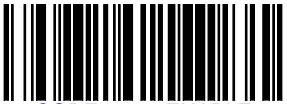
Code 128 Enable

Enables/disables[1] the ability of the scanner to decode Code 128 labels.

To set this feature:

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

CODE 128 = DISABLE



CODE 128 = ENABLE

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

Code 128 Transmit Function Characters

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

NOTE

Disabled is the recommended setting for all interfaces.

To set this feature:

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

CODE 128 TRANSMIT FUNCTION CHARACTERS = DISABLE

CODE 128 TRANSMIT FUNCTION CHARACTERS = ENABLE

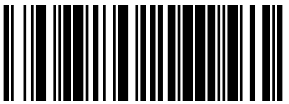
Convert Code 128 to Code 39

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

To set this feature:

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

CONVERT CODE 128 TO CODE 39 = DISABLE



CONVERT CODE 128 TO CODE 39 = ENABLE

Code 128 Label ID

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

NOTE

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

To set this feature:

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

SET CODE 128 LABEL ID

Code 128 Length Control

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

To set this feature:

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

NOTE

You must now set the features Code 128 Length 1 **and** Code 128 Length 2**.**

CODE 128 LENGTH CONTROL = VARIABLE-LENGTH

CODE 128 LENGTH CONTROL = FIXED-LENGTH

Code 128 Length 1

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

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, SET CODE 128 LENGTH 1 below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in Appendix C that represent the desired label length. The selectable range for this option is 001 to 080. Pad all single and double digit numbers with leading zeroes to yield a three-digit entry (001-080).
4. Complete the programming sequence by scanning the SWITCH bar code.

Code 128 Length 2

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

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, SET CODE 128 LENGTH 2 below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in Appendix C that represent the desired label length. A setting of 000 will ignore this length (only one fixed length), otherwise, the selectable range for this option is 001 to 080. Pad all single and double digit numbers with leading zeroes to yield a three-digit entry (001-080).
4. Complete the programming sequence by scanning the SWITCH bar code.

SET CODE 128 LENGTH 2

Code 128 Correlation

This feature enables/disables character correlation for Code 128.

To set this feature:

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

Complete the programming sequence by scanning the SWITCH bar code.

CODE 128 CORRELATION = DISABLE

CODE 128 CORRELATION = ENABLE

Code 128 Stitching

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

To set this feature:

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

Complete the programming sequence by scanning the SWITCH bar code.

CODE 128 STITCHING = DISABLE

CODE 128 STITCHING = ENABLE

Code 128 Minimum Reads

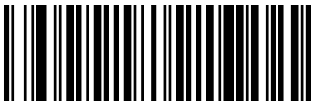
Specifies the minimum number of consecutive times a Code 128 label must be decoded before it is accepted as a good read.

To set this feature:

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

Complete the programming sequence by scanning the SWITCH bar code.

CODE 128 MINIMUM READS = 1


CODE 128 MINIMUM READS = 2

Code 128 Minimum Reads — continued

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

CODE 128 MINIMUM READS = 3

CODE 128 MINIMUM READS = 4

EAN-128 Enable

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

To set this feature:

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

EAN-128 = DISABLE

EAN-128 = ENABLE

EAN-128 Label ID

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

NOTE

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

To set this feature:

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

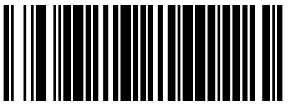
SET EAN-128 LABEL ID

Interleaved 2 of 5 (I 2 of 5) Enable

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

To set this feature:

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



I 2 of 5 Check Character Calculation

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

NOTE

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

To set this feature:

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

I 2 of 5 CHECK CHARACTER CALCULATION = DISABLE

I 2 of 5 CHECK CHARACTER CALCULATION = ENABLE

I 2 of 5 Check Character Transmission

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

NOTE

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

To set this feature:

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

I 2 of 5 CHECK CHARACTER TRANSMISSION = DISABLE

I 2 of 5 CHECK CHARACTER TRANSMISSION = ENABLE

I 2 of 5 Label ID

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

NOTE

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

To set this feature:

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

SET I 2 of 5 LABEL ID

I 2 of 5 Length Control

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

To set this feature:

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

NOTE

You must now set the features I 2 of 5 Length 1 **and** I 2 of 5 Length 2**.**

I 2 OF 5 LENGTH CONTROL = VARIABLE-LENGTH

I 2 OF 5 LENGTH CONTROL = FIXED-LENGTH

I 2 of 5 Length 1

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

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, SET I 2 of 5 LENGTH 1 below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in Appendix C that represent the desired label length. The selectable range for this option is 002 to 050, even numbers only. Pad all single and double digit numbers with leading zeroes to yield a three-digit entry (002-050).
4. Complete the programming sequence by scanning the SWITCH bar code.

SET I 2 of 5 LENGTH 1

I 2 of 5 Length 2

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

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, SET I 2 of 5 LENGTH 2 below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in Appendix C that represent the desired label length. A setting of 000 will ignore this length (only one fixed length), otherwise, the selectable range for this option is 002 to 050, even numbers only. Pad all single and double digit numbers with leading zeroes to yield a three-digit entry (002-050).
4. Complete the programming sequence by scanning the SWITCH bar code.

I 2 of 5 Correlation

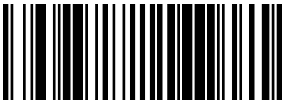
This feature enables/disables character correlation for I 2 of 5.

To set this feature:

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

Complete the programming sequence by scanning the SWITCH bar code.

I 2 of 5 CORRELATION = DISABLE



I 2 of 5 CORRELATION = ENABLE

I 2 of 5 Stitching

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

To set this feature:

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

NOTE

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

I 2 OF 5 STITCHING = DISABLE

I 2 OF 5 STITCHING = ENABLE

I 2 of 5 Minimum Reads

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

To set this feature:

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

Complete the programming sequence by scanning the SWITCH bar code.

I 2 of 5 Minimum Reads — continued

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

I 2 of 5 MINIMUM READS = 3

I 2 of 5 MINIMUM READS = 4

Standard 2 of 5 (Std 2 of 5) Enable

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

To set this feature:

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

STANDARD 2 OF 5 = DISABLE

STANDARD 2 OF 5 = ENABLE

Standard 2 of 5 Check Character Calculation

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

NOTE

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

To set this feature:

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

STANDARD 2 of 5 CHECK CHARACTER CALCULATION = DISABLE

STANDARD 2 of 5 CHECK CHARACTER CALCULATION = ENABLE

Standard 2 of 5 Check Character Transmission

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

NOTE

This feature applies only when Standard 2 of 5 Check Character Calculation **is enabled.**

To set this feature:

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

STANDARD 2 of 5 CHECK CHARACTER TRANSMISSION = DISABLE

STANDARD 2 of 5 CHECK CHARACTER TRANSMISSION = ENABLE

Standard 2 of 5 Label ID

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

NOTE

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

To set this feature:

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

SET STANDARD 2 of 5 LABEL ID

Standard 2 of 5 Length Control

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

To set this feature:

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

NOTE

You must now set Standard 2 of 5 Length 1 **and** Standard 2 of 5 Length 2**.**

STANDARD 2 OF 5 LENGTH CONTROL = VARIABLE-LENGTH

STANDARD 2 OF 5 LENGTH CONTROL = FIXED-LENGTH

Standard 2 of 5 Length 1

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

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, SET STANDARD 2 OF 5 LENGTH 1 below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in Appendix C that represent the desired label length. The selectable range for this option is 001 to 050. Pad all single and double digit numbers with leading zeroes to yield a three-digit entry (001-050).
4. Complete the programming sequence by scanning the SWITCH bar code.

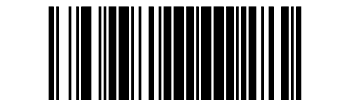
SET STANDARD 2 OF 5 LENGTH 1

Standard 2 of 5 Length 2

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

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, SET STANDARD 2 OF 5 LENGTH 2 below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in Appendix C that represent the desired label length. A setting of 000 will ignore this length (only one fixed length), otherwise, the selectable range for this option is 001 to 050. Pad all single and double digit numbers with leading zeroes to yield a three-digit entry (001-050).
4. Complete the programming sequence by scanning the SWITCH bar code.


SET STANDARD 2 OF 5 LENGTH 2

Standard 2 of 5 Correlation

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

To set this feature:

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

Complete the programming sequence by scanning the SWITCH bar code.

STANDARD 2 of 5 CORRELATION = DISABLE

STANDARD 2 of 5 CORRELATION = ENABLE

Standard 2 of 5 Stitching

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

To set this feature:

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

NOTE

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

I 2 OF 5 STITCHING = DISABLE

I 2 OF 5 STITCHING = ENABLE

Standard 2 of 5 Minimum Reads

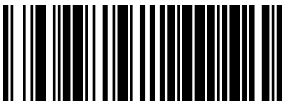
Specifies the minimum number of consecutive times a Standard 2 of 5 label must be decoded before it is accepted as a good read.

To set this feature:

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

Complete the programming sequence by scanning the SWITCH bar code.

STANDARD 2 of 5 MINIMUM READS = 1



STANDARD 2 of 5 MINIMUM READS = 2

Standard 2 of 5 Minimum Reads — continued

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

STANDARD 2 of 5 MINIMUM READS = 3

STANDARD 2 of 5 MINIMUM READS = 4

Codabar Enable

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

To set this feature:

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

CODABAR = DISABLE

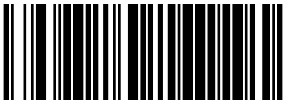
CODABAR = ENABLE

Codabar Start Stop Character Transmission

Enables/disables transmission of Codabar start and stop characters.

To set this feature:

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



CODABAR START STOP CHARACTER TRANSMISSION = DISABLE

CODABAR START STOP CHARACTER TRANSMISSION = ENABLE

Codabar Start Stop Character Set

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

Options are:

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

To set this feature:

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

CODABAR START STOP CHARACTER = ABCD/TN* E

CODABAR START STOP CHARACTER = ABCD/ABCD

Codabar Start Stop Character Set — continued

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

CODABAR START STOP CHARACTER = abcd/tn* e

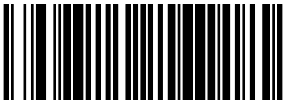
CODABAR START STOP CHARACTER = abcd/abcd

Codabar Start Stop Character Match

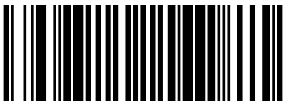
Enables/disables the requirement that start and stop characters match.

To set this feature:

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



CODABAR START STOP CHARACTER MATCH = DISABLE



CODABAR START STOP CHARACTER MATCH = ENABLE

Codabar Check Character Calculation

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

NOTE

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

To set this feature:

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

CODABAR CHECK CHARACTER CALCULATION = DISABLE

CODABAR CHECK CHARACTER CALCULATION = ENABLE

Codabar Check Character Transmission

Enables/disables transmission of an optional Codabar check character.

NOTE

Applies only when Codabar Check Character Calculation **is enabled.**

To set this feature:

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

CODABAR CHECK CHARACTER TRANSMISSION = DISABLE

CODABAR CHECK CHARACTER TRANSMISSION = ENABLE

Codabar Label ID

This feature specifies a Codabar label ID to e added to bar code data.

NOTE

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

To set this feature:

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

SET CODABAR LABEL ID

Codabar Require Quiet Zones

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

To set this feature:

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

CODABAR REQUIRE QUIET ZONES = DISABLE

CODABAR REQUIRE QUIET ZONES = ENABLE

Codabar Length Control

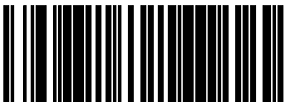
This feature specifies whether variable-length or fixed-length decoding will be set for Codabar.

To set this feature:

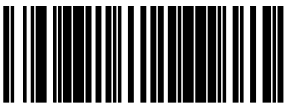
1. Scan the SWITCH bar code.
2. Scan your selection from the bar codes below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.

NOTE

You must now set the features Codabar Length 1 **and** Codabar Length 2**.**



CODABAR LENGTH CONTROL = VARIABLE-LENGTH



CODABAR LENGTH CONTROL = FIXED-LENGTH

Codabar Length 1

Length 1 is the minimum label length if in variable length mode, or the first fixed length if in fixed length mode (see Codabar Length Control). Length includes the barcode's check and data characters.

To set this feature:

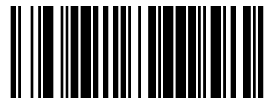
1. Scan the SWITCH bar code.
2. Scan the bar code, SET CODABAR LENGTH 1 below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in Appendix C that represent the desired label length. The selectable range for this option is 003 to 050. Pad all single and double digit numbers with leading zeroes to yield a three-digit entry (003-050).
4. Complete the programming sequence by scanning the SWITCH bar code.

Codabar Length 2

Length 2 is the maximum label length if in variable length mode, or the second fixed length if in fixed length mode (see Codabar Length Control). Length includes the barcode's check and data characters.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, SET STANDARD 2 OF 5 LENGTH 2 below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in Appendix C that represent the desired label length. A setting of 000 will ignore this length (only one fixed length), otherwise, the selectable range for this option is 003 to 050. Pad all single and double digit numbers with leading zeroes to yield a three-digit entry (003-050).
4. Complete the programming sequence by scanning the SWITCH bar code.


SET CODABAR LENGTH 2

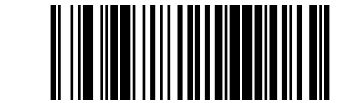
Codabar Correlation

This feature enables/disables character correlation for Codabar.

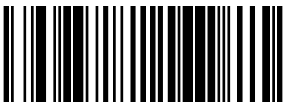
To set this feature:

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

Complete the programming sequence by scanning the SWITCH bar code.



CODABAR CORRELATION = DISABLE



CODABAR CORRELATION = ENABLE

Codabar Stitching

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

To set this feature:

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

Complete the programming sequence by scanning the SWITCH bar code.

NOTE

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

CODABAR STITCHING = DISABLE

CODABAR STITCHING = ENABLE

Codabar Minimum Reads

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

To set this feature:

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

Complete the programming sequence by scanning the SWITCH bar code.

CODABAR MINIMUM READS = 1

CODABAR MINIMUM READS = 2

Codabar Minimum Reads — continued

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

CODABAR MINIMUM READS = 3

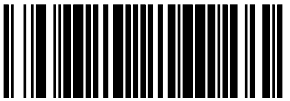
CODABAR MINIMUM READS = 4

Code 93 Enable

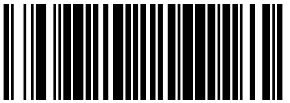
Enables/disables the ability of the scanner to decode Code 93 labels.

To set this feature:

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



CODE 93 = DISABLE



CODE 93 = ENABLE

Code 93 Label ID

This feature specifies a Code 93 label ID to be added to bar code data..

NOTE

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

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, SET CODE 93 LABEL ID below. You'll need to cover any unused bar codes on this and the facing page to ensure the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in Appendix C that represent the desired Label ID characters; entered as two hex pairs. A table containing the ASCII Character Set and their corresponding Hex Values is available in the inside back cover of this manual. ASCII parameters must be input by scanning a pair of hexadecimal digits for each character. Thus, to set a two-character value of AB, bar codes containing the digits '4', '1', '4', and '2' must be scanned. The selectable range for this option is any hex value from 00 to FF.
4. Complete the programming sequence by scanning the SWITCH bar code.

SET CODE 93 LABEL ID

Code 93 Length Control

This feature specifies whether variable-length or fixed-length decoding will be set for Code 93.

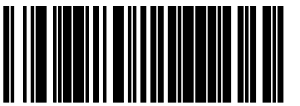
To set this feature:

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

NOTE

You must now set the features Code 93 Length 1 **and** Code 93 Length 2**.**

CODE 93 LENGTH CONTROL = VARIABLE-LENGTH



CODE 93 LENGTH CONTROL = FIXED-LENGTH

Code 93 Length 1

Length 1 is the minimum label length if in variable length mode, or the first fixed length if in fixed length mode (see Code 93 Length Control). Length includes the barcode's check and data characters.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, SET CODE 93 LENGTH 1 below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in Appendix C that represent the desired label length. The selectable range for this option is 001 to 050. Pad all single and double digit numbers with leading zeroes to yield a three-digit entry (001-050).
4. Complete the programming sequence by scanning the SWITCH bar code.

SET CODE 93 LENGTH 1

Code 93 Length 2

Length 2 is the maximum label length if in variable length mode, or the second fixed length if in fixed length mode (see Code 93 Length Control). Length includes the barcode's check and data characters.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, SET CODE 93 LENGTH 2 below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in Appendix C that represent the desired label length. A setting of 000 will ignore this length (only one fixed length), otherwise, the selectable range for this option is 001 to 050. Pad all single and double digit numbers with leading zeroes to yield a three-digit entry (001-050).
4. Complete the programming sequence by scanning the SWITCH bar code.

Code 93 Correlation

This feature enables/disables character correlation for Code 93.

To set this feature:

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

Complete the programming sequence by scanning the SWITCH bar code.

CODE 93 CORRELATION = DISABLE

CODE 93 CORRELATION = ENABLE

Code 93 Stitching

Enables/disables stitching for Code 93 labels. When parts of a Code 93 bar code are presented to the scanner with this feature enabled, the bar code parts will be assembled by the scanner's software, and the data will be decoded if all bar code proofing requirements are met.

To set this feature:

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

Complete the programming sequence by scanning the SWITCH bar code.

CODE 93 STITCHING = DISABLE

CODE 93 STITCHING = ENABLE

Code 93 Minimum Reads

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

To set this feature:

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

Complete the programming sequence by scanning the SWITCH bar code.

CODE 93 MINIMUM READS = 1

CODE 93 MINIMUM READS = 2

Code 93 Minimum Reads — continued

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

CODE 93 MINIMUM READS = 3

CODE 93 MINIMUM READS = 4

MSI/Plessey Enable

Enables/disables the ability of the scanner to decode MSI/Plessey labels.

To set this feature:

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

MSI/PLESSEY = DISABLE

MSI/PLESSEY = ENABLE

MSI/Plessey Check Character Calculation

Enables/disables calculation and verification of optional MSI/Plessey check characters.

NOTE

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

To set this feature:

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

MSI/PLESSEY CHECK CHARACTER CALCULATION = DISABLE

MSI/PLESSEY CHECK CHARACTER CALCULATION = ENABLE

MSI/Plessey Number of Check Characters

Specifies number of MSI/Plessey check characters to be calculated and verified.

NOTE

Check characters are always modulus 10.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code below representing the desired number of MSI/Plessey check characters to be calculated and verified. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.

MSI/PLESSEY NUMBER OF CHECK CHARACTERS = 1

MSI/PLESSEY NUMBER OF CHECK CHARACTERS = 2

MSI/Plessey Check Character Transmission

Enables/disables transmission of optional MSI/Plessey check characters.

NOTE

This feature applies only when MSI/Plessey Check Character Calculation **is enabled.**

To set this feature:

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

MSI/PLESSEY CHECK CHARACTER TRANSMISSION = DISABLE

MSI/PLESSEY CHECK CHARACTER TRANSMISSION = ENABLE

MSI/Plessey Label ID

This feature specifies an MSI/Plessey label ID to be added to bar code data.

NOTE

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

To set this feature:

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

SET MSI/PLESSEY LABEL ID

MSI/Plessey Length Control

This feature specifies whether variable-length or fixed-length decoding will be set for MSI/Plessey.

To set this feature:

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

NOTE

You must now set the features MSI/Plessey Length 1 **and** MSI/Plessey Length 2**.**

MSI/PLESSEY LENGTH CONTROL = VARIABLE-LENGTH

MSI/PLESSEY LENGTH CONTROL = FIXED-LENGTH

MSI/Plessey Length 1

Length 1 is the minimum label length if in variable length mode, or the first fixed length if in fixed length mode (see MSI/Plessey Length Control). Length includes the barcode's check and data characters.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, SET MSI/PLESSEY LENGTH 1 below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in Appendix C that represent the desired label length. The selectable range for this option is 004 to 016. Pad all single and double digit numbers with leading zeroes to yield a three-digit entry (004-016).
4. Complete the programming sequence by scanning the SWITCH bar code.

MSI/Plessey Length 2

Length 2 is the maximum label length if in variable length mode, or the second fixed length if in fixed length mode (see Code 93 Length Control). Length includes the barcode's check and data characters.

To set this feature:

1. Scan the SWITCH bar code.
2. Scan the bar code, SET CODE 93 LENGTH 2 below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Scan the appropriate digits from the keypad in Appendix C that represent the desired label length. A setting of 000 will ignore this length (only one fixed length), otherwise, the selectable range for this option is 004 to 016. Pad all single and double digit numbers with leading zeroes to yield a three-digit entry (004-016).
4. Complete the programming sequence by scanning the SWITCH bar code.

MSI/Plessey Correlation

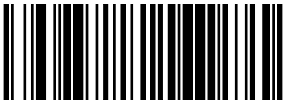
This feature enables/disables character correlation for MSI/Plessey.

To set this feature:

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

Complete the programming sequence by scanning the SWITCH bar code.

MSI/PLESSEY CORRELATION = DISABLE



MSI/PLESSEY CORRELATION = ENABLE

MSI/Plessey Stitching

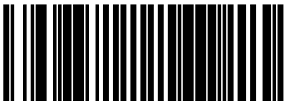
Enables/disables stitching for MSI/Plessey labels. When parts of an MSI/Plessey bar code are presented to the scanner with this feature enabled, the bar code parts will be assembled by the scanner's software, and the data will be decoded if all bar code proofing requirements are met.

To set this feature:

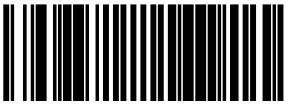
1. Scan the SWITCH bar code.
2. Scan your selection from the bar codes below. You'll need to cover any unused bar codes on this and the facing page to ensure that the scanner reads only the bar code you intend to scan.
3. Complete the programming sequence by scanning the SWITCH bar code.

NOTE

MSI/Plessey Stitching operates using fixed lengths ONLY. MSI/Plessey Length 1 **and/or** MSI/Plessey Length 2 **must be properly configured for stitching to work.**



MSI/PLESSEY STITCHING = DISABLE



MSI/PLESSEY STITCHING = ENABLE

MSI/Plessey Minimum Reads

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

To set this feature:

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

Complete the programming sequence by scanning the SWITCH bar code.

MSI/PLESSEY MINIMUM READS = 1

MSI/PLESSEY MINIMUM READS = 2

MSI/Plessey Minimum Reads — continued

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

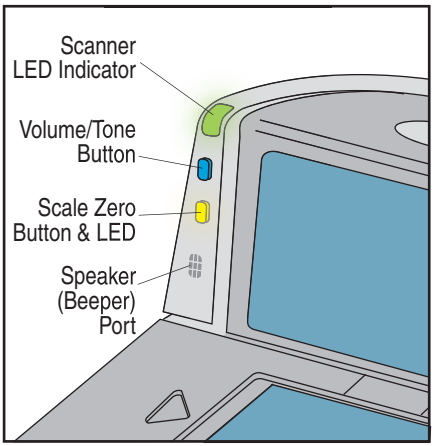
MSI/PLESSEY MINIMUM READS = 3

MSI/PLESSEY MINIMUM READS = 4

Appendix A
LED/Beeper Indications & Controls

Figure A-1 shows the operator's controls and indicators. The descriptions following identify the use or function of each component.

Figure A-1. Scanner and Scale Controls



Controls and Indicators

The control panel consists of a green LED indicator, a Volume/Tone push button and a Scale Zero push button/LED indicator as described in the following pages. The unit also includes a beeper which can be configured to sound indications of scanning, weighing, and deactivation activities.

NOTE

Since beeper indications are configurable, your unit may not be programmed to sound all the indications listed. For more information, see Chapter 6, Programming in this manual.

LED and Beeper Indications

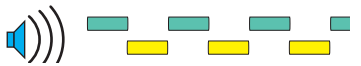
Scanner and Scale LEDs

The Scanner LED indicates scanner status, and the Scale LED (which is in combination with the Scale push button) is primarily used to show scale status (see Table A-1).

Table A-1. Scanner and Scale LED Indications

LED INDICATION	DURATION	COMMENT
Scale at Zero[a]	Scale (Yellow) LED on steady	The scale is at rest and reads zero weight. The scale is ready to weigh.
Scanner Active[a] (Normal Mode)	Scanner (Green) LED on steady and dim	The scanner is ready for operation. Scanning is immediately available.
Good Read Indication[a]	Scanner (Green) LED - bright flash	Indicates a bar code has been read and decoded.
Program Mode Indication	Scanner (Green) LED - Continuous flashing	Indicates the scanner is in Label Programming Mode. Cycle power to exit Programming Mode.

Table A-1. Scanner and Scale LED Indications

LED INDICATION	DURATION	COMMENT
Sleep Mode Indication	Scanner (Green) LED flashes slowly	The scanner motor and/or laser have automatically switched off and the unit has entered Sleep Mode due to extended inactivity.
Host Disabled	Scanner (Green) LED 1-second off, 1/10-second on	Host has disabled scanning.
Field Replaceable Unit (FRU) Warning (Error Mode)	Audible low tone 1 second. Alternating Scanner/Scale (Green/Yellow) LEDs flash continuously. 	Serves notice that a fatal FRU failure has been detected. Consult Error Codes in Chapter 4 for more details. If a low tone is heard, but continuous flashing is not observed, the scanner can still function in a limited capacity. Call systems support for service in either case.
FRU Indication	Scanner (Green) LED flashes a coded sequence in concert with the speaker.	Occurs ONLY upon Volume/Tone button push following a FRU warning. Enables service technicians to identify FRU failures.

a. Certain functions of the Green and Yellow LEDs are selectable to be enabled or disabled. Your scanner may not be programmed to display all indications.

Volume/Tone Push Button

The Volume/Tone Push Button also performs multiple functions depending upon the duration of time it is pressed:

NOTE

The Volume/Tone Push Button must be configured to enable standard functions, or the features described in Table A-2 will not apply. Reference Chapter 6, Scanner Button Options for programming details.

Volume changes made using the Volume/Tone Push Button are lost when the scanner is powered-down and are reset to the factory default setting. If you wish to permanently change the volume, use the special programming labels in Chapter 6, Good Read Beep Volume.

Table A-2. Volume/Tone Push Button Functions

PRESS DURATION	FUNCTION	COMMENT
Momentary (when scanner is asleep)	Wakes scanner from Sleep Mode	Alternatively, the scanner can be awakened by: - Moving an object through the scan zone. - A weight change on the scale. - Scanning with an attached auxiliary scanner.
Momentary (when scanner is awake)	Increments volume	Press the push button momentarily to increase speaker volume. When the loudest volume is reached, a repeated press of the push button cycles volume back to the lowest setting, then volume increases on subsequent press(es). Four volume levels are available.
Hold, then release when the beeper sounds	Increments tone	Press the push button for approximately 2 seconds, then release. Each time this is done, the beeper will sound at one of three tones. Stop when the desired tone (high, medium or low) is sounded.
4 Seconds	Scanner Diagnostics Mode[a]	This mode allows system support personnel to troubleshoot problems with the scanner. Upon entering Scanner Diagnostic Mode, view the 7-segment display to view Interface Type, Bootloader Version Number, Application Version Number and Configuration File Number. This mode is used to determine if a scanner can read bar codes. Press the button for eight seconds or cycle power to exit Scanner Diagnostics Mode and reset the scanner.
8 Seconds	Resets Scanner[b]	Only system support personnel should perform a reset.

a. Diagnostics Mode is meant for use by trained systems support personnel. Users should not need to initiate this function under normal circumstances.

b. Users should not perform scanner resets except under the direction of trained systems support personnel.

Scale Zero Push Button

The Scale Zero Push Button is used for multiple functions as listed in Table A-3.

NOTE

The Scale Zero Push Button has no function in a "scanner only" model.

The button must be configured to enable standard functions, or Scale Diagnostics will not be an available feature. Reference Chapter 6, Scanner Button Options for programming details.

Table A-3. Scale Zero Push Button Functions

PRESS DURATION	FUNCTION	COMMENT
Momentary	Zero Scale	When programmed to do so, the yellow LED should be lit when no weight is on the scale, indicating scale at zero. If it is not, press the switch to zero the scale.
4 Seconds	Scale Diagnostics Mode[a]	This mode allows system support personnel to troubleshoot problems with the scale. Momentarily press the Scale Zero Push Button or cycle power to exit Scale Diagnostics Mode.

a. Diagnostics Mode is meant for use by trained systems support personnel. Users should not need to initiate this function under normal circumstances.

Calibration Switch

This switch initiates the scale's calibration routine. A certified weight set is needed to perform the scale calibration steps detailed in Chapter 5, Calibration. This switch is not included in scanners without scale modules.

Calibration Switch Seal

This seal allows you to secure the Calibration Switch access cover and restrict access to the Calibration Switch. If the calibration seal is broken or missing, you may be prohibited from operating the scale without recertification. Check local and state requirements for specific restrictions.

Calibration Switch

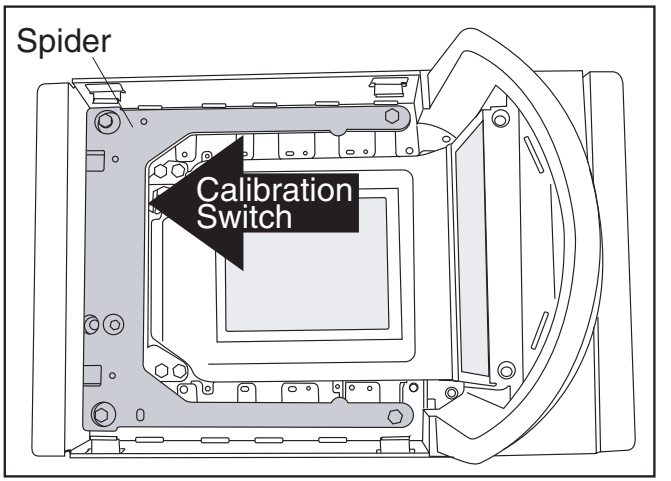
A cover restricts access to the Calibration Switch to help guard against unauthorized tampering when sealed. The Calibration Switch is located just beneath the Spider in the location indicated in Figure A-1.

LEGAL NOTE

LEGAL NOTE

There are regulations that must be followed in order to ensure compliance when operating a weighing device such as the scanner/scale. Failure to observe and comply with these regulations could result in legal action.

Figure A-1. Calibration Switch



Appendix B
Cable Information

Introduction

The following pages contain pinout information, enabling you to create standard interface cables for use in interconnecting the scanner, scale, external handheld scanner, and POS terminal.

General Specifications

Wire Requirements

- Cable length should not exceed 15 feet.
- Wire gauge = Standard for RJ-45 connectors (28-26 AWG).
- If run exceeds 15 feet, we recommend 26 AWG wire size.

RS-232 Cable Pinout

Scanner

Connector Hardware

RJ45, 10 Position

Cable Pinout

Table B-1RS-232 Cable Pinouts

PIN #	FUNCTION	DESCRIPTION
1	N/C	No Connection
2	CTS in	Clear To Send (input)
3	N/C	No Connection
4	RTS out	Request To Send (output)
5	RxD in	Receive Data (Input)
6	TxD out	Transmit Data (output)
7	N/C	No Connection
8	N/C	No Connection
9	GND	Signal Ground
10	N/C	No Connection

RS-232 Cable Pinout — continued

Scale

Connector Hardware

RJ45, 10 Position

Cable Pinout

Table B-2RS-232 Scale Cable Pinouts

PIN #	FUNCTION	DESCRIPTION
1	+5V pullup	+5V pullup
2	CTS IN	Clear To Send (input)
3	N/C	No Connection
4	RTS OUT	Request To Send (output)
5	RxD IN	Receive Data (Input)
6	TxD OUT	Transmit Data (output)
7	N/C	No Connection
8	N/C	No Connection
9	Gnd	Signal Ground
10	N/C	No Connection

IBM Cable Pinout

Scanner and Scale

Connector Hardware

RJ45, 10 Position

Cable Pinout

Table B-3IBM Cable Pinouts

PIN #	FUNCTION	DESCRIPTION
1	N/C	No Connection
2	N/C	No Connection
3	N/C	No Connection
4	LINEB	Line B
5	N/C	No Connection
6	LINEA	Line A
7	N/C	No Connection
8	N/C	No Connection
9	GND	Signal Ground
10	N/C	No Connection

IBM USB Cable Pinout

Scanner and Scale

Connector Hardware

RJ45, 10 Position

Cable Pinout

Table B-4IBM USB Cable Pinouts

PIN #	FUNCTION	DESCRIPTION
1	N/C	No Connection
2	N/C	No Connection
3	VBUS	USB VBUS
4	USB D-	USB D-
5	N/C	No Connection
6	USB D+	USB D+
7	N/C	No Connection
8	N/C	No Connection
9	GND	Signal Ground
10	N/C	No Connection

Auxilliary Port

External Handheld Input

Connector Hardware

RJ45, 10 Position

Cable Pinout

Table B-5Auxilliary Port Cable Pinouts

PIN #	FUNCTION	DESCRIPTION
1	+5V pullup	+5V pullup
2	CTS in	Clear To Send (input)
3	N/C	No Connection - Reserved
4	RTS out	Request To Send (output)
5	RxD in	Receive Data (Input)
6	TxD out	Transmit Data (output)
7	N/C	No Connection
8	+5V out (500mA max)	+5V out
9	GND	Signal Ground
10	N/C	No Connection

Power Cable

Connector Hardware

3 pin Molex

Cable Pinout

Table B-6Power Cable Pinouts

PIN #	FUNCTION	DESCRIPTION
1	EARTH GND	Earth Ground
2	SIGNAL GND	Signal Ground
3	+12V IN	+12V in

Remote Display

Connector Hardware

4 pin SDL

Cable Pinout

Table B-7Remote Display Cable Pinouts

PIN #	FUNCTION	DESCRIPTION
1	+12V OUT	+12V out
2	LINE_A_DSPLY	LINE A Display
3	LINE_B_DSPLY	LINE B Display
4	GND	Ground

EAS Comm Port (Sensormatic® systems ONLY)

EAS Deactivator Control Box Connection

Connector Hardware

RJ4

Cable Pinout

Table B-8. EAS Port Cable Pinouts

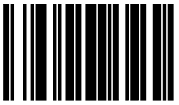
PIN #	FUNCTION	DESCRIPTION
1	GND	GND
2	+5V Out	+5V Out
3	External Read Indicator	When configured, signifies good read
4	Audio Out	Intended to drive an external amplifier that drives and external speaker.

NOTES

Appendix C
Keypad

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

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

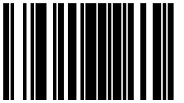


0

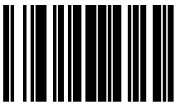
1

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

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



2

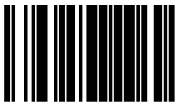


3

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

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

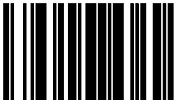
4



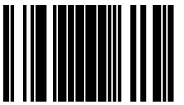
5

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

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



6

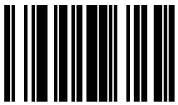


7

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

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

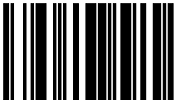
8



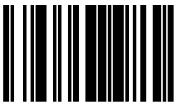
9

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

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



A

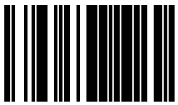


B

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

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

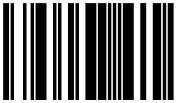
C



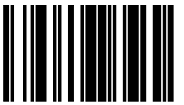
D

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

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



E



F

Appendix D
Host Commands

Accepting Commands from an RS-232 Scanner Host

The scanner responds to the following RS-232 commands:

COMMAND	ASCII	HEX	COMMENT
Enable Scanner	E	0x45	
Disable Scanner	D	0x44	
Reset Scanner	R	0x52	
Not On File Indication	F	0x46	Long series of beeps
Beep Good Read Tone	B	0x42	Beeps if Good Read Beep is enabled
Force Good Read Tone		0x01	Beeps regardless of beep setting
Bel		0x07	Force Good Read Tone
Identification request	i	0x69	Returns long response[a]
Health request	h	0x68	Returns long response[a]
Status request	s	0x73	Returns long response[a]

a. Call Tech Support for information.

If one of the above commands is received, the scanner will perform the steps indicated for the command. Host commands for other interfaces is also available. Contact Tech Support for more details.

NOTES

Appendix E
Keyboard Function Key Mappings

Keyboard Model Cross Reference

Table E-2 summarizes the keyboard models, their defined protocol, scancode set, and some unique features. The remaining tables in this chapter provide the function key maps associated with each of the scancode sets.

Table E-1. Keyboard Model Cross Reference

Model Type	I/F ID	Trans-mission Protocol	Scancode Set	Func. Key Map Support	Use Country Mode
PC/XT Foreign ALT Mode	Wedge A	PC/XT	Scan Set 1	No	No
AT; PS/2 25-286; PS/2 30-286; PS/2 50, 50Z; PS/2 60,70,80,90,95 Foreign ALT Mode	Wedge B	AT/PS2	Scan Set 2	No	No
PS/2 25 and 30 Foreign ALT Mode	Wedge C	AT/PS2	Scan Set 1	No	No
PC/XT U.S. Mode	Wedge D	PC/XT	Scan Set 1	Yes	No
AT; PS/2 25-286; PS/2 30-286; PS/2 50, 50Z; PS/2 60,70,80,90,95 U.S. Mode + specific country support	Wedge E	AT/PS2	Scan Set 2	Yes	Yes
PS/2 25 and 30 U.S. Mode	Wedge F	AT/PS2	Scan Set 1	Yes	No
IBM 3xxx Terminals (122-key keyboard)	Wedge G	AT/PS2	Scan Set 3	Yes	No
IBM 3xxx Terminals (102-key keyboard)	Wedge H	AT/PS2	Scan Set 3	Yes	No
PS55 5530T with JAPANESE DOS (TDOS)	Wedge I	AT/PS2	Japanese DOS	Yes	No
NEC 9801	Wedge J	NEC 9801	NEC 9801	Yes	No

Table E-2. Scanset 1 Function Key Map

ASCII (hex)	ASCII code	Key	Scancode
00	NUL	ALT right Make	E0h 38h
01	SOH	ALT right Break	E0h B8h
02	STX	ALT left Make	38h
03	ETX	ALT left Break	B8h
04	EOT	CTRL left Make	1Dh
05	ENQ	CTRL left Break	9Dh
06	ACK	CTRL right Make	E0h 1Dh
07	BEL	CTRL right Break	E0h 9Dh
08	BS	BS	0Eh
09	HT	TAB right	0Fh
0A	LF	RIGHT arrow (inner keypad)	4Dh + E0
0B	VT	TAB left	0Fh + S
0C	FF	Enter (inner keypad)	1Ch + E0
0D	CR	CR	1Ch
0E	SO	INSERT (inner keypad)	52h + E0
0F	SI	PAGE UP (inner keypad)	49h + E0
10	DLE	PAGE DOWN (inner keypad)	51h + E0
11	DC1	HOME (inner keypad)	47h + E0
12	DC2	LEFT arrow (inner keypad)	4Bh + E0
13	DC3	DOWN arrow (inner keypad)	50h + E0
14	DC4	UP arrow (inner keypad)	48h + E0

Table E-3. Scanset 2 Function Key Map

ASCII (hex)	ASCII code	Key	Scancode
00	NUL	ALT right Make	E0h 11h
01	SOH	ALT right Break	E0h F0h 11h
02	STX	ALT left Make	11h
03	ETX	ALT left Break	F0h 11h
04	EOT	CTRL left Make	14h
05	ENQ	CTRL left Break	F0h 14h
06	ACK	CTRL right Make	E0h 14h
07	BEL	CTRL right Break	E0h F0h 14h
08	BS	BS	66h
09	HT	TAB right	0Dh
0A	LF	RIGHT arrow (inner keypad)	74h + E0
0B	VT	TAB left	0Dh + S
0C	FF	Enter (right keypad)	5Ah + E0
0D	CR	CR	5Ah
0E	SO	INSERT (inner keypad)	70h + E0
0F	SI	PAGE UP (inner keypad)	7Dh + E0
10	DLE	PAGE DOWN (inner keypad)	7Ah + E0
11	DC1	HOME (inner keypad)	6Ch + E0
12	DC2	LEFT arrow (inner keypad)	6Bh + E0
13	DC3	DOWN arrow (inner keypad)	72h + E0
14	DC4	UP arrow (inner keypad)	75h + E0
15	NAK	F6	0Bh
16	SYN	F1	05h
17	ETB	F2	06h
18	CAN	F3	04h
19	EM	F4	0Ch
1A	SUB	F5	03h
1B	ESC	ESC	76h
1C	FS	F7	83h
1D	GS	F8	0Ah
1E	RS	F9	01h
1F	US	F10	09h

Table E-4. Scanset 3, 102-Key Function Key Map

ASCII (hex)	ASCII code	Key	Scancode
00	NUL	ALT right Make	39h
01	SOH	ALT right Break	F0h 39h
02	STX	ALT left Make	19h
03	ETX	ALT left Break	F0h 19h
04	EOT	CTRL left Make	11h
05	ENQ	CTRL left Break	F0h 11h
06	ACK	CTRL right Make	58h
07	BEL	CTRL right Break	F0h 58h
08	BS	BS	66h
09	HT	TAB right	0Dh
0A	LF	RIGHT arrow (inner keypad)	6Ah
0B	VT	TAB left	0Dh + S
0C	FF	Enter (inner keypad)	79h
0D	CR	CR	5Ah
0E	SO	INSERT (inner keypad)	67h
0F	SI	PAGE UP (inner keypad)	6Fh
10	DLE	PAGE DOWN (inner keypad)	6Dh
11	DC1	HOME (inner keypad)	6Eh
12	DC2	LEFT arrow (inner keypad)	61h
13	DC3	DOWN arrow (inner keypad)	60h
14	DC4	UP arrow (inner keypad)	63h
15	NAK	F6	2Fh
16	SYN	F1	07h
17	ETB	F2	0Fh
18	CAN	F3	17h
19	EM	F4	1Fh
1A	SUB	F5	27h
1B	ESC	ESC	08h
1C	FS	F7	37h
1D	GS	F8	3Fh
1E	RS	F9	47h
1F	US	F10	4Fh

Table E-5. Scanset 3 122-Key Function Key Map

ASCII (hex)	ASCII code	Key	Scancode
00	NUL	ALT Right Make	39h
01	SOH	ALT Right Break	F0h 39h
02	STX	ALT left Make	19h
03	ETX	ALT left Break	F0h 19h
04	EOT	CTRL left (RESET) Make only	11h
05	ENQ	CTRL left (RESET) Make/Break	11h F0h 11h
06	ACK	ONLINE Enter Make only	58h
07	BEL	ONLINE Enter Make/Break	58h F0h 58h
08	BS	BS	66h
09	HT	TAB right	0Dh
0A	LF	RIGHT arrow (inner keypad)	6Ah
0B	VT	TAB left	0Dh + S
0C	FF	CR (FIELD EXIT) Make only	5Ah F0h 5Ah
0D	CR	CR (FIELD EXIT) Make/Break	5Ah
0E	SO	INSERT (inner keypad)	65h
0F	SI	FIELD +	79h
10	DLE	FIELD -	7Ch
11	DC1	HOME (inner keypad)	62h
12	DC2	LEFT arrow (inner keypad)	61h
13	DC3	DOWN arrow (inner keypad)	60h
14	DC4	UP arrow (inner keypad)	63h
15	NAK	F6	2Fh
16	SYN	F1	07h
17	ETB	F2	0Fh
18	CAN	F3	17h
19	EM	F4	1Fh
1A	SUB	F5	27h
1B	ESC	ESC	08h
1C	FS	F7	37h
1D	GS	F8	3Fh
1E	RS	F9	47h
1F	US	F10	4Fh

Table E-6. Japanese DOS Function Key Map

ASCII value	ASCII code	Key	Scancode
00h	NUL	ALT right Make	31h
01h	SOH	ALT right Break	B1h
02h	STX	ALT left Make	31h
03h	ETX	ALT left Break	B1h
04h	EOT	CTRL left Make	41h
05h	ENQ	CTRL left Break	C1h
06h	ACK	CTRL right Make	41h
07h	BEL	CTRL right Break	C1h
08h	BS	BS	3Eh
09h	HT	TAB right	3Ch
0Ah	LF	RIGHT arrow (inner keypad)	4Dh
0Bh	VT	TAB left	3Ch + S
0Ch	FF	Enter (right keypad)	60h
0Dh	CR	CR	3Bh
0Eh	SO	INSERT (inner keypad)	52h
0Fh	SI	PAGE UP (inner keypad)	49h
10h	DLE	PAGE DOWN (inner keypad)	51h
11h	DC1	HOME (inner keypad)	4Ch
12h	DC2	LEFT arrow (inner keypad)	4Bh
13h	DC3	DOWN arrow (inner keypad)	4Ah
14h	DC4	UP arrow (inner keypad)	4Eh
15h	NAK	F6	6Dh
16h	SYN	F1	68h
17h	ETB	F2	69h
18h	CAN	F3	6Ah
19h	EM	F4	6Bh
1Ah	SUB	F5	6Ch
1Bh	ESC	ESC	3Dh
1Ch	FS	F7	6Eh
1Dh	GS	F8	6Fh
1Eh	RS	F9	70h
1Fh	US	F10	71h

Table E-7. NEC 9801-Key Function Key Map

ASCII value	ASCII code	Key	Scancode
00h	NUL	unused	n/a
01h	SOH	CR	1Ch
02h	STX	CAPS LOCK ON (make)	71h
03h	ETX	CAPS LOCK OFF (break)	F1h
04h	EOT	CTRL left Make	74h
05h	ENQ	CTRL left Break	F4h
06h	ACK	CTRL-C	60h
07h	BEL	n/a	n/a
08h	BS	BS	0Eh
09h	HT	TAB right	0Fh
0Ah	LF	RIGHT arrow (inner keypad)	3Ch
0Bh	VT	TAB left	0Fh + S
0Ch	FF	DELETE	39h
0Dh	CR	CR	1Ch
0Eh	SO	INSERT (inner keypad)	38h
0Fh	SI	KATAKANA LOCK ON (Make)	72h
10h	DLE	KATAKANA LOCK OFF (Break)	F2h
11h	DC1	HOME (inner keypad)	3Eh
12h	DC2	LEFT arrow (inner keypad)	3Bh
13h	DC3	DOWN arrow (inner keypad)	3Dh
14h	DC4	UP arrow (inner keypad)	3Ah
15h	NAK	F6	67h
16h	SYN	F1	62h
17h	ETB	F2	63h
18h	CAN	F3	64h
19h	EM	F4	65h
1Ah	SUB	F5	66h
1Bh	ESC	ESC	00h
1Ch	FS	F7	68h
1Dh	GS	F8	69h
1Eh	RS	F9	6Ah
1Fh	US	F10	6Bh

Table E-8. USB Keyboard Function Key Usage Map

ASCII	Key Value	Usage Name
00	NUL	ALT right Make
01	SOH	ALT right Break
02	STX	F11
03	ETX	F12
04	EOT	GUI right Make
05	ENQ	GUI right Break
06	ACK	CTRL right Make
07	BEL	CTRL right Break
08	BS	BS
09	HT	TAB right
0A	LF	RIGHT arrow (inner keypad)
0B	VT	TAB left
0C	FF	Enter (right keypad)
0D	CR	CR
0E	SO	INSERT (inner keypad)
0F	SI	PAGE UP (inner keypad)
10	DLE	PAGE DOWN (inner keypad)
11	DC1	HOME (inner keypad)
12	DC2	LEFT arrow (inner keypad)
13	DC3	DOWN arrow (inner keypad)
14	DC4	UP arrow (inner keypad)
15	NAK	F6
16	SYN	F1
17	ETB	F2
18	CAN	F3
19	EM	F4
1A	SUB	F5
1B	ESC	ESC
1C	FS	F7
1D	GS	F8
1E	RS	F9
1F	US	F10

NOTES

Appendix F
Factory Defaults

The following table provides a listing of the most common factory settings for the interfaces shown.

Table F-1. Factory Default Settings

	RS-232	Wincor-Nixdorf	RS-232 Single Cable	Keybd. Wedge	IBM	IBM USB
Scanner Button Options	Enable Std Functions	Enable Std Functions	Enable Std Functions	Enable Std Functions	Enable Std Functions	Enable Std Functions
Double Read Time-out	400ms	400ms	400ms	400ms	400ms	400ms
Laser Timeout	5 min.	5 min.	5 min.	5 min.	5 min.	5 min.
Motor Timeout	10 min.	10 min.	10 min.	10 min.	10 min.	10 min.
Label Gone Timeout	160 msec	160 msec	160 msec	160 msec	160 msec	160 msec
Auxiliary Port Mode	Disable	Enable Handheld	Disable	Disable	Disable	Disable
Auxiliary Port Baud Rate	19200	19200	19200	19200	19200	19200
Laser Failure Mode	Single OK	Single OK	Single OK	Single OK	Single OK	Single OK
Productivity Index Reporting (PIR)/ Cashier Training (CT)	Disable	Disable	Disable	Disable	Disable	Disable
Green LED Idle State	On dim	On dim	On dim	On dim	On dim	On dim

	RS-232	Wincor-Nixdorf	RS-232 Single Cable	Keybd. Wedge	IBM	IBM USB
Power-up Beep Control	1 beep	1 beep	1 beep	1 beep	1 beep	1 beep
Good Read Beep Control	Enable	Enable	Enable	Enable	Enable	Enable
Good Read Beep Frequency	Medium	Medium	Medium	Medium	Medium	Medium
Good Read Beep Length	80ms	80ms	80ms	80ms	80ms	80ms
Good Read Beep Volume	High	High	High	High	High	High
Good Read When to Indicate	After decode	After decode	After decode	After decode	After decode	After decode
Scale Enable	Enable	Enable	Enable		Enable	Enable
Scale Enforced Zero Return	3 (non-zero for 4 minutes)	3 (non-zero for 4 minutes)	Disable		3 (non-zero for 4 minutes)	3 (non-zero for 4 minutes)
Scale Interface Type	RS-232 SASI	RS-232 SASI				
Scale Calibration Notification	Disable	Disable	Disable		Disable	Disable
Scale Intercharacter Delay	No delay	No delay				
Remote Display — Enable/Disable	Enable	Enable	Enable		Enable	Enable
EAS Active State	Low	Low	Low	Low	Low	Low
EAS Timeout	20ms	20ms	20ms	20ms	20ms	20ms
Maximum Host-Transmitted Message Length	No limit	No limit	No limit	No limit	No limit	No limit

	RS-232	Wincor-Nixdorf	RS-232 Single Cable	Keybd. Wedge	IBM	IBM USB
Number of Host Transmission Buffers	2 buffers	1 buffer	2 buffers	2 buffers	1 buffer	1 buffer
AIM ID	Disable	Disable	Disable	Disable		
Label ID Control	Enable as prefix	Enable as prefix	Enable as prefix	Enable as prefix		
Global Prefix	00 ("")	00 ("")	00 ("")	00 ("")		
Global Suffix	0D00 (<CR>)	0D00 (<CR>)	00 ("")	0D00 (<CR>)		
Case Conversion	No con-version	No con-version	No con-version	No con-version	No con-version	No con-version
IBM Interface Options			10 (custom options)		Full Host Interface Support	Full Host Interface Support
IBM Number of Host Resets					6	6
IBM Scale Address					6E	6E
IBM Transmit Labels in Code 39 Format					Disable	Disable
IBM Label Slicing Control					Slice when nec.	Slice when nec.
IBM Maximum Label Slice Length					64	64
IBM USB Scanner Device Type						Table top scanner
RS-232 Baud Rate	9600	9600	9600			
RS-232 Number of Data Bits	8 data bits	8 data bits	7 data bits			

	RS-232	Wincor-Nixdorf	RS-232 Single Cable	Keybd. Wedge	IBM	IBM USB
RS-232 Number of Stop Bits	1 stop bit	1 stop bit	1 stop bit			
RS-232 Parity	None	Odd	Odd			
RS-232 Hardware Control	Disable	Enable CTS flow				
RS-232 Intercharac-ter Delay	None	None				
RS-232 Software Flow Control	Disable	Disable	Disable			
RS-232 Host Echo	Disable	Disable				
RS-232 Host Echo Quiet Interval	10ms	10ms				
RS-232 Ignore Host Commands	Do not ignore	Do not ignore	Do not ignore	Do not ignore	Do not ignore	Do not ignore
RS-232 TTL	Normal RS-232	Normal RS-232				
RS-232 TTL Invert	No invert	No invert				
RS-232 ICL DC1 Character Delay Enable	Disable	Disable				
RS-232 Team POS ICL Scale	Disable	Disable				
RS-232 Beep on ASCII BEL	Disable	Disable				
RS-232 Beep After Weigh	Disable	Disable	Disable			
RS-232 Beep on Not on File	Enable	Enable	Enable			

	RS-232	Wincor-Nixdorf	RS-232 Single Cable	Keybd. Wedge	IBM	IBM USB
RS-232 ACK NAK Enable	Disable	Disable				
RS-232 ACK Character	ACK	ACK				
RS-232 NAK Character	NAK	NAK				
RS-232 Retry on ACK NAK Timeout	Enable	Enable				
RS-232 ACK NAK Timeout Value	200ms	200ms				
RS-232 ACK NAK Retry Count	3 resets	3 resets				
RS-232 ACK NAK Error Handling	Ignore errors	Ignore errors				
Single Cable RS-232 Scanner Only Protocol			Scanner-scale			
Single Cable RS-232 Stale Weight Timeout			330 msec			
Single Cable RS-232 Scale — Transmit Weight Digits			Transmit as 4 digits			
Single Cable Manufacturer Extensions			Disable			
Single Cable Pacesetter Plus Enable			Disable			
Single Cable RS-232 RTS CTS Selection			Option 5			

	RS-232	Wincor-Nixdorf	RS-232 Single Cable	Keybd. Wedge	IBM	IBM USB
Single Cable RS-232 Use BCC			Disable			
Single Cable RS-232 Use ACK/NAK			Disable			
Single Cable RS-232 Use STX			Enable			
Set Single Cable RS-232 STX Character			S			
Set Single Cable RS-232 ETX Character			Enable			
Set Single Cable RS-232 ETX Character			CR			
Keyboard Interface — Keyboard Layout			US			
Keyboard Interface Quiet Interval			100 ms			
Keyboard Interface Caps Lock State			Caps lock OFF			
Keyboard Interface — Keyboard Simulation			Disable			
Keyboard Interface — Control Characters			Disable			
Keyboard Interface — Intercharacter Delay			10 msec			
Coupon Control	Disable	Disable	Disable	Disable	Disable	Disable
UPC-A Enable	Enable	Enable	Enable	Enable	Enable	Enable
UPC-A Number System Character Transmission	Enable	Enable	Enable	Enable	Enable	Enable

	RS-232	Wincor-Nixdorf	RS-232 Single Cable	Keybd. Wedge	IBM	IBM USB
UPC-A Check Character Transmission	Enable	Enable	Disable	Enable	Enable	Enable
Expand UPC-A to EAN-13	Disable	Enable	Disable	Disable	Disable	Disable
UPC-A Label ID	A	A	A	A		
UPC-A 2-Digit Supplemental Label ID	A	A	A	A		
UPC-A 5-Digit Supplemental Label ID	A	A	A	A		
UPC-A 128 Supplemental Label ID	A	A	A	A		
UPC-A Minimum Reads	1	1	1	1	1	1
UPC-E Enable	Enable	Enable	Enable	Enable	Enable	Enable
UPC-E Number System Character Transmission	Enable	Enable	Enable	Enable	Enable	Enable
UPC-E Check Character Transmission	Disable	Disable	Disable	Disable	Enable	Enable
Expand UPC-E to UPC-A	Disable	Disable	Disable	Disable	Disable	Disable
Expand UPC-E to EAN-13	Disable	Disable	Disable	Disable	Disable	Disable
UPC-E Label ID	E	C	E	E		
UPC-E 2-Digit Supplemental Label ID	E	C	E	E		
UPC-E 5-Digit Supplemental Label ID	E	C	E	E		

	RS-232	Wincor-Nixdorf	RS-232 Single Cable	Keybd. Wedge	IBM	IBM USB
UPC-E 128 Supplemental Label ID	E	C	E	E		
UPC-E Minimum Reads	2	2	2	2	2	2
EAN-13 Enable	Enable	Enable	Enable	Enable	Enable	Enable
EAN-13 First Character Transmission	Enable	Enable	Enable	Enable	Enable	Enable
EAN-13 Check Character Transmission	Enable	Enable	Disable	Enable	Enable	Enable
EAN-13 ISBN Conversion Enable	Disable	Disable	Disable	Disable	Disable	Disable
EAN 13 Label ID	F	A	F	F		
EAN-13 2-Digit Supplemental Label ID	F	A	F	F		
EAN-13 5-Digit Supplemental Label ID	F	A	F	F		
EAN-13 Minimum Reads	1	1	1	1	1	1
EAN-13 128 Supplemental Label ID	F	A	F	F		
Bookland Label ID	I	A	I	I		
EAN-8 Enable	Enable	Enable	Enable	Enable	Enable	Enable
EAN-8 Check Character Transmission	Enable	Enable	Disable	Enable	Enable	Enable
Expand EAN-8 to EAN-13	Disable	Disable	Disable	Disable	Disable	Disable
EAN-8/JAN-8 Guard Insertion	Disable	Disable	Disable	Disable	Disable	Disable

	RS-232	Wincor-Nixdorf	RS-232 Single Cable	Keybd. Wedge	IBM	IBM USB
EAN-8/JAN-8 Guard Substitution	Enable	Enable	Enable	Enable	Enable	Enable
EAN-8/JAN-8 Both Guards Substitution	Disable	Disable	Disable	Disable	Disable	Disable
EAN-8 Stitch Exact Label Halves	Disable	Disable	Disable	Disable	Disable	Disable
EAN-8 Stitch Unlike Label Halves	Disable	Disable	Disable	Disable	Disable	Disable
EAN 8 Label ID	FF	B	FF	FF		
EAN-8 2-Digit Supplemental Label ID	FF	B	FF	FF		
EAN-8 5-Digit Supplemental Label ID	FF	B	FF	FF		
EAN-8 128 Supplemental Label ID	FF	B	FF	FF		
EAN-8 Decoding Levels	1 (Very Conservative)	1 (Very Conservative)	1 (Very Conservative)	1 (Very Conservative)	1 (Very Conservative)	1 (Very Conservative)
EAN-8 Minimum Reads	2	1	2	2	2	2
EAN-8 Minimum Segment Length	8	8	8	8	8	8
Price Weight Check	Disable	Disable	Disable	Disable	Disable	Disable
In-Store Label Minimum Reads	2	2	2	2	2	2
Enable EAN Two Label	Disable	Disable	Disable	Disable	Disable	Disable
EAN Two Label Combined Transmission	Disable	Disable	Disable	Disable	Disable	Disable

	RS-232	Wincor-Nixdorf	RS-232 Single Cable	Keybd. Wedge	IBM	IBM USB
UPC/EAN Guard Insertion	Disable	Disable	Disable	Disable	Disable	Disable
UPC/EAN Stitch Exact Label Halves	Disable	Disable	Disable	Disable	Disable	Disable
UPC/EAN Stitch Unlike Label Halves	Disable	Disable	Disable	Disable	Disable	Disable
UPC/EAN Character Reconstruction	Disable	Disable	Disable	Disable	Disable	Disable
EAN Two Label Minimum Reads	1	1	1	1	1	1
Addon Timer	70mS	70mS	70mS	70mS	70mS	70mS
UPC/EAN Correlation	Disable	Disable	Disable	Disable	Disable	Disable
2-Digit Add-ons Minimum Reads	2	2	2	2	2	2
5-Digit Add-ons Minimum Reads	1	1	1	1	1	1
Code 128 Add-ons Minimum Reads	1	1	1	1	1	1
UPC/EAN Minimum Segment Length	5	5	5	5	5	5
GTIN Enable	Disable	Disable	Disable	Disable	Disable	
GTIN Label ID	G	G	G	G		
GTIN 2-Digit Supplemental Label ID	G2	G2	G2	G2		
GTIN 5-Digit Supplemental Label ID	G5	G5	G5	G5		
GTIN Code 128 Supplemental Label ID	G8	G8	G8	G8		

	RS-232	Wincor-Nixdorf	RS-232 Single Cable	Keybd. Wedge	IBM	IBM USB
DataBar Omnidirectional Enable	Disable	Disable	Disable	Disable	Disable	Disable
DataBar Omnidirectional/EAN-128 Emulation	Disable	Disable	Disable	Disable	Disable	Disable
DataBar Omnidirectional Label ID	R4	E	R4	R4		
DataBar Omnidirectional Minimum Reads	1	1	1	1	1	1
DataBar Expanded Enable	Disable	Disable	Disable	Disable	Disable	Disable
DataBar Expanded EAN-128 Emulation	Disable	Disable	Disable	Disable	Disable	Disable
DataBar Expanded Label ID	RX	E	RX	RX		
DataBar Expanded Length Control	Variable	Variable	Variable	Variable	Variable	Variable
DataBar Expanded Length 1	1	1	1	1	1	1
DataBar Expanded Length 2	74	74	74	74	74	74
DataBar Expanded Minimum Reads	1	1	1	1	1	1
Code 39 Enable	Enable	Disable	Enable	Enable	Enable	Enable
Code 39 Start Stop Character Transmission	Disable	Disable	Disable	Disable	Disable	Disable

	RS-232	Wincor-Nixdorf	RS-232 Single Cable	Keybd. Wedge	IBM	IBM USB
Code 39 Check Character Calculation	Disable	Disable	Disable	Disable	Disable	Disable
Code 39 Check Character Transmission	Enable	Enable	Enable	Enable	Enable	Enable
Code 39 Full ASCII	Disable	Disable	Disable	Disable	Disable	Disable
Code 39 Label ID	*	M	B1	*		
Code 39 Require Quiet Zones	Disable	Disable	Disable	Disable	Disable	Disable
Code 39 Length Control	Variable	Variable	Variable	Variable	Variable	Variable
Code 39 Length 1	2	2	2	2	2	2
Code 39 Length 2	50	50	50	50	50	50
Code 39 Correlation	Disable	Disable	Disable	Disable	Disable	Disable
Code 39 Stitching	Enable	Enable	Enable	Enable	Enable	Enable
Code 39 Minimum Reads	1	1	1	1	1	1
Pharmacode 39 Enable	Disable	Disable	Disable	Disable	Disable	Disable
Pharmacode 39 Start Stop Character Transmission	Disable	Disable	Disable	Disable	Disable	Disable
Pharmacode 39 Check Character Transmission	Enable	Enable	Enable	Enable	Enable	Enable
Pharmacode 39 Label ID	A	A	A	A		
Code 128 Enable	Enable	Enable	Enable	Enable	Enable	Enable

	RS-232	Wincor-Nixdorf	RS-232 Single Cable	Keybd. Wedge	IBM	IBM USB
Code 128 Transmit Function Characters	Disable	Disable	Disable	Disable	Disable	Disable
Convert Code 128 to Code 39	Disable	Disable	Disable	Disable	Disable	Disable
Code 128 Label ID	#	K	B3	#		
Code 128 Length Control	Variable	Variable	Variable	Variable	Variable	Variable
Code 128 Length 1	1	1	1	1	1	1
Code 128 Length 2	80	80	80	80	80	80
Code 128 Correlation	Disable	Disable	Disable	Disable	Disable	Disable
Code 128 Stitching	Disable	Disable	Disable	Disable	Disable	Disable
Code 128 Minimum Reads	1	1	1	1	1	1
EAN-128 Enable	Disable	Disable	Disable	Disable	Disable	Disable
EAN-128 Label ID	None	P	None	None		
Interleaved 2 of 5 (I 2 of 5) Enable	Disable	Disable	Disable	Disable	Disable	Disable
I 2 of 5 Check Character Calculation	Disable	Disable	Disable	Disable	Disable	Disable
I 2 of 5 Check Character Transmission	Enable	Enable	Enable	Enable	Enable	Enable
I 2 of 5 Label ID	i	I	B2	i		
I 2 of 5 Length Control	Variable	Variable	Variable	Variable	Variable	Variable
I 2 of 5 Length 1	6	6	6	6	6	6
I 2 of 5 Length 2	50	50	50	50	50	50

	RS-232	Wincor-Nixdorf	RS-232 Single Cable	Keybd. Wedge	IBM	IBM USB
I 2 of 5 Correlation	Disable	Disable	Disable	Disable	Disable	Disable
I 2 of 5 Stitching	Disable	Disable	Disable	Disable	Disable	Disable
I 2 of 5 Minimum Reads	1	1	1	1	1	1
Standard 2 of 5 (Std 2 of 5) Enable	Disable	Disable	Disable	Disable	Disable	Disable
Standard 2 of 5 Check Character Calculation	Disable	Disable	Disable	Disable	Disable	Disable
Standard 2 of 5 Check Character Transmission	Enable	Enable	Enable	Enable	Enable	Enable
Standard 2 of 5 Label ID	S	H	S	S		
Standard 2 of 5 Length Control	Variable	Variable	Variable	Variable	Variable	Variable
Standard 2 of 5 Length 1	8	8	8	8	8	8
Standard 2 of 5 Length 2	50	50	50	50	50	50
Standard 2 of 5 Correlation	Disable	Disable	Disable	Disable	Disable	Disable
Standard 2 of 5 Stitching	Disable	Disable	Disable	Disable	Disable	Disable
Standard 2 of 5 Minimum Reads	1	1	1	1	1	1
Codabar Enable	Disable	Disable	Disable	Disable	Disable	Disable

	RS-232	Wincor-Nixdorf	RS-232 Single Cable	Keybd. Wedge	IBM	IBM USB
Codabar Start Stop Character Transmission	Disable	Enable	Disable	Disable	Disable	Disable
Codabar Start Stop Character Set	abcd/abcd	abcd/abcd	abcd/abcd	abcd/abcd	abcd/abcd	abcd/abcd
Codabar Start Stop Character Match	Disable	Disable	Disable	Disable	Disable	Disable
Codabar Check Character Calculation	Disable	Disable	Disable	Disable	Disable	Disable
Codabar Check Character Transmission	Enable	Enable	Enable	Enable	Enable	Enable
Codabar Label ID	%	N	%	%		
Codabar Require Quiet Zones	Enable	Enable	Enable	Enable	Enable	Enable
Codabar Length Control	Variable	Variable	Variable	Variable	Variable	Variable
Codabar Length 1	3	3	3	3	3	3
Codabar Length 2	50	50	50	50	50	50
Codabar Correlation	Disable	Disable	Disable	Disable	Disable	Disable
Codabar Stitching	Disable	Disable	Disable	Disable	Disable	Disable
Codabar Minimum Reads	1	1	1	1	1	1
Code 93 Enable	Disable	Disable	Disable	Disable	Disable	Disable
Code 93 Label ID	&	L	&	&		
Code 93 Length Control	Variable	Variable	Variable	Variable	Variable	Variable

	RS-232	Wincor-Nixdorf	RS-232 Single Cable	Keybd. Wedge	IBM	IBM USB
Code 93 Length 1	1	1	1	1	1	1
Code 93 Length 2	50	50	50	50	50	50
Code 93 Correlation	Disable	Disable	Disable	Disable	Disable	Disable
Code 93 Stitching	Enable	Enable	Enable	Enable	Enable	Enable
Code 93 Minimum Reads	1	1	1	1	1	1
MSI/Plessey Enable	Disable	Disable	Disable	Disable		
MSI/Plessey Check Character Calculation	Enable	Enable	Enable	Enable		
MSI/Plessey Number of Check Characters	1 check char	1 check char	1 check char	1 check char		
MSI/Plessey Check Character Transmis-sion	Enable	Enable	Enable	Enable		
MSI/Plessey Label ID	@	O	@	@		
MSI/Plessey Length Control	Variable	Variable	Variable	Variable		
MSI/Plessey Length 1	4	4	4	4		
MSI/Plessey Length 2	16	16	16	16		
MSI/Plessey Correla-tion	Disable	Disable	Disable	Disable		
MSI/Plessey Stitch-ing	Disable	Disable	Disable	Disable		
MSI/Plessey Mini-mum Reads	1	1	1	1		

Appendix G
Handheld Data Format Requirements

This appendix provides application notes to describe the general format of data that can be accepted by the scanner through the auxilliary port as transmitted from a handheld scanner.

Handheld Data Format Requirements General

- 9600 bps, 8 data bits, 2 stop bits, no parity.
- RTS is used to "bracket" the data received from the handheld: RTS must be asserted high during data transmission, and de-asserted after label transmission is complete. No other flow control mechanisms are required or supported. The de-assertion of the RTS signal must occur no later than 50 milliseconds from the complete transmission of the last character of the transmitted data.
- The time between character transmission can be no longer than 50 milliseconds.
- Symbologies requiring fixed lengths (UPC/EAN) will enforce length requirements for validation of the label.
- Handheld scanner will be required to transmit start and stop characters for Codabar and Code 39 labels.
- Appropriate industrial length requirements will be enforced (if configured) for validation of the label.
- Maximum label lengths will be enforced for label validation (i.e. labels longer than the maximum label size will not be validated).
- Standard Datalogic formats generally use a single prefix character. The specific formats are provided below.

Datalogic Handheld Data Format Requirements

The following sections describe label transmission formats that are typically observed in factory configurations of Datalogic handheld scanners.

DataBar Omnidirectional

- Prefix must be ASCII characters ‘R4’
- Check character must be included in label
- Application identifier “01” must follow the prefix and preceed the base label
- Label length excluding prefix characters must be 16 characters.
- Example: ‘R40101044123456789’

DataBar Expanded

- Prefix must be ASCII characters ‘R4’
- Check character must be included in label

UPC-A

- System number must be included in label data.
- Check digit must be included in label data and is assumed to be correct.
- Prefix must be an ASCII character 'A' - total length including prefix must be 13.
- Example: 'A060992011187'.

UPC-A with 2-Digit Supplemental

- System number must be included in label data.
- Check digit must be included in label data and is assumed to be correct.
- Supplemental data is appended to base label.
- Prefix must be an ASCII character 'A' - total length including prefix must be 15.
- Example: 'A06099201118712'.

UPC-A with 5-Digit Supplemental

- System number must be included in label data
- Check digit must be included in label data and is assumed to be correct
- Prefix must be an ASCII character 'A' - total length including prefix must be 18
- Example: 'A06099201118712345'

UPC-A with Code 128 Supplemental

- System number must be included in label data.
- Check digit must be included in label data and is assumed to be correct.
- Supplemental data is appended to base label.
- Prefix must be an ASCII character 'A' - total length including prefix must be greater or equal to 19 Code 128 Supplemental codes are variable length having a minimum of 2 data characters).
- Characters immediately following base label must be of the form '8100', '8101' or '8102'.
- Example: 'A0609920111878100000951'.

UPC-E

- System number must be included in label data
- Check digit must be included in label data and is assumed to be correct
- Prefix must be an ASCII character 'E' - total length including prefix must be 9
- Example: 'E09988750'

UPC-E with 2-Digit Supplemental

- System number must be included in label data.
- Check digit must be included in label data and is assumed to be correct.
- Supplemental data is appended to base label.
- Prefix must be an ASCII character 'E' - total length including prefix must be 11.
- Example: 'E0998875012'.

UPC-E with 5-Digit Supplemental

- System number must be included in label data.
- Check digit must be included in label data and is assumed to be correct.
- Prefix must be an ASCII character 'E' - total length including prefix must be 14.
- Example: 'E0998875012345'.

UPC-E with Code 128 Supplemental

- System number must be included in label data.
- Check digit must be included in label data and is assumed to be correct.
- Supplemental data is appended to base label.
- Prefix must be an ASCII character 'E' - total length including prefix must be greater or equal to 15 (code 128 Supplemental codes are variable length having a minimum of 2 data characters).
- Characters immediately following base label must be of the form '8100', '8101' or '8102'.
- Example: 'E099887508101000951'.

EAN-8

- Check digit must be included in label data and is assumed to be correct
- Prefix must be an ASCII characters 'FF' - total length including prefix must be 10
- Example: 'FF00210126'

EAN-8 with 2-Digit Supplemental

- Check digit must be included in label data and is assumed to be correct.
- Supplemental data is appended to base label.
- Prefix must be an ASCII characters 'FF' - total length including prefix must be 12.
- Example: 'FF0021012612'.

EAN-8 with 5-Digit Supplemental

- Check digit must be included in label data and is assumed to be correct.
- Prefix must be an ASCII characters 'FF' - total length including prefix must be 15.
- Example: 'FF0021012612345'.

EAN-8 with Code 128 Supplemental

- Check digit must be included in label data and is assumed to be correct.
- Supplemental data is appended to base label.
- Prefix must be an ASCII characters 'FF' - total length including prefix must be greater than 16 (code 128 Supplemental codes are variable length having a minimum of 2 data characters).
- Characters immediately following base label must be of the form '8100', '8101' or '8102'.
- Example: 'FF002101268102000951'.

EAN-13

- Check digit must be included in label data and is assumed to be correct
- Prefix must be an ASCII character 'F'- total length including prefix must be 14
- Example: 'F1101234567891'

EAN-13 with 2-Digit Supplemental

- Check digit must be included in label data and is assumed to be correct
- Supplemental data is appended to base label
- Prefix must be an ASCII character 'F'- total length including prefix must be 16
- Example: 'F110123456789112'

EAN-13 with 5-Digit Supplemental

- Check digit must be included in label data and is assumed to be correct.
- Prefix must be an ASCII character 'F'- total length including prefix must be 19.
- Example: 'F1101234567891123 45'.

EAN-13 with Code 128 Supplemental

- Check digit must be included in label data and is assumed to be correct
- Supplemental data is appended to base label
- Prefix must be an ASCII character 'F'- total length including prefix must be greater or equal to 20 (code 128 Supplemental codes are variable length having a minimum of 2 data characters)
- Characters immediately following base label must be of the form '8100', '8101' or '8102'
- Example: 'F11012345678918100000951'

Code 39

- Check character must be included in label data.
- Label length including start, stop and check characters and excluding prefix character must meet requirements imposed by the main scanner's fixed or variable label length control for this symbology type.
- Start and stop characters "*" must be included in label.
- Prefix must be an ASCII character '*'.
- Example : '**Code 39.TEST*'.

Code 39-Pharmacode

- Check character must be included in label data.
- Label length including start, stop and check characters and excluding prefix character must meet requirements imposed by the main scanner's fixed or variable label length control for this symbology type.
- Start and stop characters "*" must be included in label.
- Prefix must be an ASCII character 'p'.
- Example: 'p*123456789*'.

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- Check character must be included in label data.
- Label length including check characters and excluding prefix character must meet requirements imposed by the main scanner's fixed or variable label length control for this symbology type.
- Prefix must be an ASCII character 'i'.
- Example: 'i0123456789'.

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- Check character must be included in label data.
- Label length including check characters and excluding prefix characters must meet requirements imposed by the main scanner's fixed or variable label length control for this symbology type.
- Prefix must be an ASCII character 's'.
- Example: 's0123456789'.

Codabar

- Check character must be included in label data.
- Label length including check character and excluding prefix character must meet requirements imposed by the main scanner's fixed or variable label length control for this symbology type.
- Prefix must be an ASCII character '%'.
- Start stop character sets must meet the matching requirement set forth by the scanner configuration item *Codabar Start Stop Character Match*.
- Start stop character sets must be of the form ABCD/ABCD and must be included in the label.
- Example: '%s$99.95s' (the lower case ‘s’ at each end of the example is a placeholder for the start stop character set).

Code 128

- Prefix must be an ASCII character '#'.
- Label length excluding prefix character must meet requirements imposed by the main scanner's fixed or variable label length control for this symbology type.
- Function characters may be transmitted as a hexadecimal value 8x. Where x correlates to function characters 1 thru 4 as follows:
- x80 = function code 1
- x81 = function code 2
- x82 = function code 3
- x83 = function code 4
- For Code 128 programming labels the format is of the general form '#/82nnnnn/r ' - /82 is hexadecimal 82 and /r is carriage return.
- Example: '#Code_128.Test'.

MSI/Plessey

- Check character must be included in label data.
- Label length including check character and excluding prefix character must meet requirements imposed by the main scanner's fixed or variable label length control for this symbology type.
- Prefix must be an ASCII character '@'.
- Example: '@144769254'.

Code 93

- Prefix must be an ASCII character '&'.
- Label length excluding prefix character must meet requirements imposed by the main scanner's fixed or variable label length control for this symbology type.
- Example: '&Code93-test'.

AIM Formats

AIM specifies a 3-character string that is attached as a prefix to the label data for transmission. Because AIM specifies one identifier for UPC-A, UPC-E and EAN-13 labels, UPC-A, UPC-E and EAN-13 will be received from the handheld and transmitted to the POS by the scanner as EAN-13. Using this form of identification, the ']' character must be the first character in the label received from the handheld. Further identification of the label is specified in the section below. The AIM identifiers on the received label may or may not be transmitted to the POS and are controlled according to the data formatting settings of the scanner.

The following sections describe the prefix strings and identify what specific label characteristics can be supported.

If a label does not have one of the AIM identifiers specified below and the first three characters of the label data fit the following qualifications:

- the first character is a ']'
- the second character is a capital letter or a small letter
- the third character is a digit

...then the label is transmitted to the host with the AIM identifier still appended to the beginning of the label data.

UPC-A

- AIM does not specify UPC-A as a separate symbology using this transmission format - labels will be transmitted as EAN-13.
- Example: ']E00060992011187'.

UPC-E

- AIM does not specify UPC-E as a separate symbology using this transmission format - labels will be transmitted as EAN-13.
- Example: ']E00000000998875'.

EAN-13

- Check digit must be included in label data and is assumed to be correct.

- Prefix must be ASCII characters ']E0'- total length including prefix must be 16.
- Example: ']E01101234567891'.

EAN-8

- Check digit must be included in label data and is assumed to be correct.
- Prefix must be ASCII characters ']E4' - total length including prefix must be 11.
- Example: ']E400210126'.

2-Digit Supplemental

- Supplemental data is appended to any EAN base label.
- Prefix must be ASCII characters ']E1'.
- length of Supplemental data including prefix must be 5. Total required length is 21 for EAN-13 and 16 for EAN-8.
- Prefix for the main body portion of the label for UPCA/UPCE/EAN13 can be]E0 or]E3.
- If the main body prefix for UPCA/UPCE/EAN13 is]E0, then the 2-digit addon portion of the label must have a prefix of]E1.

Examples: addon portion is highlighted data is underlined.

UPC-A 2-Digit addon	']E00060992011187**]E112**'
UPC-E 2-Digit addon	']E00000000998875**]E112**'
EAN-8 2-Digit addon	']E400210126**]E112**'
EAN-13 2-Digit addon	']E01101234567891**]E112**'
UPC-A	]E3006099201118712
UPC-E	]E3000000099887512
EAN-13	]E3110123456789112

5-Digit Supplemental

- Supplemental data is appended to any EAN base label.
- Prefix must be ASCII characters ']E2'.
- Length of supplemental data including prefix must be 8. Total required length is 24 for EAN-13 and 19 for EAN-8.
- Prefix for the main body portion of the label for UPCA/UPCE/EAN13 can be]E0 or]E3.
- If the main body prefix for UPCA/UPCE/EAN13 is]E0, then the 5-digit addon portion of the label must have a prefix of]E2.

Examples: addon portion is highlighted data is underlined.

UPC-A 5-Digit addon	']E00060992011187**]E212345**'
UPC-E 5-Digit addon	']E00000000998875**]E212345**'
EAN-8 5-Digit addon	']E400210126**]E212345**'
EAN-13 5-Digit addon	']E01101234567891**]E212345**'
UPC-A	]E3006099201118712345
UPC-E	]E3000000099887512345
EAN-13	]E3110123456789112345

Code 39

- Check character must be included in label data.
- Label length including start, stop and check characters and excluding prefix characters must meet requirements imposed by the main scanner's fixed or variable label length control for this symbology type.
- Start and stop characters "*" must be included in label.
- Prefix must be ASCII characters ']A0' or ']A1'.
- Example: '*]A0Code 39.TEST*'.

Codabar

- Check character must be included in label data.
- Label length including check character and excluding prefix characters must meet requirements imposed by the main scanner's fixed or variable label length control for this symbology type.
- Prefix must be ASCII characters ']F0'.
- Start stop character sets must meet the matching requirement set forth by the scanner configuration item *Codabar Start Stop Character Match*.
- Start stop character sets s must be of the form ABCD/ABCD and must be included in the label.
- Example: ']F0s$99.95s' (the lower case 's' at each end of the example is a placeholder for the start stop character set).

MSI/Plessey

- Check character must be included in label data.
- Label length including check character and excluding prefix characters must meet requirements imposed by the main scanner's fixed or variable label length control for this symbology type.
- Prefix must be ASCII characters ']M0'.
- Example: ']M0144769254'.

Code 93

- Prefix must be ASCII characters ']G0'.
- Label length excluding prefix characters must meet requirements imposed by the main scanner's fixed or variable label length control for this symbology type.
- Example : ']G0Code93-test'.

DataBar Omnidirectional

- Prefix must be ASCII characters ']e0'.
- Check character must be included in label.
- Label length excluding prefix characters must be 14 characters.
- Example: ']e001044123456789'.

DataBar Expanded

- Prefix must be ASCII characters ']e0'.
- Label length excluding prefix characters must be at least 1 character. Maximum length is the maximum label size supported by the scanner.
- Example: ']e0019001234567890831030017 50'.

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- Check character must be included in label data.
- Label length including check characters and excluding prefix characters must meet requirements imposed by the main scanner's fixed or variable label length control for this symbology type.
- Prefix must be ASCII characters ']I0', ']I1' or ']I2' (other prefixes specify different check character properties which are not supported).
- Example: ']I10123456789'.

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- Check character must be included in label data.
- Label length including check characters and excluding prefix characters must meet requirements imposed by the main scanner's fixed or variable label length control for this symbology type.
- Prefix must be an ASCII character ']S0' (other prefixes specify different check character properties which are not supported).
- Example: ']S00123456789'.

Code 128 / EAN128

- Prefix must be either ASCII characters ']C0', ']C1' or ']C2'.
- Label length excluding prefix character must meet requirements imposed by the main scanner's fixed or variable label length control for this symbology type.
- If EAN-128 Symbology is Enabled and prefix is ']C1', label will be identified as an EAN128 otherwise it is identified as a Code 128.
- A prefix of ']C0' designates that no function code is present in the 1st or 2nd character position.
- A prefix of ']C2' designates that a function code 1 is present in the 2nd character.
- Example : ']C0Code_128.Test'.

NOTES

ASCII Character Set

The table on this page shows a set of ASCII characters and their corresponding Hex Values. The Hex Values in this table are needed for setting symbology specific label identifiers, as well as enabling custom prefix and suffix characters.

ASCII Char.	Hex No.	ASCII Char.	Hex No.	ASCII Char.	Hex No.	ASCII Char.	Hex No.
NUL	00	SP	20	@	40	‘	60
SOH	01	!	21	A	41	a	61
STX	02	“	22	B	42	b	62
ETX	03	#	23	C	43	c	63
EOT	04	$	24	D	44	d	64
ENQ	05	%	25	E	45	e	65
ACK	06	&	26	F	46	f	66
BEL	07	’	27	G	47	g	67
BS	08	(	28	H	48	h	68
HT	09	)	29	I	49	i	69
LF	0A	*	2A	J	4A	j	6A
VT	0B	+	2B	K	4B	k	6B
FF	0C	,	2C	L	4C	l	6C
CR	0D	-	2D	M	4D	m	6D
SO	0E	.	2E	N	4E	n	6E
SI	0F	/	2F	O	4F	o	6F
DLE	10	0	30	P	50	p	70
DC1	11	1	31	Q	51	q	71
DC2	12	2	32	R	52	r	72
DC3	13	3	33	S	53	s	73
DC4	14	4	34	T	54	t	74
NAK	15	5	35	U	55	u	75
SYN	16	6	36	V	56	v	76
ETB	17	7	37	W	57	w	77
CAN	18	8	38	X	58	x	78
EM	19	9	39	Y	59	y	79
SUB	1A	:	3A	Z	5A	z	7A
ESC	1B	;	3B	[	5B	{	7B
FS	1C	<	3C	\	5C	|	7C
GS	1D	=	3D	]	5D	}	7D
RS	1E	>	3E	^	5E	~	7E
US	1F	?	3F	_	5F	DEL	7F

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