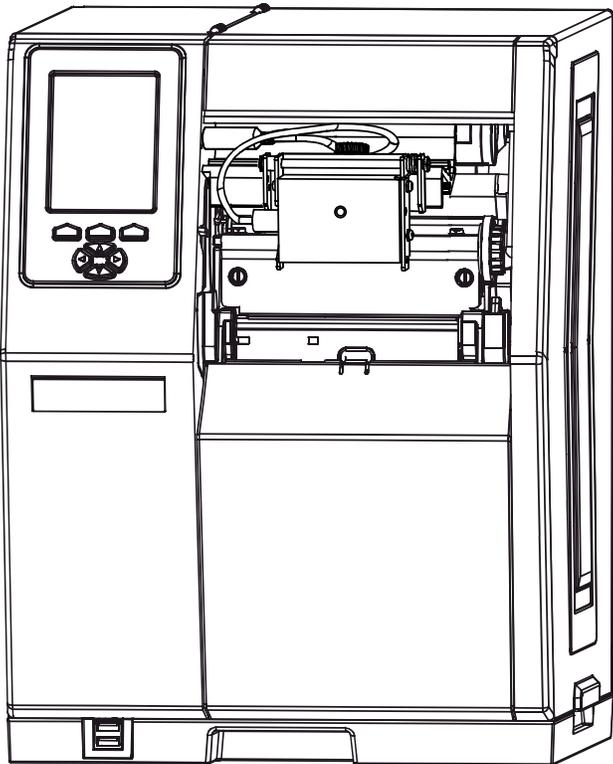


H-Class™

Linear Scanner Option ■■■



right by our customers. ■■■

datamax·oneil

Overview

With the H-Class Linear Scanner option and menu-selectable functions that include voiding and replacement generation, labels can be interrogated at up to 700 times per second to ensure that correct, readable symbologies have been printed.

Use the sections of this document to find needed information. As a starting point, if your Linear Scanner arrived factory-installed, see “Controls and Features, Performance, and Configuration” to begin use; otherwise, proceed to “Installation.”

Installation

If installing the kit, verify the experience level of the installer, the package contents, and the tools needed before following the steps below.

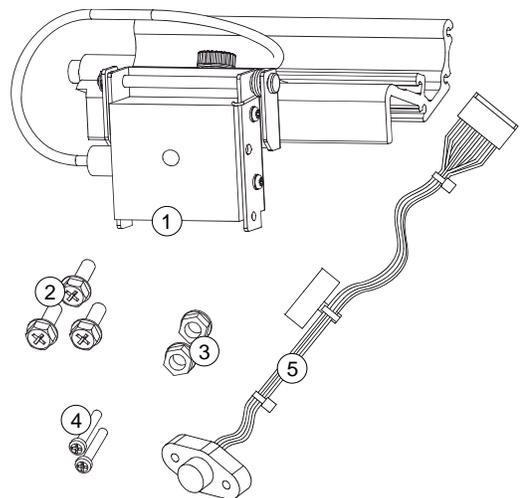


Only qualified service personnel should perform this installation. For your safety and to avoid printer damage, always turn OFF the power switch and unplug the AC power cord before this installation and whenever performing service.

Contents of the Linear Scanner Kit

In addition to this document, this kit contains the following items:

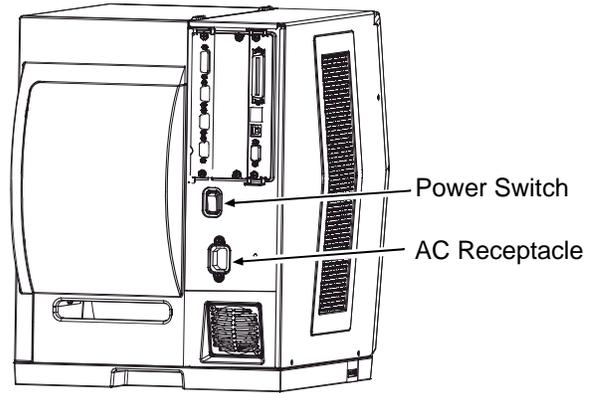
- ① Scanner and Mounting Assembly
- ② Philips Screw (3), M4 x 12
- ③ Nut (2), M3 x .5
- ④ Philips Screw (2), M3 x 20
- ⑤ Cable Assembly



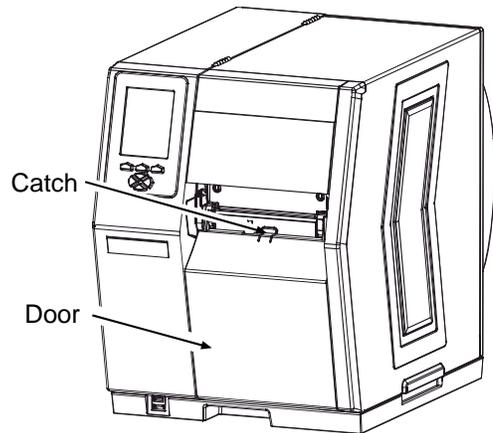
Tools Required

To install this option a small standard screwdriver and a Philips screwdriver are needed.

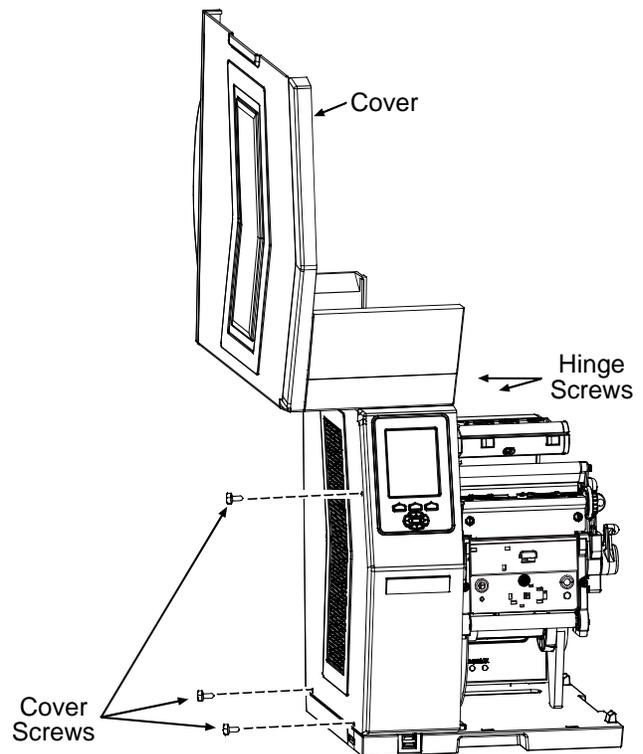
- 1) Turn OFF the **Power Switch** and unplug the power cord from the **AC Receptacle**.



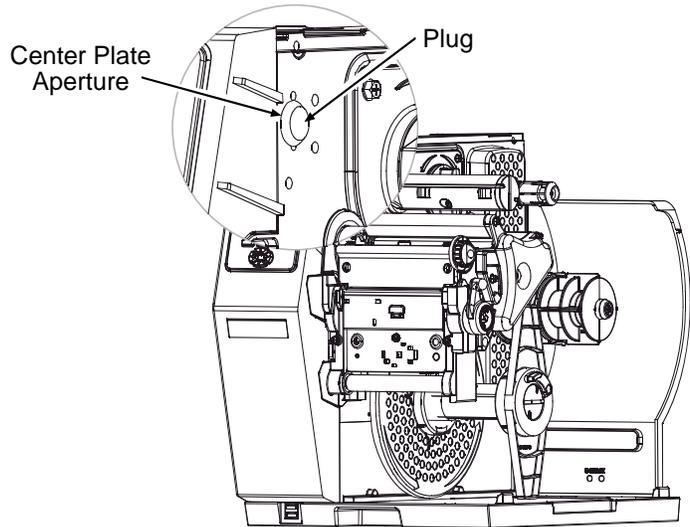
- 2) Press down on the **Catch**, then pull forward to remove the **Door**.



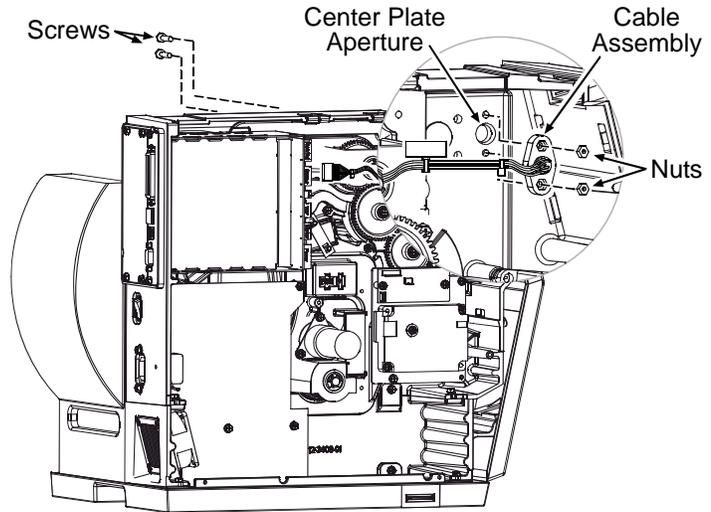
- 3) Raise the **Cover**. Loosen both **Hinge Screws**. Remove the three **Cover Screws**, and then lift the **Cover** off the printer. Remove any media and ribbon from the printer.



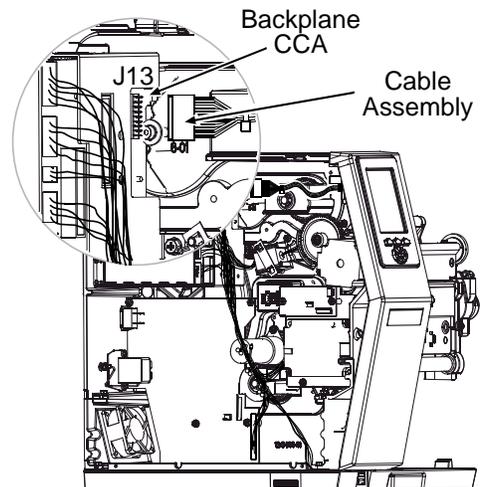
- 4) Remove the **Plug** from the **Center Plate Aperture**.



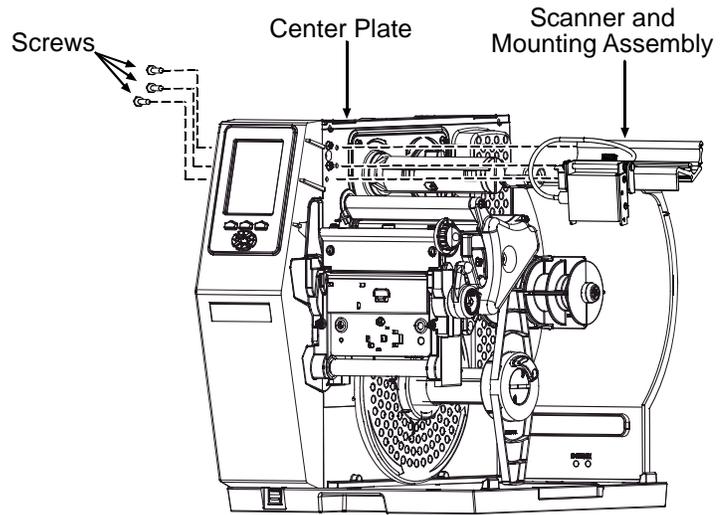
- 5) Secure the mini-din connector of the **Cable Assembly** (Item 5) to the **Center Plate Aperture** using two **Screws** (Item 4) and two **Nuts** (Item 3).



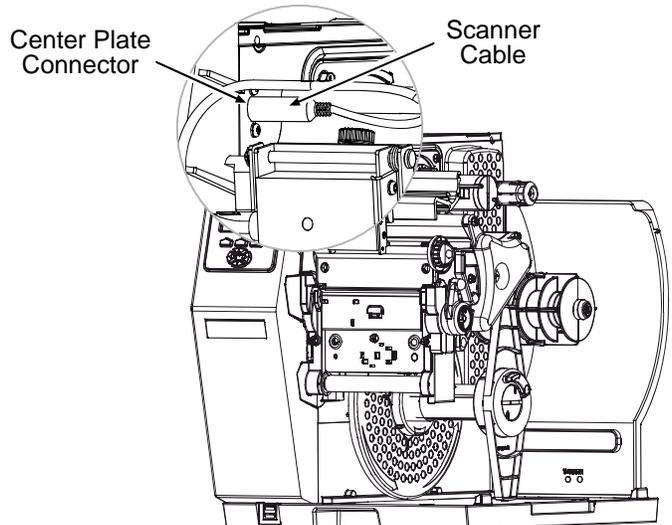
- 6) After routing the **Cable Assembly** away from movable parts, attach its 8-pin connector to **J13** of the **Backplane CCA**.



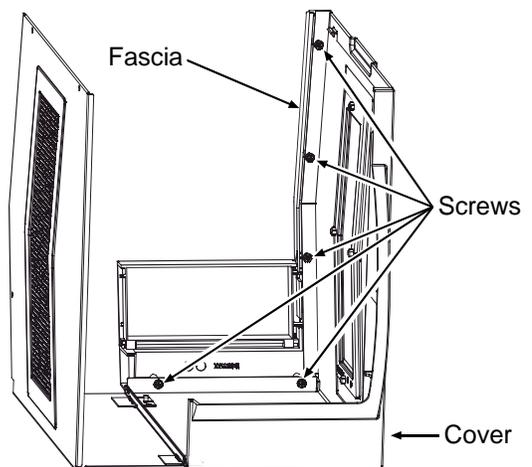
- 7) Secure the **Scanner and Mounting Assembly** (Item 1) to the **Center Plate** using three **Screws** (Item 2).



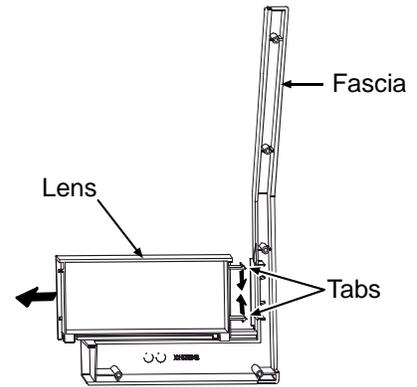
- 8) Connect the **Scanner Cable** to the **Center Plate Connector**.



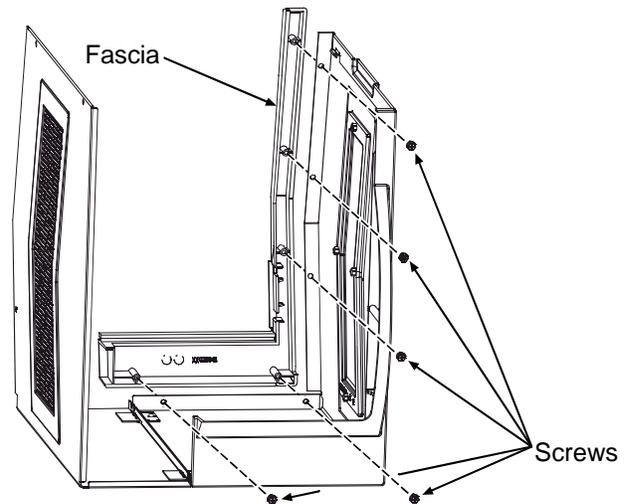
- 9) Remove the five **Screws** that secure the **Fascia** to the **Cover**.



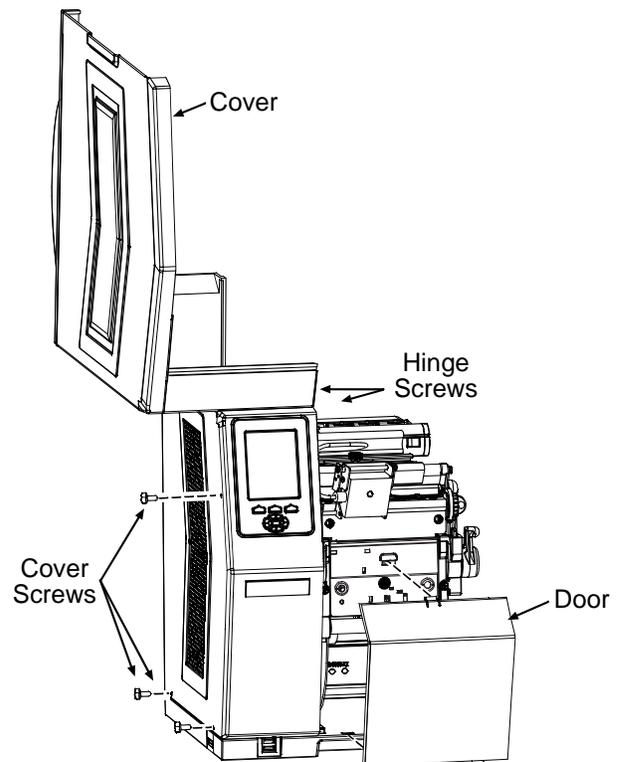
- 10) Press the **Tabs** of the **Lens** together. Then slide the **Lens** off the **Fascia**. (Store the Lens in a safe place, for future use.)



- 11) Secure the **Fascia** to the **Cover** using the five previously removed **Screws**.



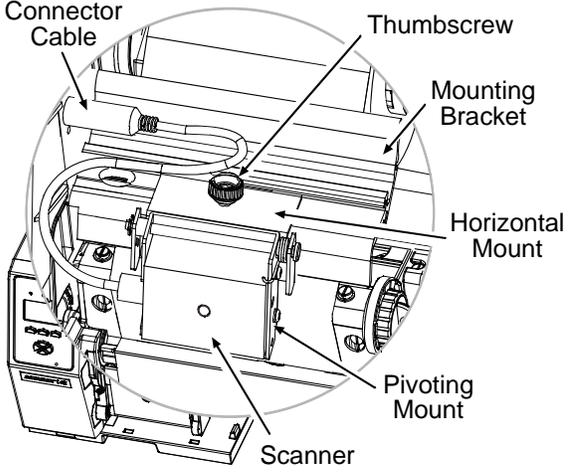
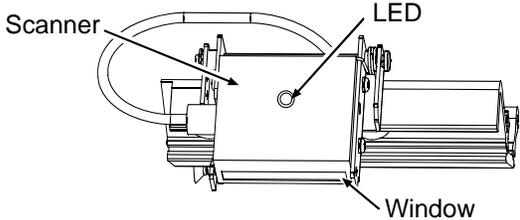
- 12) Lower the **Cover** onto the printer. Reinstall and tighten the three **Cover Screws**. Tighten both **Hinge Screws**. Reinstall the **Door** and lower the **Cover**. Plug the power cord into the AC Receptacle. Align the scanner; see "Alignment" section, below.



Controls and Features, Performance, and Configuration

This section includes topics on operations.

Controls and Features

Item	Function	Location
Connector Cable	Scanner to printer interface.	
Horizontal Mount	Lateral position adjustment.	
Mounting Bracket	Horizontal support.	
Pivoting Mount	Spring-loaded holder, also for vertical Scanner positioning (scan resolution).	
Scanner	CCD scanning device.	
Thumbscrew	Secures the Scanner to the Horizontal Mount, for lateral positioning.	
LED	Goes green to signify a "good" read.	
Window	Portal for image illumination and capture; glows red.	



The Pivot Mount should never be over-extended. The use of controls, adjustments, or procedures other than those specified herein may result in hazardous LED light exposure. Class 1 LED power up to 15 mW in a 0.1 ms pulse at 635-670 nm could be accessible in the interior of the Linear Scanner.

Performance Considerations

Printing with the scanner is a seamless operation; however, consider some important factors that can affect performance:

Integrity and Speed

- ▶ If the primary objective is to ensure that correct data is read over a significant region of the symbology, maximize integrity by (1) increasing the REDUNDANCY LEVEL or the MIN READABLE HEIGHT setting, (2) slowing the print speed, and (3) increasing the bar code height. When emphasizing data accuracy, the allowable maximum throughput rate may be affected.
- ▶ If the primary objective is to achieve the highest label throughput rate, maximize speed by (1) decreasing the REDUNDANCY LEVEL or the MIN READABLE HEIGHT setting, and (2) increasing the print speed. When emphasizing throughput, data reliability may be affected.

Media and Ribbon Selection

For best results use carbon-based inks on matte-finished label stocks to achieve a high print contrast.

Label Layout

For proper recognition, the Linear Scanner must be positioned over the bar codes, and the codes used and the label layout must meet certain requirements:

- ▶ The bar codes must be placed in the picket fence orientation, with proper quiet zones, and a narrow bar resolution that is no less than the scan resolution position.
- ▶ If encoding the same information in multiple-up bar codes arranged in ordered columns (see below), allow at least ¼ inch of white space between the rows.



- ▶ When printing bar codes on small labels, avoid the possible need for backup repositioning by placing the code(s) near the leading edge of the label.
- ▶ Although a reduction of print speed may actually improve throughput, to maintain proper detection when printing small bar codes at high speeds the following parameters should not be exceeded:

Minimum Bar Code Height	Maximum Print Speed (IPS)*
1/16 inch (1.5 mm)	8
1/8 inch (3 mm)	10

* Inches per Second

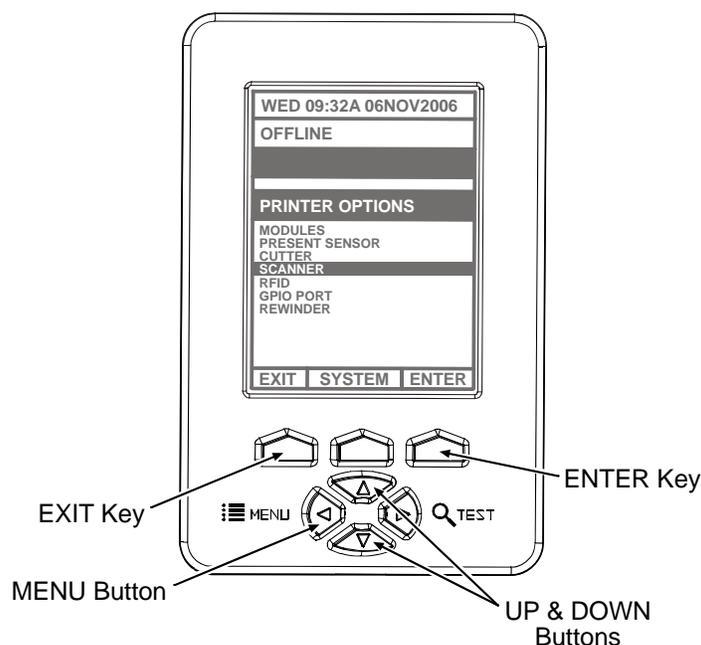
Configuration

A printer equipped with the Linear Scanner arrives with these default settings:

Menu Location	Function and Default Setting
PRINTER OPTIONS → SCANNER	MODE = Auto BARCODES = All, except IATA and codes with certain addendums BAR CODE COUNT = 00 (Auto Mode) MIN READABLE HEIGHT = Disabled REDUNDANCY LEVEL = 2X IGNORE NO DATA = Disabled
SYSTEM SETTINGS → FAULT HANDLING	FAULT HANDLING = Standard VOID DISTANCE = 0.5 Inches RETRY COUNT = 1 BACKFEED ON CLEAR = Disabled
COMMUNICATIONS → HOST SETTINGS	OPTION FEEDBACK = Disabled

Most settings can be changed via the User Interface, as described below:

Note: Before proceeding, ensure that the **ADVANCED MENU** is selected: Press **MENU** then go to **SYSTEM SETTINGS → MENU MODE → ADVANCED MENU** and press **ENTER**.



► To change SCANNER settings –

- 1) Press **MENU**. Use **DOWN** or **UP** to scroll to PRINTER OPTIONS, and then press **ENTER**.
- 2) Scroll to SCANNER and then press **ENTER**. (See table below for listing.)
- 3) When finished, press **EXIT** and then **YES** at the SAVE CHANGES prompt to complete setup.

Scanner Menu Item	Description
MODE	Sets device power-up detection:
ENABLED	Detection is performed: If found, normal printing and scanning occurs; or, if not found, a fault will be declared.
DISABLED	No detection is performed and no scanning functions will occur.
AUTO	Detection is attempted: If found, normal printing and scanning occurs; or, if not found, no fault will be declared and no scanning will occur.
BARCODES	Specifies the bar code type(s) for scanning, where:
CODE 39	<p>Is / are the type(s) to be checked; see the <i>Class Series 2 Programmer's Manual</i> for symbology details.</p> <hr/> <p>Note: <i>Enabling only the symbologies to be examined maximizes throughput.</i></p> <hr/>
IATA	
CODABAR	
INTERLEAVED 2 OF 5	
INDUSTRIAL 2 OF 5	
CODE 93	
CODE 128	
MSI/PLESSEY	
EAN(13/8)	
EAN(13/8)+2	
EAN(13/8)+5	
UPC(A/E)	
UPC(A/E)+2	
UPC(A/E)+5	
BARCODE COUNT	Sets the number of codes per label to be read.
(0 – 99) 00	<p>The scanner will count the specified number (1 to 99) of bar codes per label; if all are not present a fault is declared.</p> <p>The default setting (00) enables Auto Mode; this mode, appropriate for most applications, calculates the number of bar codes present and permits a <i>variable</i> number of codes to be read per label. See the note below (and Label Layout) for possible exceptions.</p> <hr/> <p>Note: <i>If sent as bitmaps (i.e., imaged) to the printer, enter the minimum count to be read on each label. Check with your software application if questioning bar code generation.</i></p> <hr/>
MIN READABLE HEIGHT	Ensures bar code integrity by establishing a minimum vertical read distance. (The optimum scan rate and consecutive read count for this distance will be automatically calculated.)
1/16 – 1/2 in (1.5 – 12.5 mm)	<p>This distance must have identical decodes for the bar code to pass (e.g., a setting of 1/4 requires that .25 inches of the code be 100% readable).</p> <hr/> <p>Note: <i>Setting should not exceed 50% of the measured bar code height.</i></p> <hr/>
DISABLED	Operation switches to REDUNDANCY LEVEL.

(continued)

Scanner Menu Item	Description
REDUNDANCY LEVEL	Ensures bar code integrity by specifying a redundant read count.
(1X – 6X) READ BARCODE 2X	This count (1 – 6) sets the number of consecutive and identical decodes that must occur for a bar code to pass.
AUTO	Operation switches to MIN READABLE HEIGHT.
IGNORE NO DATA	Allows an override of the verification function, where:
DISABLED	Checks for correct bar code data in the bar code(s).
ENABLED	Ignores the data present in the bar code(s).
SET DEFAULTS	Restores the Linear Scanner settings to the factory default values.
YES / NO	Selecting YES will return these settings: MODE = Auto BARCODES = All, except IATA and codes with certain addendums BAR CODE COUNT = 00 (Auto Mode) MIN READABLE HEIGHT = Disabled REDUNDANCY LEVEL = 2X IGNORE NO DATA = Disabled

► To change FAULT HANDLING settings –

- 1) Press **MENU**. Press **DOWN** or **UP** to scroll to SYSTEM SETTINGS, and then press **ENTER**.
- 2) Scroll to FAULT HANDLING and then press **ENTER**. (See table below for listing.)
- 3) When finished, press **EXIT** and then **YES** at the SAVE CHANGES prompt to complete setup.

Fault Handling Menu Item	Description
LEVEL	Determines the amount of interaction required to proceed after a fault.
NO REPRINT	Printing stops and a fault message is displayed. Following correction of the problem, FEED must be pressed to clear the fault, but the label in process is not reprinted.
STANDARD	Printing stops and a fault message is displayed. Following correction of the problem, FEED must be pressed to clear the fault then the label in process is reprinted.
VOID AND RETRY	Depending upon the RETRY COUNT (see below), one of the following: <ul style="list-style-type: none"> • If the count has not been exceeded, VOID is printed (see VOID DISTANCE) on the failed label and reprinting automatically occurs; • If the count has been exceeded, printing stops and a fault message is displayed. Following correction of the problem, FEED must be pressed to clear the fault before the label in process is reprinted; or, • If CANCEL is pressed, reprinting is optional: to reprint, press NO; or, to cancel the reprint, press YES (and press YES again to cancel the batch.)

(continued)

Fault Handling Menu Item	Description
DELAYED SCAN FAULT	Increases throughput when bar codes reside near the trailing edge (in the print direction) of the label. <hr/> Note: <i>If unreadable, the fault will occur after the next label prints; the label immediately following a faulted label will not be scanned; and, since VOID AND RETRY and REPRINT are automatically disabled, the job can only be cancelled.</i> <hr/>
VOID RETRY & CONT.	VOID is printed if faulted, with reprint attempts occurring automatically, until the RETRY COUNT has been exceeded and then that label will be skipped (discarded) and printing will continue to the next label in queue.
VOID DISTANCE	Sets the distance to backup and print VOID on a faulted label.
(0.10 to 2.00 in.)	This distance, measured from the trailing edge (in the print direction) of the label, indirectly establishes the font size of the message. <hr/> Note: <i>VOID will not be printed if insufficient text space exists, or if the fault occurred after the label was printed.</i> <hr/>
RETRY COUNT	Sets the number of reprint attempts.
(0 - 3)	If the last label printed in this count has been voided, a fault will be declared.
BACKFEED ON CLEAR	Determines the printer's response after a fault is cleared.
ENABLED	After fault clearing, backup label positioning will occur.
DISABLED	After fault clearing, no backup label positioning will occur. The printer will assume that the current position is correct. <hr/> Note: <i>If reloading media, the label must be placed in its presented position.</i> <hr/>

- ▶ To change HOST SETTINGS (for data capturing applications) –

Note: *Bi-directional cabling and communications must be used.*

- 1) Press **MENU**. Use **DOWN** or **UP** to scroll to COMMUNICATIONS, and then press **ENTER**.
- 2) Scroll to HOST SETTINGS and then press **ENTER**.
- 3) Scroll to OPTION FEEDBACK and then press **ENTER**.
- 4) Select SCANNER and then press **ENTER**.
- 5) Press **EXIT** and then **YES** at the SAVE CHANGES prompt to complete setup.

Once enabled, the printer will output data to the active port in the form <A;B;C;D;E;F>[CR]; where:

A	-	Is the device type: S = Linear Scanner
B	-	Is the resulting status: C = entire label complete; F = faulted (failed) label; and, U = unknown.
C	-	Is the number of expected reads, given in two characters.
D	-	Is the number of good reads, given in two characters.
E	-	Is the printer's internal Job and Sub Job Identifier, given in four characters each.
F	-	Is the data that was read, delimited with semicolons (;) on multiple reads.

Maintenance, Alignment, and Scan Resolutions

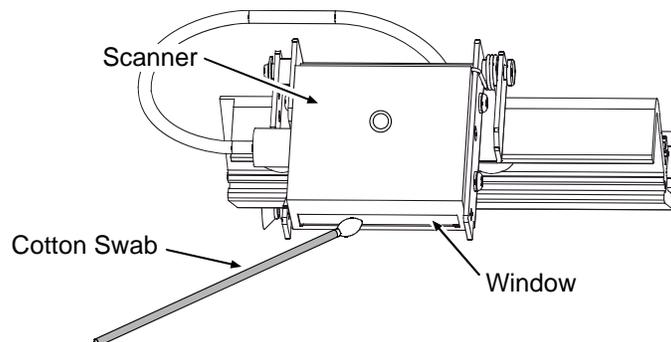
Maintenance



For your safety and to avoid printer damage, always turn OFF the power switch and unplug the AC power cord before performing service.

While there is no scheduled maintenance requirement, as debris accumulates and performance declines, clean the Scanner as follows:

- 1) Turn OFF and unplug the printer.
- 2) Using a **Cotton Swab**, lens tissue, or lint free cloth **dampened** with **water**, carefully wipe the **Window** clean (see illustration). Use care. **Avoid excessive moisture**, which can penetrate the housing then obscure the Window. (While the use of another cleaning fluid is not recommended, if necessary, a neutral detergent or ethanol is preferable; **never use bleach** at any strength because damage may result.)



Alignment

Although normally not required if factory-installed, scanner alignment may be necessary under certain circumstances:

- ▶ If the scanner option was just field-installed;
- ▶ If the original alignment has been changed (e.g., if the scanner was lowered to the 5-Mil Position); or,
- ▶ If the exit angle of the labels has changed (e.g., if an output device such as an external rewinder has been added).

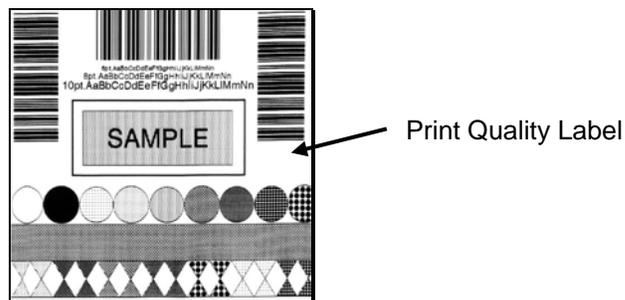


The use of controls, adjustments, or procedures other than those specified herein may result in hazardous LED light exposure. Class 1 LED power up to 15 mW in a 0.1 ms pulse at 635-670 nm could be accessible in the interior of the Linear Scanner.

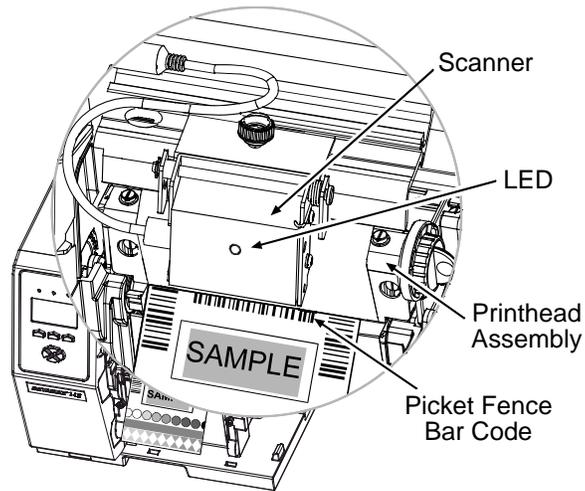
Follow the steps below to align the Linear Scanner:

Note: *If scanning 5-Mil bar codes, change the scanner's position before proceeding; see "Scan Resolutions."*

- 1) Load the printer with four-inch (101 mm) wide media and ribbon. Ensure that the Tear Bar, Peel Mechanism, or Rewind Plate has been mounted onto the printer. (If using an external rewinder, attach the labels to that device; see the *Operator's Manual* or the manufacturer's documentation for details.)
- 2) Turn ON the printer.
- 3) Press **TEST**, and then press it again to produce a Print Quality Label.



- 4) Raise the Printhead Assembly. Position a Print Quality Label squarely under the Printhead Assembly, so that only 1/8-inch (3 mm) of the Picket Fence Bar Code is evenly visible (as shown below). Lower and lock the Printhead Assembly.



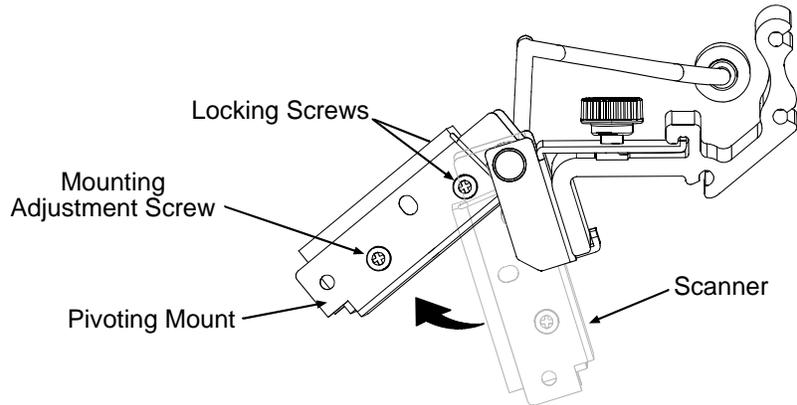
Note: *Ensure that the Scanner is enabled in the following steps.*

- 5) Press **MENU**. Press **DOWN** or **UP** to scroll to DIAGNOSTICS and then press **Enter**. Scroll to OPTIONS TESTING and press **ENTER**. Scroll to TEST SCANNER and press **ENTER**. Select ALIGNMENT TEST and press **ENTER**.
- 6) Observe the LED (or the displayed SCAN COUNT) then proceed accordingly:
 - ▶ If the green LED is illuminated (or if the count increments rapidly), press **EXIT** to end the test (see “Troubleshooting” if problems persist); or
 - ▶ If the green LED is not illuminated (or if the numbers do not increment, or increment slowly), proceed according the Scan Position:
 - 10-Mil Scan Position, go to Step 7; or,
 - 5-Mil Scan Position, go to Step 9.

Note: *When making adjustments, avoid contact with the Scanner Window; otherwise, see Maintenance for cleaning details.*

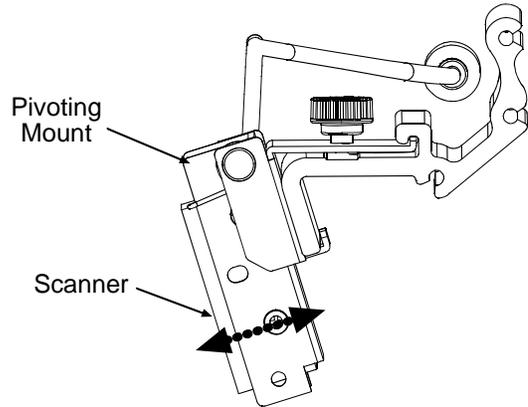
- 7) Loosen the Thumbscrew and then slide the Scanner to the rightmost position on the Mounting Bracket.

- 8) Slightly raise the Pivoting Mount. Loosen the Locking Screws and the Mounting Adjustment Screw enough to allow the Scanner to be positioned. Carefully lower the Pivoting Mount. Re-center the Scanner over the label and tighten the Thumbscrew.

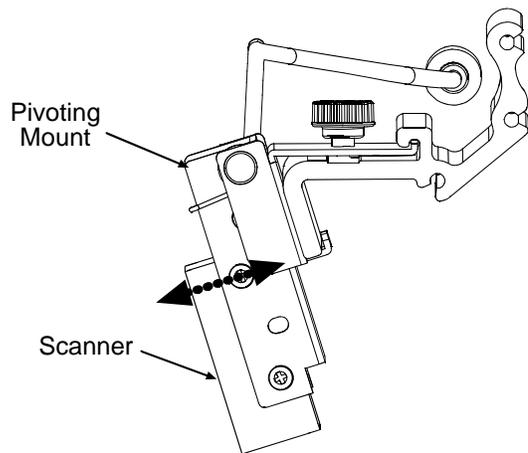


- 9) Proceed according to the Scan Position:

10-Mil Position: Without moving the Pivoting Mount, pull the bottom of the Scanner outward and then, while observing the LED (or the SCAN COUNT), slowly pivot the bottom of the Scanner inward until the green LED illuminates continuously (or the count increments rapidly).

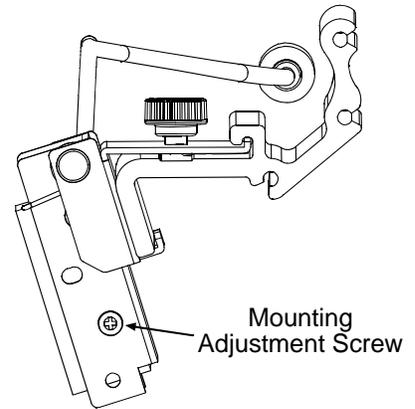


5-Mil Position: Without moving the Pivoting Mount, push the top of the Scanner inward and then, while observing the LED (or the SCAN COUNT), slowly pivot the top of the Scanner outward until the green LED illuminates continuously (or the count increments rapidly).

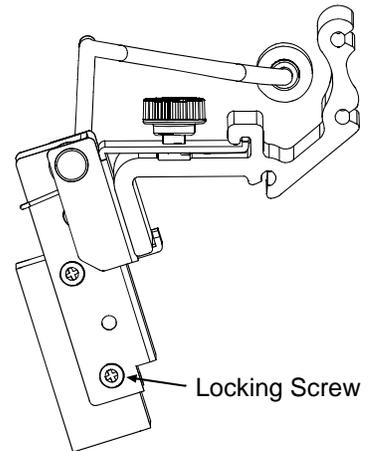


10) Proceed according to the Scan Position:

10-Mil Position: Carefully tighten the Mounting Adjustment Screw.

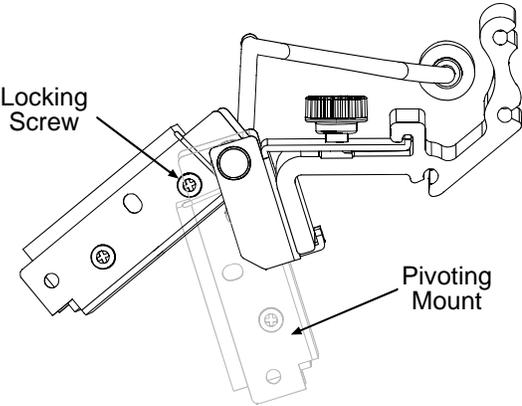


5-Mil Position: Carefully tighten the Locking Screw on the right side of the Scanner.

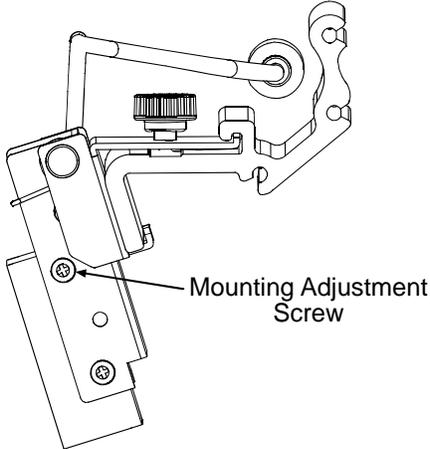


11) Proceed according to the Scan Position:

10-Mil Position: Carefully raise the Pivoting Mount and then tighten the Locking Screw. Carefully lower the Pivoting Mount.

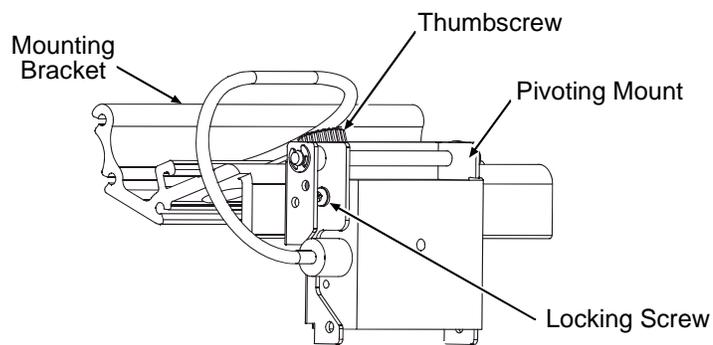


5-Mil Position: Carefully tighten the Mounting Adjustment Screw.

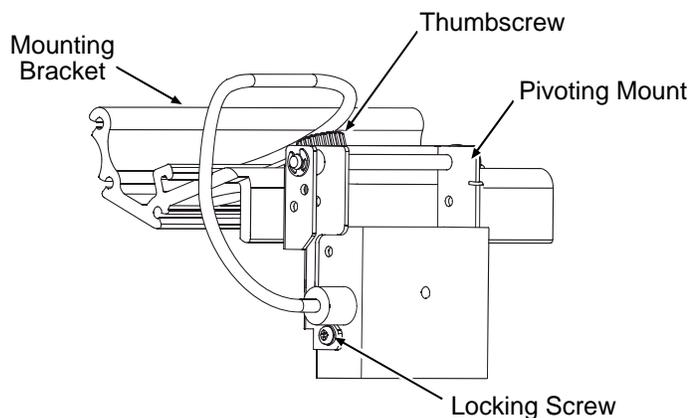


12) Proceed according to the Scan Position:

10-Mil Position: Loosen the Thumbscrew and slide the Scanner to the rightmost position on the Mounting Bracket. Carefully raise the Pivoting Mount and then tighten the left Locking Screw. Lower the Pivoting Mount.



5-Mil Position: Loosen the Thumbscrew and slide the Scanner to the rightmost position on the Mounting Bracket. Tighten the left Locking Screw.



13) Center the Scanner over the label and tighten the Thumbscrew. Observe the LED (or the SCAN COUNT) then proceed accordingly:

- ▶ If the green LED is illuminated (or if the count rapidly increments), go to Step 14.
- ▶ If the green LED is not illuminated (or if the count does not rapidly increment), restart the alignment beginning at Step 6.

Note: *If using the 5-Mil Scan Position, loosen the Mounting Adjustment Screw and the Locking Screws before returning to Step 6.*

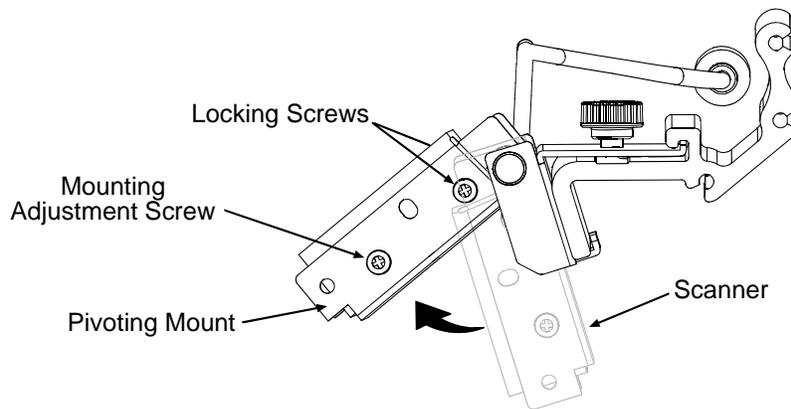
14) Press **EXIT**. Remove the Print Quality Label and load operating media. Clear faults and position the labels by pressing **FEED**. With the printer at **READY**, print a batch of live labels. If Scanner Faults occur, re-center and secure the Scanner above the bar code(s); and, if problems persist see "Troubleshooting." *This completes alignment.*

Scan Resolutions

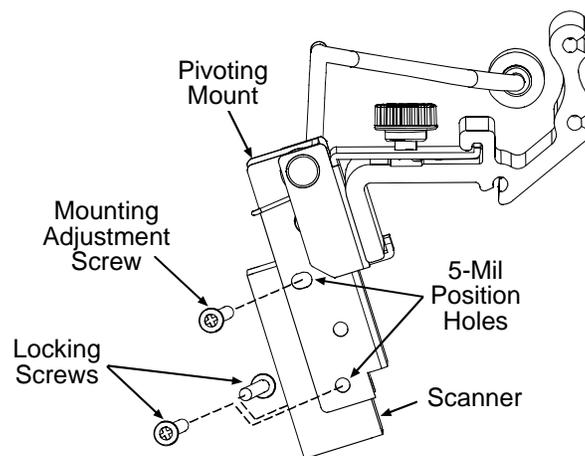
Capable of scanning 5- or 10-mil symbologies, the scan resolution is determined by the Linear Scanner's height above the label surface. Most typically set for a 10-mil resolution, in order to scan 5-mil bar codes, the scanner must be repositioned then aligned as follows:

Note: In the 5-Mil position, the available scan width is reduced to approximately 3.5 inches (89 mm).

- 1) Turn OFF and unplug the printer.
- 2) Loosen the Thumbscrew then slide the Scanner to the rightmost position on the Mounting Bracket.
- 3) Slightly raise the Pivoting Mount. Remove the Locking Screws, and then lower the Scanner. While supporting the Scanner in the Pivoting Mount, remove the Mounting Adjustment Screw.



- 4) Align the Scanner to the 5-Mil Position Holes in the Pivoting Mount. Install, but do not tighten, the two Locking Screws. Install the Mounting Adjustment Screw and tighten it only enough to allow the Scanner to be positioned for alignment.



- 5) Center the Scanner over the label and tighten the Thumbscrew. Plug in the Power Cord, and then proceed to "Alignment."

Troubleshooting

Use the table below to locate a description of the symptom that best fits the problem and then find a corresponding solution.

 CAUTION	<p>The Linear Scanner contains no user serviceable parts. All product service must be performed by Datamax-O'Neil. Opening the device will void the warranty and could expose the hazardous LED light.</p>
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Note: Press **FEED** to clear a fault.

Problem	Possible solution...
No faults are generated when scanning.	<ul style="list-style-type: none"> ▶ If the barcodes are faulty, the scanner may not be enabled: Ensure that the MODE is set to Auto, or Enabled; see Operation. ▶ The scanner may be disconnected: Turn OFF the printer. Ensure that the Connector Cable is attached (look for the red glow at power-up); see Operation.
A Scanner Fault is generated as soon as printer power is applied to the printer.	The scanner may be disconnected while Enabled: Turn OFF the printer. Ensure that the Connector Cable is attached (look for the red glow on power-up); otherwise, to continue printing without scanning, change the MODE setting to Auto, or Disabled; see Operation.
Scanner Faults are generated, but VOID is not printed on faulted labels. <i>Note: Normal if the fault occurs after a label printed.</i>	<ul style="list-style-type: none"> ▶ Ensure the FAULT HANDLING – LEVEL is set to VOID AND RETRY; see Operation. ▶ Ensure that sufficient text space exists by adjusting the VOID DISTANCE; see Operation.
Unable to capture feedback data.	<ul style="list-style-type: none"> ▶ Ensure that OPTION FEEDBACK (Host Settings) is enabled; see Operation. ▶ Depending upon your communication interface, ensure that a bi-directional cable is being used; see the <i>Operator's Manual</i>. ▶ If using parallel communications, ensure that BI-DIRECTIONAL (Communications) is enabled; see the <i>Operator's Manual</i>. ▶ Depending upon your communication interface, ensure that your host device settings match those of the printer, and that your software program is set to parse the received data.

(continued)

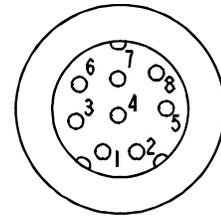
Problem	Possible solution...
<p>Scanner Faults are generated when scanning.</p> <hr/> <p>Note:</p> <ul style="list-style-type: none"> • <i>Faults are normal when a bar code has defects, including insufficient quiet zones that can make it unreadable.</i> • <i>Adjust the HEAT and/or PRINT SPEED settings to achieve print quality. Consult your software application (or make changes via the User Interface; see the Operator's Manual for details).</i> <hr/>	<p>Try the following –</p> <ul style="list-style-type: none"> ▶ Examine the print quality of the failed label: If the bar code(s) appear(s) to be free of voids with sufficient quiet zone space, ensure that the scanner is down, centered over the labels, and secured with the Thumbscrew. ▶ Dirt or debris could be covering the scanner window: Turn OFF the printer. Examine the window for obstructions and clean if necessary; see Maintenance. ▶ The bar codes may be too close together: For multiple-up identical bar codes, ensure sufficient white space between rows; see Operation. ▶ Ambient lighting could adversely be affecting readability: Reduce / redirect bright light sources, or increase light in dim areas. ▶ Reflected light off the media may be blinding the optics: Ensure that the label stock has a matte finish, and not a reflective or glossy surface; see Operation. ▶ The label exit angle may have changed: Ensure that the Tear Bar, Peel Mechanism, or Rewind Plate has been mounted to the printer and that the label pathway is unobstructed; see the <i>Operator's Manual</i> for details. ▶ Current scanner settings may be too restrictive: Try decreasing the MIN READABLE HEIGHT or REDUNDANCY LEVEL setting, lowering the print speed, or increasing the height of the bar code; see Operation. ▶ The bar code may not be recognized: Ensure that the symbology is supported; see Specifications. ▶ The symbology may not be generated by as a font: Bitmapped bar codes or those containing certain addendums must be specified by number (BAR CODE COUNT in the menu); see Operation. ▶ The focal length may be incorrect for the bar code resolution: Consult your software application for the bar code X dimension, and then ensure the scan position matches and if not change it; see Maintenance. <p>If problems persist, yet the bar codes are readable on other devices, scanner misalignment is possible; see Alignment. If you have questions, please contact Datamax-O'Neil Technical Support.</p>

Specifications

Physical

Case Material	Steel (Black)
Dimensions (L x H x W)	47 x 20 x 55 mm (1.95 x 0.78 x 2.2 in)
Cable Length	7.0 inches with 8 pin Mini DIN connection
Mini DIN Connector	

Pin Number:	Signal:
1	+5 VDC
2	TXD
3	Trigger
4	RTS
5	Signal Ground
6	Chassis Ground
7	RXD
8	CTS



MD-80
8-pin Mini DIN Connector

Optical

Scan Rate	700 scans per second $\pm 10\%$
Wavelength of LED Illumination	660 nanometers
Read Sensor	CCD linear array
Narrow Bar Resolution	Mounting position dependent: 10-mil or 5-mil
Maximum Character Input	51 digits
Maximum Scanning Width	4.0 inches (101 mm) @ the 10-Mil position; and, 3.5 inches (89 mm) @ the 5-Mil position.
Minimum Print Contrast Signal	0.45 (min. background reflectance of 70%)
Symbology Orientation	Picket fence

Electrical

Operating Voltage	+5 VDC $\pm 5\%$
Current:	
<i>Operating</i>	158 mA typical, 220 mA maximum
<i>Static</i>	150 mA maximum
<i>Surge</i>	3 A maximum

Environmental

Temperature:	
<i>Operating</i>	0 to +40 C (+32 to +104 F)
<i>Storage</i>	-10 to +60 C (+14 to +140 F)
Humidity (non-condensing):	
<i>Operating</i>	20 to 80%
<i>Storage</i>	20 to 90%
Ambient light restrictions:	Fluorescent or incandescent: below 5 kilolux

Supported Symbologies*

Codabar (NW-7)	Code 39	Code 93
Code 128	Industrial 2 of 5	Interleaved 2 of 5
MSI / Plessey	WPC (UPC / EAN / JAN)*	IATA

* Bitmapped images and UPC 2 & 5 digit addendums only readable when specified by number in BARCODE COUNT.

Warranty Information

Warranty Service Procedures

Datamax-O'Neil warrants to Purchaser that under normal use and service, the Scanner purchased hereunder shall be free from defects in material and workmanship for a period of one year (365 days) from the date of shipment by Datamax-O'Neil. Expendable and/or consumable items or parts such as lamps and fuses, are not covered under this warranty. This warranty does not cover equipment or parts that have been misused, altered, neglected, handled carelessly, or used for purposes other than those for which they were manufactured. This warranty also does not cover loss, damages resulting from accident, or damages resulting from unauthorized service.

If a defect should occur during the warranty period, the defective unit shall be returned, freight and insurance prepaid, in the original shipping container to:

Datamax-O'Neil Corporate Headquarters
4501 Parkway Commerce Boulevard
Orlando, Florida USA 32808

A Return Material Authorization (RMA) number must be issued before the product can be returned. To open an RMA, please call the Datamax-O'Neil Technical Support Department at (407) 523-5540. Include your RMA number on the outside of the box and on the shipping document. Include a contact name, action desired, a detailed description of the problem(s), and media examples when possible with the defective unit. Datamax-O'Neil shall not be responsible for any loss or damages incurred in shipping. Any warranty work to be performed by Datamax-O'Neil shall be subject to Datamax-O'Neil's confirmation that such product meets Datamax-O'Neil warranty. In the event of a defect covered by its warranty, Datamax-O'Neil will return the repaired or replaced product to the Purchaser at Datamax-O'Neil's cost.

With respect to a defect in hardware covered by the warranty, the warranty shall continue in effect until the end of the original warranty period, or for ninety (90) days after the repair or replacement, whichever is later.

General Warranty Provisions

Datamax-O'Neil makes no warranty as to the design, capability, capacity or suitability of any of its hardware, supplies, or software.

Software is licensed on an "as is" basis without warranty. Except and to the extent expressly provided in this warranty and in lieu of all other warranties, there are no warranties, expressed or implied, including, but not limited to, any warranties of merchantability or fitness for a particular purpose.

Purchaser shall be solely responsible for the selection, use, efficiency and suitability of Datamax-O'Neil's products.

Limitation of Liability

In no event shall Datamax-O'Neil be liable to the purchaser for any indirect, special or consequential damages or lost profits arising out of or relating to Datamax-O'Neil's products, or the performance or a breach thereof, even if Datamax-O'Neil has been advised of the possibility thereof. Datamax-O'Neil's liability, if any, to the purchaser or to the customer of the purchaser hereunder shall in no event exceed the total amounts paid to Datamax-O'Neil hereunder by the purchaser for a defective product.

In no event shall Datamax-O'Neil be liable to the purchaser for any damages resulting from or related to any failure or delay of Datamax-O'Neil in the delivery or installation of the computer hardware, supplies or software or in the performance of any services.

Some states do not permit the exclusion of incidental or consequential damages, and in those states the foregoing limitations may not apply. The warranties here give you specific legal rights, and you may have other legal rights which vary from state to state.

