7874-K150

Imaging Assembly

Kit Instructions

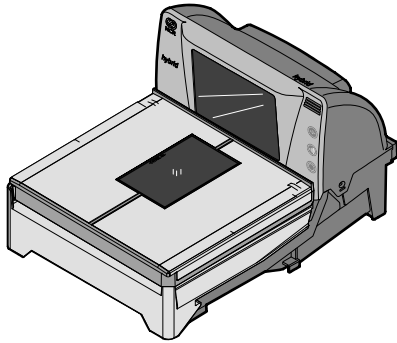**NCR**

Issue B

Revision Record

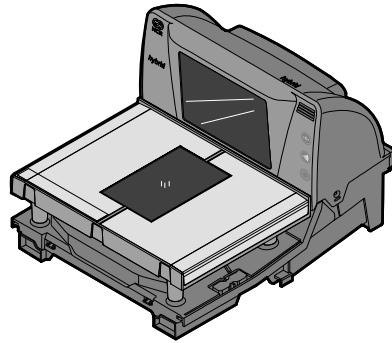| Issue	Date	Remarks
A	Nov 2011	First issue
B	Sept 2012	Added section Imager Module (K150) Firmware Functionalities

Introduction

This Imaging Assembly (7874-K150) provides imaging capabilities for the NCR RealPOS™ Low Profile Bi-Optic Scanner/Scale (7874).

This document explains how to install and program the kit on the 7874 scanner.
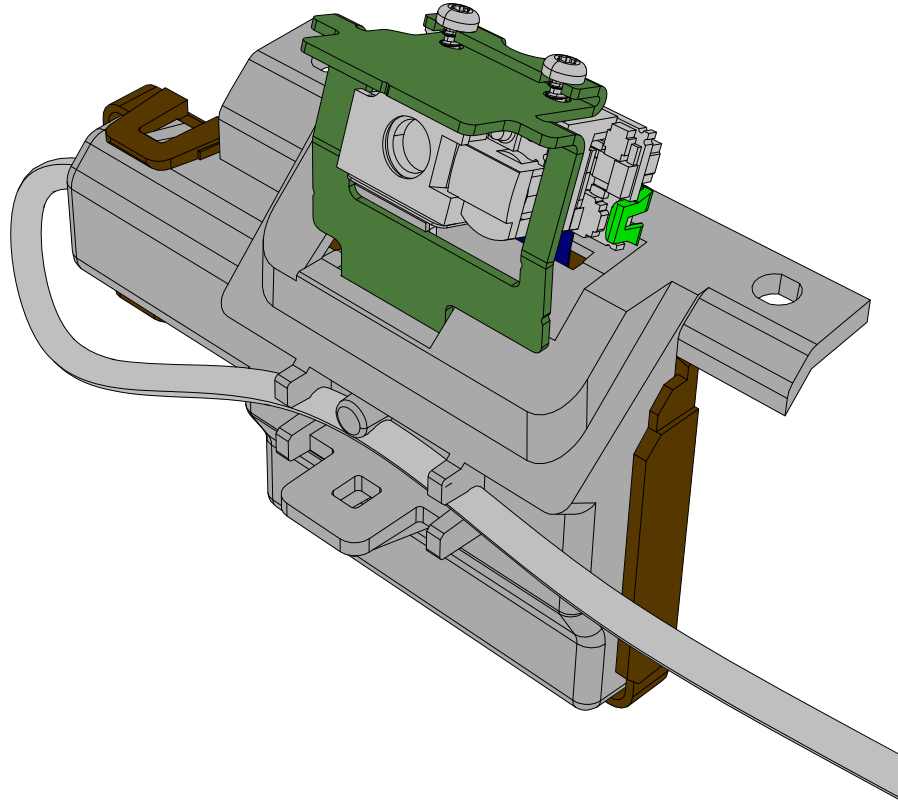
NCR RealScan 74 Scanner/Scale   NCR RealScan 74 Scanner Only

30151

Kit Components

The 7874-K150 kit provides the following components:

- Imaging Kit Assembly

30149

- Instructions-Kit (Reference Sheet) — 497-0423108

- Front Bezel, Hybrid

- Static Shielding Bag - 5"x10", Open End

- 2 Screws - #6-19 x 3/8" long Plastite Phillips Flat Head — these are spare parts

Installation Tools Needed

- Phillips Screw Driver #2

- USB Flash Drive

Software Tools Needed

- Firmware — 497-0475101 or later versions

- NCR Scanner Flash Drive Prep Tool or NCR Scanner Flash Tool

These tools are available for download at the NCR scanner website:
*http://www5.ncr.com/support/support_drivers_patches.asp?Class=retail_RealScan*

Installation Procedures

Warning: **Disconnect the AC power cord before disassembling the Scanner.**

Remove the Top Plate

The Top Plate sits on four support posts. It should be level with the counter top. The leading edge of the Top Plate must not be higher than the top surface of the checkstand.
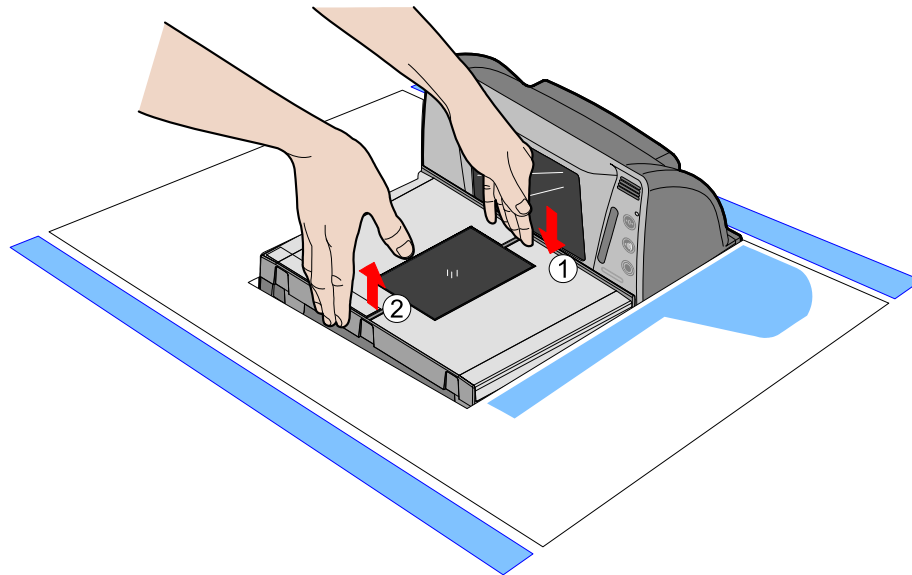
The following are the three Top Plate models available for the 7874.

13.9 INCH   15.7 INCH   20 INCH
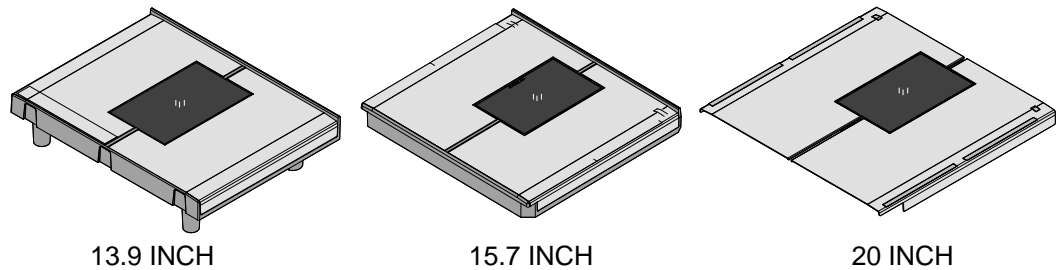
30153

### If Scanner is Installed in a Checkstand

1. Using one hand, push down on the back of the Top Plate closest to the Tower until the front end of the Top Plate is slightly tilted.

2. Lift the front end of the Top Plate with your other hand and remove the Top Plate from the scanner.

30154

If Scanner is Not Installed in a Checkstand

1. Hold the front edge of the Top Plate between your fingers.
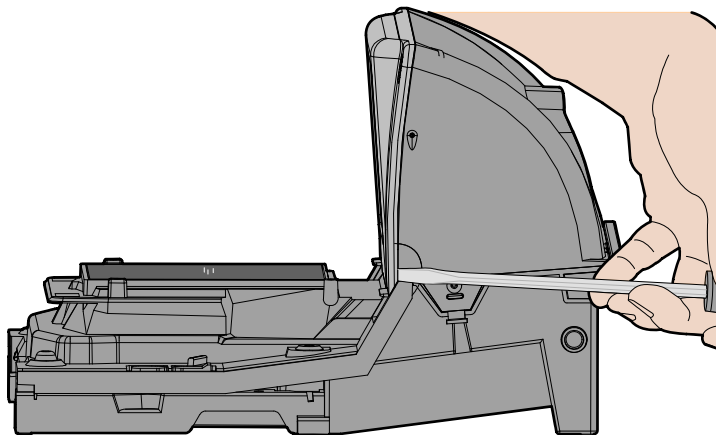
2. Lift the Top Plate to remove it from the scanner.
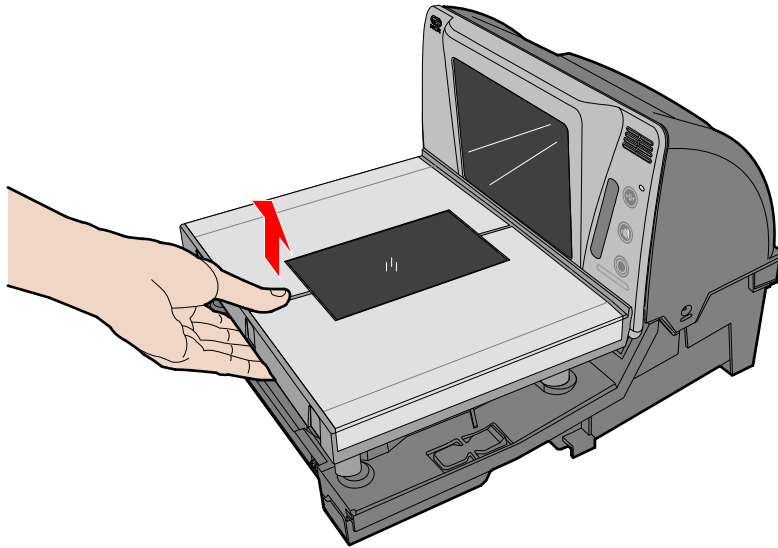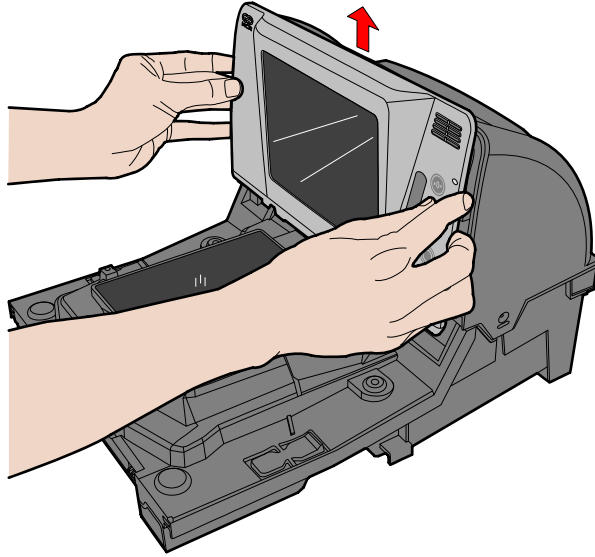

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Remove the Front Bezel

1. Place one hand and slightly apply downward pressure on the top corner of the Bezel. Use a flat tip screw driver to push the snap features found at the bottom-corner of the Bezel.

   Note: Do this procedure on both sides of the Bezel to detach it from the scanner.
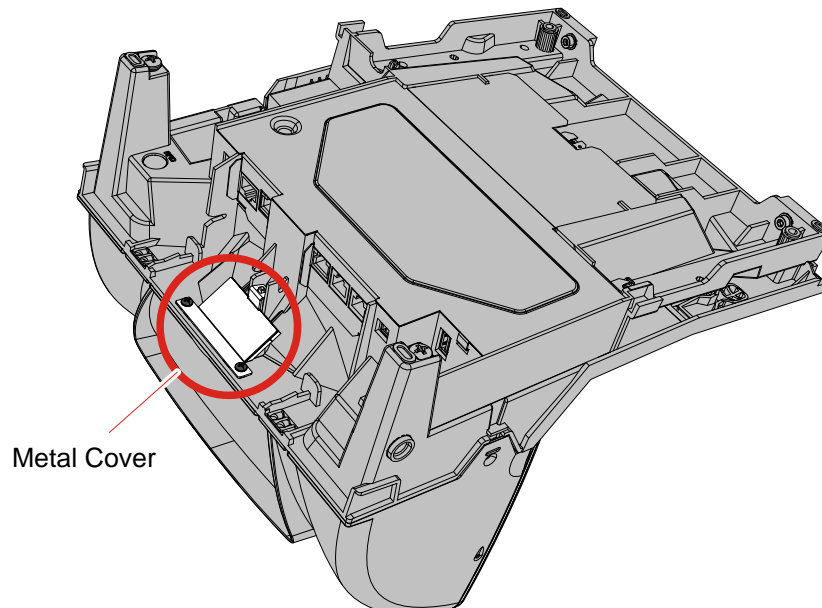

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2. Lift the bezel straight up to remove it from the unit.


25571

Install the Imager Kit

1. Disconnect all external cables from the scanner.

   Note: If Scanner is installed in a checkstand, lift the 7874 out of the checkstand and disconnect the cables from the scanner.

2. Turn the 7874 upside down. Be careful not to scratch the bezel.
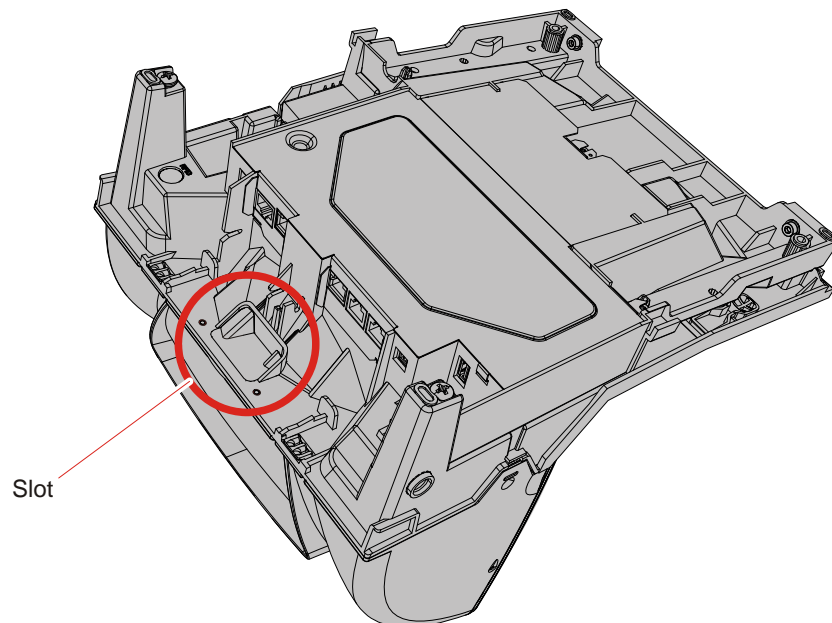

Metal Cover

30144

3. Using a number–2 screwdriver, remove the two (2) mounting screws as shown in the following illustration. Set aside the screws.
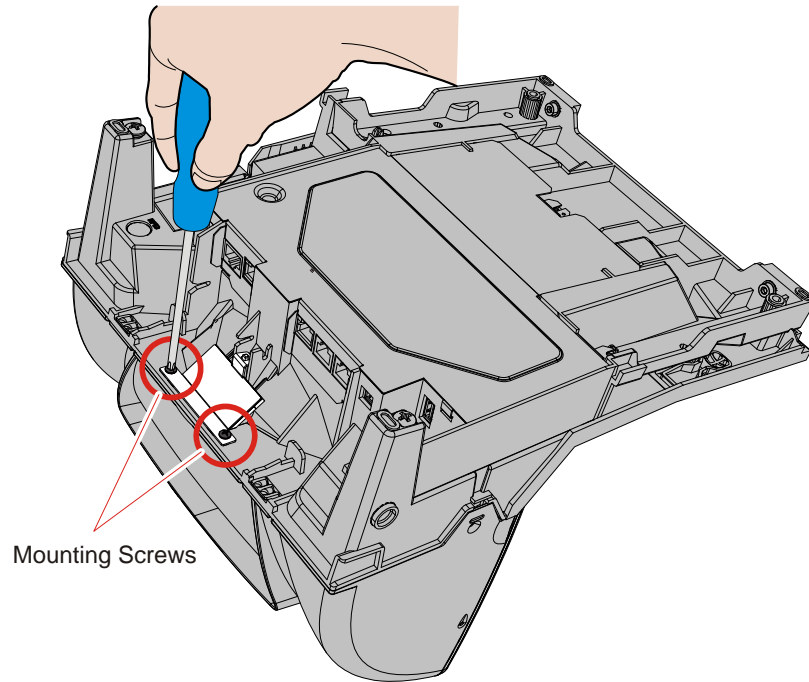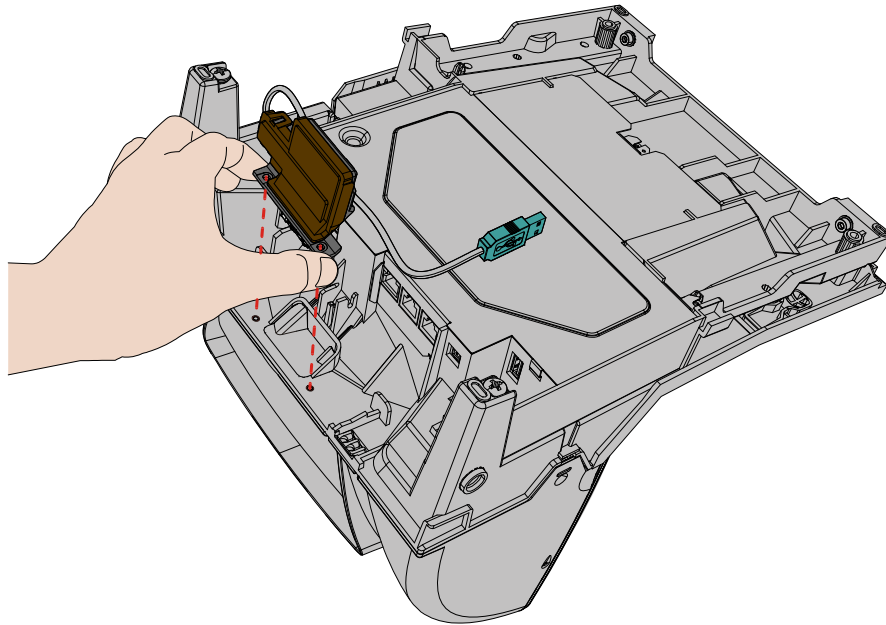
Mounting Screws

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4. Remove and discard the metal cover that protects the slot intended for the Imager.
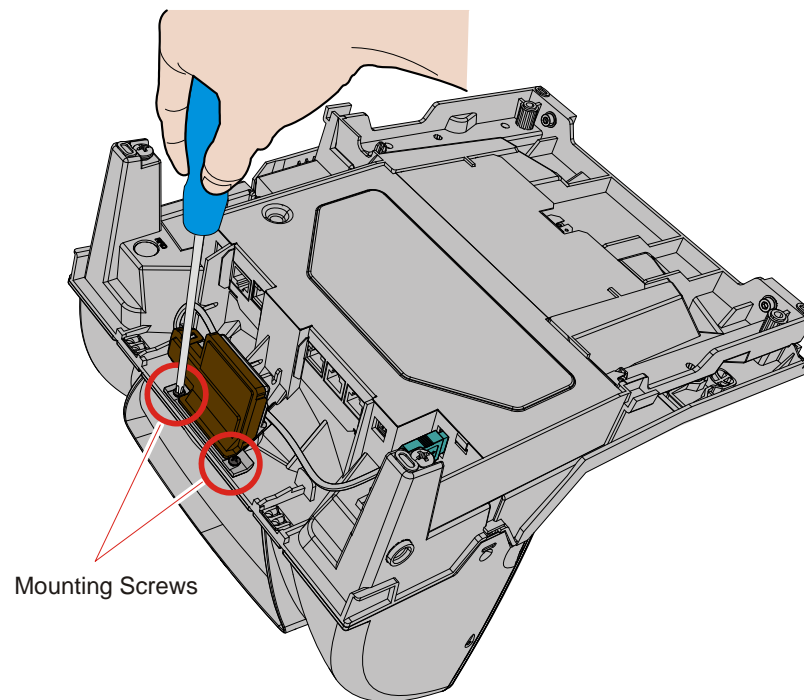
Slot

30146

5. Insert the Imager Kit to the slot. Align the holes of the Imager mounting with the screw holes on the 7874.
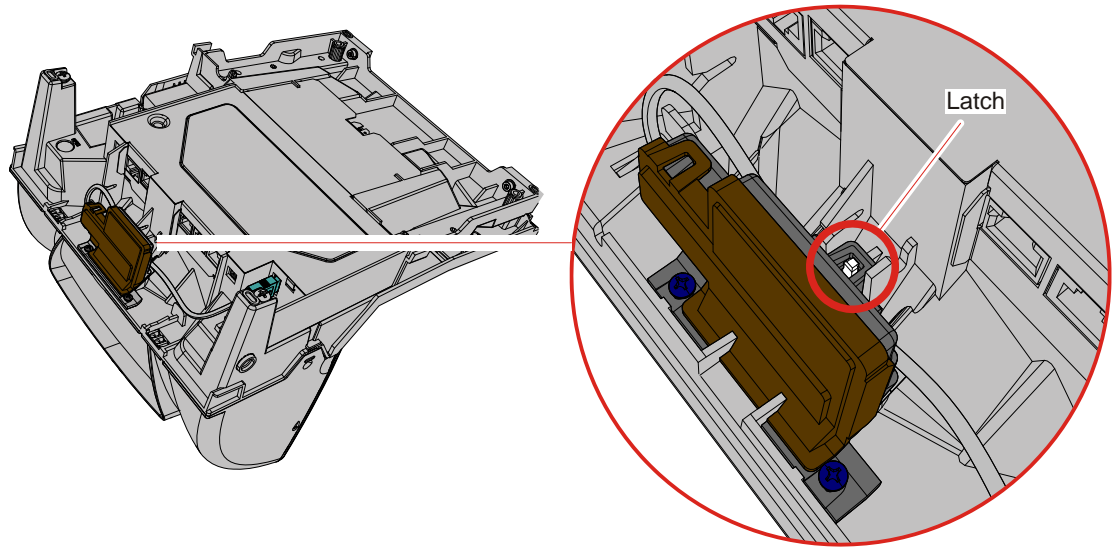
30147

6. Secure the Imager Kit to the 7874 scanner with two (2) Phillips flat head screws. Use the same old screws used in the metal cover.
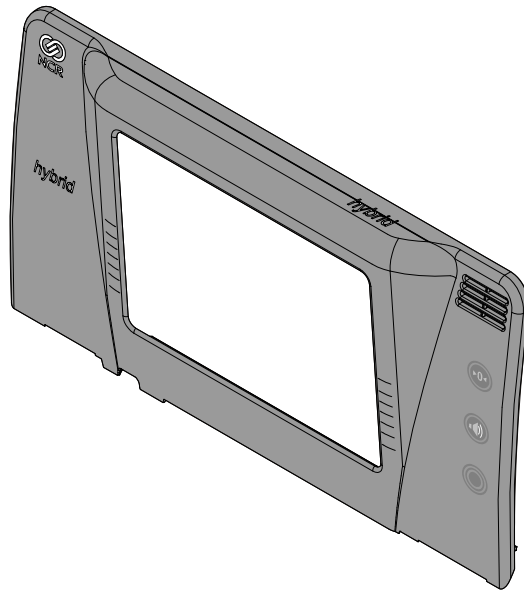
Mounting Screws

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Note: Make sure to engage the Imager mounting to the latch as shown in the following illustration.

Latch

30150

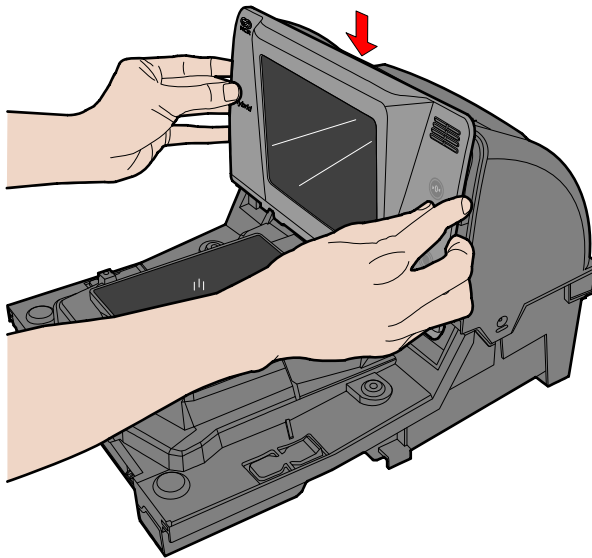7. Connect the USB cable of the Imager to the 7874 port.
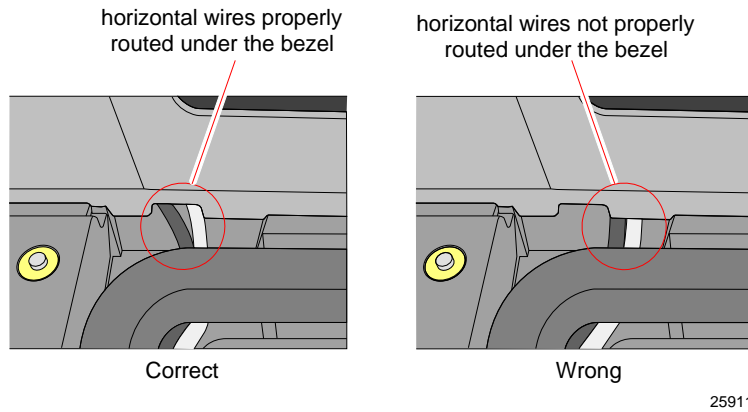
Install the new Hybrid Front Bezel

30152

Caution: Verify cover snaps onto the scanner cover on both left and right sides. Failure to secure the bezel can lead to scale interference or failures.

1. Align the top edge of the tower cabinet with the top edge of the Front Bezel.

30160

Note: If a Sensormatic Coil is installed in the unit, ensure to route the horizontal coil wires under the notch found on the bottom of the Front Bezel. The scanner will have scale issues if the wires are not routed properly under the Front Bezel.

horizontal wires properly routed under the bezel

horizontal wires not properly routed under the bezel

Correct

Wrong

25911

2. Press the bottom–left and bottom–right corners of the Front Bezel towards the tower cabinet to latch it in place.

30940
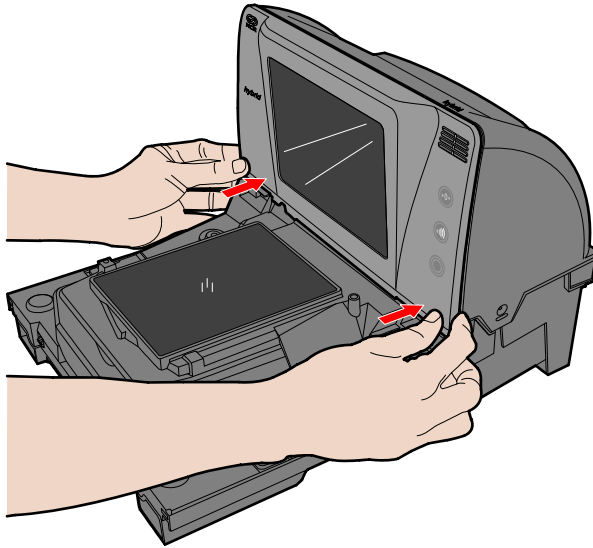
Re–install the Top Plate

If Scanner is Installed in a Checkstand

1. Set the 7874 into the hole in the checkstand.

2. Holding the front end of the Top Plate, lay the back end onto the rear support posts first on the scanner.

3. Lay the front end of the Top Plate down onto the front support posts on the scanner.
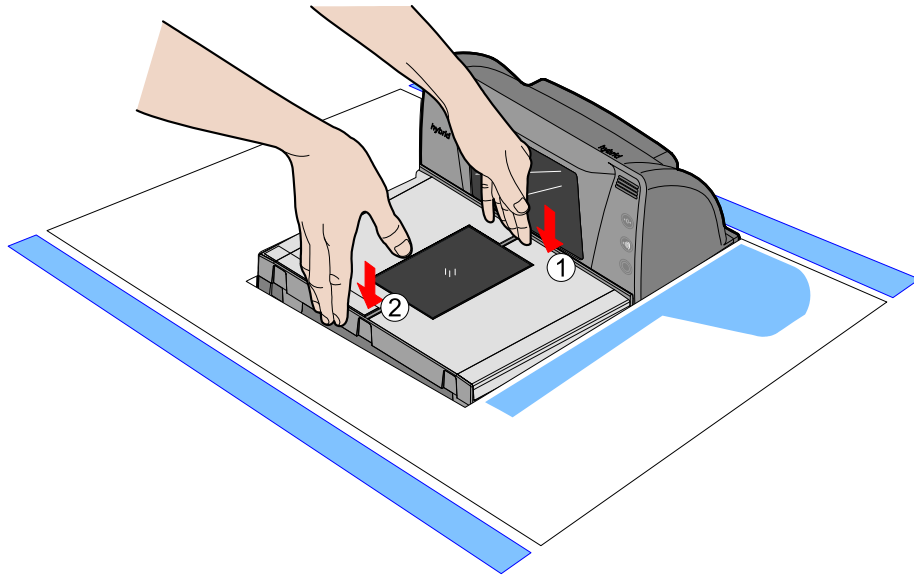
30157

If Scanner is Not Installed in a Checkstand

1. Lay down the Top Plate directly onto the four support posts on the scanner.
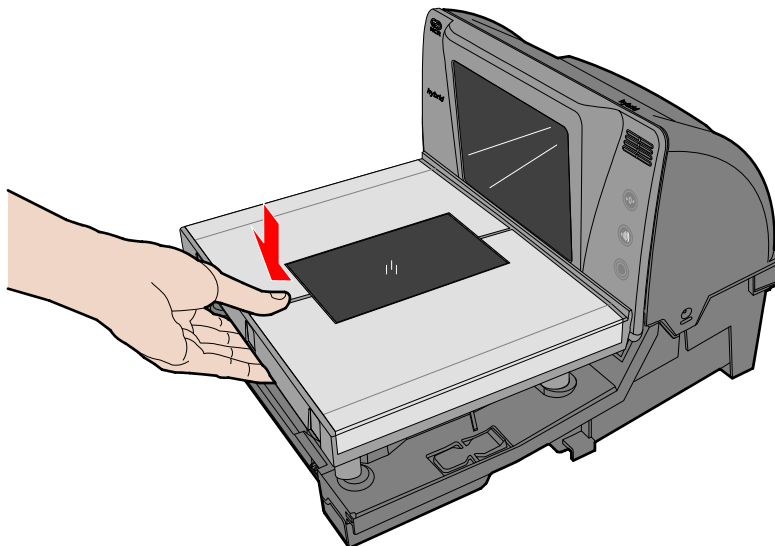
30156

Programming Instructions

Imager Module (K150) Firmware Functionalities

The cashier–facing Imager Module (K150) of the 7874 scanner provides several functionalities to interact well with the 7874.

Imager Interlock

The Imager Interlock is a feature of the Imager (K150) that activates whenever both the imager and the laser see the same bar code at the same one time. Only one bar code is sent to the POS by the scanner. This feature must not be confused with the EAS Interlock or Same Item Lockout.

Laser Gate Control

The Laser Gate Control is a configurable feature of the Imager (K150) in which the laser does not enable or activate the imager unless the laser sees activity in the laser scan field.

Note: For more information on the imager, see *NCR 7878-K150/F150 Imaging Module User Guide* (B005-0000-2166) on *http://info.ncr.com*.

Firmware Requirements

Note: The minimum firmware version is **497-0475101.**

Before performing any programming procedures to the 7874 and Imager Module:

1. Make sure to identify the firmware version of your 7874.

2. If the firmware installed on your scanner is not the required version, re–flash the required firmware to the scanner,

   - using a PC or a host terminal — requires Flash Tool
   - using a USB flash drive — requires Flash Drive Prep Tool

The procedures are explained in the following sections.

Identify the Firmware Version of 7874

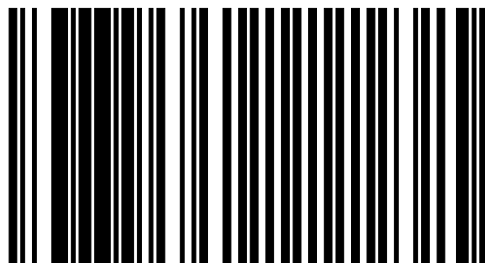1. Scan the **RESET** bar code.

Reset
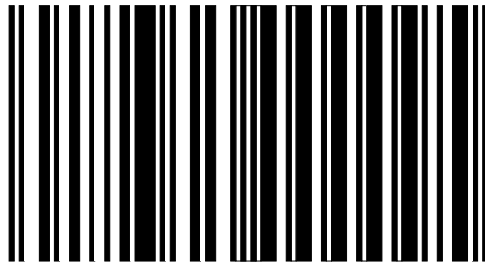
11818

2. Scan the **DIAGNOSTIC MODE** bar code. Wait for the scanner to complete its power cycle.
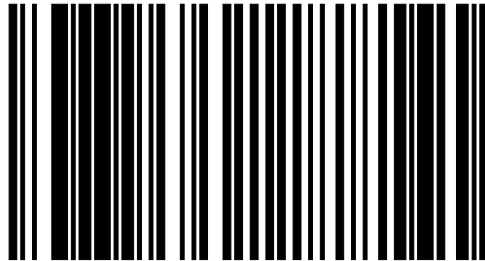
Diagnostic Mode

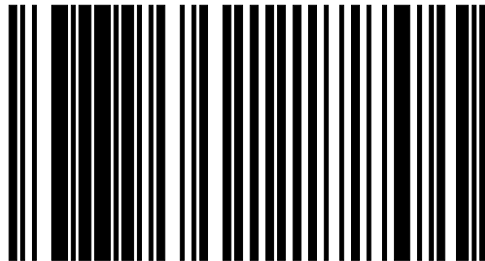

R0041

3. Scan the **HEX 4** bar code.

Hex 4

R0052

4. Scan the **HEX A** bar code.

Hex A

R0058

The scanner then speaks `P X A scanner 4 9 7 0 x x x x x x.`

Note: The important sounds are the digits of the firmware version designated in X. Please write that down.

Note: The minimum firmware version is **497-0475101.**

5. Please Power-Cycle your scanner when you are done.

Re–flash the Required Firmware to the 7874

You can perform firmware flashing using a PC/host terminal or a USB flash drive. The procedures are explained in the next sections. For detailed information, refer to the following:

- *NCR RealPOS™ Scanner Tool Suite Guide* (B005–0000–1883)

- *NCR RealPOS™ Low Profile Bi–Optic Scanner/Scale (7874) User Guide* (B005–0000–1822)

- *http://www5.ncr.com/support/support_drivers_patches.asp?Class=retail_RealScan*

  This website contains the software tools needed for firmware flashing.

#### *Firmware Flashing using a PC or Host Terminal*

1. Apply power to the 7874.

2. Connect the scanner to the host terminal using an RS232 cable or USB cable appropriate for 7874 scanner.

   - RS232 cable — part number 497-0300422 (1416-C019-004)

   - USB cable — 497-0445079 (1432-C158-0040).

Main (POS)
RS232 / RS485
Communication Port

Main (POS) USB
Communication Port
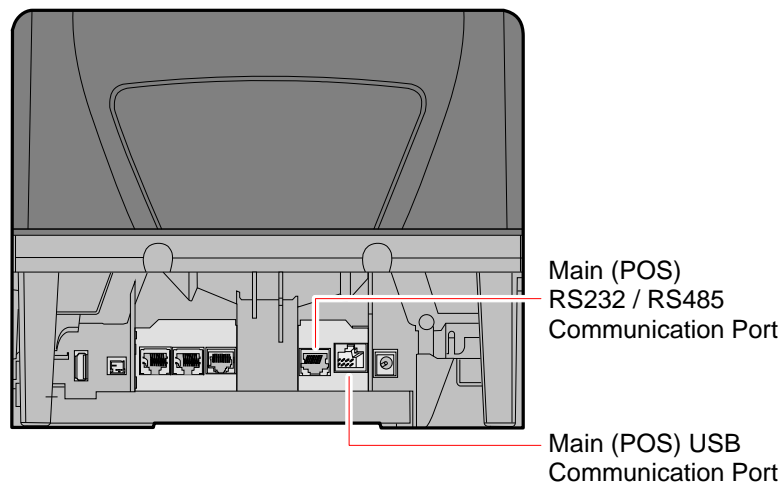
25508

3. Run the NCR Flash Tool by double-clicking on the NCR Flash Tool icon on the desktop.

4. Port settings must be configured first before flashing firmware to the scanner. Select **Port Settings** in the main window and select the **Modify INI** button.
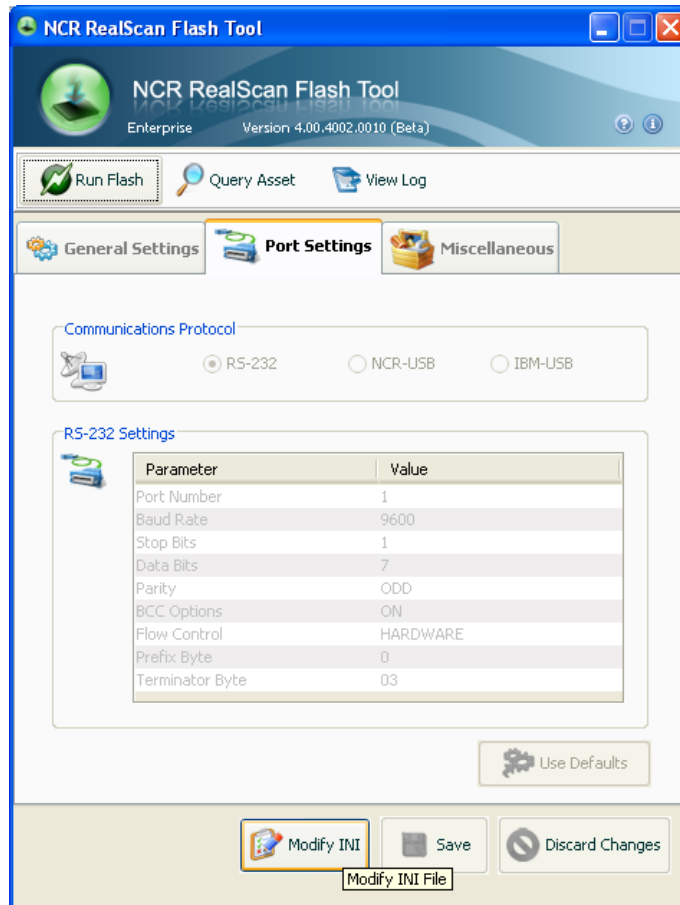

5. Select one of the radio buttons under the Communications Protocol Group within the Port Settings tab. For RS-232 communication protocol, you can configure more settings under the RS-232 Settings group. Right-click on one of the cells in the table to either change the parameter value or restore it to its default value.
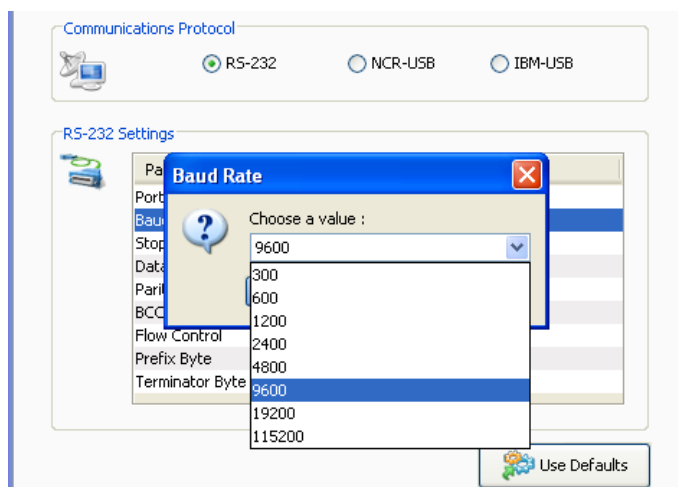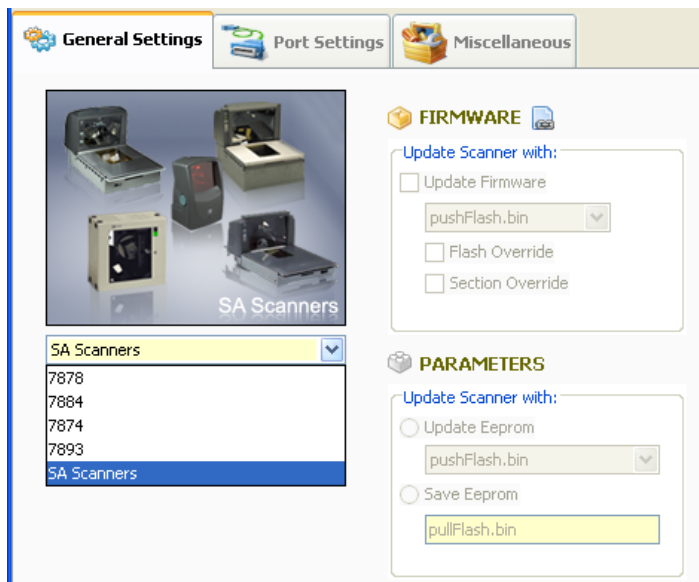
6. Select **Save** after making changes to the settings.
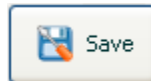
7. Select **Use Defaults** if default settings are preferred. A message box will display informing that all settings will be set to default. Select **Yes** to confirm.
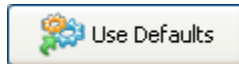

8. After configuring the necessary port settings, choose the scanner you want to flash the firmware to.

9. Select **Modify INI** after a scanner model has been chosen. Select the **Update Firmware** checkbox and choose the firmware BIN file you want to flash to the scanner. For your preference you may enable Flash Override and Section Override by selecting their checkboxes. Select **Save** to save and apply these settings.

10. Select **Run Flash** from the main toolbar to start flashing the firmware to the scanner.

11. The application will initialize communication with the scanner in the port you have specified in the settings. When initialization is successful, the following window will display and show the progress of the flashing process.
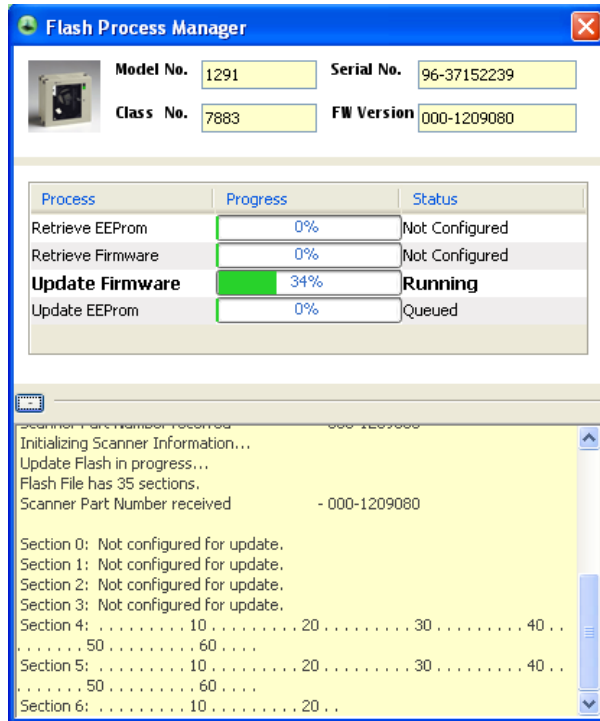

12. Exit the NCR Flash Tool application and disconnect the scanner from the host terminal once firmware flashing is finished.

Firmware Flashing using a USB Flash Drive

In order to minimize the need for a PC at the scanner site, the Flash Drive Prep Tool preps a flash drive so that the scanner could understand its contents and performs the tasks defined inside the device prepared by the host terminal software. This flash drive could then be taken to each scanner to perform its tasks without changing anything on the flash drive in between scanners.

Servicing or installing a scanner by flash drive is not a remote operation. A technician will be needed on-site to attach the flash drive to the scanner. A flash drive firmware upgrade is the fastest available means for upgrading the firmware of a scanner.
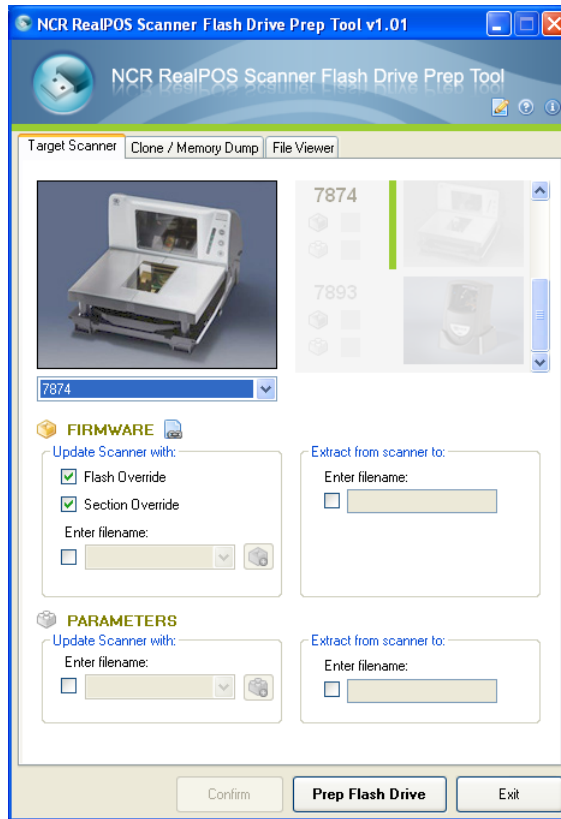
1. Select the Flash Drive Prep Tool icon. The following window displays.
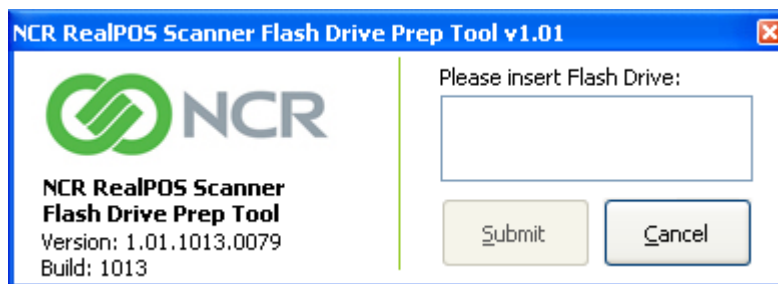
2. Insert the flash drive to be used. The application automatically detects the flash drive installed.

3. Select **Submit**. The following window displays.
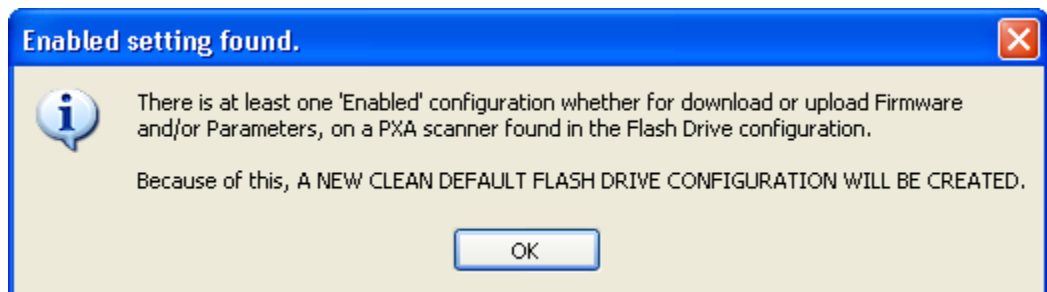
4. Select **OK**. The following window displays.

5. On the **Target Scanner** tab, select **7874**.

6. On the **FIRMWARE** groupbox, select the checkbox under **Update scanner with:**.

7. Select the Firmware from the dropdown menu.

8. Select the **Prep Flash Drive** button. The application then preps the flash drive. The following message box displays after a successful flash drive prep.
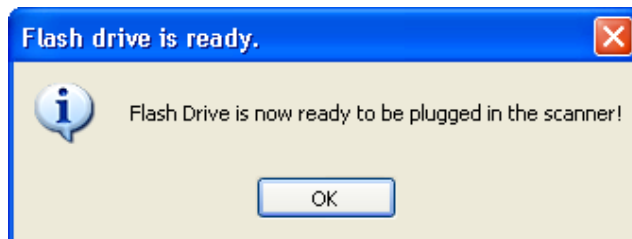
The **Down** arrow of the 1st line in the Scanner Configuration Preview Panel for the 7874 highlights.

9. Right-click the **Safely Remove Hardware** icon on the system tray to safely remove the flash drive. A Safe to Remove Hardware balloon message displays near the system tray.

10. Plug the flash drive in the scanner's USB peripheral port. The following lists the different actions the scanner initiates:

    a. The scanner gives off a triple beep of ascending frequency, indicating that the USB peripheral port recognized the flash drive and was able to enumerate. The triple beep sound off regardless of the contents of the flash drive. If the scanner fails to give off the triple beep, this indicates a USB peripheral port failure or the USB peripheral port was not able to communicate with the flash drive.

    b. The scanner speaks "Load program in 3 seconds...2...1...0...". The scanner resets after this message.

    c. The scanner beeps and a triple beep of ascending frequency follows.

    d. The five LEDs light up from bottom to top (for the 7874) while in flash mode. The scanner reboots after a successful firmware download.

    e. The scanner beeps and a triple beep of ascending frequency follows.

    f. The scanner gives off a low frequency triple beep, which indicates that the flash drive can be safely removed.

11. Unplug the flash drive from the scanner's USB peripheral port. The scanner then gives off a descending triple beep sound, which indicates a successful shutdown of the flash drive's firmware.

Program the 7874 for the Imager Module

The 7874 scanner must be programmed so it can perform the following:

- Beep whenever 7874 receives valid bar code data through the Imager module; by default, the scanner does not beep when the Imager receives bar codes.

- Permit the pass-through of 2D data to the POS
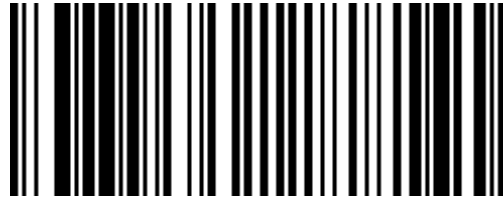
- Enable K150 mode

To program the 7874 scanner for the imager module, scan the following bar codes:
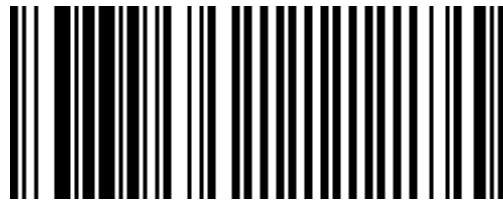
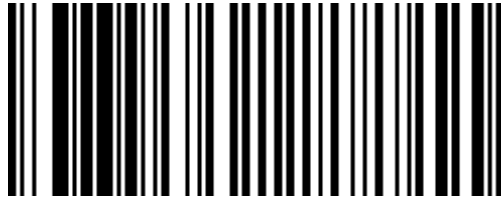Programming Mode

R0042
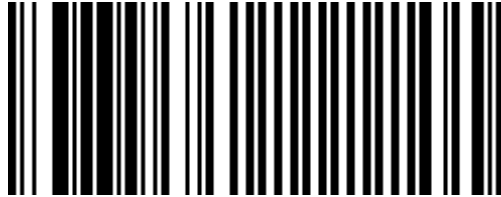
Activate Beep sounds during HH input

Hex 4

R0052

Hex 0

R0048

Hex 5

R0053

Enable 2D Bar Codes Pass Through

Hex 7

R0055

Hex F

R0063

Hex 9

R0057

Enable the Imager kit K150
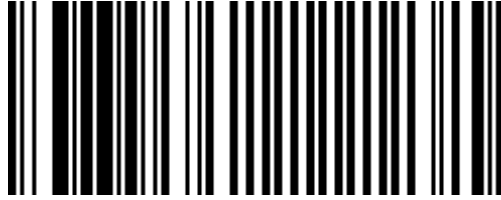
Hex 8
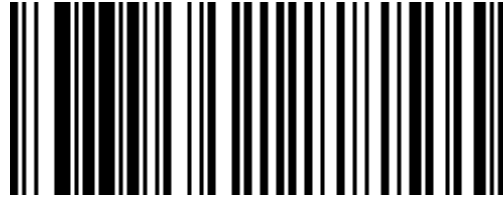
R0056

Hex B

R0059

Hex 1

R0049

Enable 2D Pass-Through Function of all 2D types

Note: The passed-through PDF data is transmitted in ASCII format when RS232 Serial or NCR USB is used. This data format is required by NCR OPOS for 2D barcodes.

Save and Reset

R0044

Program the Imager Module

The Imager only provides a limited number of symbologies enabled from the factory which includes the following:

- **UPC-A**

- **UPC-E**

- **EAN-8**

- **EAN-13**

- **PDF417**

- **GS1 Databar 14 (RSS-14)**

- **GS1 Databar Expanded (RSS-14 Expanded)**

- **GS1 Databar Coupons**

To enable other symbologies, you need to scan the corresponding bar codes in the following pages. Take note of the following reminders when scanning the bar codes.

- Scan the bar codes to the VERTICAL window of the 7874 so that the Imager can see and read them.

- You might need to print and fold these pages in such a way that only one bar code shows per page.

- You do not need to scan all these bar codes, scan the only ones you need.

- There is **NO** audible feedback (beep) when the imager reads the bar code, so hold the programming bar code in front of the 7874 window for a couple of seconds.

- To know if the symbologies are successfully read, scan the sample bar codes found in the section "Sample 2D Symbologies".
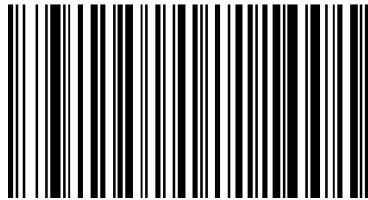
Note: For advanced configurations, see *NCR 7878-K150/F150 Imaging Module User Guide* (B005-0000-2166) on *http://info.ncr.com*.

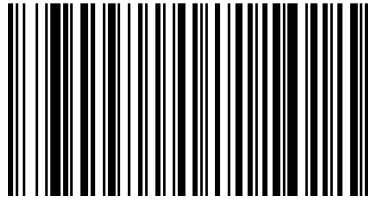## Enable other Bar Code Symbologies

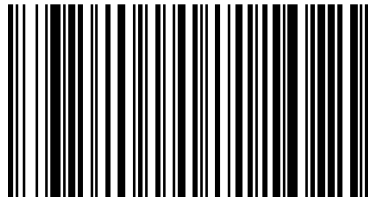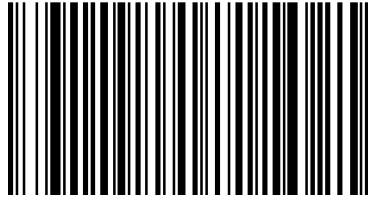Enable DataMatrix
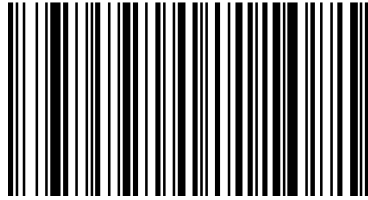
Enable Aztec

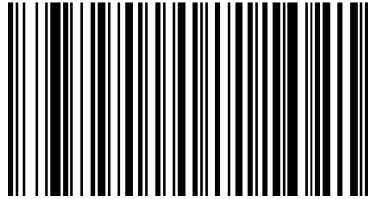Enable QR Code

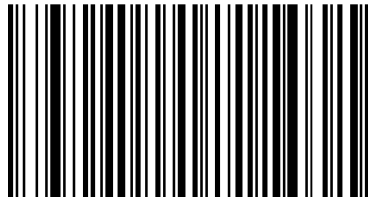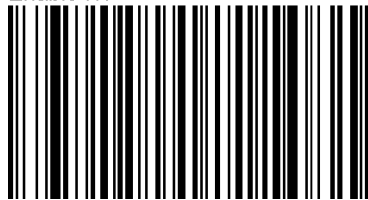**Note:** This bar code also enables MicroQR.

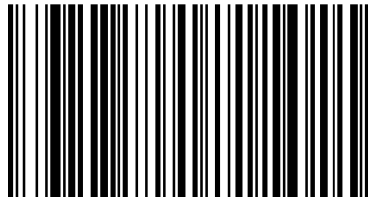Enable MaxiCode

Enable Code 128

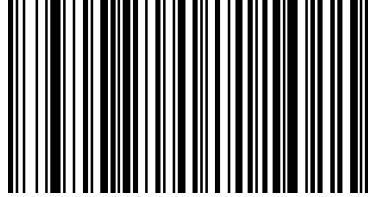Enable UCC/EAN-128

Enable Code 39
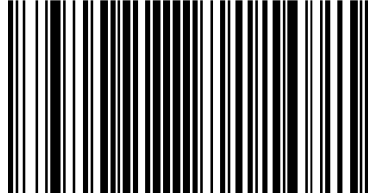
Enable ITF

Enable MicroPDF417

Linear codes are combined with a unique 2D composite component to form a new class called GS1 Composite symbology. GS1 Composite symbologies permit the co-existence of symbologies already in use. You need to scan the following two (2) barcodes to enable this function:

Enable GS1 Composite

Enable GS1 Composite with UPC

Sample 2D Bar Codes

Sample Composite

Composite Symbology

(01) 9 9012345 67890 9
(17) 060912 (21) 19AN47954769

Sample Aztec

Sample Aztec

Sample PDF417

Customer 3

Sample DataMatrix

Sample DataMatrix

Sample QR Code

Sample Maxi Code