USER GUIDE

NCR RealPOS XR4 (7602)

Release 1.0

BCC5–0000–5158
Issue B

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To maintain the quality of our publications, we need your comments on the accuracy, clarity, organization, and value of this book. Please use the link below to send your comments.

EMail: FD230036@ncr.com

Preface

Audience

This book is written for hardware installer/service personnel, system integrators, and field engineers.

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Safety Requirements

The *NCR RealPOS XR4 (7602)* conforms to all applicable legal requirements. To view the compliance statements see the *NCR RealPOS Terminals Safety and Regulatory Statements* (B005-0000-1589).

Caution: The on/off switch is a logic switch only. The AC line voltage primaries are live at all times when the power cord is connected. Therefore, disconnect the AC power cord before opening the unit to install features or service this terminal.

Lithium Battery Warning

Warning: Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type as recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

Attention: Il y a danger d'explosion s'il y a remplacement incorrect de la batterie. Remplacer uniquement avec une batterie du même type ou d'un type recommandé par le constructeur. Mettre au rébut les batteries usagées conformément aux instructions du fabricant.

Battery Disposal (Switzerland)

Refer to Annex 4.10 of SR814.013 for battery disposal.

IT Power System

This product is suitable for connection to an IT power system with a phase-to-phase voltage not exceeding 240 V.

Peripheral Usage

This terminal should only be used with peripheral devices that are certified by the appropriate safety agency for the country of installation (UL, CSA, TUV, VDE) or those which are recommended by NCR Corporation.

Warning: DO NOT connect or disconnect the transaction printer while the terminal is connected to AC power. This can result in system or printer damage.

Warning: DO NOT connect or disconnect any serial peripherals while the terminal is connected to AC power. This can result in system or printer damage.

Grounding Instructions

In the event of a malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This product is equipped with an electric cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into a matching outlet that is properly installed and grounded in accordance with all local codes and ordinances. Do not modify the plug provided – if it will not fit the outlet, have the proper outlet installed by a qualified electrician. Improper connection of the equipment-grounding conductor can result in a risk of electric shock.

The conductor with insulation having an outer surface that is green with or without yellow stripes is the equipment-grounding conductor.

If repair or replacement of the electric cord or plug is necessary, do not connect the equipment-grounding conductor to a live terminal. Check with a qualified electrician or service personnel if the grounding instructions are not completely understood, or if you are in doubt as to whether the product is properly grounded.

Use only 3-wire extension cords that have 3-prong grounding plugs and 3-pole receptacles that accept the product's plug. **Repair or replace damaged or worn cords immediately.**

Out of Box Failure (OBF)

If you experience an out of box failure (OBF) during installation or staging related to a missing, wrong or defective unit or item, simply provide NCR with a detailed description of the issue and the item will be replaced free of charge. For assistance with this process send an email to *CustomerSat.Retail@ncr.com* with the following details:

- NCR Sales Order # (Sales Order # are located on the box)
- Date of Product Installation
- Product Model #
- Unit Serial #
- NCR part # of defective/missing/wrong component
- Description of Failure (please be specific. For example: "display will not power on")
- Customer/Requestor's contact name, phone number and/or e-mail address
- Address to ship replacement part(s)

Transport the product in its original packaging to prevent impact damages.

If you do not have access to a computer, you may leave a voice message at: 1-800-528-8658 (USA), or (International) +1-770-623-7400. When leaving a message, please provide a phone number and/or an email address so NCR can contact you if additional details are needed.

Note: Used equipment that experiences a failure does not qualify as an OBF and should go through the NCR warranty process.

Warranty

Warranty terms vary by region and country.

All parts of this product that are subject to normal wear and tear are not included in the warranty. In general, damages due to the following are not covered by the warranty.

- Improper or insufficient maintenance
- Improper use or unauthorized modifications of the product.
- Inadequate location or surroundings. Site installation must conform to guidelines listed in the *Site Preparation* section of this document and the *NCR Workstation and Peripheral AC Wiring Guide* (BST0-2115-53).

For detailed warranty arrangements please consult your contract documents.

Returning Defective Hardware for Service

Use the following procedure to report/return defective hardware.

Call the *NCR Customer Care Center* at 1-800-262-7782 and have the following information available when you place the call.

- Class/Model number of the defective equipment
- Serial Number of the defective equipment
- Equipment location in the store
- Description of the problem, including any system error codes, error condition, or guidance to the area of failure.

The NCR Agent will provide you with a work order number, which serves as your Return Material Authorization (RMA). Please provide the RMA on the outside of the shipping box.

Note: A work order must be opened for each device that is shipped for repair.

Table of Contents

Revision Record

Issue	Date	Remarks
A	Feb 2017	First Issue
B	Jan 2018	Added Troubleshooting: Terminal Unresponsive After Connecting AC Power

Chapter 1: Product Overview

Introduction

The NCR RealPOS XR4 (7602) is the newest modular POS terminal that offers front access cable connections to simplify installation and services. It has an energy-efficient Intel® Celeron® processor, allowing fan-less operation, and when combined with a solid state drive (SSD) option, there are no moving parts to maximize reliability. The XR4 also offers seven USB ports, a cash drawer port, and a serial port to provide various connectivity options.

The XR4 features a low-profile, compact design that conserves valuable space. It offers the flexibility to be mounted countertop or underneath a counter. You can create a customized POS solution by combining the XR4 with NCR's extensive family of retail peripherals to meet the unique requirements of your stores.

Base Model

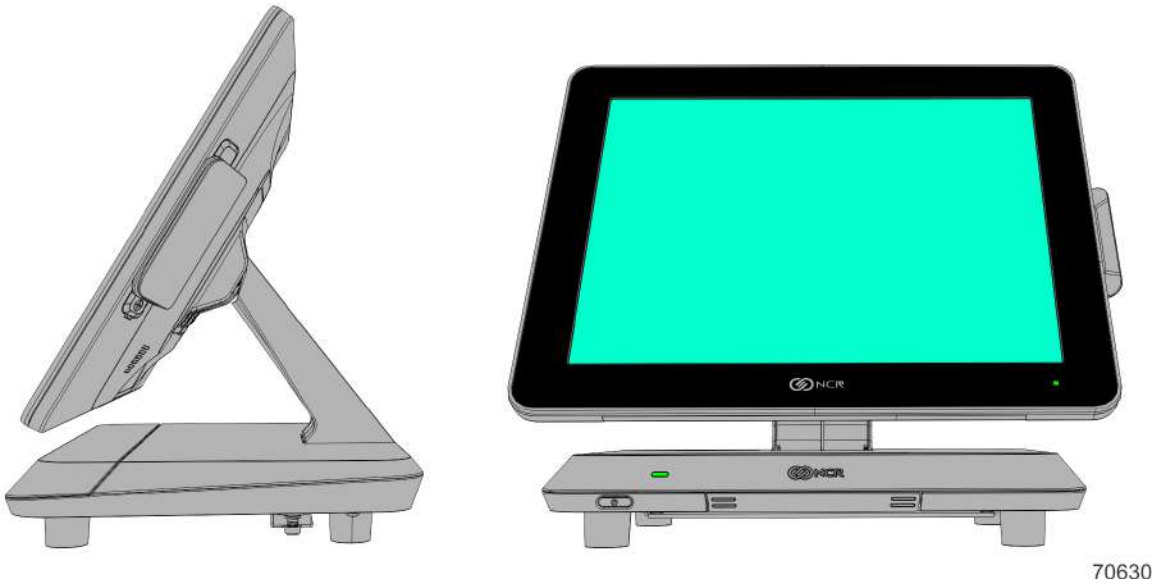
Product ID	Description
7602-1100-8801	RealPOS XR4; Intel Celeron Dual Core

Note: Storage devices, memory, power supply are ordered as features.

Mounting Configurations

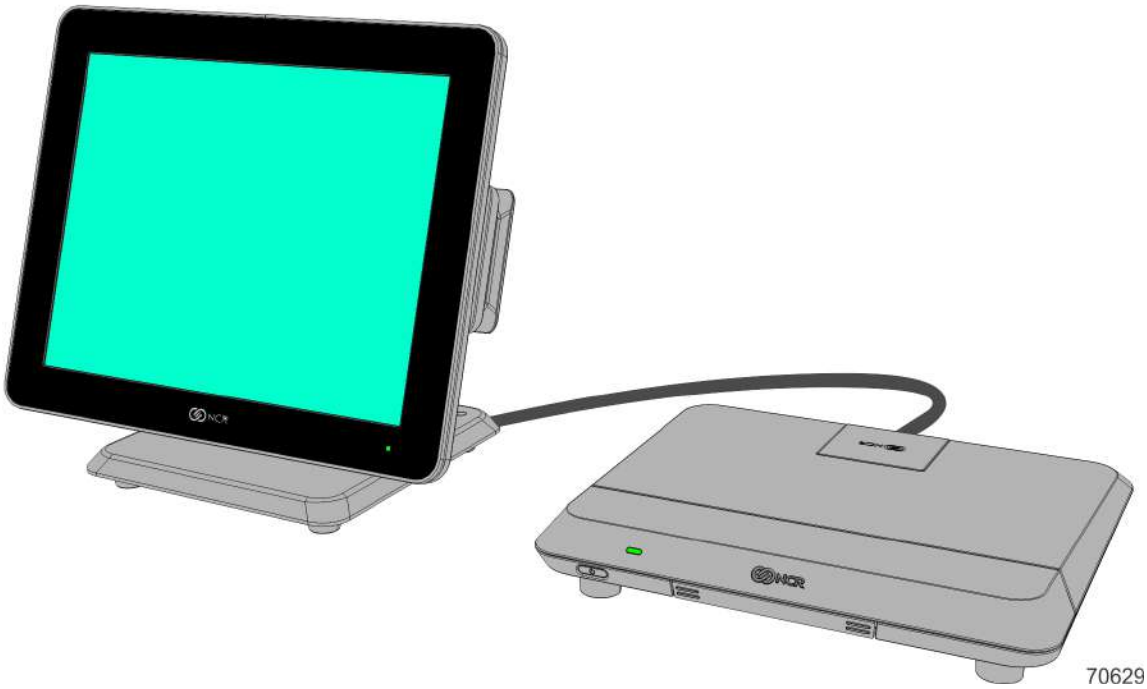
Countertop

The NCR 7602 can be mounted on a countertop with the monitor installed on top of the terminal. A Conversion Neck Assembly kit (7602-K300) is available to convert a RealPOS XR4 to RealPOS XR3 (7613). The RealPOS XL15 (5915) must be ordered for this kit.



Free-Standing

The NCR 7602 can be placed free-standing, with the display remote.



Operator Controls

Power Switch

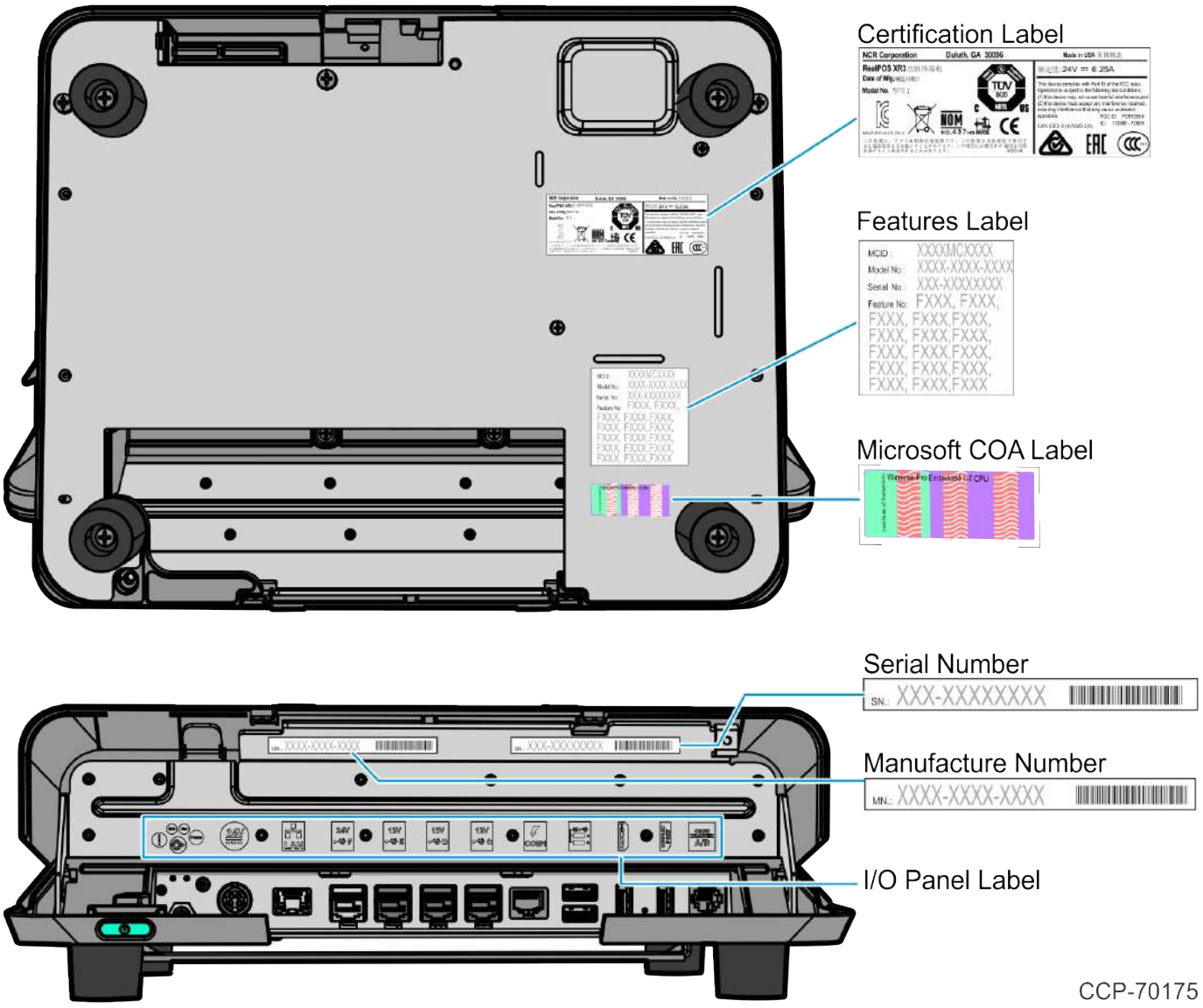
The Power Switch is located on the Front Panel of the terminal.

I/O Panel LED Diagnostic Indicators

There are three Status LEDs located on the I/O Panel.

LED	Color	Description
HDD	Green (Solid or Blinking)	Indicates HDD activity
Stat	Off	System Off, BIOS cannot load, or System Locked
	Red (Solid)	BIOS loaded, executing POST
	Red (Blinking)	BIOS Error, POST halted
	Green (Solid)	BIOS POST completed, OS loading, or System Locked
	Green (Blinking)	OS & NCR Drivers loaded and running
Power	Off	No power
	Orange	S5 Standby
	Green	Power On

Label Locations



Features

Feature	Description
Processor	Intel® Celeron® Processor N3060 Dual Core
Memory	• Support for 2 x 204 pin DDR3L SODIMMs, 1333/1600MT/s unbuffered • Standard 4GB DDR3L 1600MHz • Support for up to 8 GB DDR3L 1600MHz
Storage	• 120GB Solid State Drive (SSD) • 500GB Hard Disk Drive (HDD)
USB	• 4 Powered USB 12V • 1 Powered USB 24V (printer) • 2 USB 3.0 ports **Note:** For security purposes, individual USB ports can be disabled in the BIOS by: **Chipset** → **South Bridge** → **USB Configuration** → **USB Ports Per-Port Disable Control** → **Enabled**.
Serial Port	1 standard port (RJ50 0, 5, 12V)
Video Output	• Intel integrated graphics subsystem with 2-display support • 2 standard Display Ports
Audio	1 analog port (amplified)
Ethernet	10/100/1000MB (Gigabit) Ethernet LAN
Cash Drawer Support	Supports dual drawers (12V or 24V)
Power Supply	150W external power supply
Supported Power Cords	• US Power Cord • International Power Cord • UK Power Cord • Australia Power Cord • China Power Cord • SEV Power Cord • India Power Cord • Argentina Power Cord • Power Cord 120V Twist Lock

Operating Systems

The OS image and base platform drivers will be preloaded on the hard disk or solid state disk prior to shipment. System must be configured with hard disk or solid state drive. OS images do not include OPOS driver software for retail peripherals. Windows OPOS drivers are installed using *NCR Retail Platform Software for Windows*. RPSW Platform software may be ordered on CD-ROM or is downloadable from the *NCR Drivers & Patches* website.

Product ID	Description	Configuration Notes
7602-F700	No Operating System	This feature is to be used with non-Microsoft Operating Systems
7602-F712	Windows 10 IoT Enterprise 2016 LTSB Entry (32 bit) Embedded OS with Legacy BIOS	Includes an end user license for POSReady 10 (32 bit). Available with disk-based Models only. The POSReady 10 OS image and base platform drivers will be preloaded on the hard disk at the factory.*
7602-F713	Windows 10 IoT Enterprise 2016 LTSB Entry (64 bit) Embedded OS with Legacy BIOS	Includes an end user license for POSReady 10 (32 bit). Available with disk-based Models only. The POSReady 10 OS image and base platform drivers will be preloaded on the hard disk at the factory.*
7602-F715	Windows 10 IoT Enterprise 2016 LTSB Entry (64 bit) Embedded OS with UEFI BIOS	Includes an end user license for POSReady 10 (32 bit). Available with disk-based Models only. The POSReady 10 OS image and base platform drivers will be preloaded on the hard disk at the factory.*
7602-F787	Windows 7 Professional (32 bit) Service Pack 1 Non-Embedded and retail device drivers – disk based image	Includes an end user license for Windows 7 Professional (32 bit) non-embedded license. (requires hard disk drive) The Windows 7 Professional OS image and base platform drivers will be preloaded on the hard disk at the factory.*

Product ID	Description	Configuration Notes
7602-F788	Windows 7 Professional (64 bit) Service Pack 1 Non-Embedded and retail device drivers – disk based image	Includes an end user license for Windows 7 Professional (64 bit) Non-Embedded license. (requires hard disk drive) The Windows 7 Professional OS image and base platform drivers will be preloaded on the hard disk at the factory.*
7602-F790	Windows Embedded POSReady 7 for Embedded Systems (32 bit) and retail device drivers – disk based image	Includes an end user license for POSReady 7. Available with disk-based Models only. The POSReady 7 OS image and base platform drivers will be preloaded on the hard disk at the factory. *
7602-F791	Windows Embedded POSReady 7 for Embedded Systems (64 bit) and retail device drivers – disk based image	Includes an end user license for POSReady 7 (64 bit). Available with disk-based Models only. The POSReady 7 OS image and base platform drivers will be preloaded on the hard disk at the factory. *

*Requires *Retail Platform Software (RPSW) 5.X*. NCR Platform Software (RPSW) provides NCR peripheral support using OPOS, and JavaPOS. RPSW for Windows and Linux patches are available on the NCR Driver's and Patches website:

http://www.ncr.com/support/support_drivers_patches.asp?Class=External\display

Base client and third-party software are also available on the public NCR Platform Software Website.

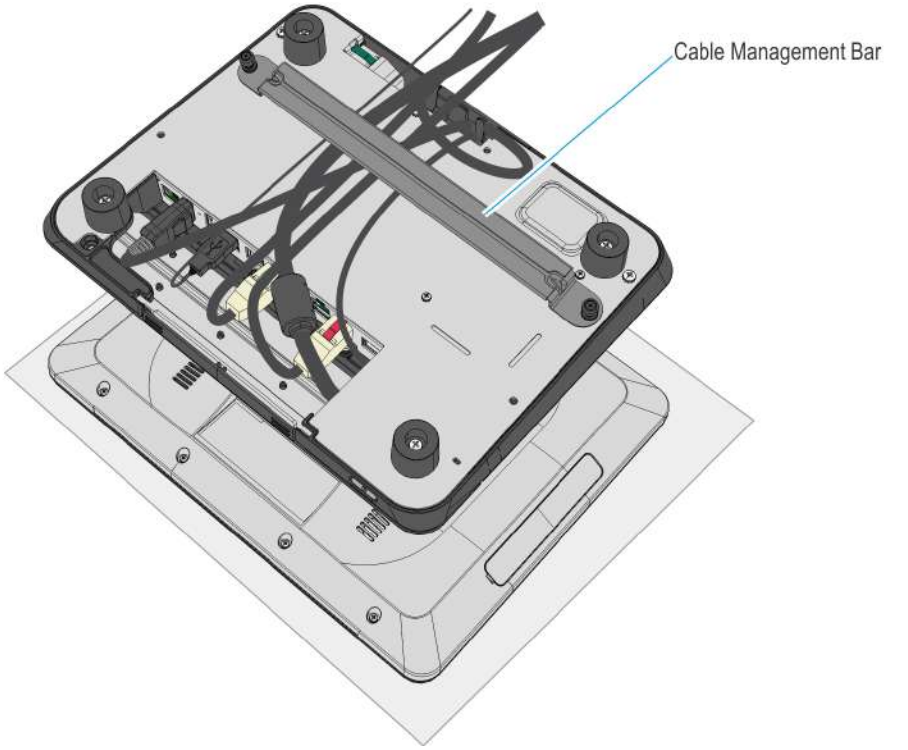
Optional Features

- Cable Management Bar
- Wireless Card and Antenna – 802.11 Bluetooth
- Serial Port Expansion Module

Specific details on each of the options listed are provided in the sections that follow.

Cable Management Bar (7602-F500)

The Cable Management Bar option neatly secures cables below the terminal.



Wireless Card and Antenna (7602-F153)

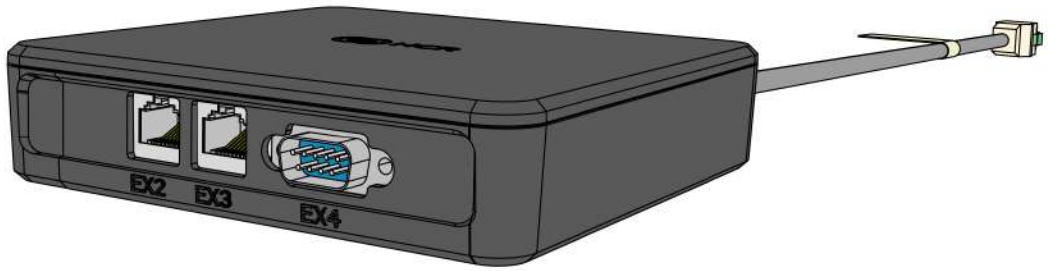
The NCR 7602 features an integrated internal wireless and Bluetooth 4.0 option. The wireless option is Dual-Stream, Dual-Band 802.11 B/G/N. It delivers up to 300 Mbps speed with dual stream (2x2). Bluetooth 4.0 (Low Energy) is also supported in this module. The wireless option is located at the base of the unit.

Wireless Adapter Switching

Wireless Adapter Switching is a feature that disables the wireless adapter when a wired Ethernet connection is present. For instructions about how to install it, refer to *Wireless Adapter Switching* on page 93.

3-Port Serial Expansion Module (7602-K161)

The NCR 7602 offers a serial expansion board that provides 2 RJ50 and 1 DB9 ports. The ports can be strapped to 5V, 12V, or RI.



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Odometers

The NCR 7602 contains on-board odometers in non-volatile memory that capture vital health and usage statistics of system components, which are used to help prevent system failures. Statistics are kept on the following item.

- System Up Time
- Primary Screen On Time
- Good/Bad MSR Swipes
- System Startup Count
- System Shutdown Count
- Cash Drawer Open Count
- System FAN On Time
- CPU throttle time

This data can be used to proactively service the terminal, based on usage data or simply improve the service diagnostic analysis. This results in fewer service calls and more accurate, timely fixes.

How is the Odometer Statistics Used?

Odometers are used by NCR Services to track terminal usage for preventive/timely actions to potential and imminent service issues.

- *Predictive Services* uses this data to determine when a component might fail and to dispatch a Customer Engineer with the correct part on the next service visit, or at a convenient time before the component fails.

  Predictive End of Life is a proactive service strategy designed to move service activity from a reactive break-fix model to a proactive service module. Avoiding reactive service calls has the effect of reducing the number of failures and reducing the amount of downtime of the terminal.

  How does it work? NCR collects the device configuration data on a weekly basis, along with information on the activity levels of individual models. As the activity level approaches the end of the component's designed life, NCR flags the terminal with a notification that a module needs proactive replacement. The NEXT time an NCR technician goes on site to resolve an incident, they are be informed that the module is due for replacement and they replace that module while on-site.

- *Advanced Exchange* (depot repair) uses the data to bring the terminal back to a serviceable state and replaces any components that are nearing end of life thresholds.

- *Repair Suppliers* use the data to reset the odometers after the component is repaired.

Chapter 2: Hardware Installation

Installation Restrictions

- The NCR RealPOS XR4 (7602) conforms to all applicable legal requirements. To view the compliance statements see the *NCR RealPOS Terminals Safety and Regulatory Statements* (B005-0000-1589).
- Install the NCR 7602 near an electrical outlet that is easily accessible. Use the power cord as a power disconnect device.
- Do not permit any object to rest on the power cord. Do not locate the NCR 7602 where the power cord can be walked on.
- Use a grounding strap or touch a grounded metal object to discharge any static electricity from your body before servicing the NCR 7602.

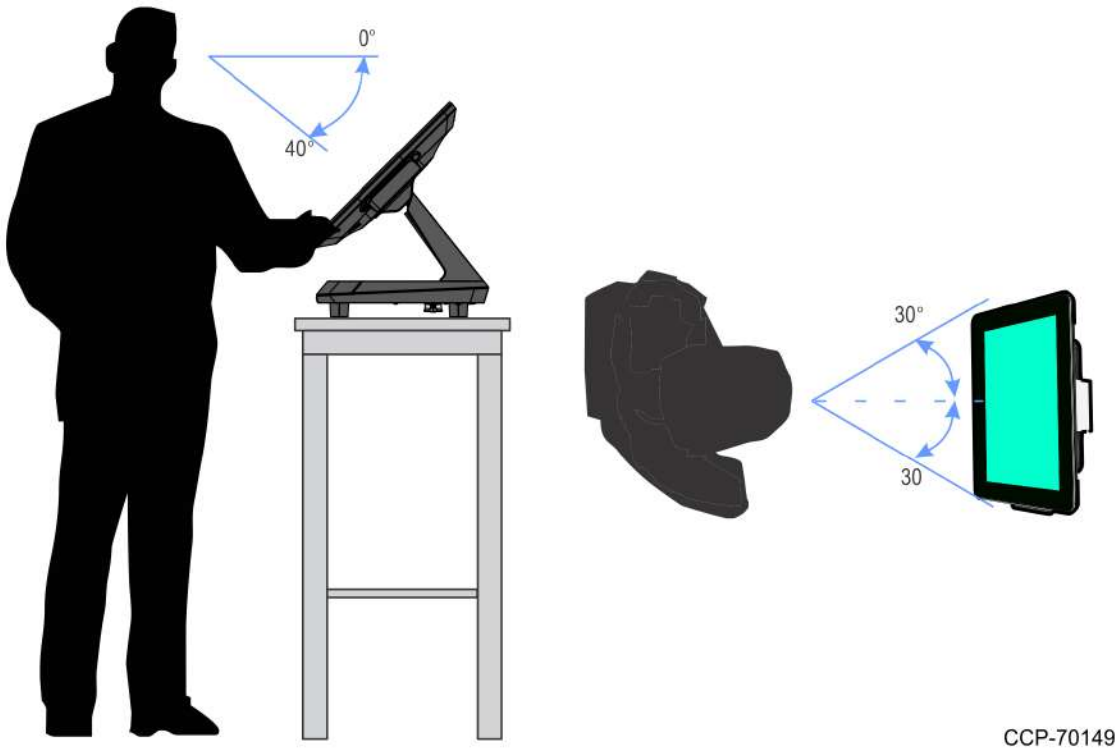
Warning: This unit contains hazardous voltages and should only be serviced by qualified service personnel.

Caution: Do not connect or disconnect the transaction printer while the terminal is on. This can result in system or printer damage.

Ergonomic Workplace

The NCR 7602 can be paired with a Projected Capacitive (PCap) or Resistive Touchscreen display. For best results, please observe the following when considering the terminal workplace.

- Avoid direct glaring and reflective glaring light. Locate the terminal in a controlled luminance surrounding. When installed next to windows orient the terminal so it does not reflect the outside light.
- If possible, avoid reflective glaring caused by electric light sources.
- Position the terminal for ideal viewing angles.



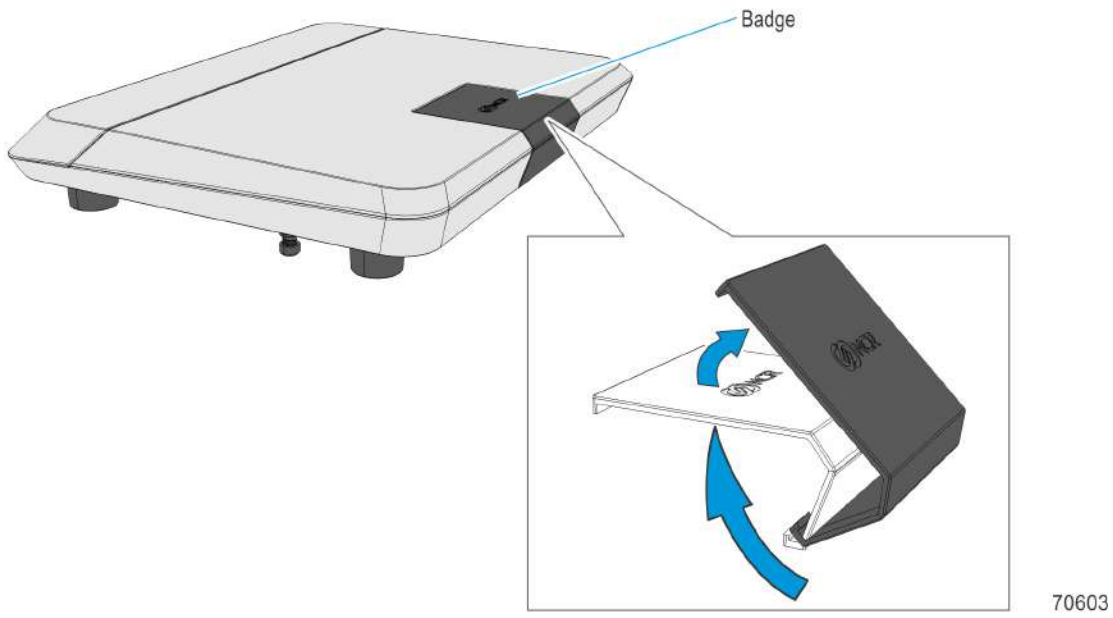
Installing the Terminal

The NCR 7602 can be mounted on a countertop or placed free-standing, with the display remote.

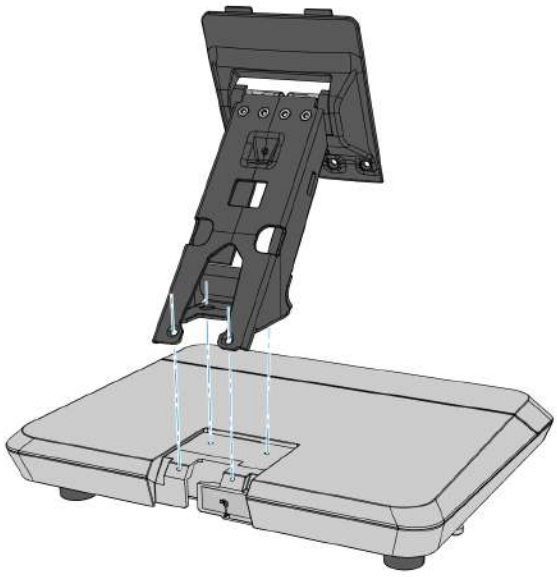
This section explains how to install the NCR 7602 terminal to a RealPOS XL15 (5915) display using the Conversion Neck Assembly kit (7602-K300) and how to connect optional peripheral devices.

Note: The Conversion Neck Assembly kit (7602-K300) converts a RealPOS XR4 to RealPOS XR3 (7613). The RealPOS XL15 (5915) must be ordered for this kit.

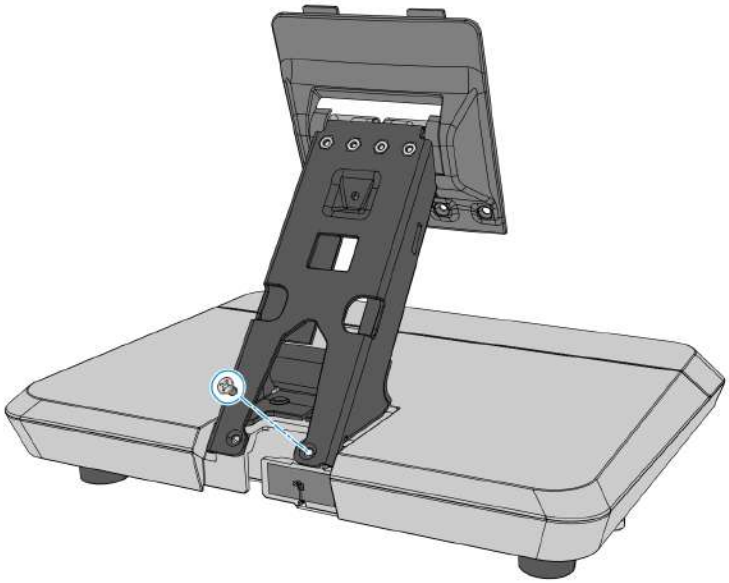
1. Push the Badge firmly from underneath the Base until it gets unhooked.



2. Mount and position the Neck Assembly on the Base.



3. Mount and partially tighten a screw on one of the outside mounting holes.



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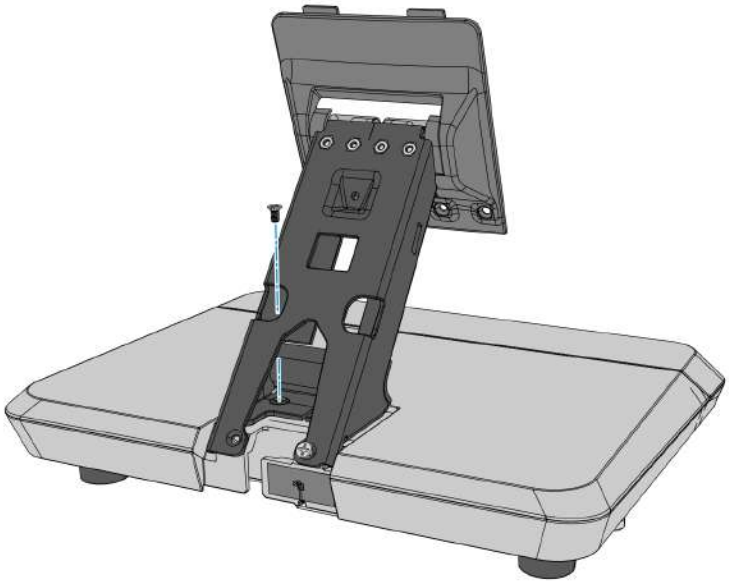
4. Mount and partially tighten a second screw on the inside mounting hole diagonally opposite to the mounted screw.



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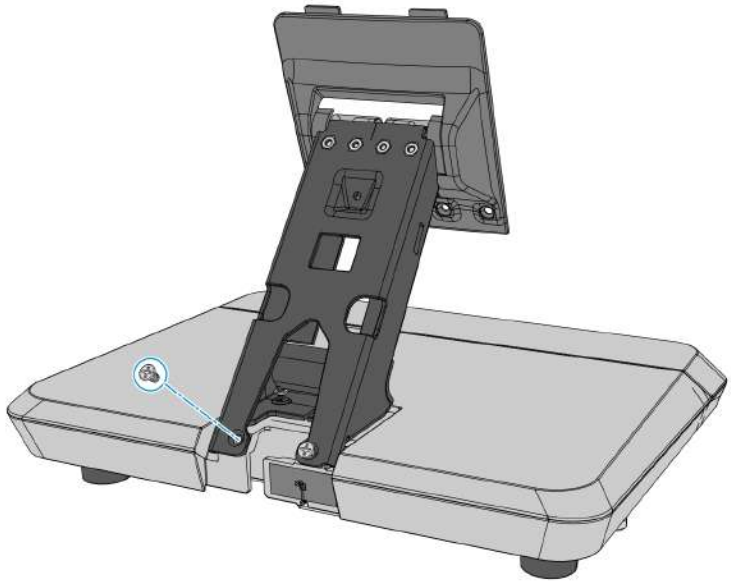
5. Mount and partially tighten the third screw on the second outer mounting hole.



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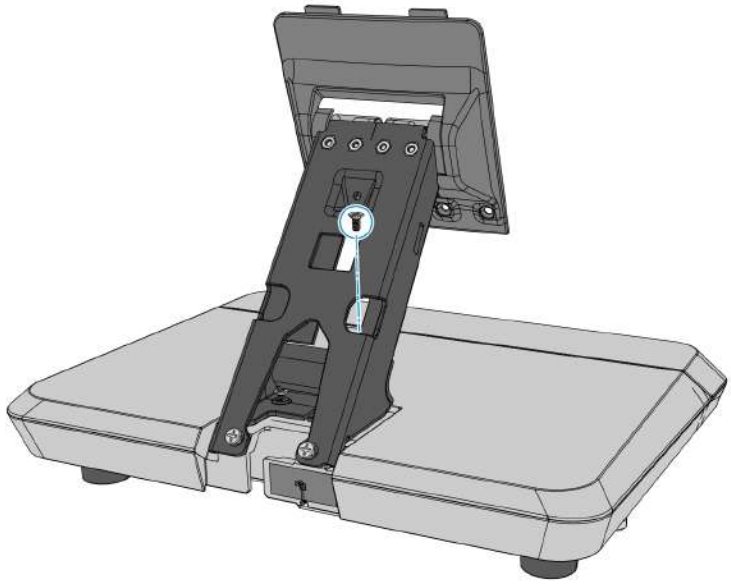
6. Mount and fully tighten the fourth screw on the second inner mounting hole.



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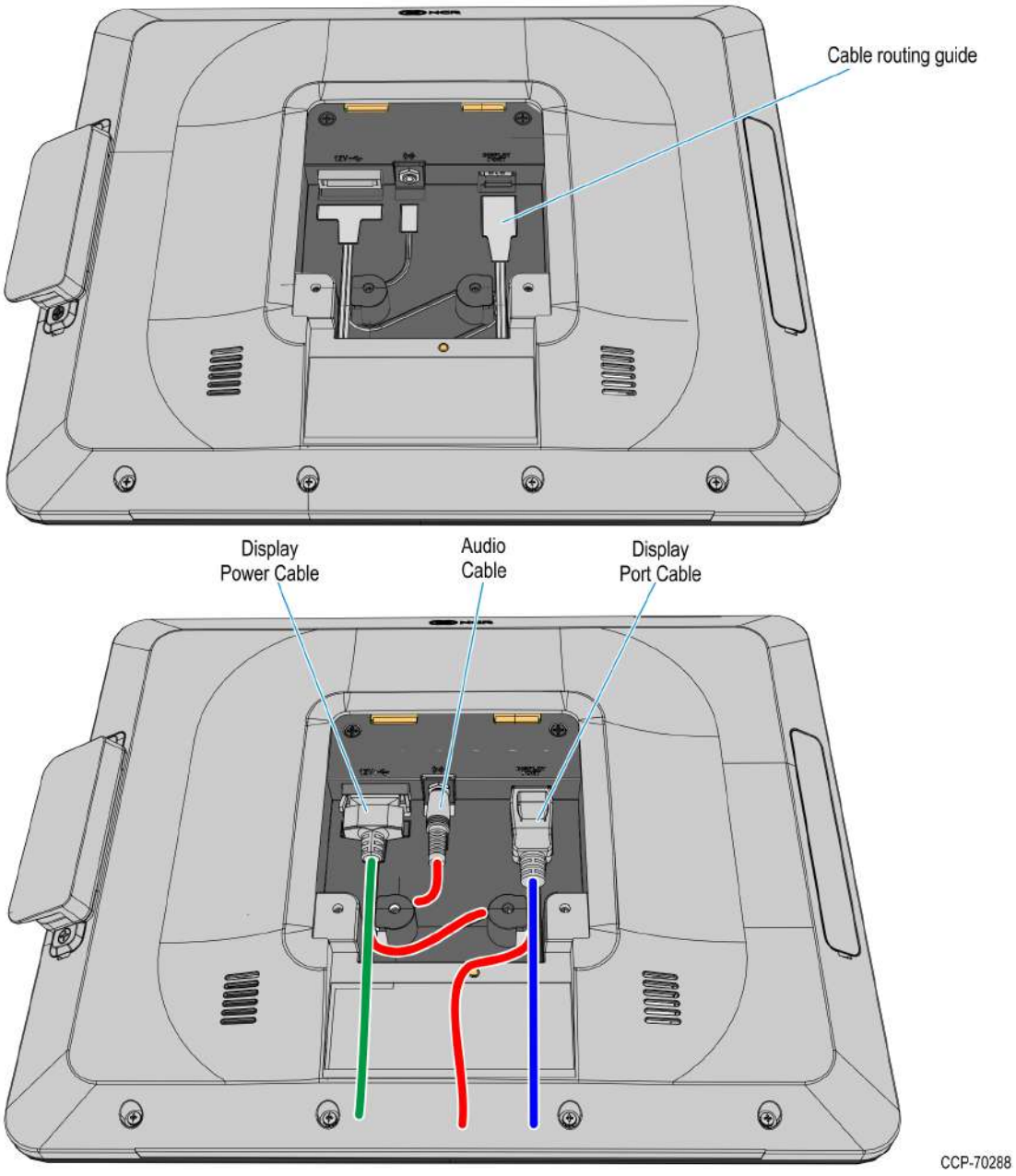
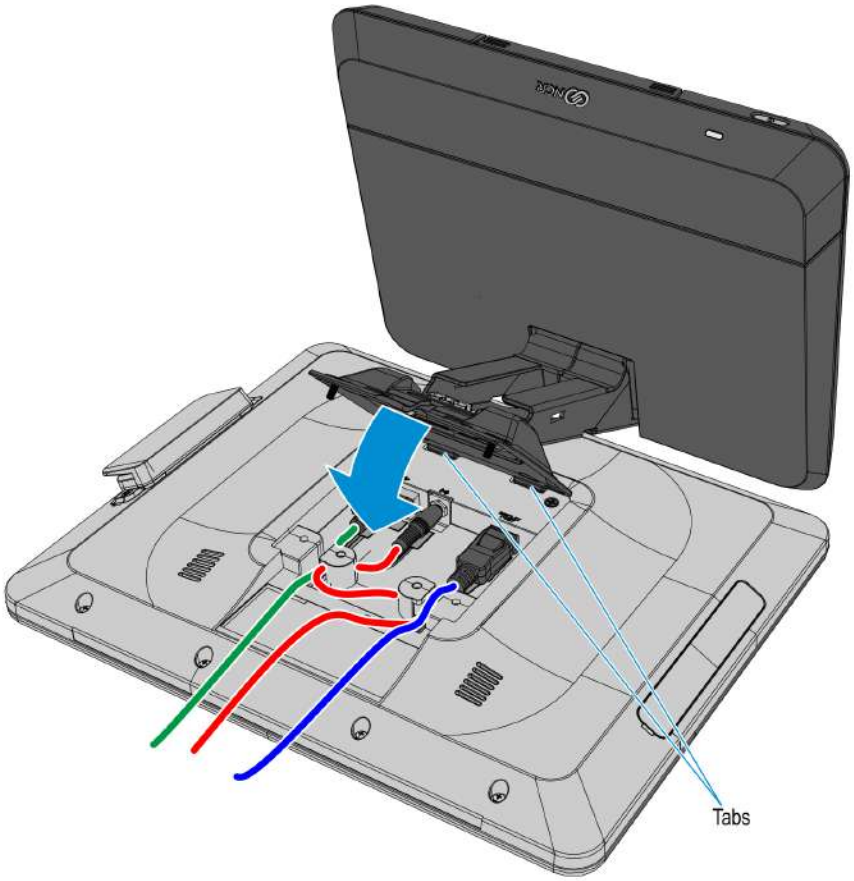
7. Fully tighten the three screws.

8. Connect the Display cables and route them according to the imprinted routing guide.
   a. Connect and route the Audio Cable first. Route the cable looping around the cable guides as shown.
   b. Connect the Display Power cable and route straight down over the audio cable.
   c. Connect the Display Port cable and route straight down over the audio cable.



9. Mount the Neck and Base assembly on the Head assembly.

   a. Insert the tabs on the Display Mounting Bracket to the slots on the rear of the Head Assembly and then slowly rotate the Neck and Base assembly downward.



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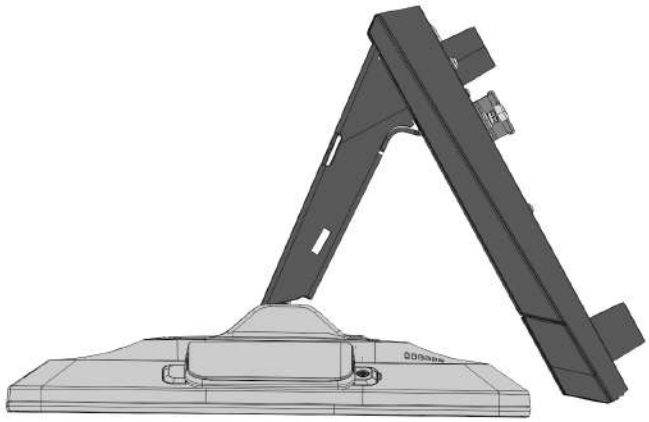
   b. Rotate the Base to position the Terminal in the orientation shown below.



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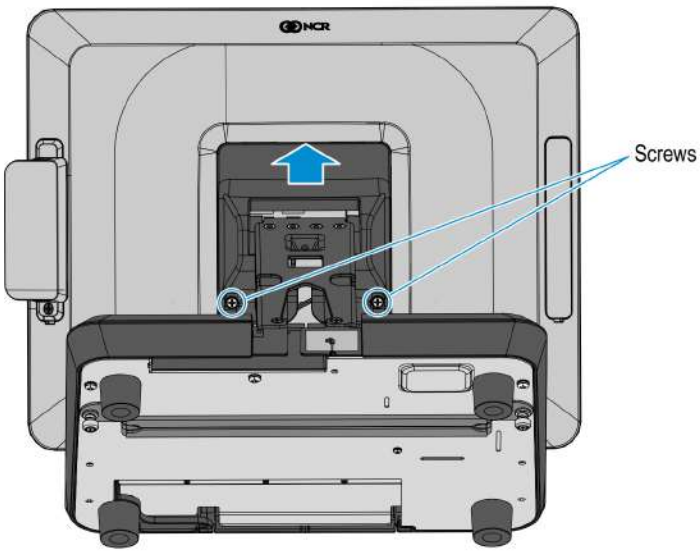
10. Slightly push the Neck and Base assembly forward to properly align its mounting holes with the Head. Secure the Base to the Head with screws (2).



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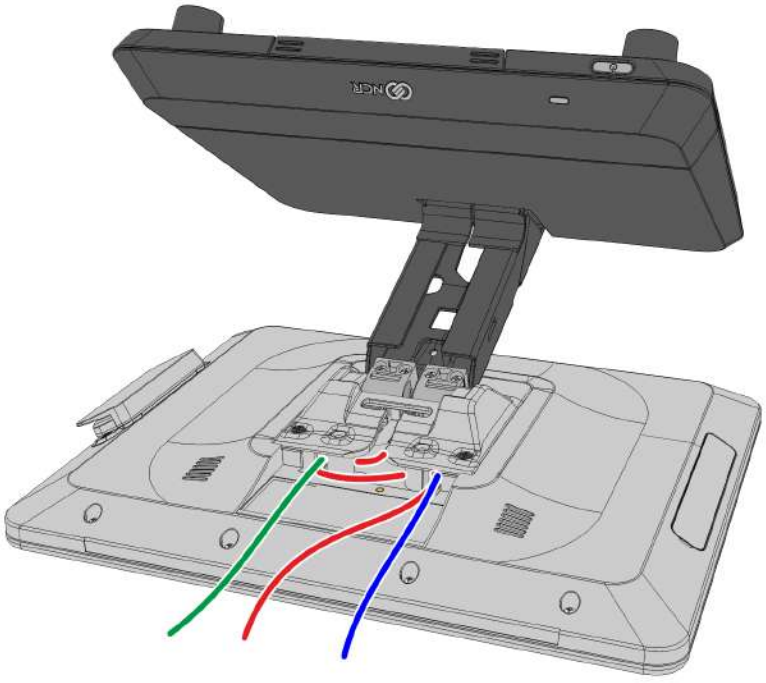
11. Hold the display against the countertop and carefully rotate the Base to the position shown below.



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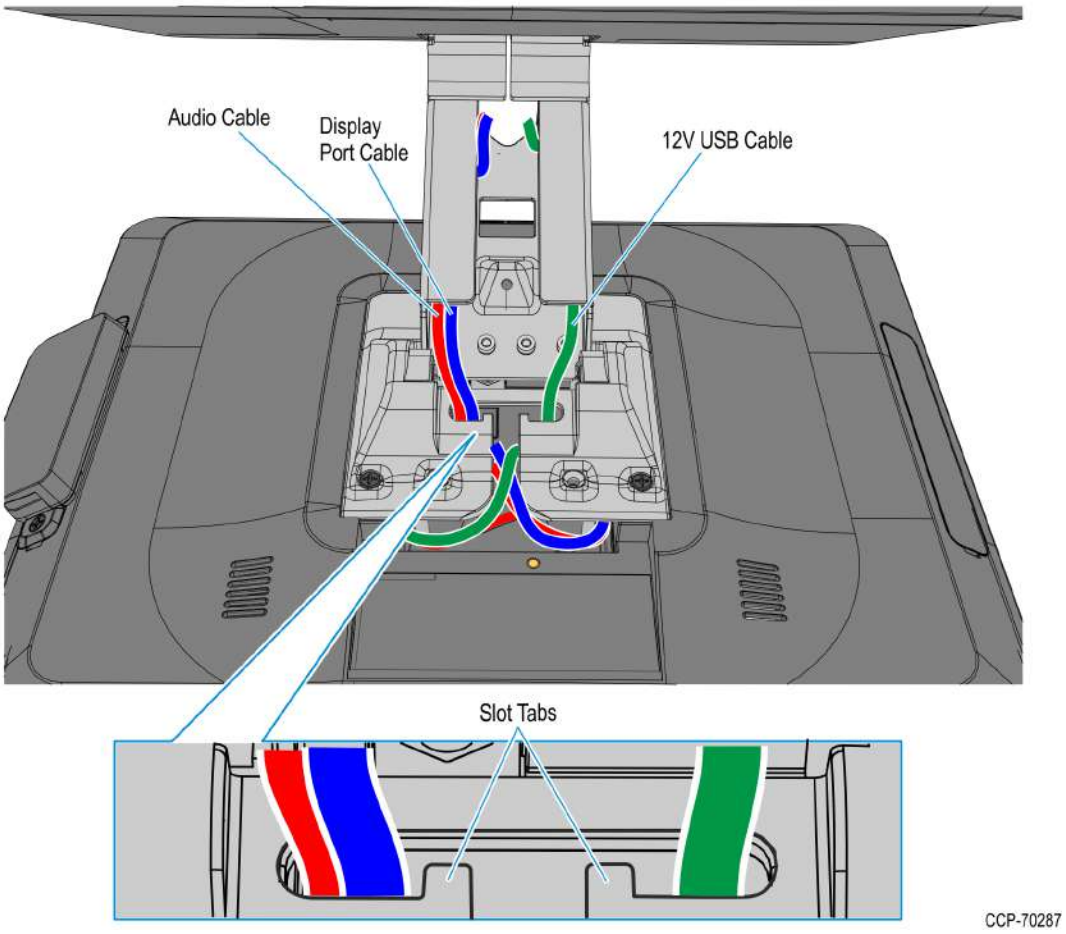
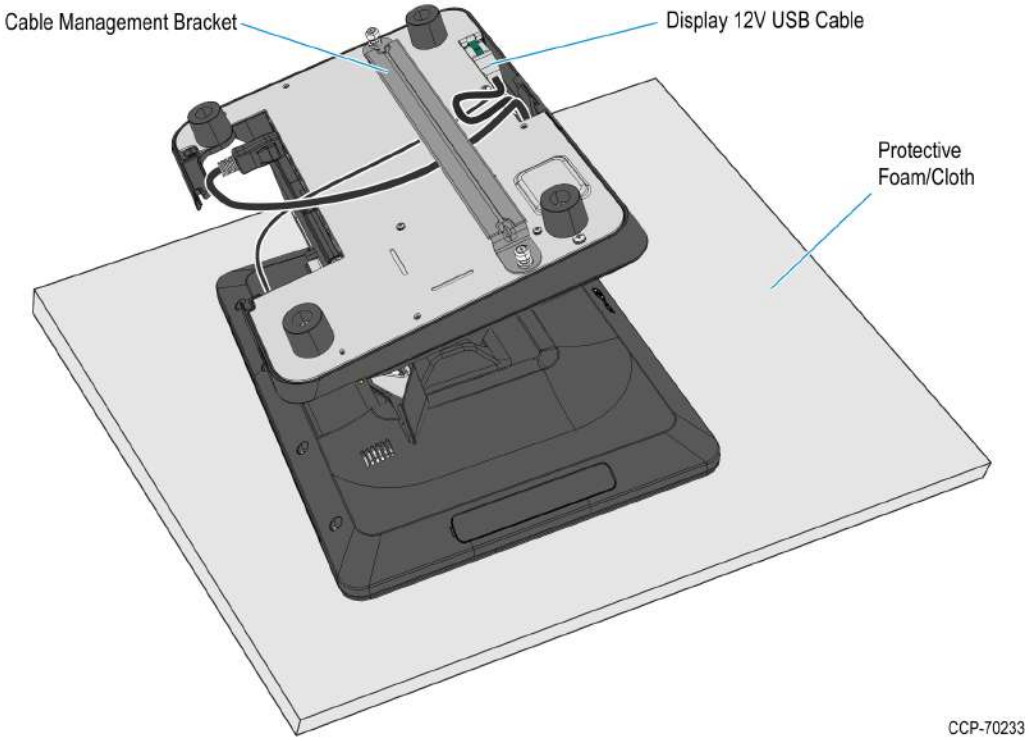
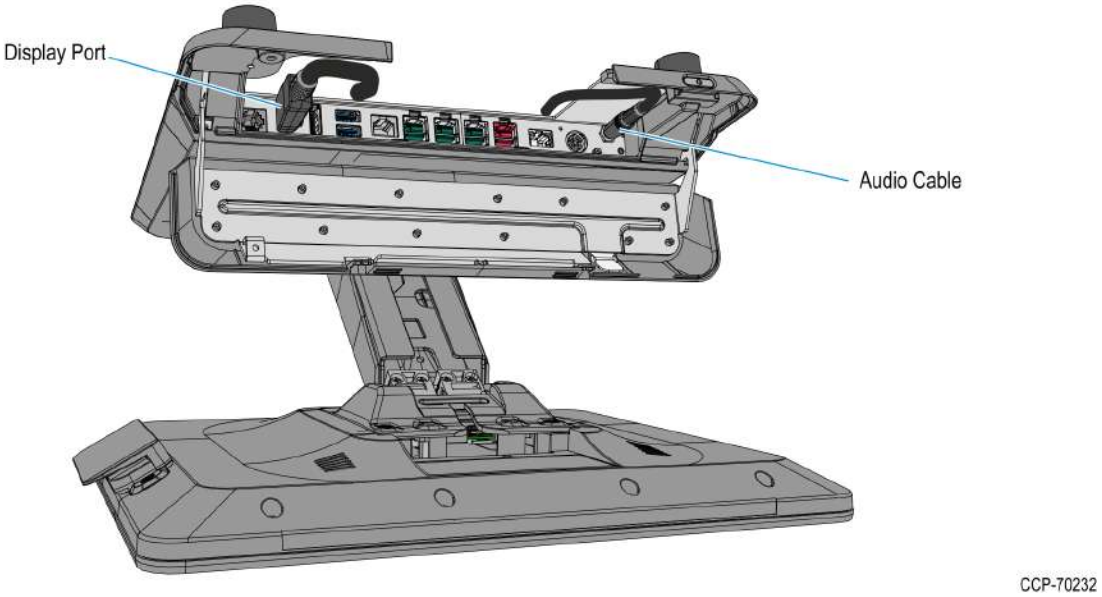
12. Route and secure the Display cables to the Mounting Bracket.
    a. Route the Audio Cable to the left slot and make sure it is behind the tab in the slot.
    b. Route the Display Port cable to the left slot and make sure it is behind the tab in the slot.
    c. Route the USB cable to the right slot and make sure it is behind the tab in the slot.



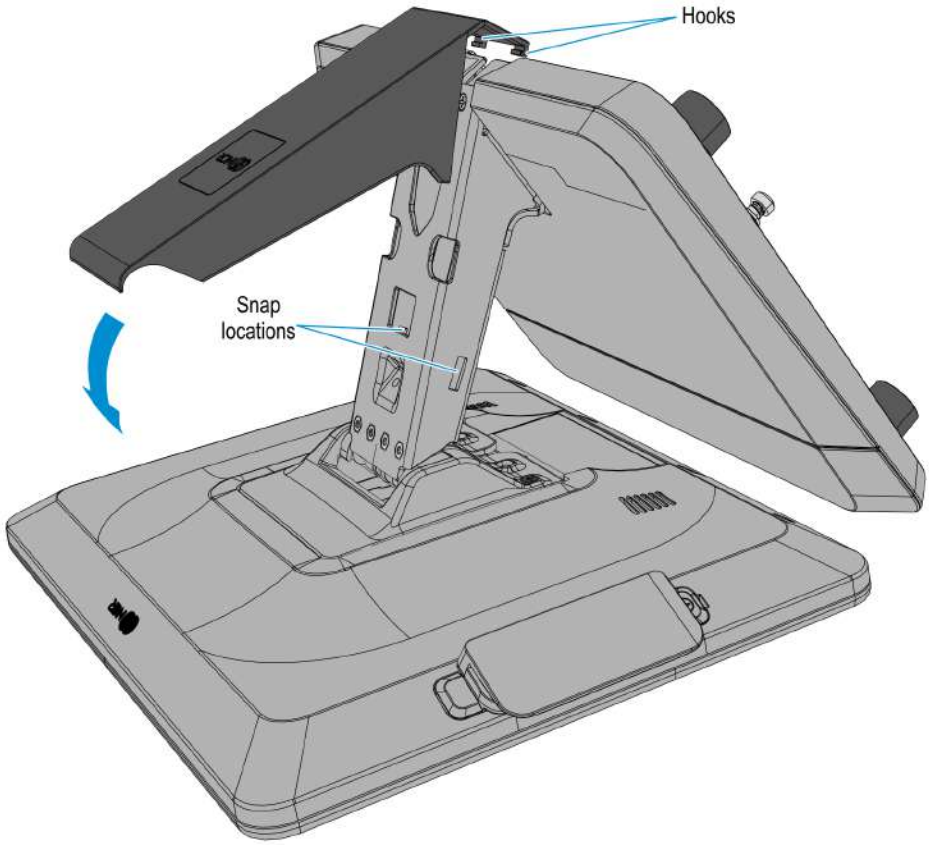
13. Connect the USB cable to the connector at back of the base.



14. Route the Display Port and Audio cables towards the I/O panel at the front of the Base. If a cable management bar is installed, route the cables under the bar.
15. Open the I/O cover and connect the cables to the I/O Panel connectors.
    a. Connect the Audio Cable to the Audio Out connector on the I/O Panel.
    b. Connect the Display Port cable to the Display Port A (Primary Display) connector on the I/O Panel.



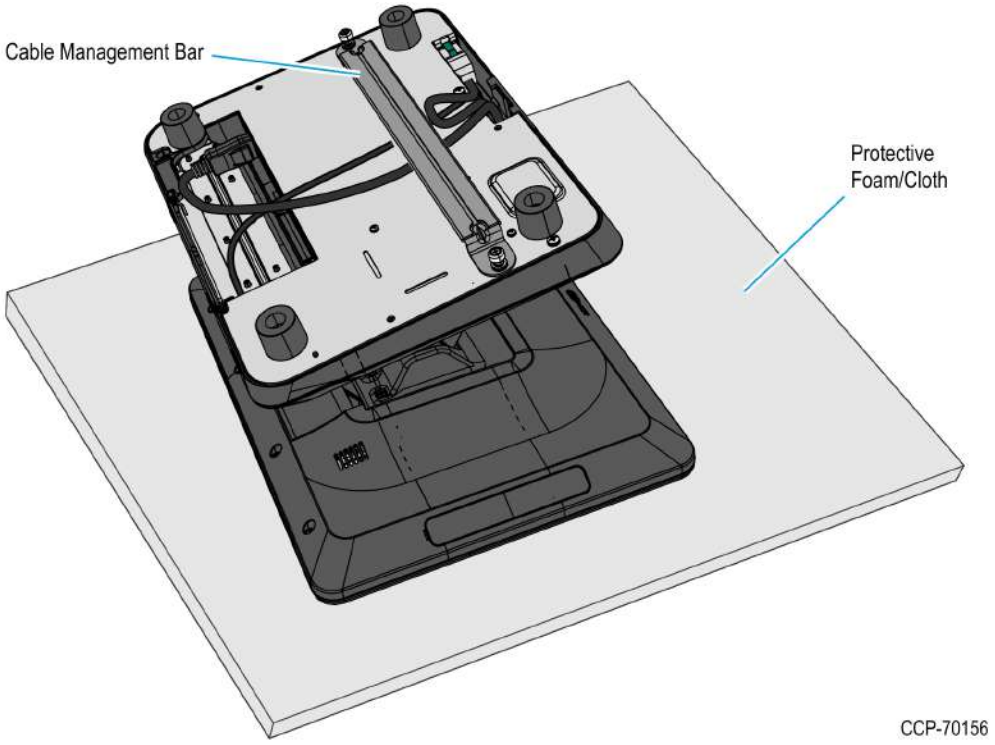
16. Mount the Neck Cover. Hook the Cover to the rear side of the Neck then rotate downward and press the Neck Cover until it latches on to the Neck.



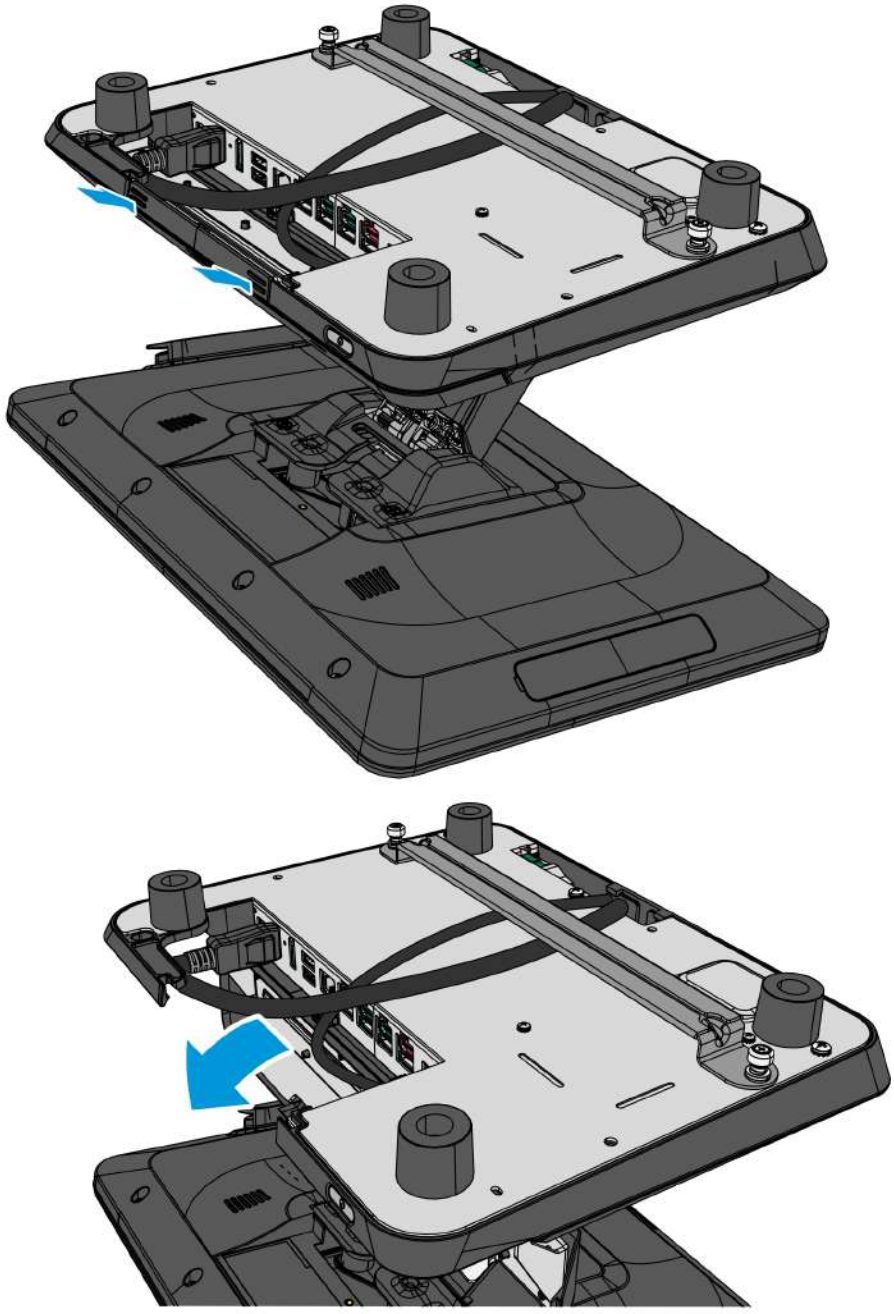
17. Lay the terminal face down on a flat surface.

Caution: Always use a soft material (cloth, foam) to protect the display screen when placing the terminal face down.

Note: The Cable Management Bar is an optional feature.



18. Open the IO Panel Cover. Press on the ribs on both sides, and then pivot the cover to open.



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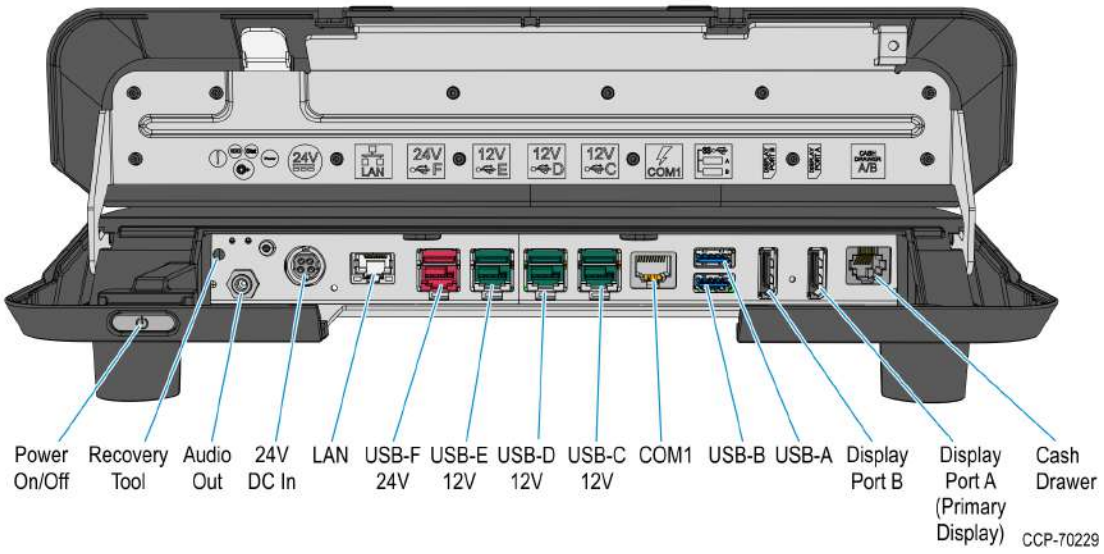
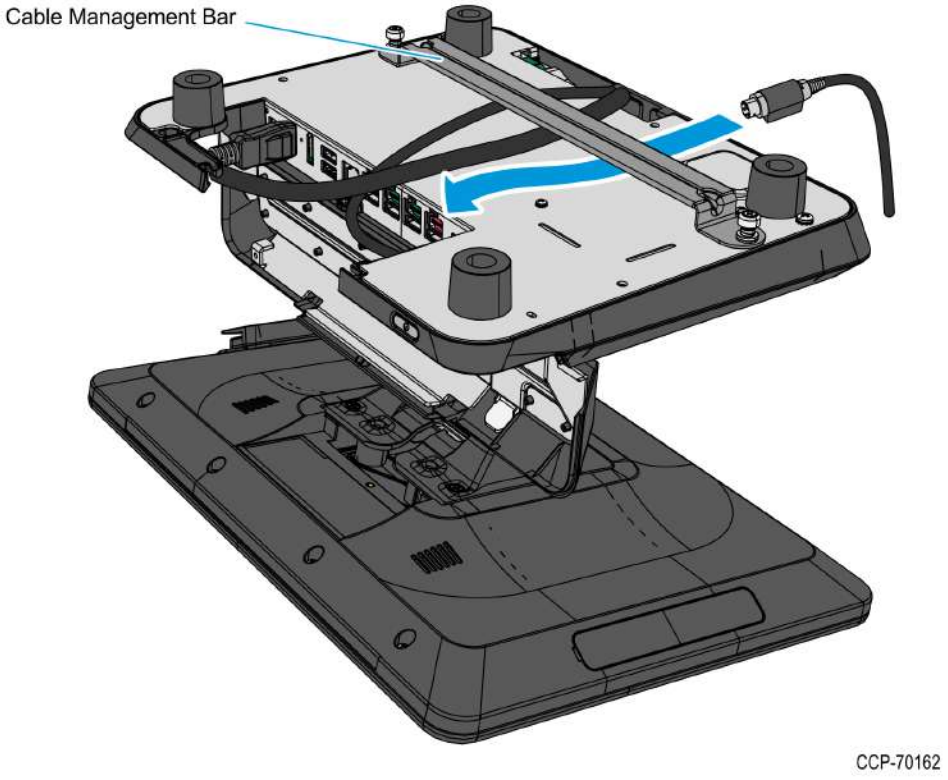
19. Connect the peripheral cables.

    The available peripheral cable connectors on the IO panel are labeled in the illustration below.



    a. Route the cable from the back of the terminal towards the IO Panel.

Note: If a Cable Management Bar is present, route the cable under the Bar before connecting the cable to the IO Panel. The Bar may be removed by loosening the thumbscrews (2) that secure it to the bottom of the terminal.

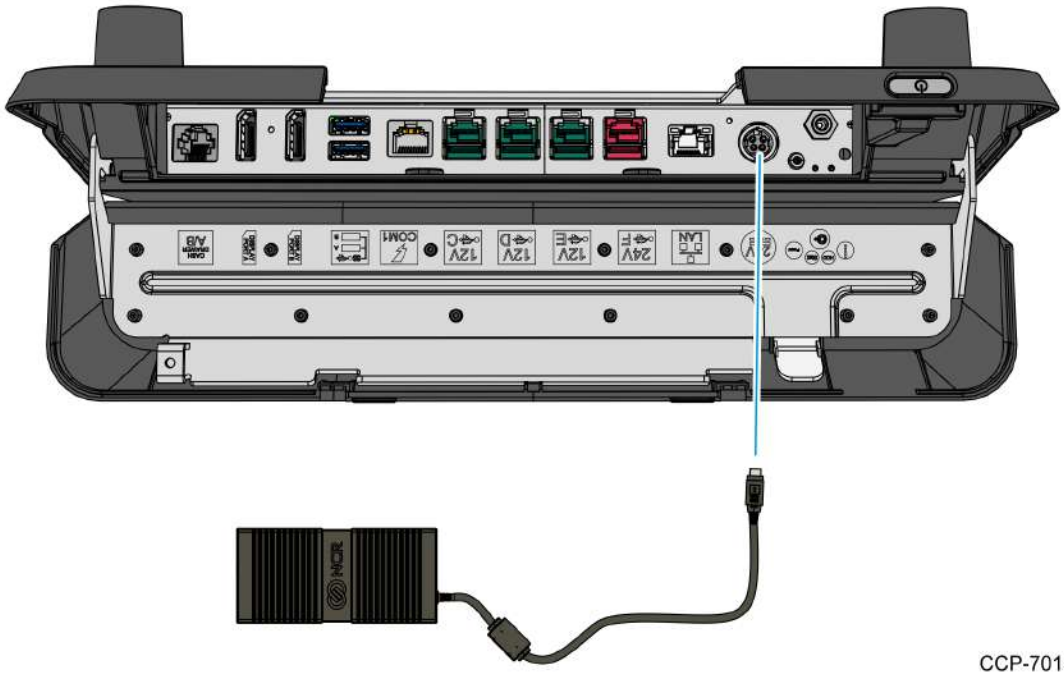


b. Connect the peripheral cables to their assigned ports.

- For Transaction Printer, refer to *Connecting the Transaction Printer* on page 31
- For Cash Drawer, refer to *Connecting the Cash Drawer* on page 32

20. Connect the LAN Cable to the LAN connector on the terminal.
21. Connect the Power Adapter Cable to the DC Power connector on the terminal.

Caution: The NCR 7602 requires the NCR 24 V power supply that is shipped with the terminal. Use of other power bricks may cause damage to the unit.



22. Close the IO Panel Cover, and then carefully place the terminal upright on its feet.

Note: Make sure that all cables are correctly routed and are not pinched.

23. Remove the Touchscreen Protective Film from the Resistive or PCAP Touchscreen.

Note: The PCAP Touchscreen functions with the protective film in place, but for best results, remove the protective film.

24. Tilt the Display Head back to its original position.
25. Connect the AC Power Cord to the Power Supply and to an AC outlet.

Caution: Do not connect or disconnect the 24V Power Adapter Cable from the terminal with the AC Power Cord connected to an AC outlet.

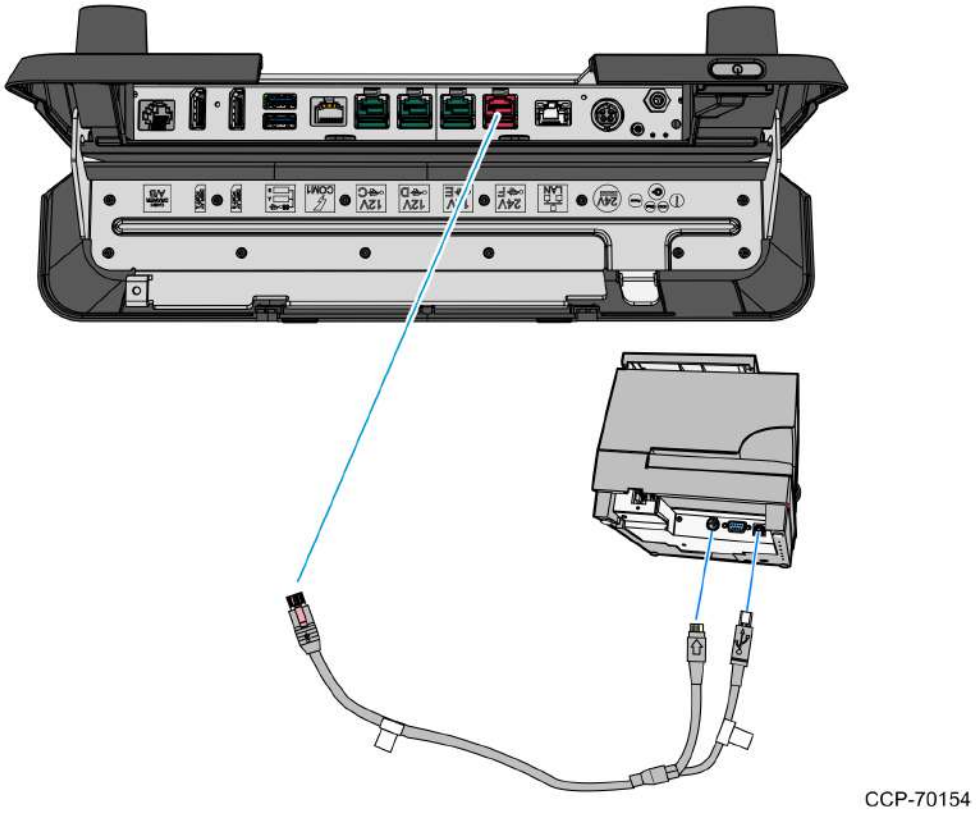
Troubleshooting: Terminal Unresponsive After Connecting AC Power

If the cautions are not regarded during powering on the terminal a power on error could occur. The terminal may appear dead or unable to power on. Follow the previous steps to plug in the terminal, wait 60 seconds, and re-attempt powering on the terminal.

⚠ **Caution:** Do not connect or disconnect the 24V Power Cable from the terminal with the AC Power Cord connected to an AC outlet. This is known as hot plugging and should not be done on this terminal.

Connecting the Transaction Printer

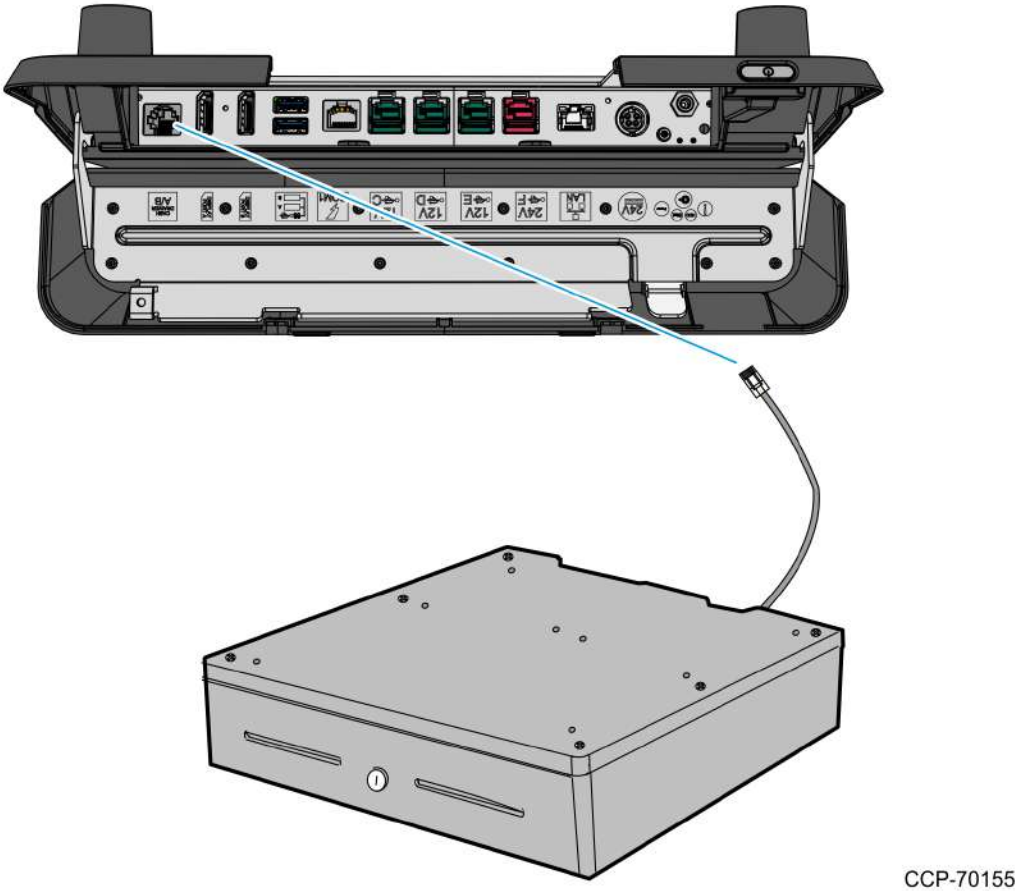
1. Connect the Powered USB Printer Interface Cable to the USB Connector and Power Connector on the printer
2. Connect the other end of the Printer Cable to the 24 V Powered USB Connector on the terminal.



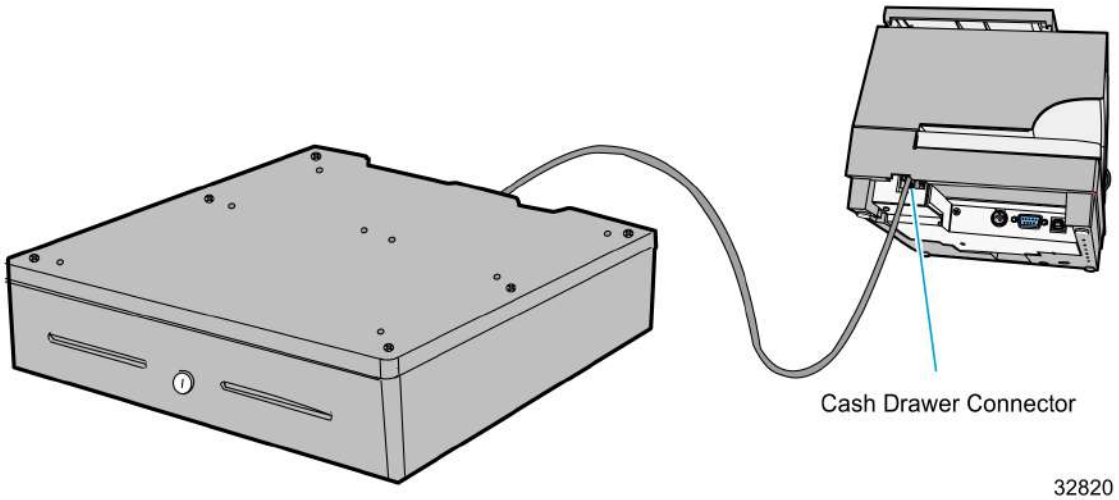
Connecting the Cash Drawer

The NCR 7602 supports both single and dual Cash Drawer connections. The Cash Drawer can be connected to the Cash Drawer connector or to the transaction printer.

Single Cash Drawer



CCP-70155



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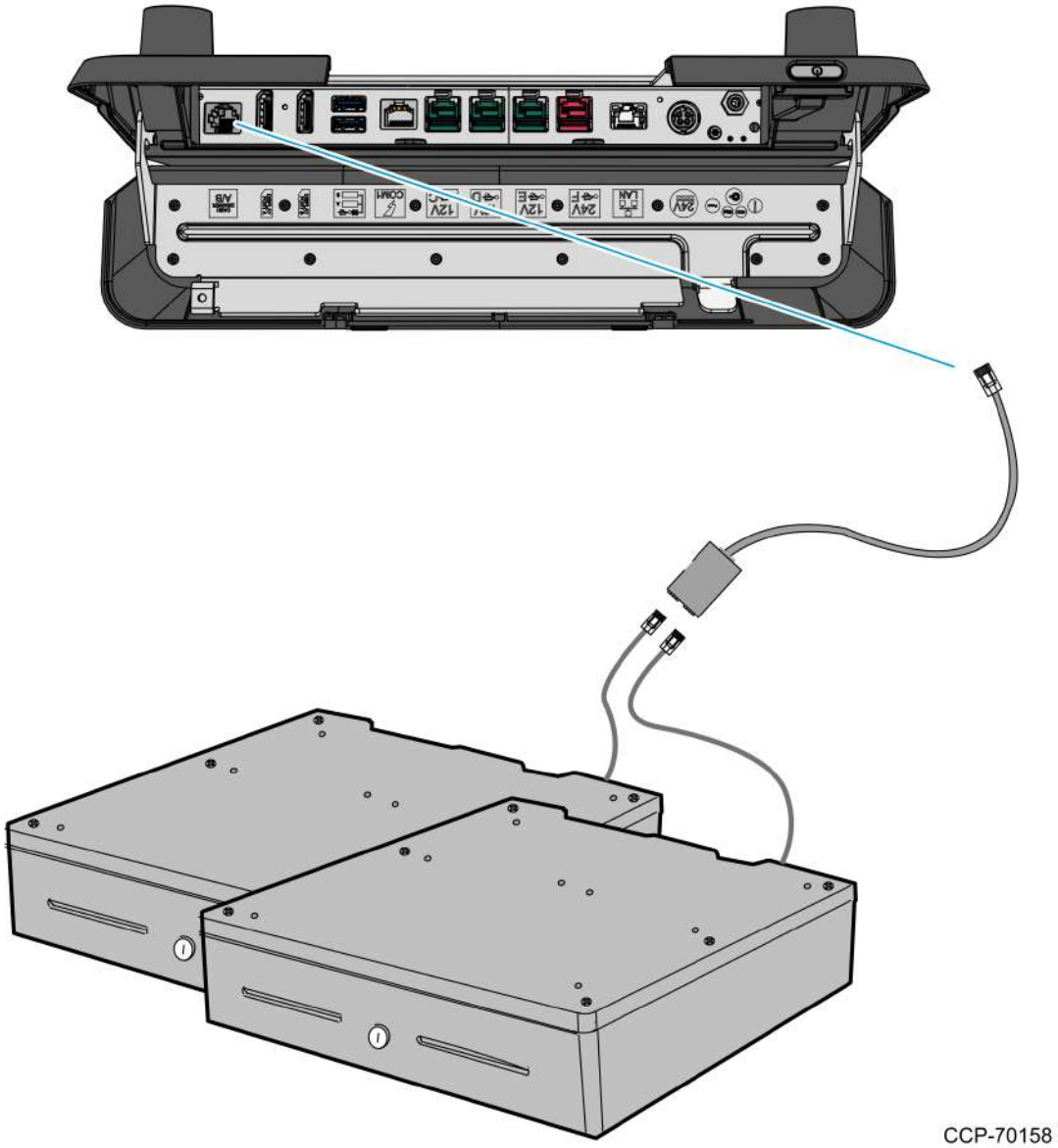
Dual Cash Drawer

The terminal supports a 2-drawer configuration with a Dual Cash Drawer Cable. Connect this cable to the terminal or transaction printer cash drawer connector.

There are two versions of the Dual Cash Drawer Cable:

- 1432-C516-0009 (24V)
- 1432-C517-0009 (12V)

Caution: The two cables look very similar. Make sure you use the correct one. Connecting the wrong cable can cause system damage.



Chapter 3: Operation and Cleaning

Out-of-Box Powering Up

1. After installing the terminal, power up the system by pressing the Power Switch, which is located on the Front Panel of the terminal.

   The system installs the system devices, system settings, and then reboots to continue setup. Complete the System Setup. This varies from OS to OS but the following is typical.

2. The initial setup procedures are performed.
   - Starting Windows
   - Preparing the computer for first time.
   - Checking video performance
3. At the prompts select the **Country or region**, **Time and currency**, and **Keyboard Layout**. Click **Next**.
4. Enter a **Computer Name**. Click **Next**.
5. Accept the **License Terms**. Click **Next**.
6. Set the **Time Zone**, **Date**, and **Time**. Click **Next**.

Administrator Login

In order to install certain software on the terminal, you may need Administrator rights.

Username: **NCR**

Password: **NCR** (Password is case sensitive)

Brightness Adjustment

Retail Platform Software (RPSW) must be present on the terminal to adjust display brightness.

There are two methods of that can be used to set the display brightness.

- Brightness Control Application
- NCR Retail Systems Manager LE (RSM) Interface

There is also an API available for controlling the brightness setting. See the *SetBrightness Method* in the *NCR Retail System Monitor User Guide*, B005-0000-1768.

Brightness Control Application

1. Run the Brightness Control tool.

   Start → All Programs → NCR XR4 Brightness Control

   The adjustment control is displayed. By default, the brightness is set at 100%.

2. Adjust the slide control to the desired brightness level (0%–100%).
3. The value set is saved in a configuration file. When the system is rebooted the configuration file is read and restores the display to the saved brightness level.

RSM LE Interface

A display profile is provided in RSM.

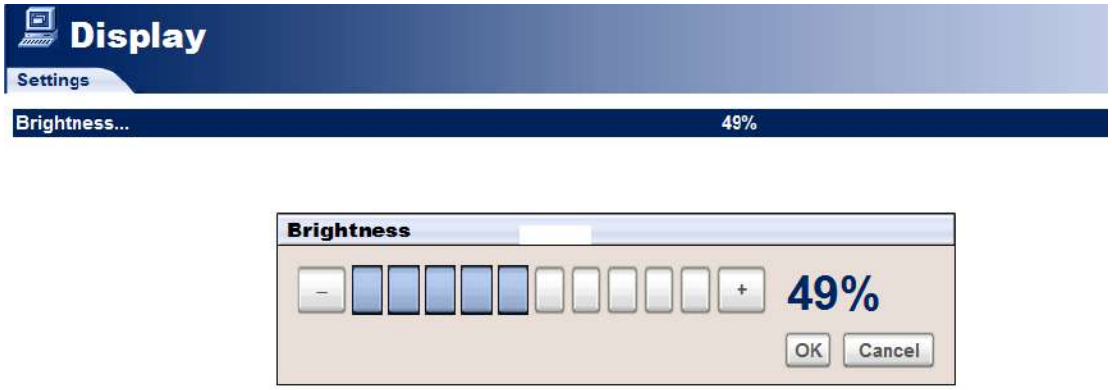
1. Start RSM.

   Start → All Programs → NCR Retail Systems Manager

2. Expand the Platform menu.

   Platform → Display

3. Adjust the control to the desired brightness level (0%–100%).



4. The value set is saved in a configuration file. When the system is rebooted the configuration file is read and restores the display to the saved brightness level.

Touchscreens

The NCR 7602 can be paired with a Projected Capacitive (PCap) or Resistive Touchscreen display for a complete solution.

Projected Capacitive Touchscreen

PCap touchscreens have all the benefits of normal capacitive touchscreens and more.

- Fast processing of tough information
- High sensitivity (use conductive pencils, with hands, and with thin gloves.
- Multi-touch capability (10-finger)
- High resolution
- Improved legibility and display brightness due to optimal light transmission

In addition, the technology of PCap touchscreens is characterized by significantly higher robustness and stability than common capacitive touchscreens because the active touch surface is located on the back side of the touchscreen. instead of the front side. Therefore, the active surface is not directly touched and does not wear off by normal use.

Since most surface contamination do not cause interference to the touchscreen the terminal can be used in public or severe environmental conditions.

Using the PCap Touchscreen

The PCap touchscreen responds to the lightest touches. Touching with a single finger resembles the left mouse button. Two fingers are used to zoom IN (fingers brought together) or zoom OUT (fingers pulled apart). Circular motion can be used to rotate an element on the screen. This function must be supported by either the Operating System or the application.

Resistive Touchscreen

The resistive TFT touchscreen is constructed of a hard-coated polyester top sheet that is overlaid on a conductive-coated glass layer. Voltage is applied to the top sheet. As a user touches the screen, the top sheet compresses and comes into contact with the glass layer, causing current to flow to the four corners in proportion to the distance from the edge. This controller then calculates the position of the finger, based on the current flow. Because the controller derives both the "X" and "Y" touch coordinates from the stable glass layer, the accuracy and operation of the touchscreen is unaffected by any damage that may have occurred to the top sheet.

Using the Resistive Touchscreen

The resistive touchscreen functions as traditional single-touchscreens.

Touchscreen Cleaning Procedures

1. Using a soft cloth dampened with isopropyl alcohol or a mild non-abrasive soap & water solution, gently wipe the touchscreen clean.
2. Wipe the screen and edges dry.
3. Make sure the glass and screen edges dry completely before using the unit.
4. Do not use sharp objects to clean around the edges of the touchscreen

Cabinet Cleaning Procedures

1. Disconnect the unit from the power outlet before cleaning.
2. Use a cloth lightly dampened with a mild detergent.
3. Do not use alcohol (methyl, ethyl, or isopropyl) or any strong dis-solvent. Do not use thinner or benzene, abrasive cleaners, or compressed air.

Warning: Do not use any other types of cleaners such as vinegar, solvents, degreasers, or ammonia-based cleaners. These can damage the unit.

4. Avoid getting liquids inside the unit. If liquid does get inside, have a qualified service technician check it before you power it on again.
5. Remove external dust around the cooling vents.

Chapter 4: Disk Image Backup and Recovery Tool

Introduction

This section discusses procedures on how to backup or recover the POS image. The terminal has a *Recovery Tool* that performs a complete backup of the whole HDD/SSD. This includes the operating system, all files, data and the database itself if it is installed on the HDD/SSD, making an exact duplicate of everything contained on the terminal.

The Recovery Tool uses the Windows Image (`.WIM`) file format to store the OS image. This is a file-based format for use with the ImageX and DISM tools that Microsoft created for use with Windows Vista and later OS versions. The format can also be used to capture and restore XP-based OS images. More information on the ImageX tool and `.WIM` format can be found at:
http://technet.microsoft.com/en-us/library/cc722145(WS.10).aspx

The Recovery Tool is designed to create a complete backup of, or restore, a previously saved image to the terminal.

The Recovery Tool offers the following functions and features:

- Multi-language support for the following languages EN; DE; FR; IT; ES.
- Check and Repair Disk
- Backup the System
- Restore the System to a previous state
- Password Protection
- Network support

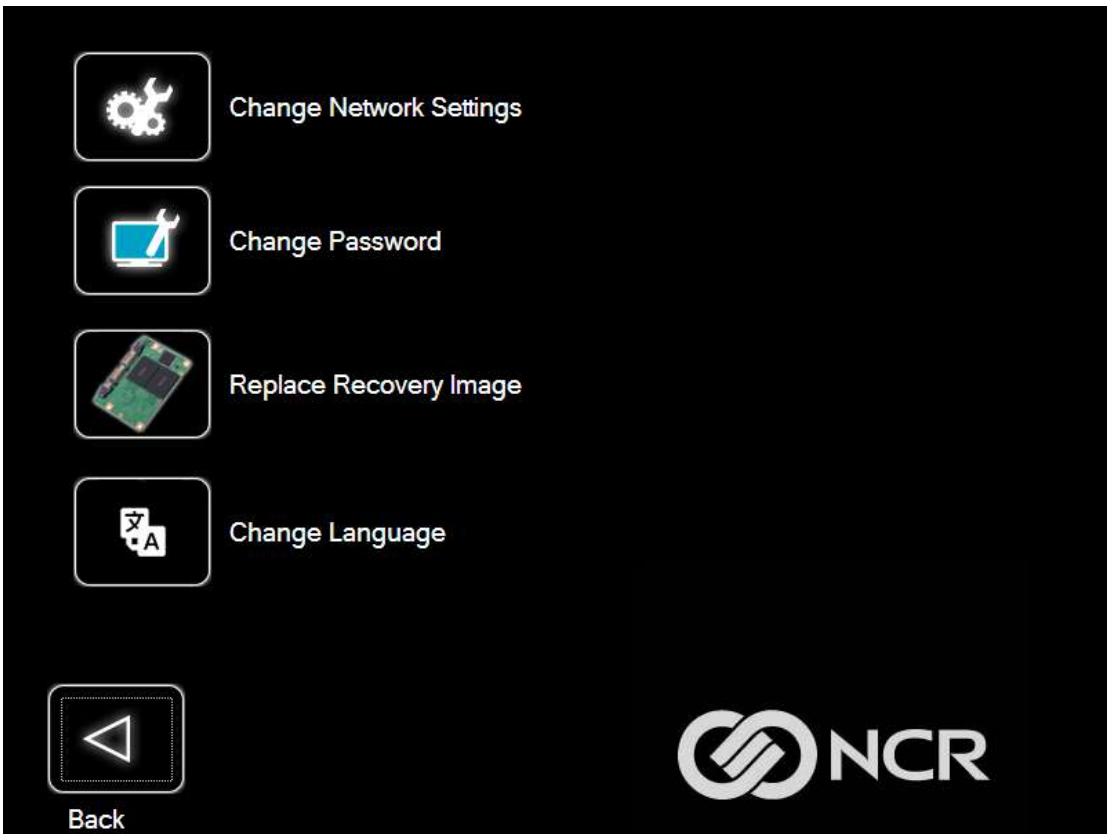
You can save and restore your backup from different locations:

- Network
- USB Drive
- Hard Drive/Solid State Device (if present on the terminal)

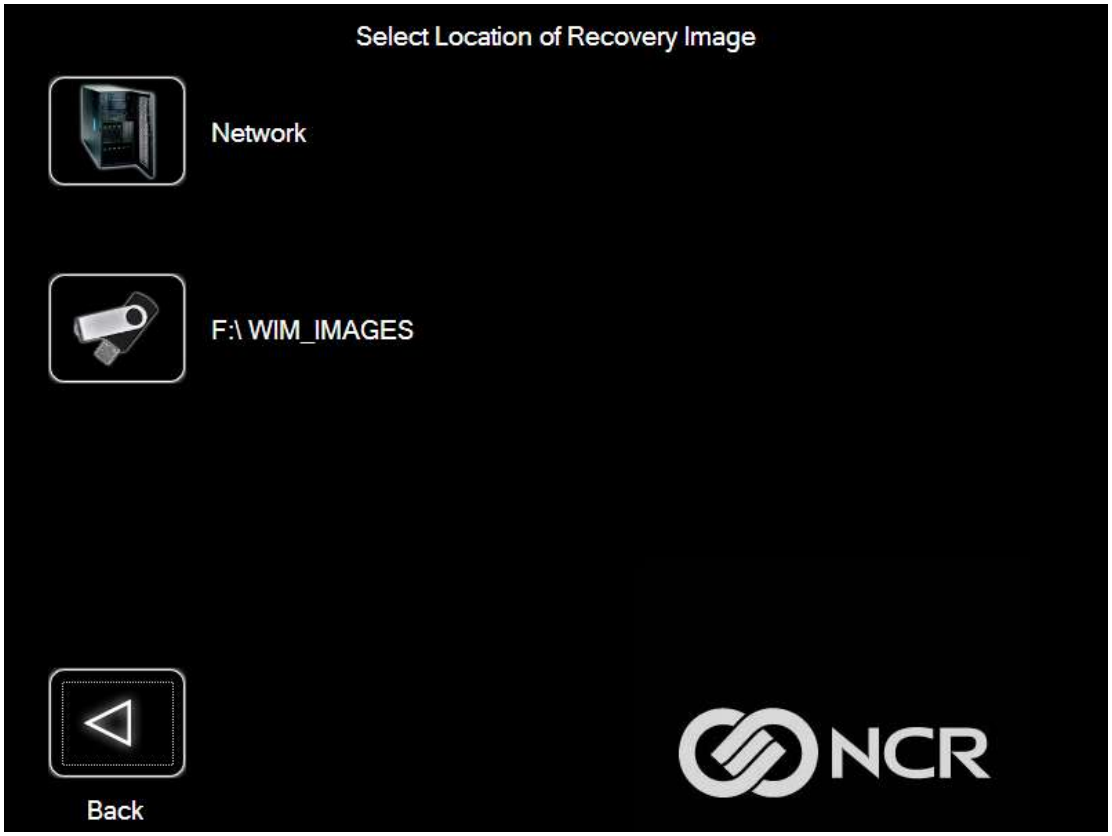
Replace Recovery Image

This feature is used to update the *Recovery Tool* and the environment that it runs in.

1. On the *Change Settings Screen*, click on **Replace Recovery Image**.



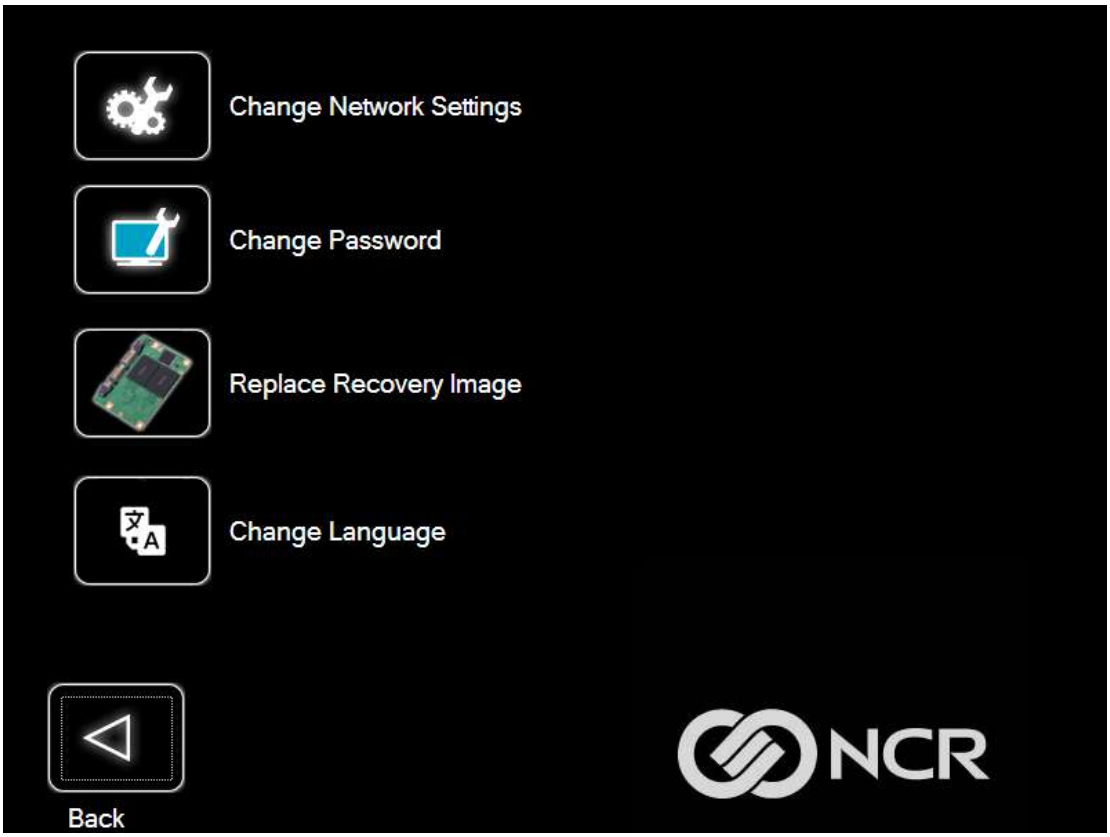
2. Click on the source of the *Recovery Image*.



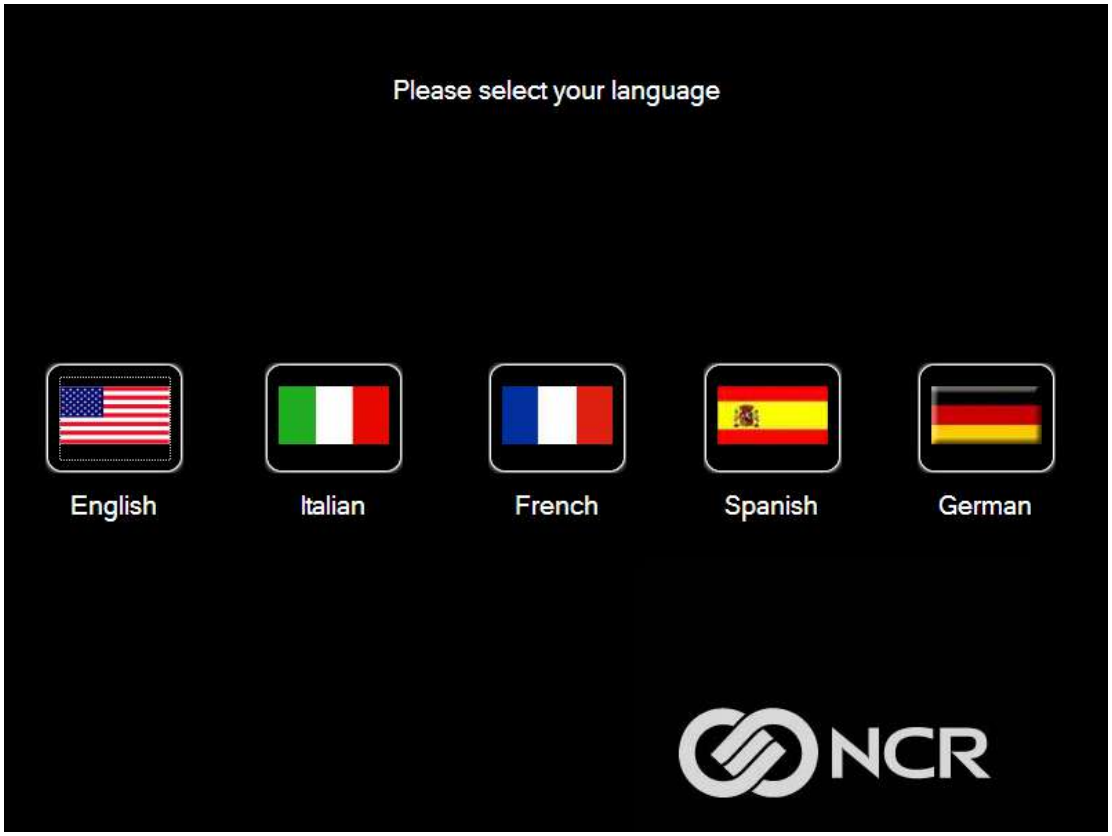
3. Complete the image replacement in the same manner as with the POS *Site/User* image restore procedures.

Change Language

1. On the *Change Settings Screen*, click on **Change Language**



2. Click on the language of choice.



Creating a Disk Image

This terminal has a *Recovery Button* that permits end users to quickly restore a disk back up from a hidden partition on the NCR system storage. To utilize this valuable feature the image must be created using NCR tools. Tools are available from NCR at:

http://www5.ncr.com/support/support_drivers_patches_radiant.asp?Class=Hospitality/GenDrivers_display

At this site download the following:

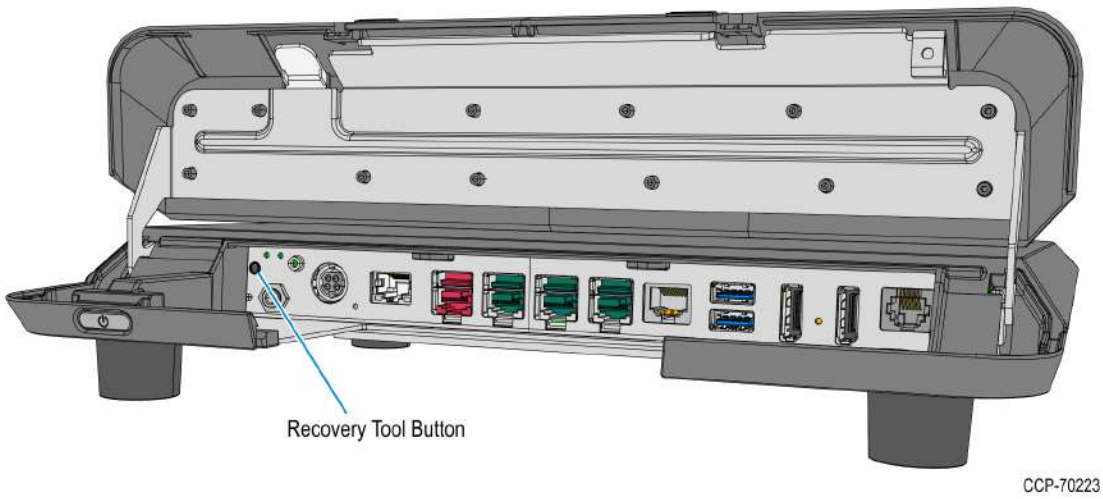
- *ImagingSuite_3.8.0.5.zip* (or later) - The Imaging Suite package consists of a three primary parts:
  - A Server application for local area network imaging
  - A Client application that runs on the target or source machine where images will be applied to or captured from
  - A customized version of Windows PE 3.1 boot OS environment from which the client application will be run
- *Imaging Suite User Guide* - This document provides a general overview of the Imaging Suite package, how to configure the system to run it, and how to use the applications to capture and apply system images.

Running the Recovery Tool

Starting the Recovery Tool

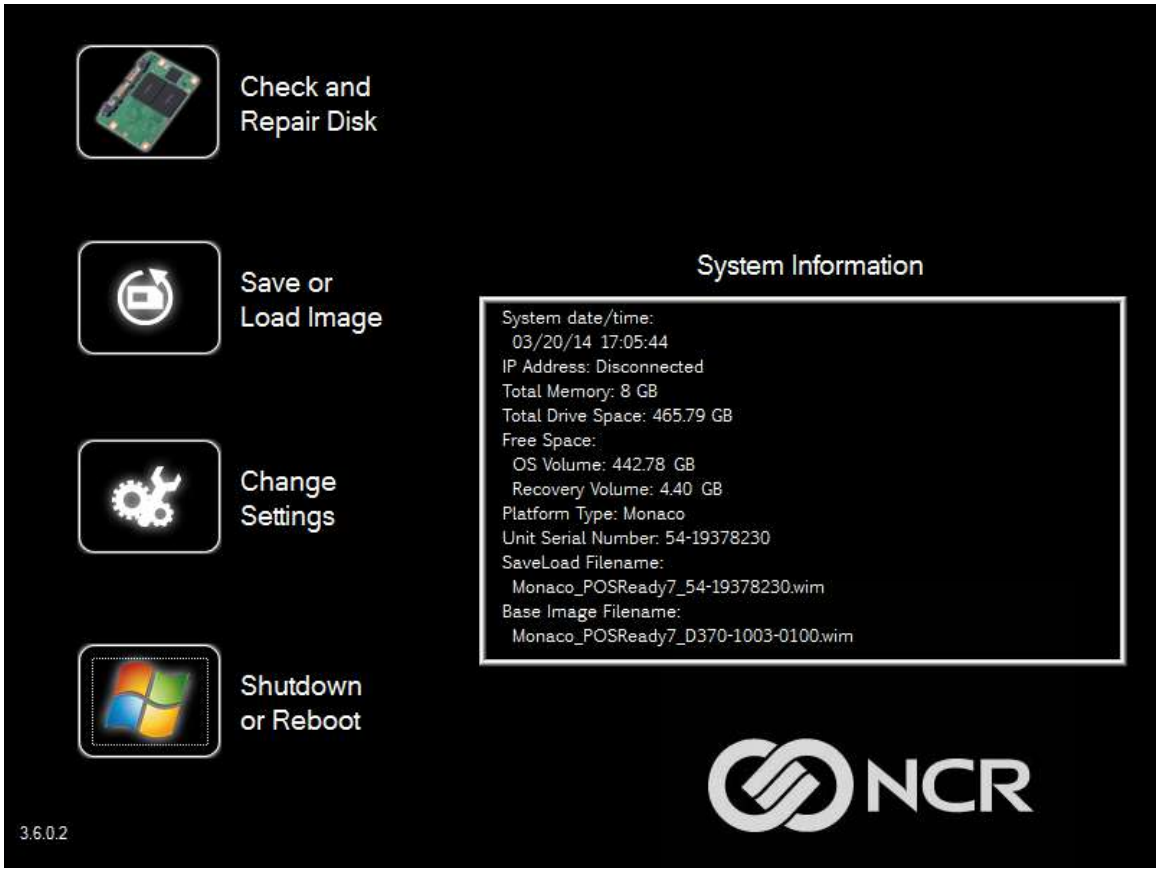
The Recovery Tool Button is located on the I/O Panel, as indicated in the image.

1. Begin with terminal OFF. The **Power Switch** is located on the Front Panel of the terminal.
2. Using a pen, stylus, or similar object, press and hold the recessed **Recovery Tool Button**. While holding the **Recovery Tool Button** momentarily, press the **Power Switch**.
3. Continue holding the **Recovery Tool Button** for 5 to 6 seconds.



Main Screen

When the terminal boots the *Main Screen* is displayed.



Check and Repair Disk

This button runs *Checkdisk*, which checks the consistency of the HDD/SSD and the Windows file system. Failures can occurs in the Windows file system and prevent Windows from starting. *Checkdisk* analyzes the failures and fixes them in most cases. This function runs in a Windows Command Box.

Save or Load Image

This button opens the *Backup and Recovery* screen.

Change Settings

This button opens a dialog screen to let you set/change the password and to configure the network settings.

Shutdown or Reboot

This button opens the screen to properly *Shutdown* and *Reboot* the POS.

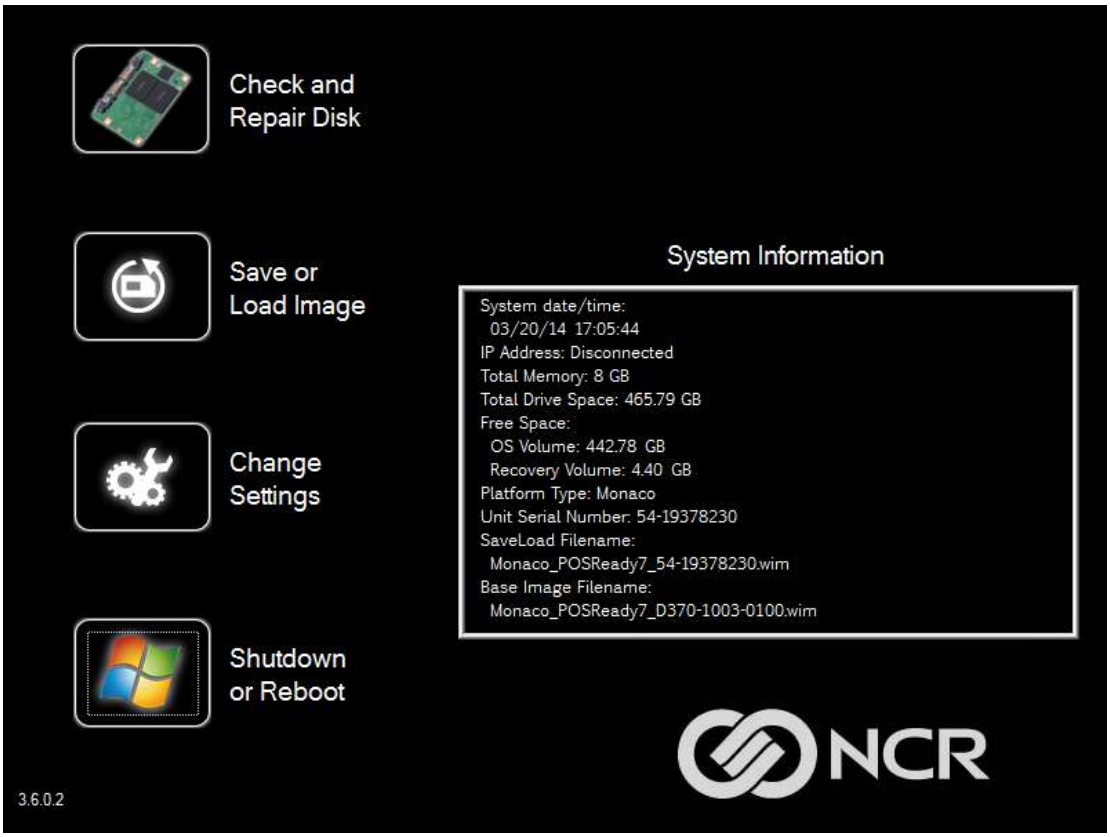
System Information

This is where useful information of the POS is displayed, such as Serial Number and Image Names.

Save Or Load Image

This function is used to either *Save* or *Load* an image from a device.

1. On the *Main Screen*, click on **Save or Load Image.**

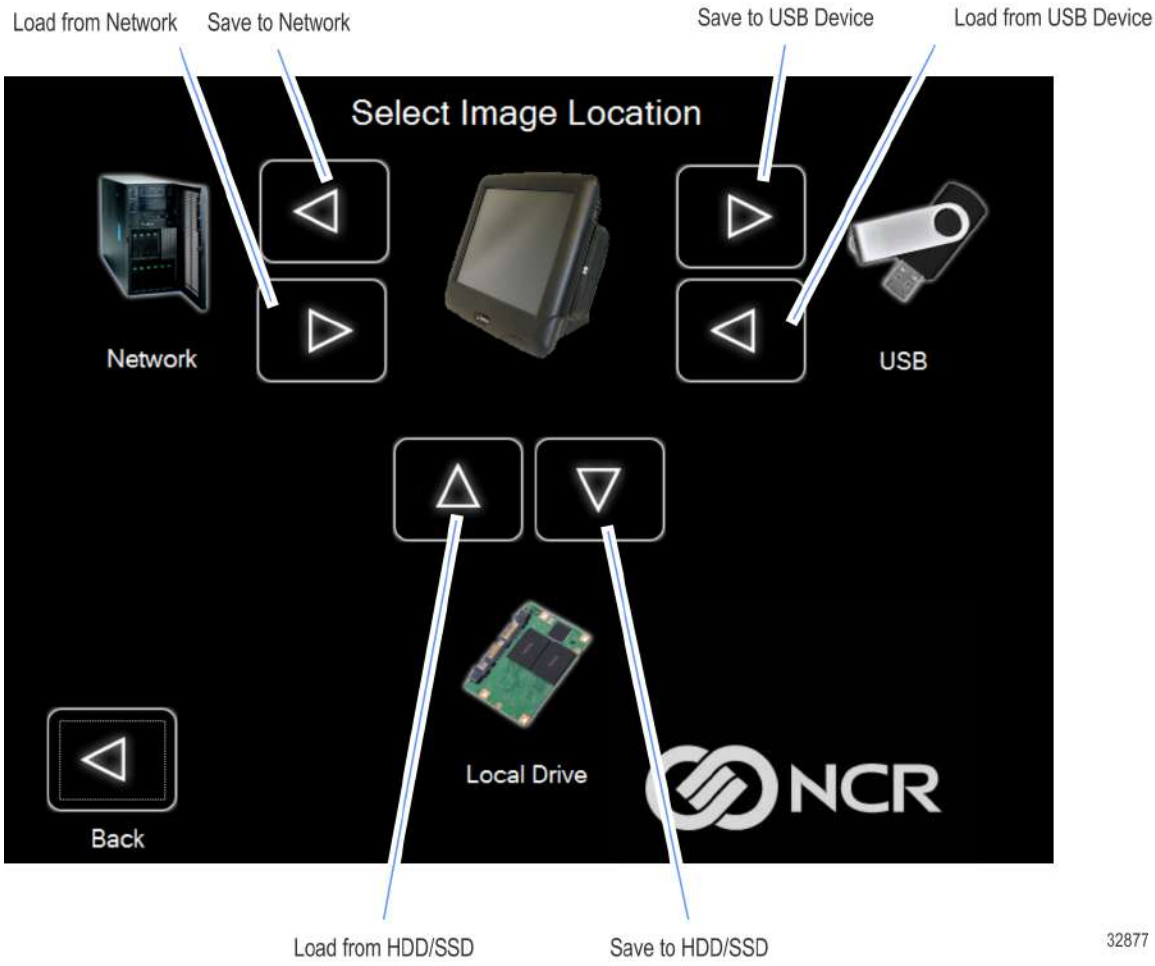


2. Enter the **Password**. The factory default password is **Recovery1234**.


Lost
Password
Enter Password
Enter
On-Screen Keyboard
File Keyboard Settings Help
Back
NCR

Saving An Image

The *Select Image Location* screen displays a terminal with three sets of *In/Out* arrow buttons, indicating the direction of data flow when selected. Arrows pointing away from the terminal are used to *Save* images to a device. Arrows pointing towards the terminal are used to *Load* an image.



Recovery Partition Size

The size of the Recovery Partition is limited to 8GB on the local drive. The USB and network options can be used to store / backup larger images. The total size is comprised of the base factory image + the user and site backups and the roughly 300MB of space used by WinPE and apps. USB/Network backups are limited only by the hardware that they are being stored to.

After the factory image is copied into the Recovery Partition, there is approximately 3GB remaining in the 8GB partition. Any data stored as an incremental backup to this location is compressed. A typical, large POS software installation will not outpace the constraints of the local storage.

Backups to separate *slots* in the Recovery Tool only increase the total storage required by the amount of data *added* to the image. When the contents of the OS partition become too large to store in the 8GB local Recovery Partition then one of the alternate storage methods available (USB or network) should be used to store backups.

Output Options

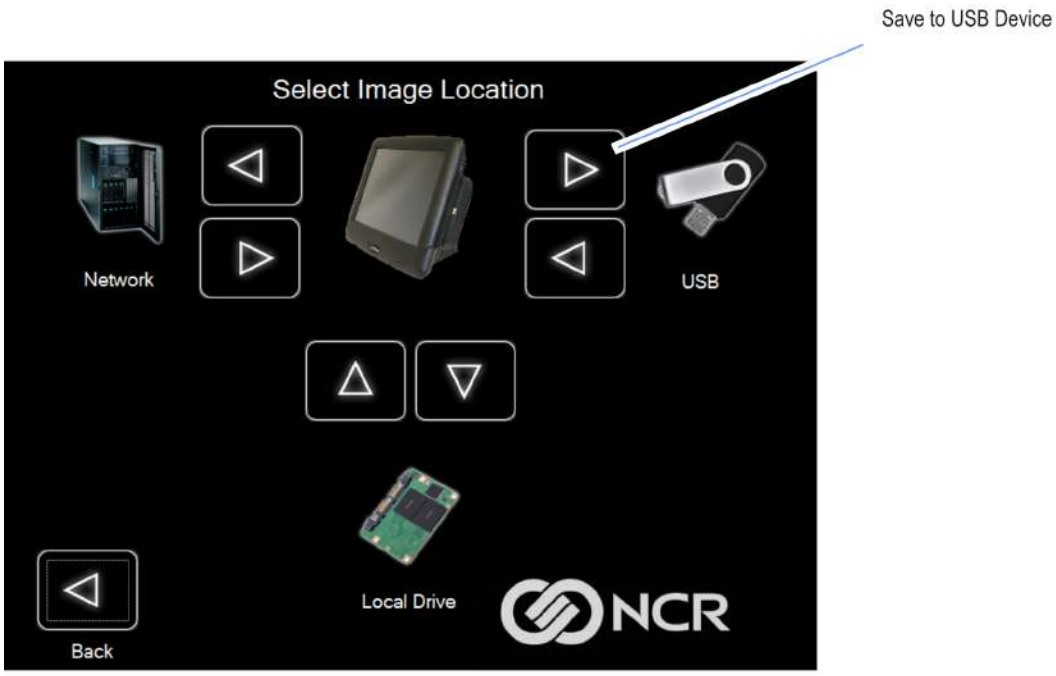
There are three output options.

- Hard Disk Drive/Solid State Device
- USB Device
- Network

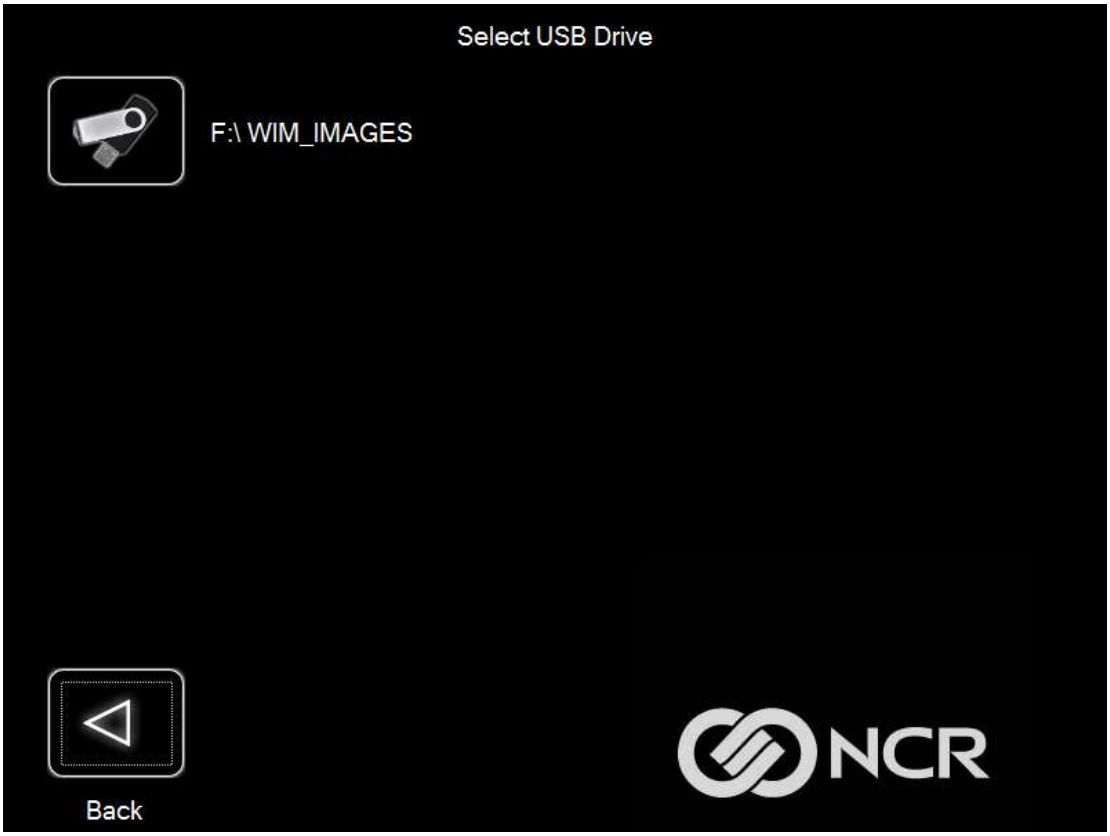
Note: Windows 7 images require a minimum of 4 GB available on the Network, Local Drive, or USB drive. POSReady requires a minimum of 2 GB. Make sure there is enough space is available on the storage media. Image sizes vary depending on applications and database sizes.

1. Click on the arrow which points to the desired output.

   Example: Click on the **USB Save Button**.



2. Click on the **USB Button**.

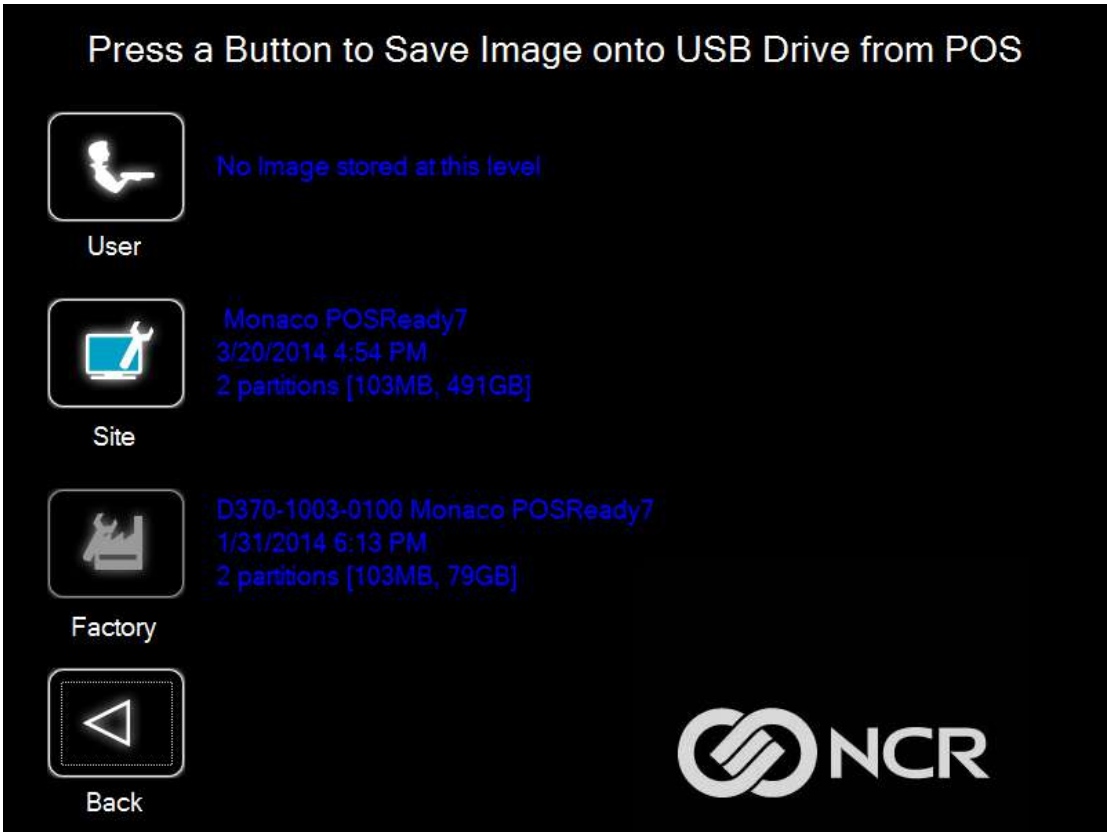


If this is the first backup performed on this POS then the image is automatically saved as a *Site* backup.

If a backup already exists then you have the choice of performing either a *Site* or *User* backup.

- **Site Image** - Use this option immediately after all application components have been loaded and setup for initial operation, or for base image updates.
- **User Image** - Use this option for routine day-to-day or periodical backups.

Note: *Site* and *User* backups are separate independent backups.



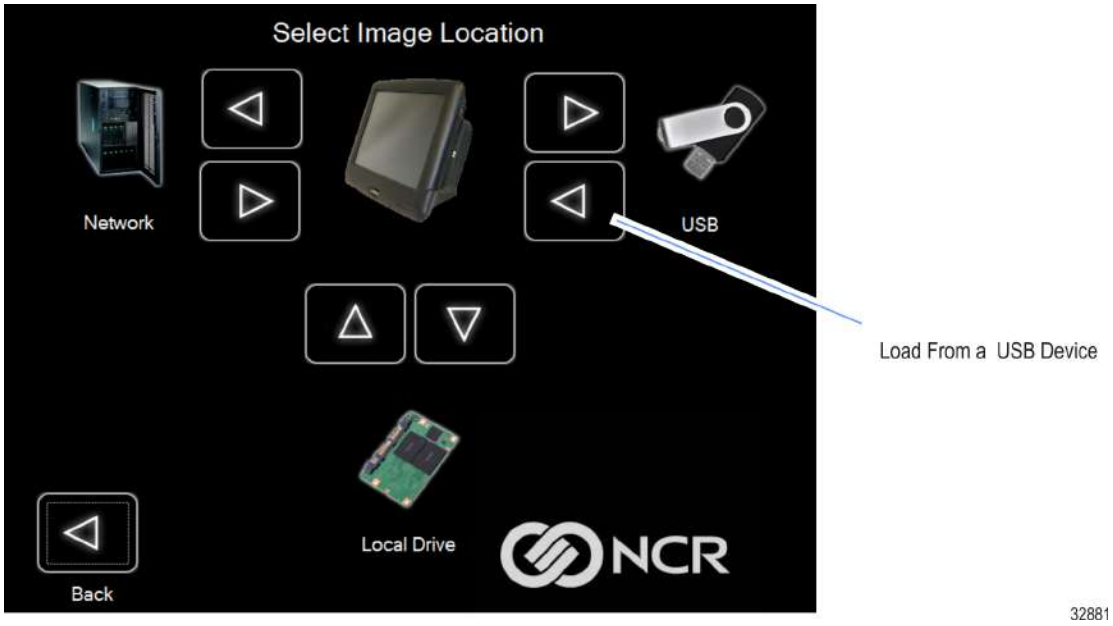
The image information is updated with the new image date.

Loading An Image

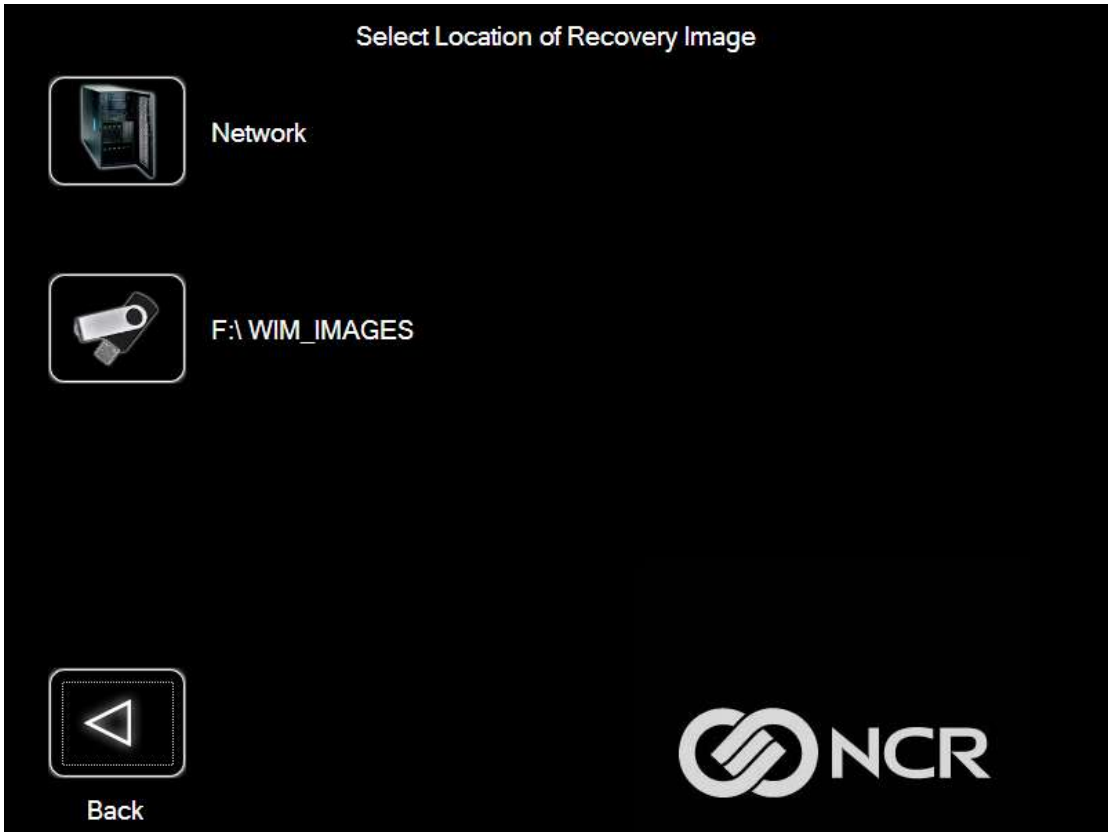
Caution: Do NOT remove power during an Image Load. Complete the Operating System setup and then shut down Windows properly. Removing power prematurely will corrupt the image display various messages about Windows failed to load or about missing or corrupt registry. If this happens you can do an Image load of the Factory image with the Recovery Tool.

1. Click on the arrow that points from the desired load device to the terminal.

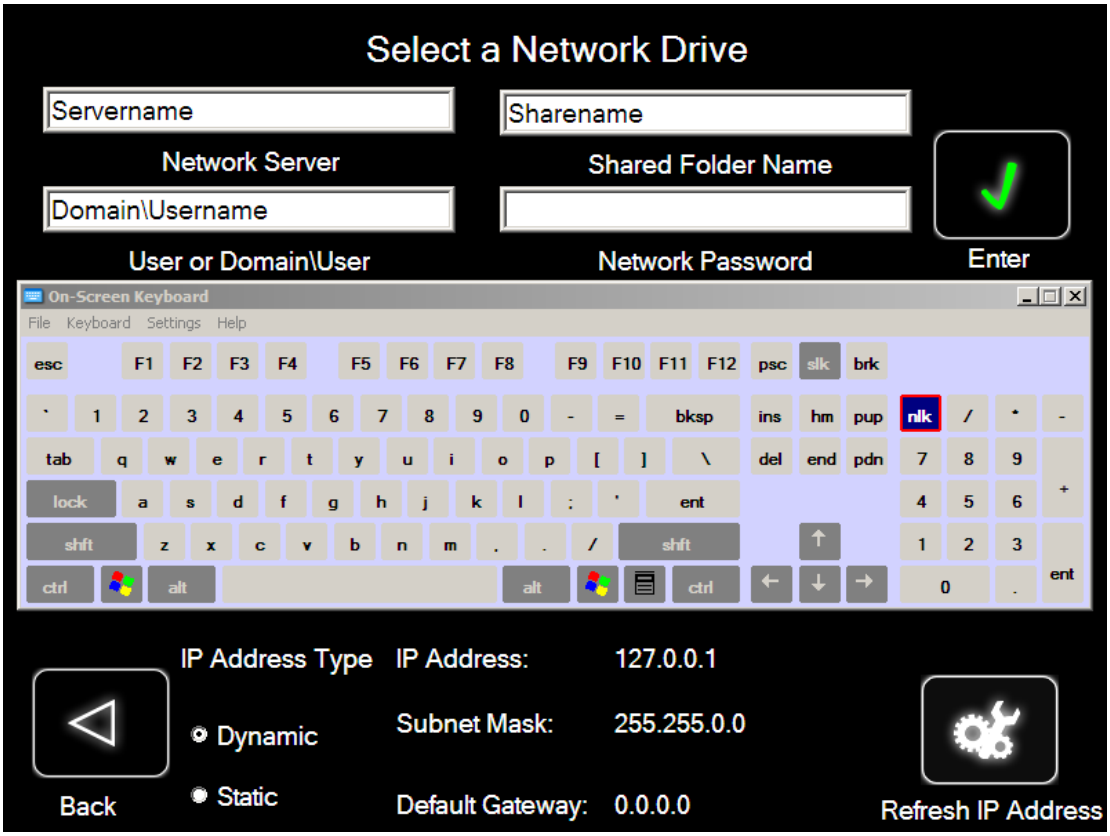
   Example: Click on the **USBLoad Button**.



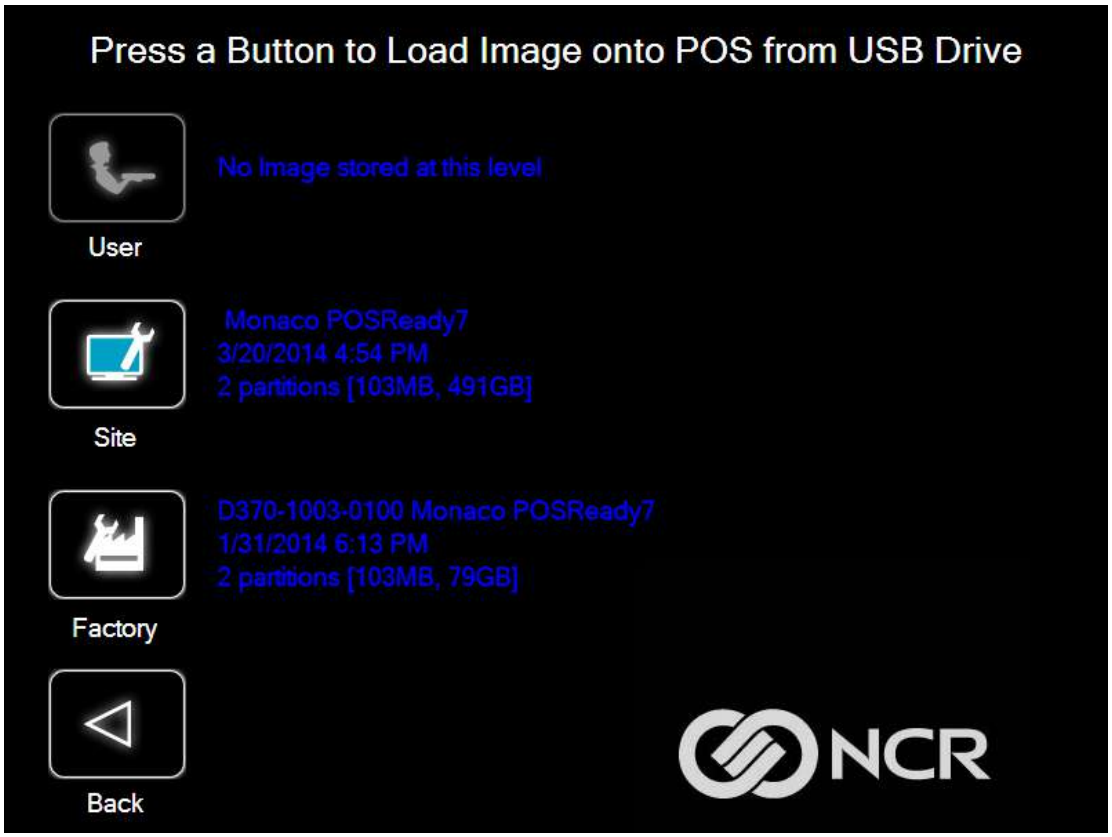
2. Click on the **USB Button**.



If you are loading from a network a dialog screen opens to *Select a Network Drive*.

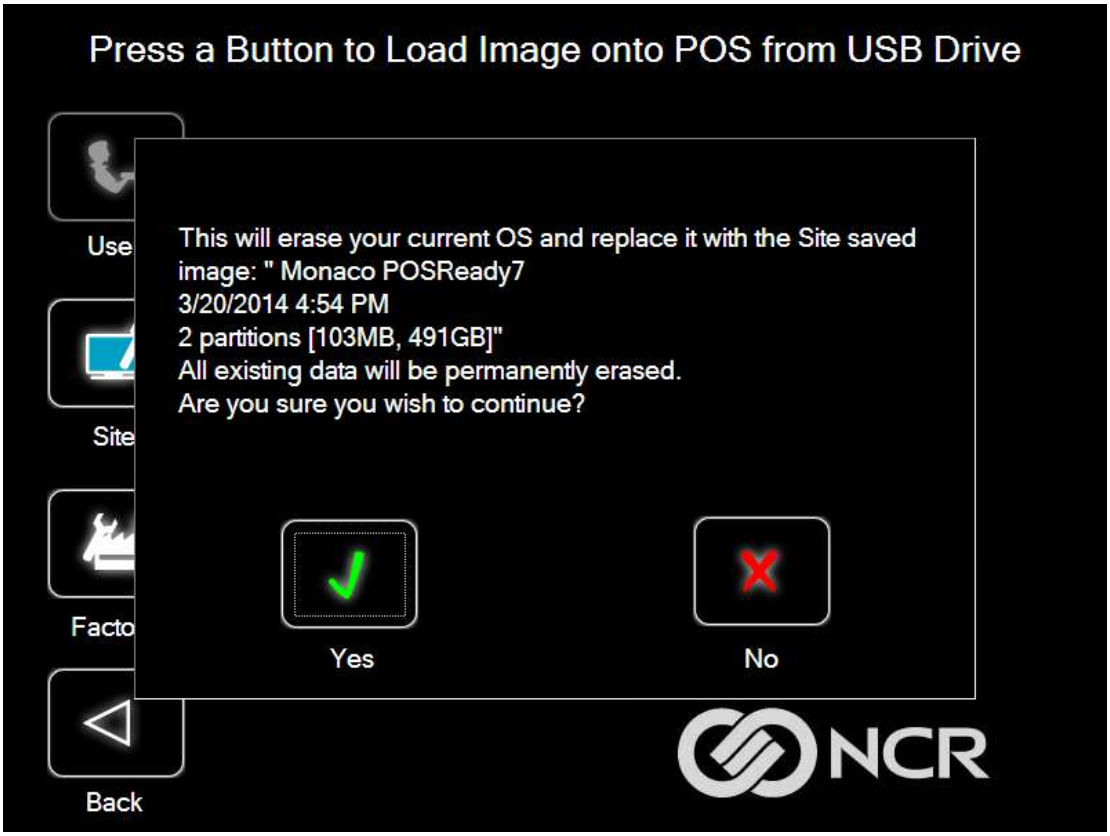


3. Select the *Image Type*.
   - **User Image** - Most recent routine backup.
   - **Site Image** - Image of the terminal after application components were loaded.
   - **Factory Image** - This is the NCR Base Image as shipped from the factory.

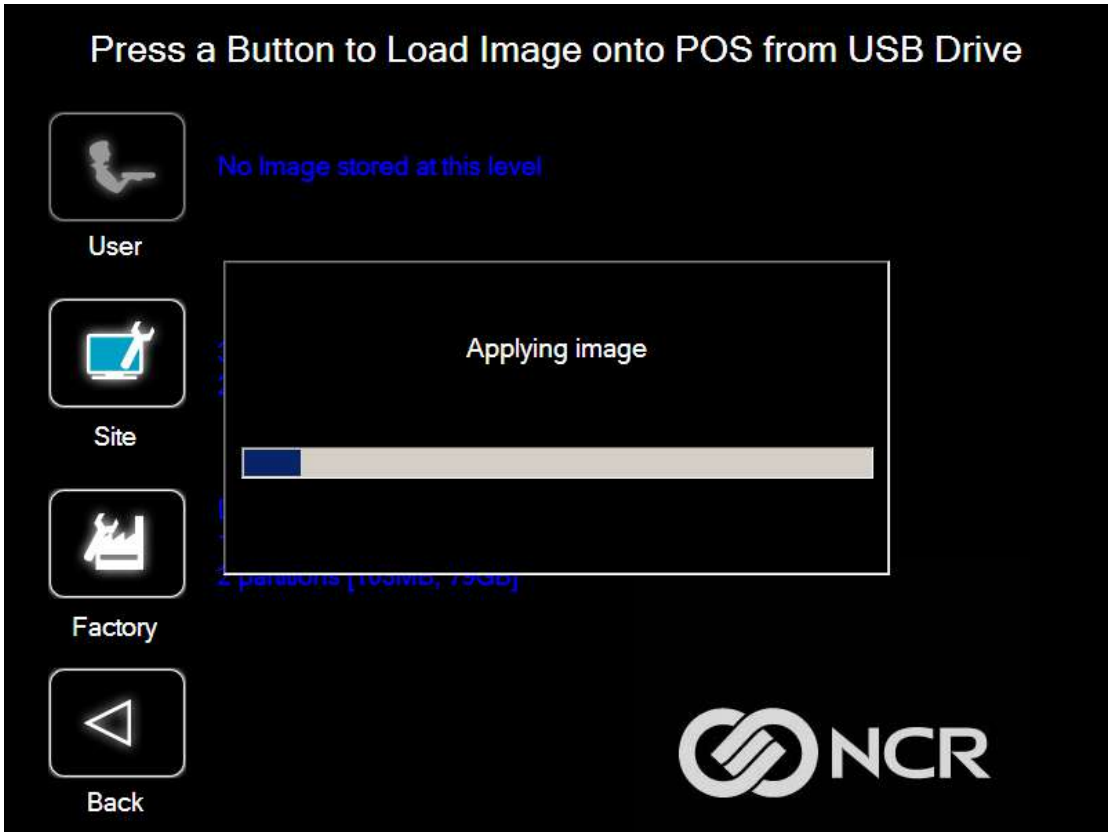


4. Click **Yes** to to apply the image.

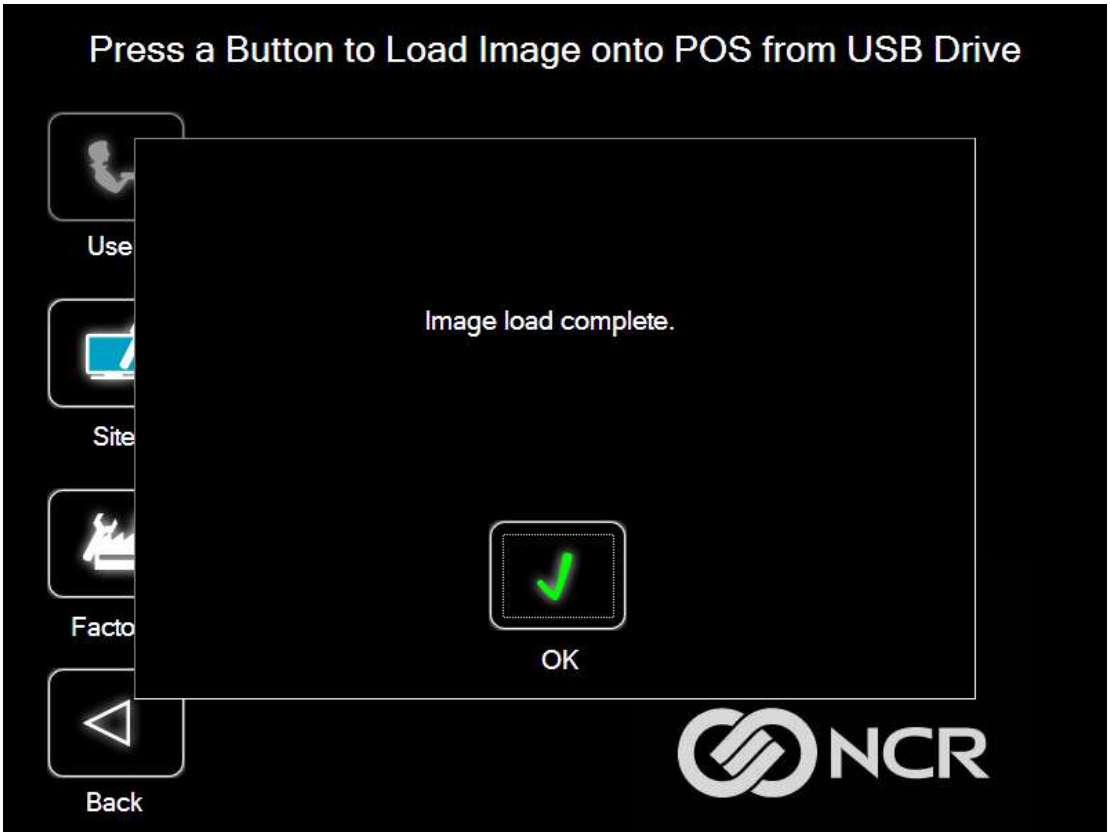
Caution: All the information in the current productive/working image on the drive is lost with this operation!



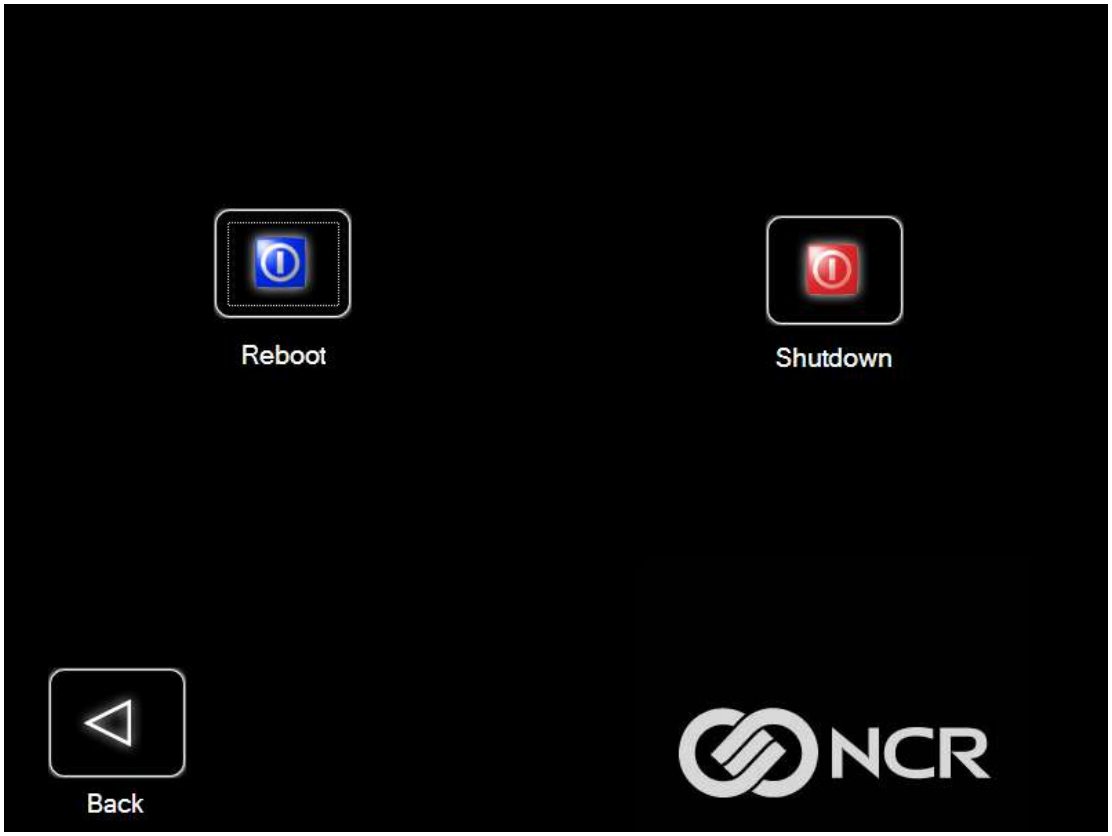
A progress bar is displayed as the image is applied.



A message is displayed when the load is complete.

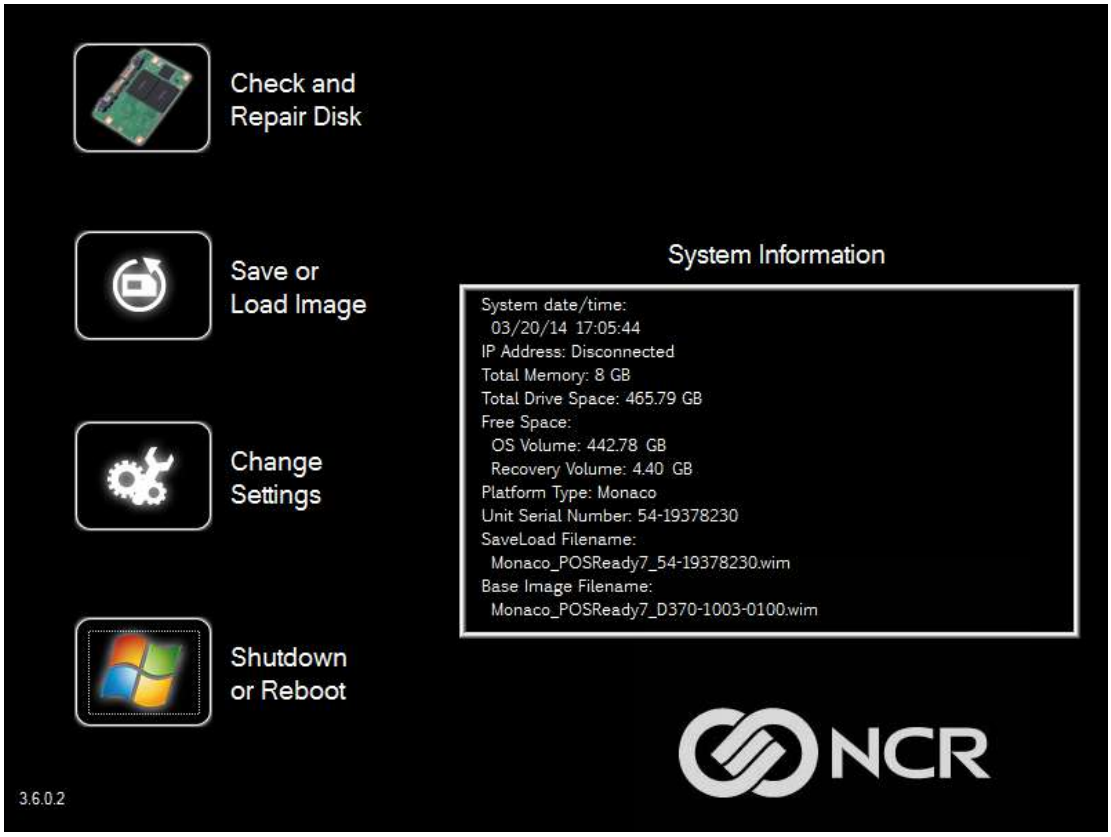


5. **Reboot** the POS.



Change Settings

On the *Main Screen*, click on **Change Settings.**

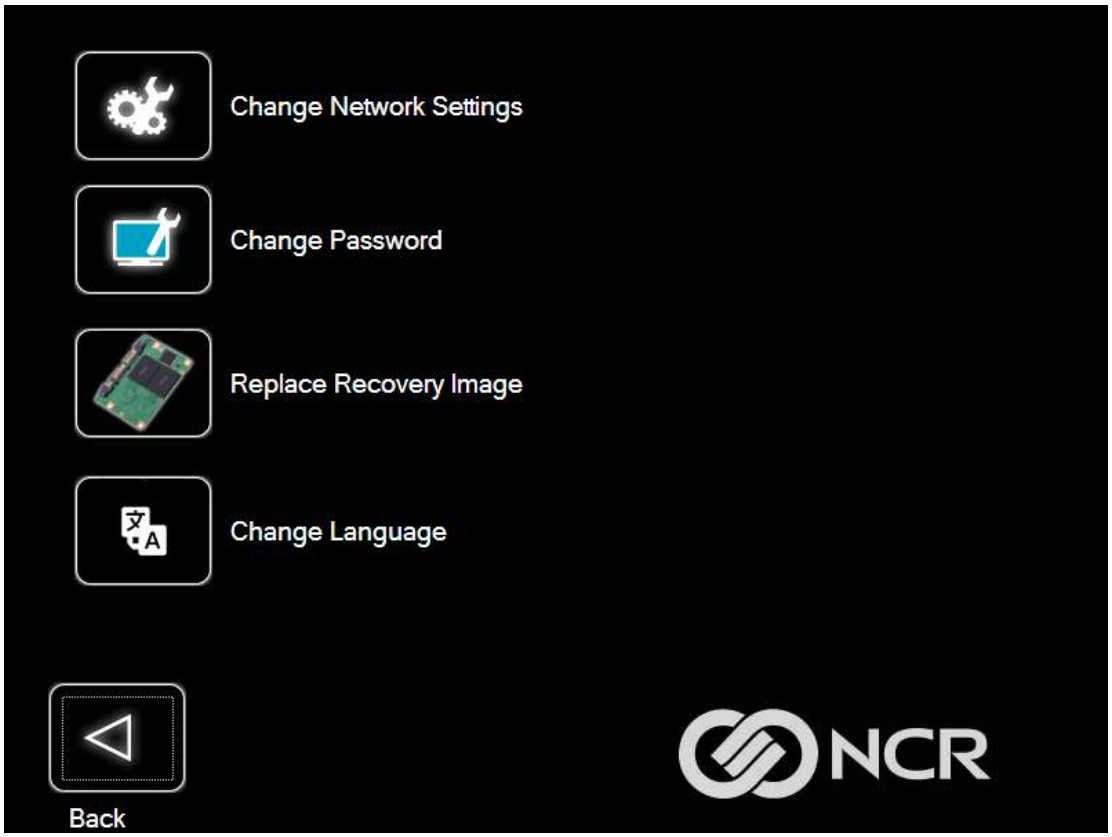


There are four functions available on the *Change Settings* screen.

- Change Network Settings
- Change Password
- Replace Recovery Image
- Change Language

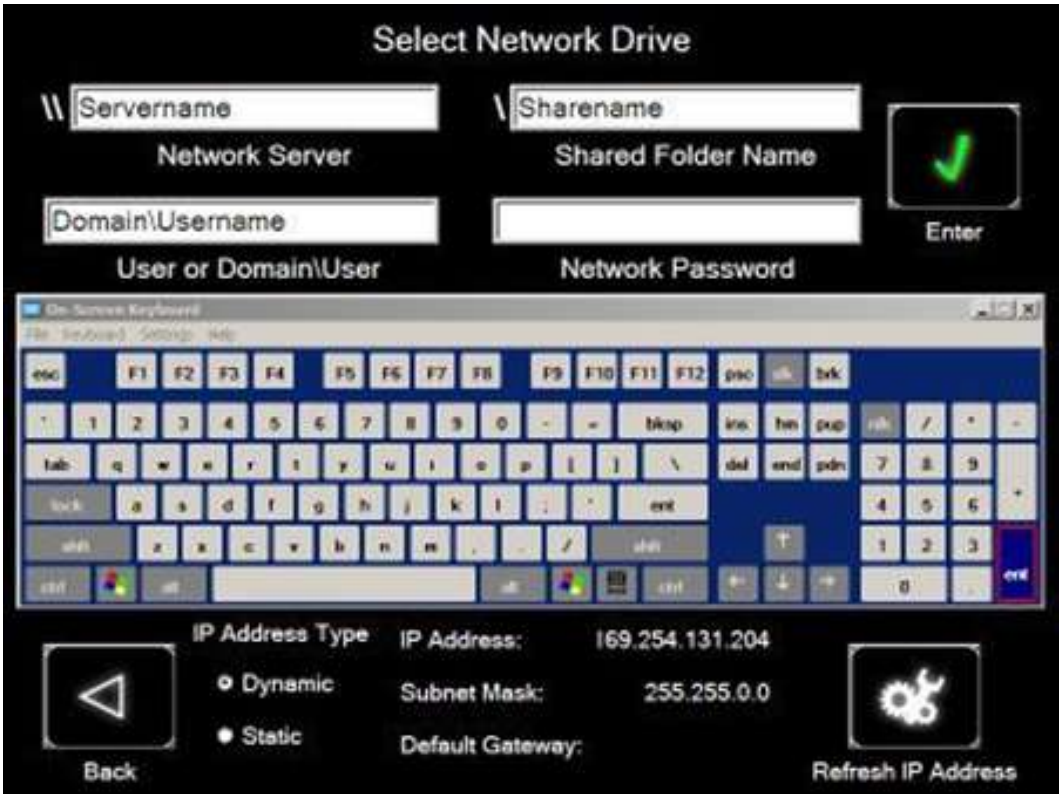
Change Network Settings

1. On the *Change Settings Screen,* click on **Change Network Settings.**



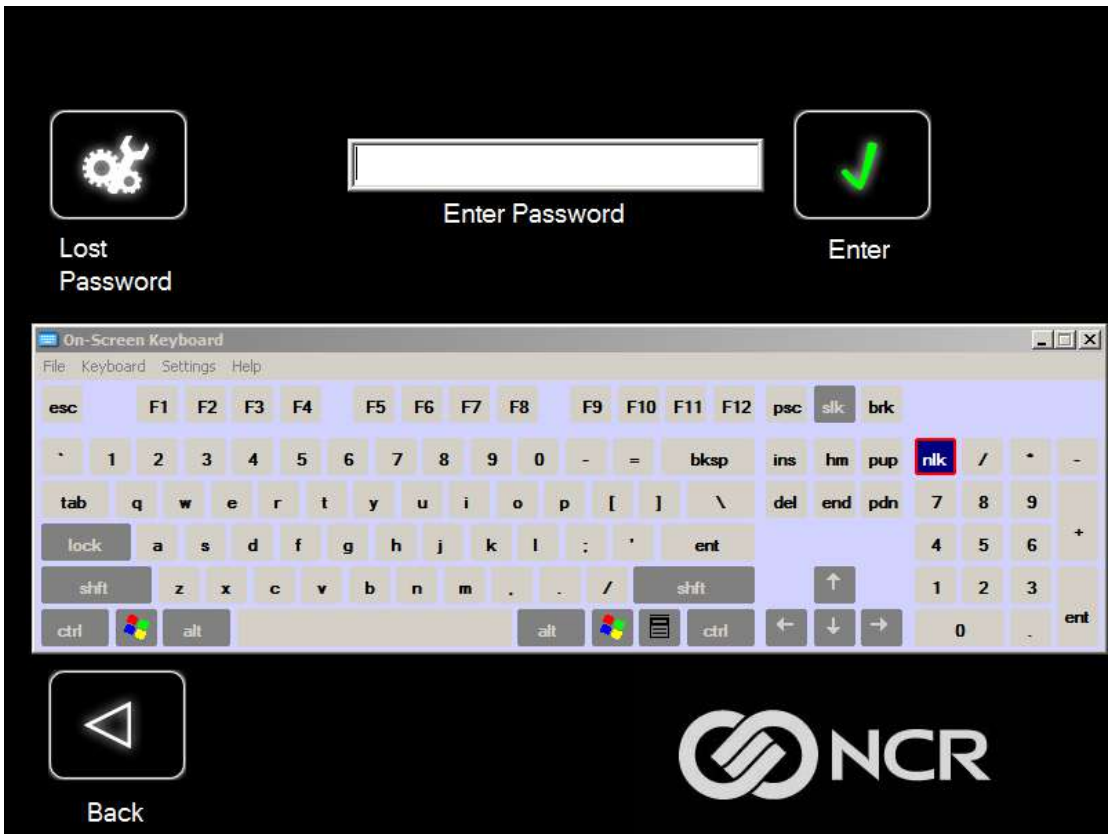
2. Enter the **Password**.

3. Enter the network configuration settings and then click [**Enter**].

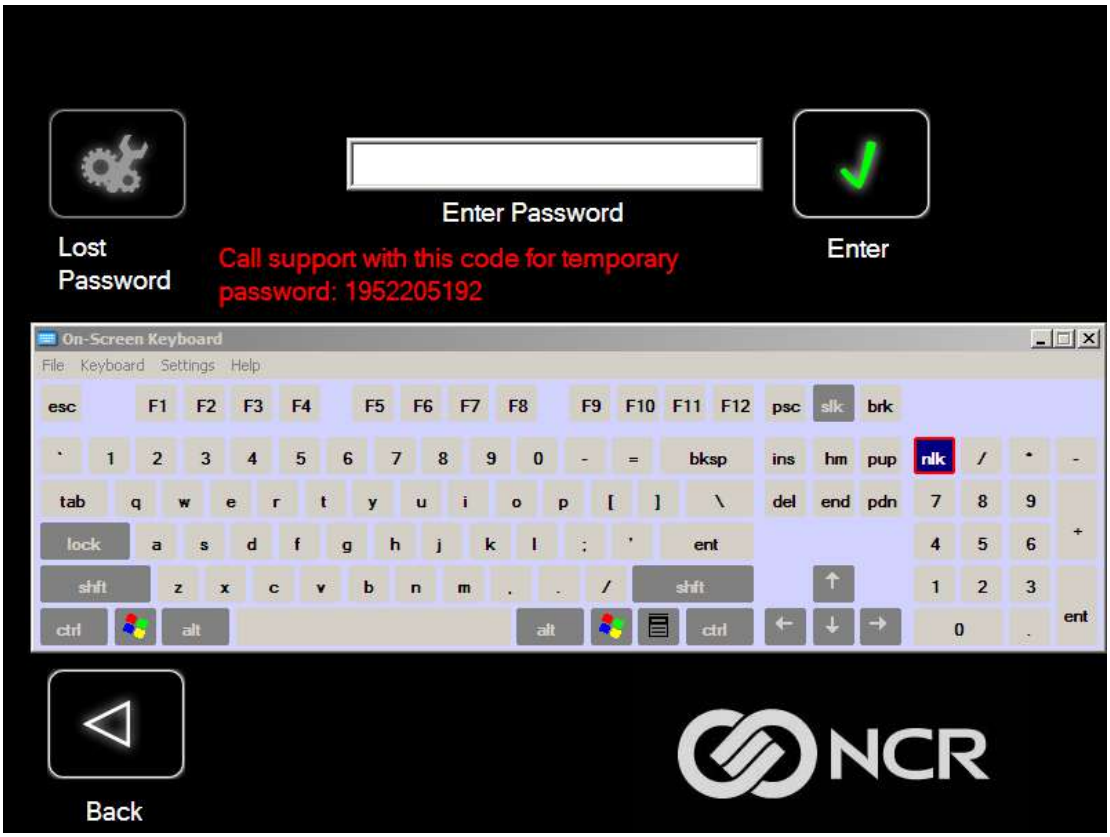


Change Password

1. On the *Change Settings Screen*, click on **Change Password**
2. Enter the new **Password**. Click [**Enter**].



If you have forgotten/lost the password you can click on Lost Password. A unique code is generated that you can provide to NCR Support to get a new temporary password.



Chapter 5: Power Management

The BIOS supports the Advanced Configuration and Power Management Interface (ACPI) 4.0 specification. A key feature of ACPI is that the operating system, not the BIOS, configures and implements power management. The NCR RealPOS XR4 (7602) supports the Global system power states defined by ACPI.

Computer States

G3 Mechanical Off

A computer state that is entered and left by a mechanical means

Example: Turning off the system's power through the movement of a large red switch.

Various government agencies and countries require this operating mode. It is implied by the entry of this off state through a mechanical means that no electrical current is running through the circuitry and that it can be worked on without damaging the hardware or endangering service personnel. The OS must be restarted to return to the Working state. No hardware context is retained. Except for the real-time clock, power consumption is zero.

G2/S5 Soft Off

A computer state where the computer consumes a minimal amount of power. No user mode or system mode code is run. This state requires a large latency in order to return to the Working state. The system's context will not be preserved by the hardware. The system must be restarted to return to the Working state. It is not safe to disassemble the machine in this state.

G1 Sleeping

A computer state where the computer consumes a small amount of power, user mode threads are not being executed, and the system appears to be off (from an end user's perspective, the display is off, and so on). Latency for returning to the Working state varies on the wake environment selected prior to entry of this state (for example, whether the system should answer phone calls). Work can be resumed without rebooting the OS because large elements of system context are saved by the hardware and the rest by system software. It is not safe to disassemble the machine in this state.

G0 Working

A computer state where the system dispatches user mode (application) threads and they execute. In this state, peripheral devices (peripherals) are having their power state changed dynamically. The user can select, through some UI, various performance/power characteristics of the system to have the software optimize for performance or battery life. The system responds to external events in real time. It is not safe to disassemble the machine in this state.

ACPI Sleep States (S0 - S5)

Under the G1 sleeping state ACPI defines levels of system sleep state support. The NCR RealPOS XR4 (7602) supports the following sleeping states:

- S0: Normal Powered-On state
- S1 (Standby): The S1 sleeping state is a low wake latency sleeping state. In this state, no system context is lost (CPU or chip set) and hardware maintains all system contexts.

Note: The NCR RealPOS XR4 (7602) does not support S1 state. Turning off the backlight and hard drives provides the equivalent power savings (due to Intel's processor C-states feature) at nearly zero latency.

- S2: Not supported
- S3 (Suspend to Ram): The S3 sleeping state is a low wake latency sleeping state. This state is similar to the S1 sleeping state except that the CPU and system cache context is lost (the OS is responsible for maintaining the caches and CPU context). Control starts from the processor's reset vector after the wake event. In NCR systems, during S3, power is only provided to the USB 3.0 ports.

Note: When the terminal resumes from an S3 state, all the USB devices re-enumerate. This causes speaker tones as if they were disconnected and then reconnected. This does not present a problem and the USB devices will continue to operate correctly.

Requirements for S3 support:

- O/S must be built on a system with S3 enabled in the BIOS
- Some peripherals may not be S3 capable, which can prevent the system from entering S3 state.

- S4 (Suspend to Disk): The S4 state is the lowest power, longest wake latency sleeping state supported by ACPI. In order to reduce power to a minimum, it is assumed that the hardware platform has powered off all devices. Platform context is maintained.

Requirements for S4 support:

- O/S must be built on a system with S3 enabled in the BIOS

- Some peripherals may not be S4 capable, which can prevent the system from entering S4 state.

Reference the *ACPI Specification* for details.

Peripherals: ACPI defines power states for peripherals which are separate from the system power state. The device power states range from D0 (fully-on) to D3 (off) It is the responsibility of the driver developer for each peripheral to define and support the available power states.

Power State	S0 Working	S0 Idle, Backlight Off, HDD Off	S3 Suspend to RAM	S4 Hibernate	S5 Soft Off
Supported: Y / N	Y	Y	Y	Y	Y
Description	Fully Functional	Video Backlight Off / HDD Off	Video Backlight Off / HDD Off, Cache Flush, Memory in Slow Refresh, CPU Halted	Video Backlight Off / HDD Off, Cache Flush, Memory Image Written to HDD, CPU Halted	OFF **Note:** Some devices remain powered by standby voltage (LAN, ME-AMT, USB) to allow wake-up
Power Supply Status	On	On	Powered Down*	Powered Down*	Powered Down*
Power Consumption					
Celeron N3060	15W	5W	2W	2W	2W
Wake Options					
Power Switch	N/A	Y	Y	Y	Y
Touch	N/A	Y	Y	N	N
USB Keyboard	N/A	Y	Y	N	N
USB Mouse	N/A	Y	Y	N	N
LAN (magic packet)	N/A	Y	Y	Y	Y
RTC Alarm	N/A	Y	Y	Y	Y

Power State	S0 Working	S0 Idle, Backlight Off, HDD Off	S3 Suspend to RAM	S4 Hibernate	S5 Soft Off
Serial Port (RI)	N/A	Y	N	N	N

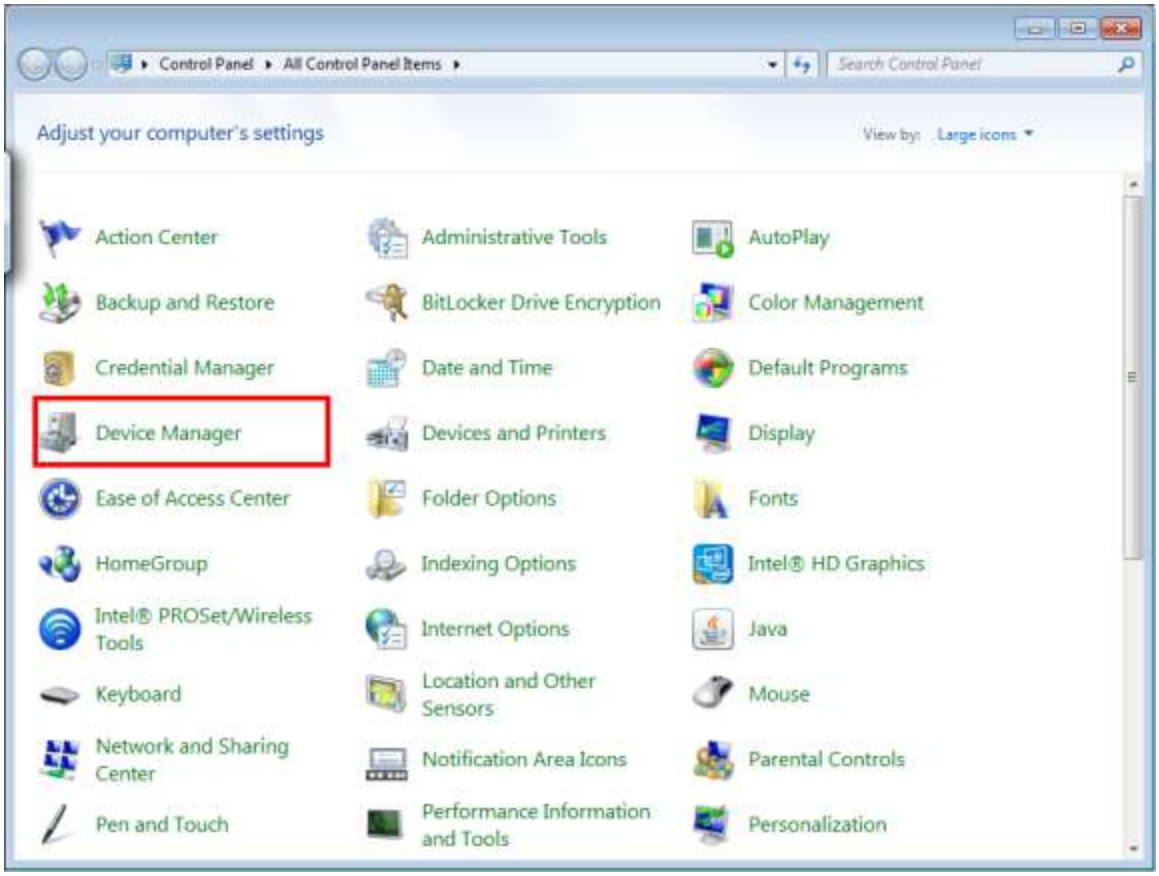
Note: Power consumption based on the following configuration: 4GB RAM, 500 GB HDD, Display full brightness, with integrated 5977 display
*Maintains small voltage to support wake circuits.

Enabling Wake on LAN

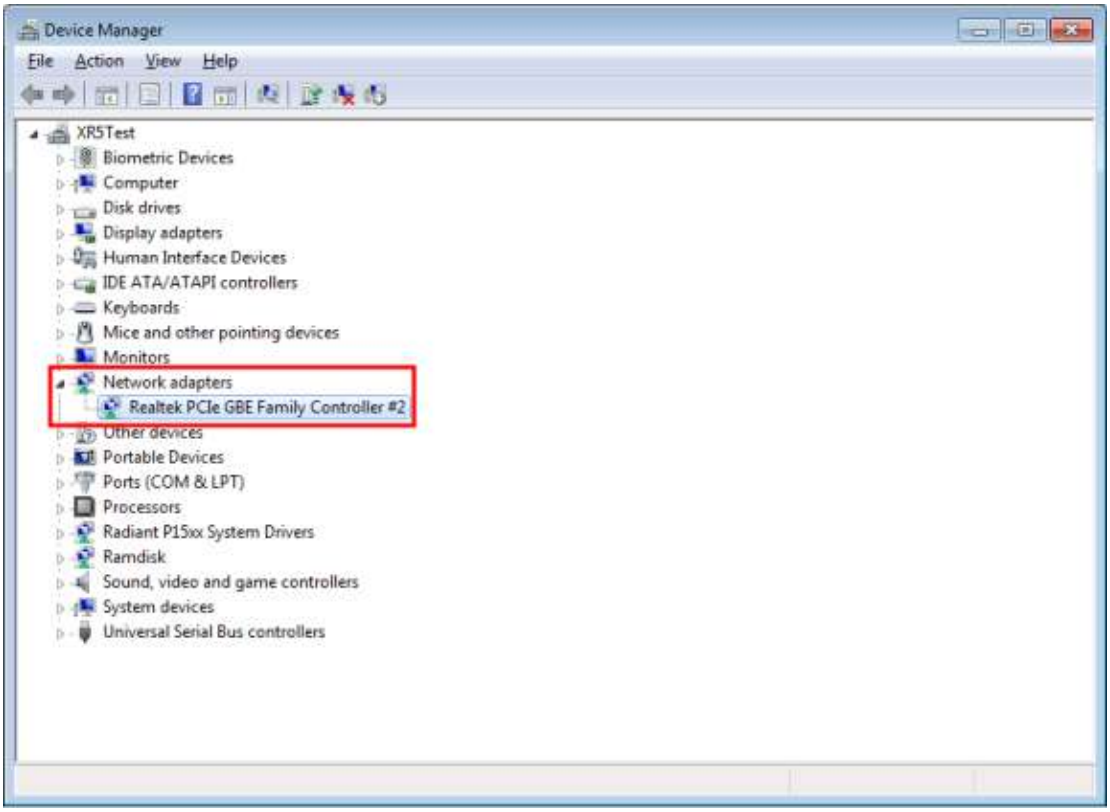
In order for Wake on LAN to function the Network driver must be enabled (factory default). The procedure for enabling the driver depends on which operating system you are using.

Windows 7

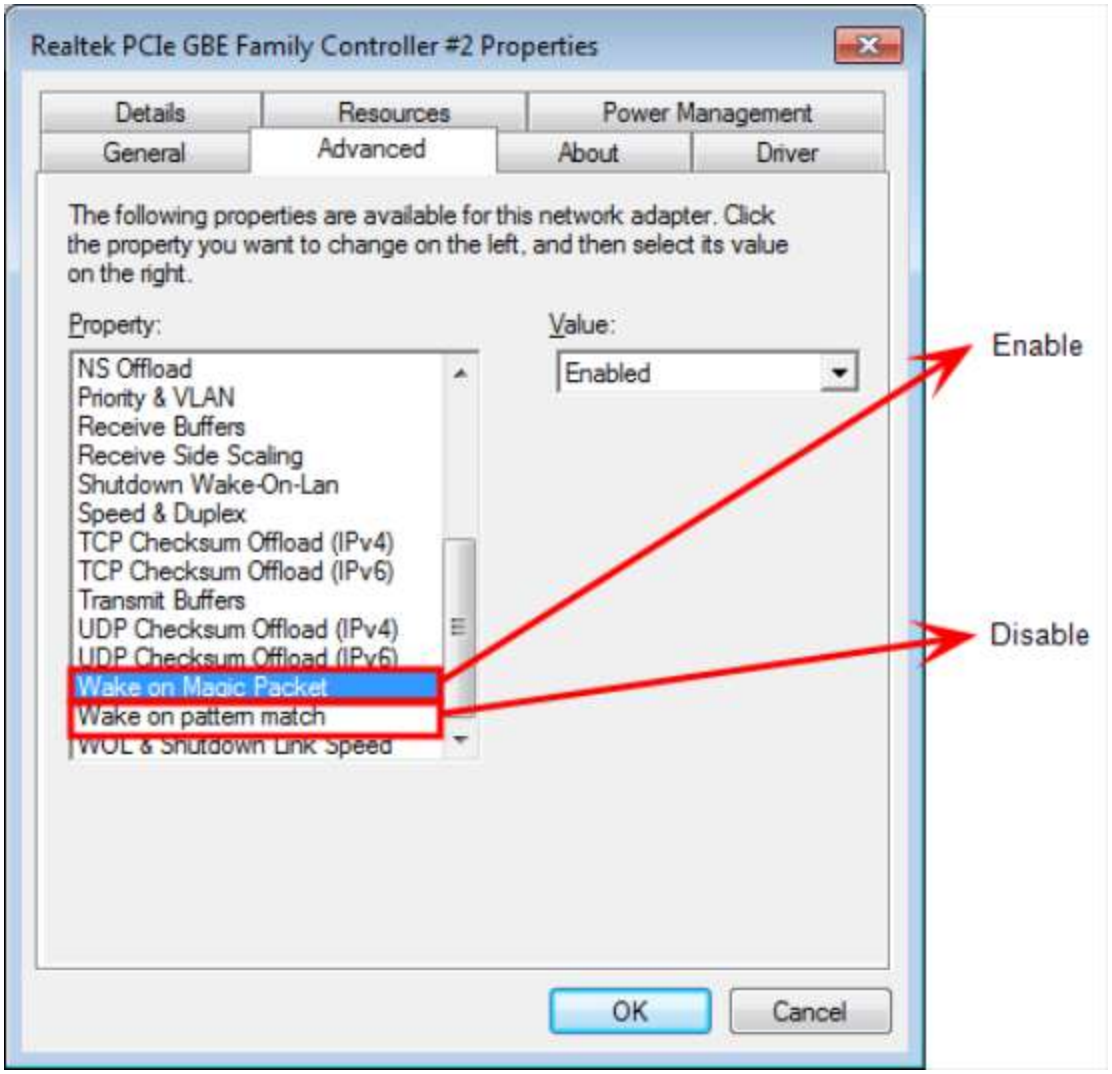
1. Select **Control Panel** → **Device Manager**



2. Select **Network Adapters → Realtek PCIe GBE Family Controller #2.**



3. Under the **Advanced** tab, select **Wake on Magic Packet** and verify it is **enabled**. Select **Wake on Patter Match** and verify it is **disabled**.



ACPI Processor C-States

ACPI defines the power state of system processors while in the G0 working state as being either active (executing) or sleeping (not executing). Processor power states are designated C0, C1, C2, C3, …Cn.

The C0 power state is an active power state where the CPU executes instructions. The C1 through Cn power states are processor sleeping states where the processor consumes less power and dissipates less heat than leaving the processor in the C0 state.

While in a sleeping state, the processor does not execute any instructions. Each processor sleeping state has a latency associated with entering and exiting that corresponds to the power savings. In general, the longer the entry/exit latency, the greater the power savings when in the state.

To conserve power, OSPM places the processor into one of its supported sleeping states when idle. While in the C0 state, ACPI allows the performance of the processor to be altered through a defined "throttling" process and through transitions into multiple performance states (P-states).

Note: The NCR RealPOS XR4 (7602) processors supports C0 and C1 states. Support of deeper sleep states is not required due to its inherently low power consumption.

Chapter 6: BIOS Setup

Entering Setup

1. Connect an alphanumeric USB keyboard to the terminal.
2. Apply power to the terminal.
3. When you see the NCR logo displayed, press [**Del**].

How to Select Menu Options

The following keyboard controls are used to select the various menu options and to make changes to their values.

- Use the arrow keys to select (highlight) options and menu screens.
- Use the [**Enter**] key to select a submenu.
- Use the [**+**] and [**-**] keys to change field values.
- To view help information on the possible selections for the highlighted item, press [**F1**].
- To save the changes, move the cursor to the *Exit Menu*, select either **Save Changes & Exit** *or* **Save Changes**, and press [**Enter**].

Restoring Factory Settings

To reset all values to their default settings for the **current screen**, press [**F9**] and then [**Enter**] when the confirmation message is displayed. The terminal automatically loads the BIOS default values. To reset all BIOS settings to their default settings go to the Exit menu, press [**F9**], select either **Save Changes & Exit** *or* **Save Changes**, and press [**Enter**].

Note: The Motherboard is used on other products and has a jumper that is used to select the proper BIOS defaults. If the Motherboard is replaced be sure this jumper is set to the RSD setting.

BIOS Default Settings

NCR BIOS Version: 7.1.6.0

Main Menu

Keyboard Layout	(variable)
System Language	(variable)
System Time	(variable)
System Date	(variable)

Advanced Menu

► Trusted Computing	
Security Device Support	[Enabled]
SHA-1 PCR Bank	[Enabled]
SHA256 PCR Bank	[Disabled]
Pending operation	[None]
Platform Hierarchy	[Enabled]
Storage Hierarchy	[Enabled]
Endorsement Hierarchy	[Enabled]
TPM2.0 UEFI Spec Version	[TCG_2]
Physical Presence Spec Version	[1.2]
Device Select	[Auto]
► NCR POS	
Hide Setup Items	[Yes]
Port CF9 Full Reset	[Disabled]
ACPI S5 Shutdown	[Enabled]
F8 BBS Boot Menu	[Enabled]
Video Delay in Seconds	[5]
WiFi Radio	[Enabled]
Bluetooth Radio	[Enabled]
Logo Display	[Logo]

► **HDD S.M.A.R.T. Status Reporting**	
SATA Port0	120GB SATA Fla (120.0GB)
SMART Status	Supported/OK
SMART Port1	Not Present
SMART Status	N/A

► **ACPI Settings**	
Enable ACPI Auto Configuration	[Disabled]
Enable Hibernation	[Enabled]
ACPI Sleep State	[S3 only (Suspend to RAM]
Lock Legacy Resources	[Disabled]
► **SMART Settings**	
SMART Self Test	[Disabled]
► **IT8786 Super IO Configuration**	
Super IO Chip	IT8786
▸ *Serial Port 1/A Configuration*	
. Serial Port	[Enabled]
. Device Settings	IO=3F8h; IRQ=4
. I/O Base Address	[0x3F8]
. IRQ	[IRQ4]
► **H/W Monitor**	
System Health Status	
. Memory Module Temperature	+28°C
. Power Supply Temperature	+37°C
. System Ambient Temperature	+30°C
System Fan Speed	N/A
+VCC0 CPU	+0.840V
+1.35V S3	+1.344V
+12V S0	+11.952V
+5V S0	+4.950V
+3.3V S5	+3.264V
VBAT	+2.976V
► **Serial Port Console Redirection**	
Console Redirection	[Disabled]

► **CPU Configuration**	
Limit CPUID Maximum	[Disabled]
Bi-directional PROCHOT	[Enabled]
Intel Virtualization Technology	[Enabled]
Power Technology	[Disabled]
► **SATA Configuration**	
SATA Controller(s)	[Enabled]
SATA Mode Selection	[ACHI]
SATA Interface Speed	[Gen3]
SATA Test Mode	[Disabled]
Aggressive LPM Support	[Enabled]
▸ *Software Feature Mask Configuration*	
. HDD Unlock	{Enabled]
. LED Locate	[Enabled]
SATA PORT0: 120GB SATA Fla (120.0GB)	
. Port 0	[Enabled]
. Spin Up Device	[Disabled]
. Device Sleep Support	[Disabled]
SATA Port1: Not Present	
. Port 1	[Enabled]
. Spin Up Device	[Disabled]
. Device Sleep Support	[Disabled]
► **Network Stack Configuration**	
Network Stack	[Disabled]

► **CSM Configuration**	
CSM Support	[Enabled]
CSM16 Module Version	07.79
GateA20 Active	[Upon Request]
Option ROM Messages	[Force BIOS]
INT19 Trap Response	[Immediate]
Boot Option Filter	[UEFI and Legacy]
▸ *Option ROM Execution*	
Network	[Legacy]
Storage	[Legacy]
Video	[Legacy]
Other PCI Devices	[UEFI]
► **Info Report Configuration**	
Summary Screen	[Disabled]
► **USB Configuration**	
Legacy USB Support	[Enabled]
XHCI Hand-off	[Disbled]
USB Mass Storage Driver Support	[Enabled]
▸ *USB Hardware Delays and Time-Outs*	
USB transfer time-out	[20 sec]
Device reset time-out	[20 sec]
Device power-up delay	[Auto]

Chipset Menu

► **North Bridge**	
▸ *Intel IGD Configuration*	
. GOP Driver	[Disabled]
. Integrated Graphics Device	[Enabled]
. IGD Turbo	[Auto]
. Primary Display	[Auto]
. GFX Boost	[Disabled]
. PAVC	[Enabled]
. PR3 (For Win 10 only]	[Enabled]
. DVMT Pre-Allocated	[32M]
. DVMT Total Gfx Mem	[256MB]
. Aperture Size	[128MB]
. GTT Size	[4MB]
. IGD Thermal	[Disabled]
. Spread Spectrum Clock	[Enabled]
. WOPCMSZ	[1MB]
. ISP Enable/Disable	[Disabled]
. PUNIT Power Configuration	[Enabled]
. Svid Configuration	[Svid Config 3]
▸ *IGD - LCD Control*	
. IGD Flat Panel	[Auto]
. Panel Scaling	[Auto]
▸ *LCD Control*	
. Primary IGFX Boot Display	[Auto]
. LCD Panel Type	[Auto]
. Panel Scaling	[Auto]
. Backlight Control	[PWM Inverted]
. Active LFP	[eDP Port-A]
Max TOLUD	[3GB]

► **South Bridge**	
▸ *USB Configuration*	
. USB Port 0	[Enabled]
. USB Port 1	[Enabled]
. USB Port 2	[Enabled]
. USB Port 3	[Enabled]
. USB Port 4	[Enabled]
Restore AC Power Loss	[Last State]
Serial IRQ Mode	[Quiet]

Security Menu

Administrator Password	[Cleared]
User Password	[Cleared]
► **Secure Boot**	
Secure Boot Control	[Enabled]
Secure Boot Mode	[Standard]

Boot Menu

Setup Prompt Timeout	6
Bootup NumLock State	[On]
Quiet Boot	[Enabled]
Boot Option Priorities	
. New Boot Option Policy	[Default]
. Boot mode select	[UEFI]
FIXED BOOT ORDER Priorities	
Boot Option #1	[Network]
Boot Option #2	[Hard Disk]
Boot Option #3	[USB Key]
Boot Option #4	[USB Hard Disk]
Boot Option #5	[USB CD/DVD]
Boot Option #6	[USB Floppy]
Boot Option #7	[CD/DVD]
Boot Option #8	[USB LAN]

Chapter 7: BIOS Updating Procedure

Introduction

The BIOS is located in the Serial Peripheral Interface (SPI) chip on the processor board. This chapter discusses procedures on how to update the terminal SPI and/or BIOS. The update software is distributed via the NCR Website.

The BIOS update can be performed using the following methods:

- Bootable USB Memory Device
- Network – Refer to the *NCR PXE Image Loader User's Guide* (B005-0000-2326) for information about this procedure.

Prerequisites

The following are required to perform a SPI/BIOS update using the bootable USB memory key.

- USB Keyboard
- BIOS Software. Download from the NCR website:

  http://www.ncr.com

  1. At this site, select the **Support** tab.
  2. Select **Drivers and Patches** → **Retail Support Files** → **NCR RealPOS and SelfServ Terminal and Operating Systems** → **NCR RealPOS XR4 (7602-xxxx)** → **BIOS**.
  3. Select the desired BIOS File.
     - *USB Memory Key Image* – Used with USB boot device
     - *Network Image* – Used with Network boot
  4. Save the software to your local hard drive.

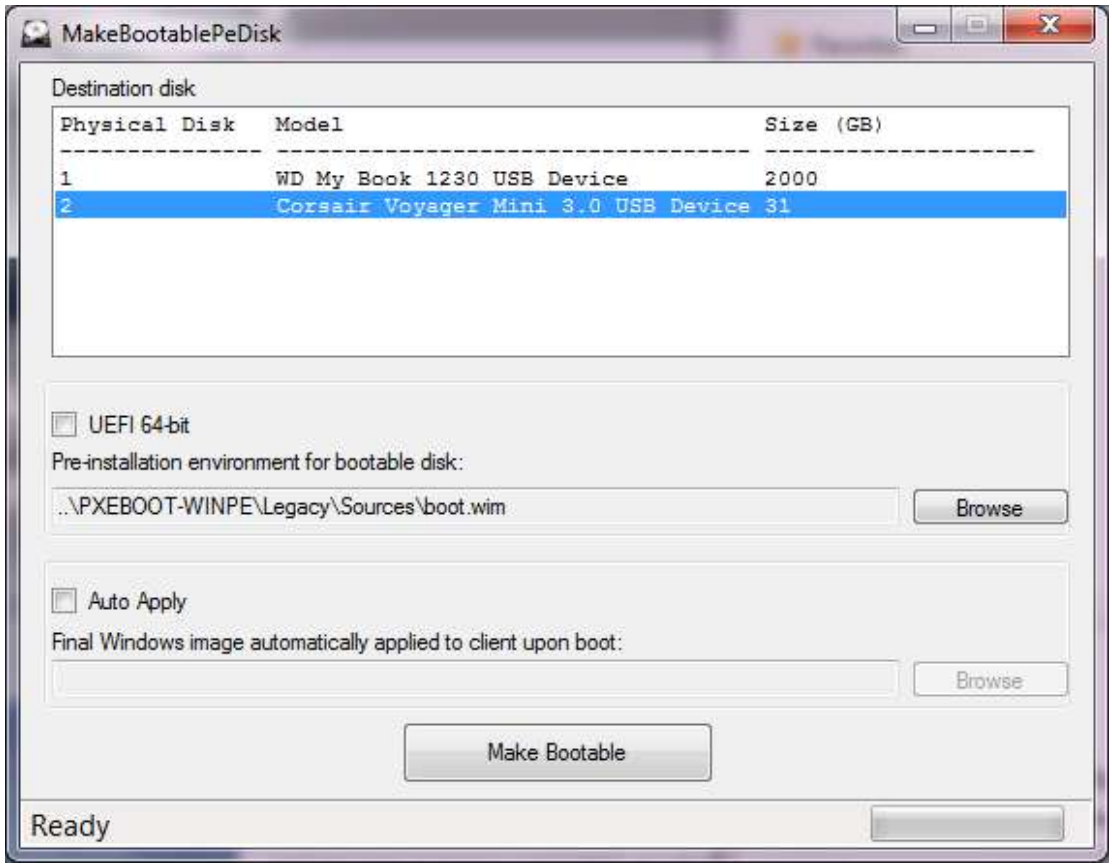
Creating a Bootable USB Memory Drive

The downloaded file contains the files necessary to create a bootable USB Memory Drive.

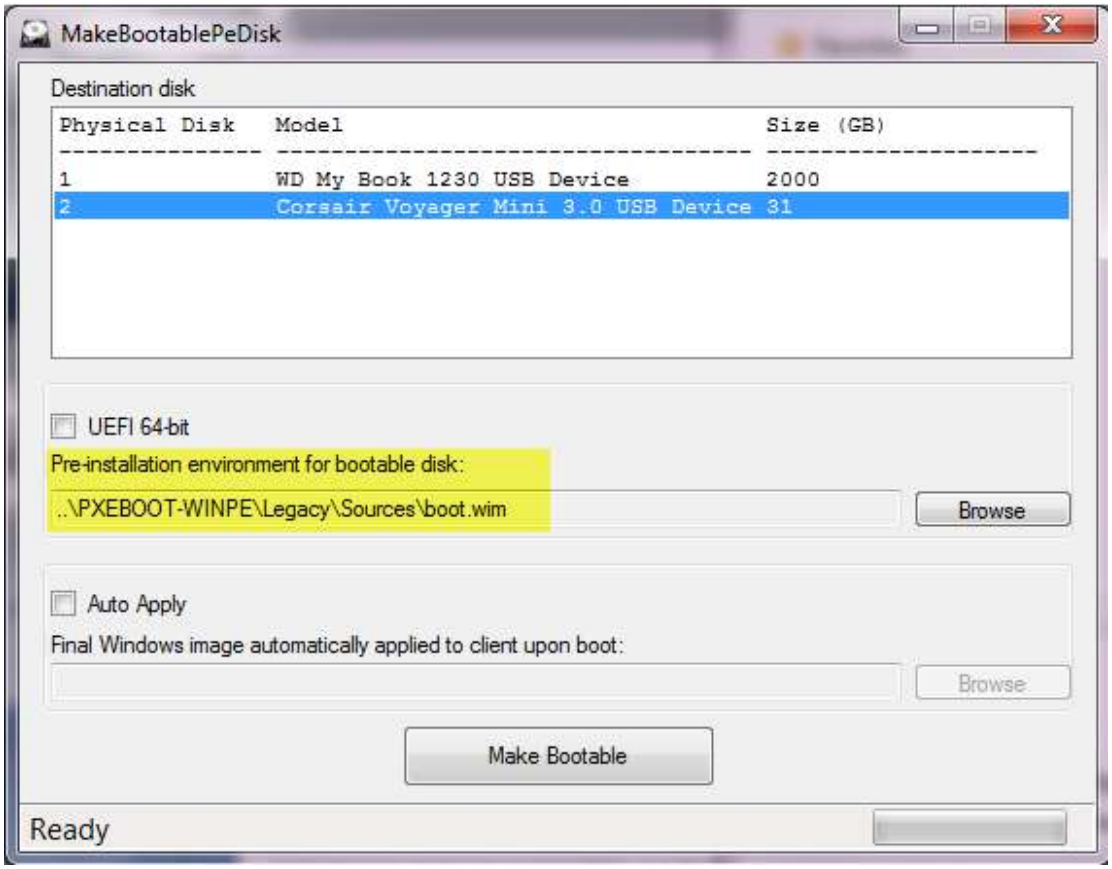
Caution: Drive will be formatted and all data on USB drive will be lost. Back-up any important data located on drive before proceeding.

Note: For more information, refer to the *NCR Imaging Suite User Guide*.

1. Insert a USB drive to be made bootable.
2. Launch `MakeBootablePeDisk.exe` located within `\ImagingSuite_X.X.X.X\Utilities\`.
3. Select the drive you wish to become a bootable USB disk.

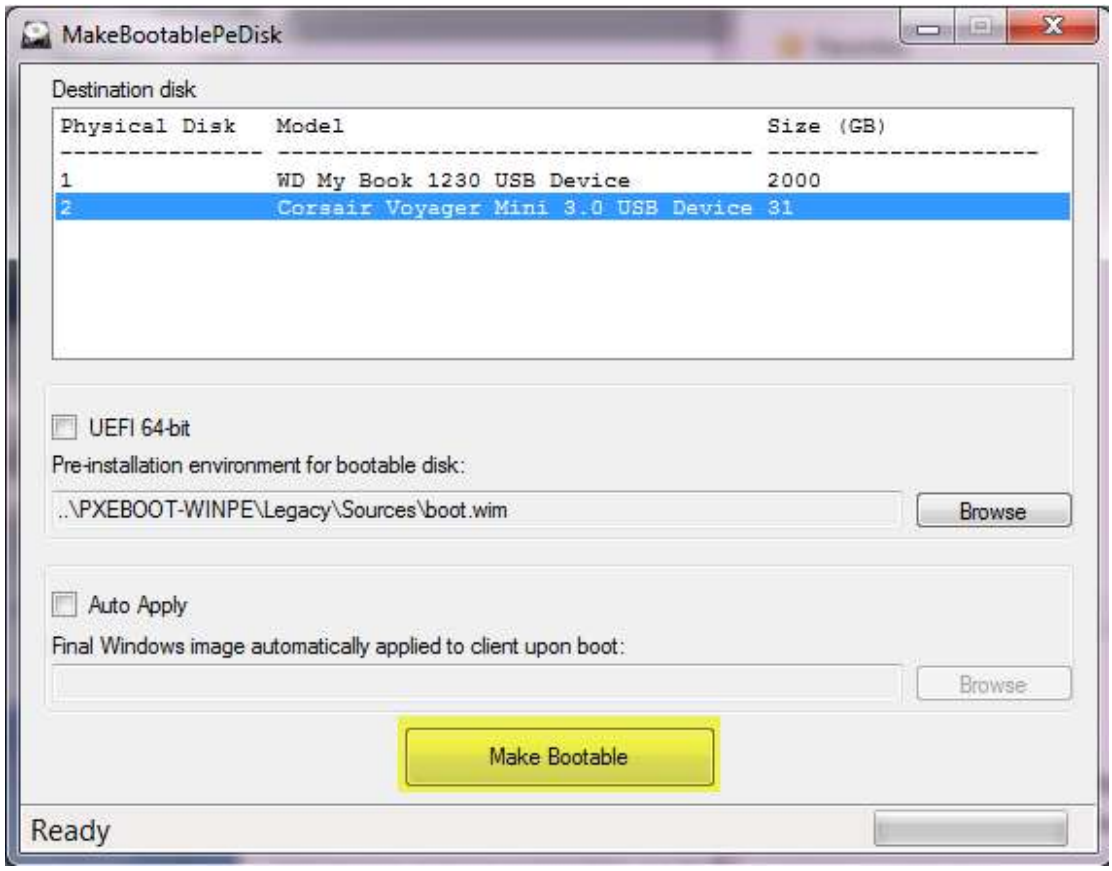


4. A pre-instalation environment for bootable disk is provided by default. Select the `boot.wim`. This automatically launches the Imaging Client when the WinPE boots. Advanced users, if required, can browse to an alternate bootable `WinPE boot.wim`.



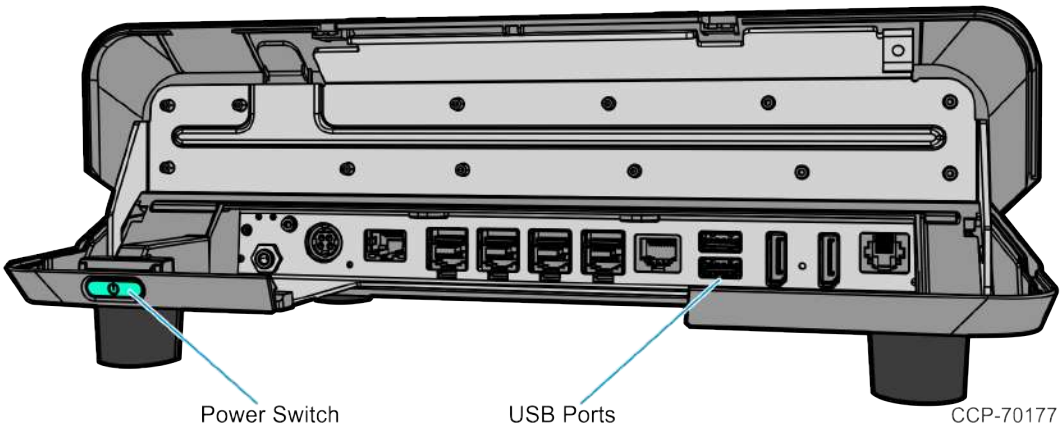
Optional: The USB drive can be optionally made to automatically apply a specific image. To do this, click the "Auto Apply" check box and browse to the image (`.WIM`) that will be applied upon boot of the USB drive.

5. Select **Make Bootable**.



Updating the SPI/BIOS Using the Bootable USB Memory Key

1. Insert the USB device containing the SPI/BIOS update software into the terminal.
2. Connect a USB keyboard to the terminal.



3. Power on the terminal.
4. Validate that the BIOS configuration setup has the USB Key as the first boot device in the **Boot** menu or plan on using the [**F8**] BBS menu to force the USB key to be booted.
5. Reboot the system. Use the [**F8**] key to force booting from the USB key. The terminal performs a FreeDOS boot from the USB key.
6. At the displayed menu, select **Option 1** to update the complete SPI and preserve DMI (valid or invalid). Press [**ENTER**].
7. At the prompt, press [**ENTER**] to enter the class/model, serial number, and other information requested by the update process. Follow the on-screen format instructions.

   Example: `7602-1100-8801` [**ENTER**]

   `54-19378230` **[ENTER]**
8. After the components are updated, a message is displayed indicating a reboot is needed. Press **[3]** to reboot the terminal (automatically executes in 2 minutes if no keys are pressed).
9. Remove the USB device before the system boots.

Note: After the update is completed and the terminal is rebooted, the terminal may reboot additional times as it powers up. This is normal and expected behavior due to the nature of the features of the BIOS/SPI.

Chapter 8: Initial Terminal Imaging

Introduction

Factory default HDD/SSD images for the NCR RealPOS XR4 (7602) are distributed on bootable auto-imaging USB Flash Drive media. The following procedures describe how to apply/restore an image on the terminal.

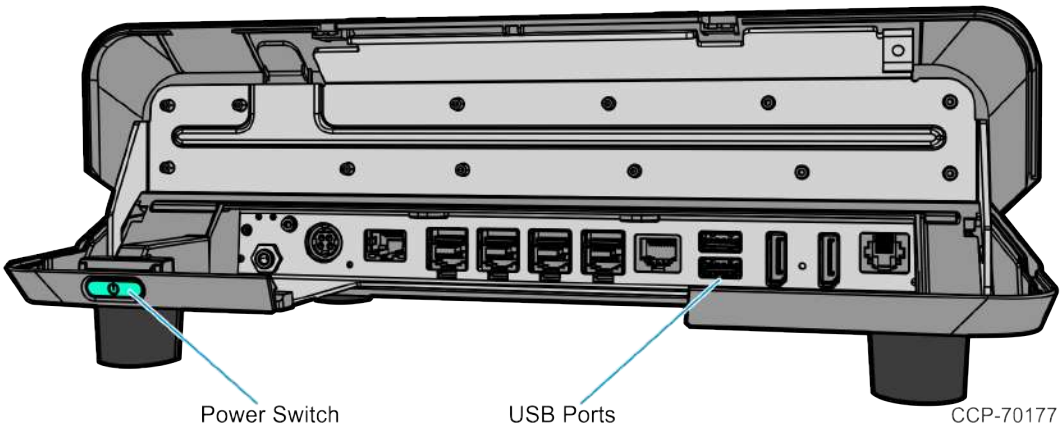
Warning: Using this procedure will replace any previously stored OS images created using the *Disk Image Backup and Recovery Tool*.

Note: A USB Keyboard is required to perform this operation.

Note: For more information, refer to the *NCR Imaging Suite User Guide*.

Imaging Procedure

1. Connect the auto-imaging USB flash drive to the target terminal that you wish to image.
2. Connect a USB keyboard to the terminal.



3. Power on the terminal and boot from the USB Flash Drive.

Note: This can be done by pressing **[F8]** during the boot and choosing the USB option), or by entering *BIOS Setup* and modifying the boot order.

4. The system boots in the Windows PE OS environment and starts a script that requests confirmation to completely re-image the terminal.
5. When imaging is complete, remove the USB drive and keyboard.

6. Reboot the system by pressing and holding the Power Switch for 5 seconds to power off, then pressing once more to power on.

Chapter 9: Wireless Adapter Switching

Wireless Adapter Switching is a feature that disables the wireless adapter when a wired Ethernet connection is present.

The latest NCR OS Images include the driver (Version 17.1.0, or later), but is not pre-installed. The driver can be installed from the `\Install\drivers\wireless` directory.

If the driver is not present on your system, you can obtain it from NCR.

https://www.ncr.com/

1. At this site, select the **Support** tab.
2. Select **Drivers and Patches** → **Retail Support Files** → **NCR RealPOS and SelfServ Terminal and Operating Systems** → **NCR RealPOS XR4 (7602-xxxx)**
3. Click the 

box.
4. Provide your name, company, OS version, email address, and the driver you need in the email window.

Installing the Software and Driver

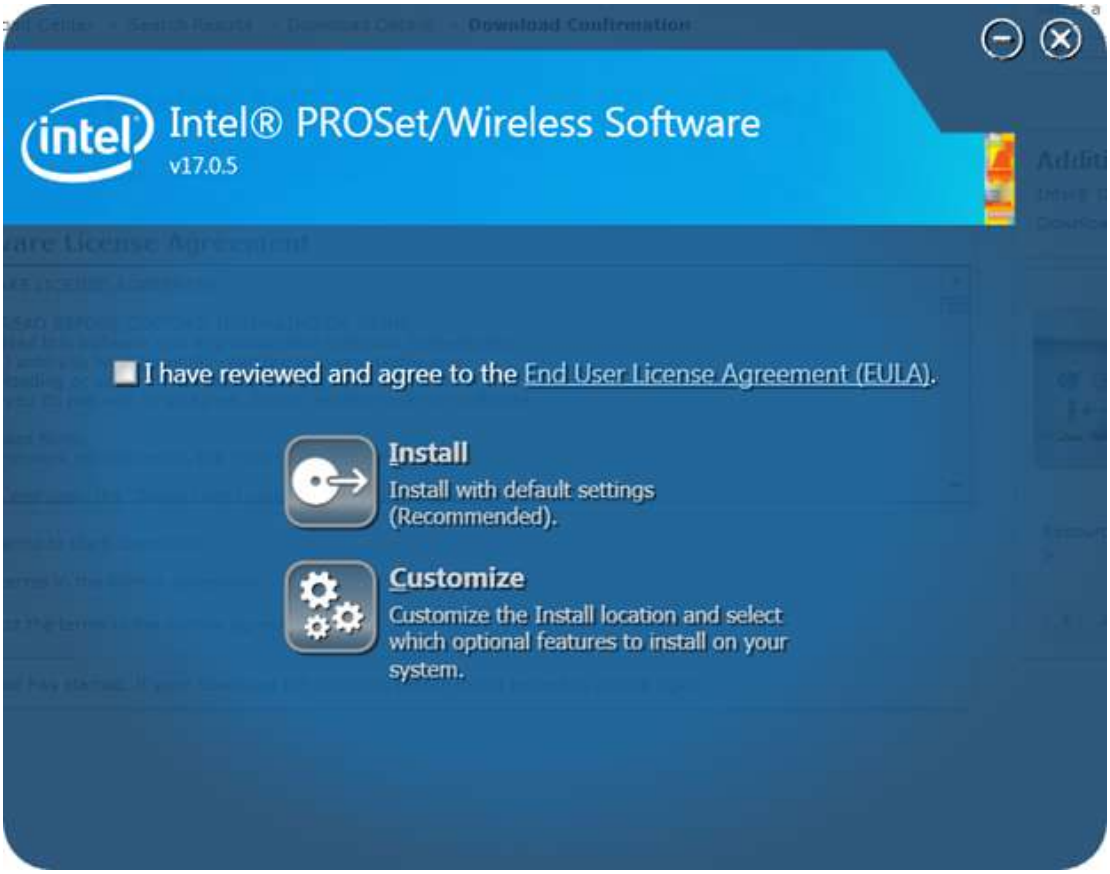
1. Run the Intel .exe self-extracting executable.

   - `Windows 7 32-bit: Wireless_17.x.x_s32.exe`

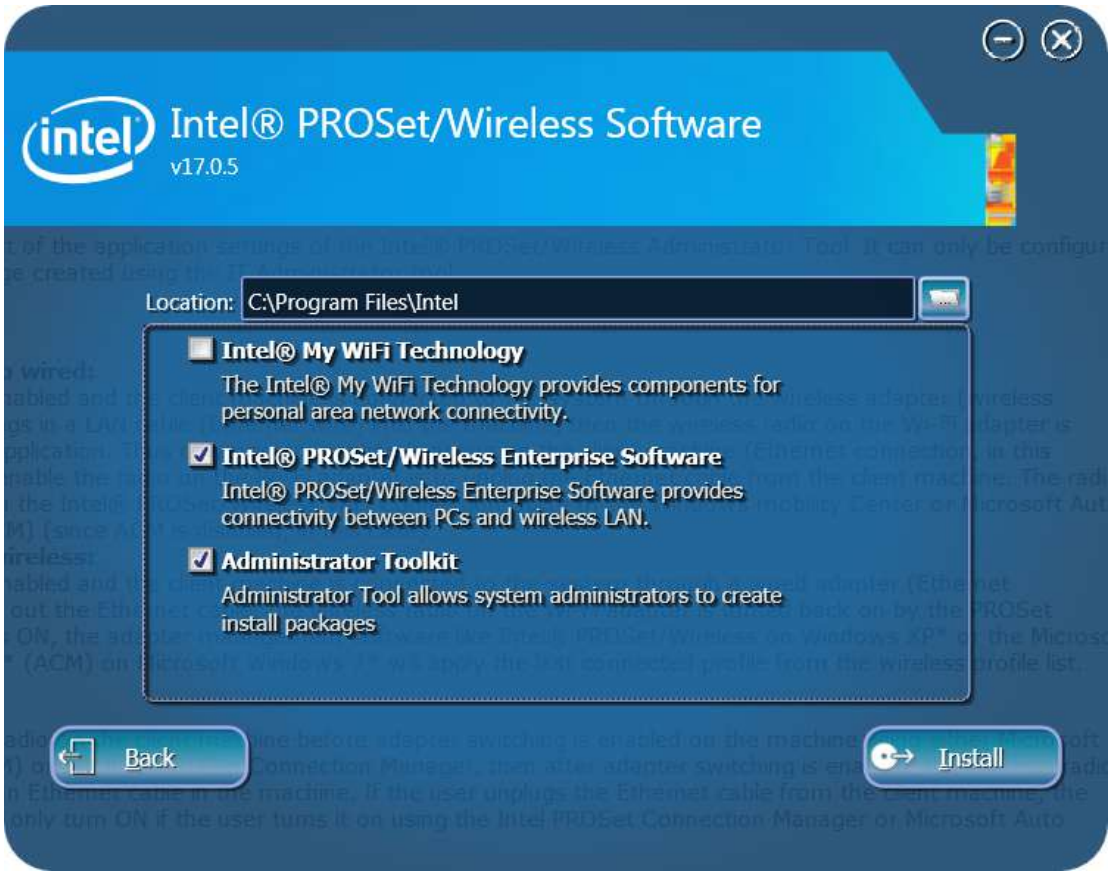
   or

   - `Windows 7 64-bit: Wireless_17.x.x_s64.exe`

2. Agree to the EULA and choose **Customize**.



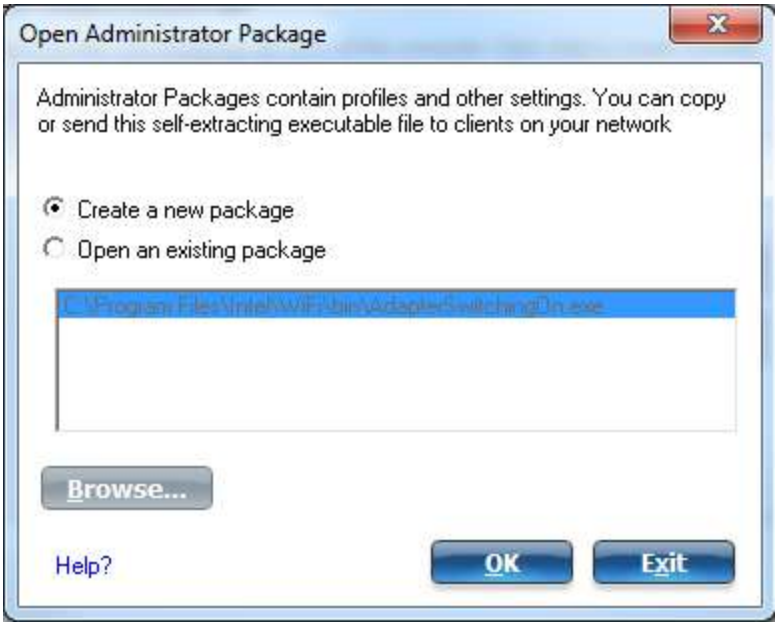
3. Check both **Intel Proset/Wireless Enterprise** and **Administrator Toolkit**. Clear check box for **Intel My WiFi Technology**. Click **Install**.



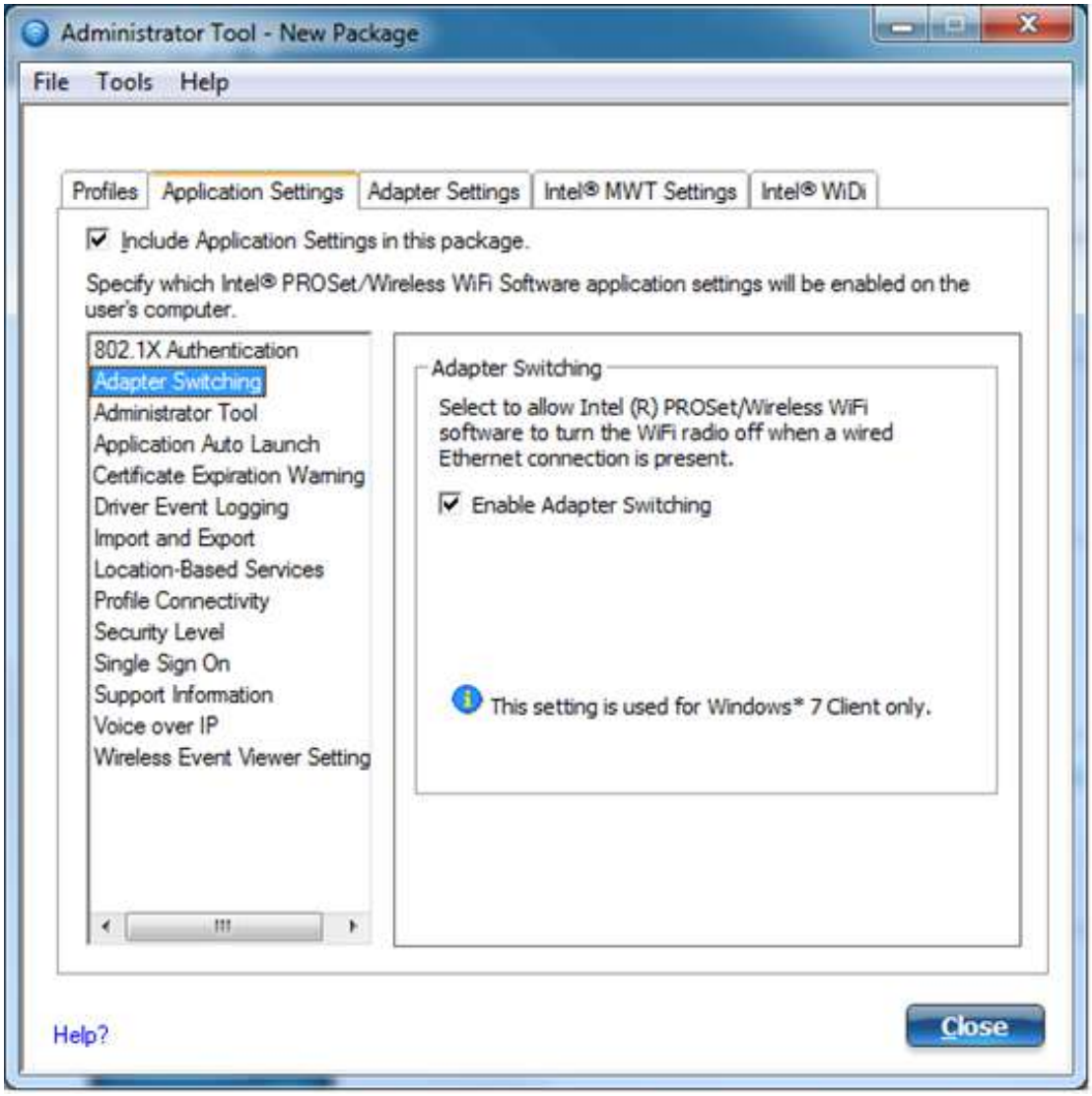
Installation takes several minutes (progress bar shown on-screen).

4. After the installation is complete, click **Start** → **Wireless Administrator Too**l.
5. Enter the **Administrator Tool Password** (not the Windows Administrator password). You are prompted to create a password if this is the first time using the tool. The password cannot be blank.

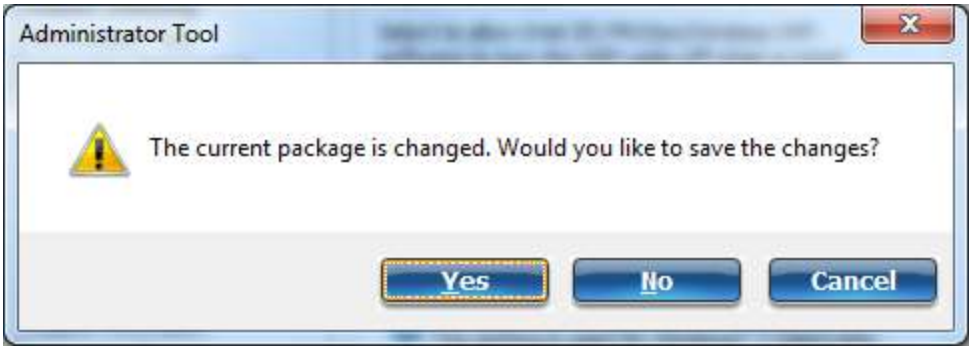
6. Select **Create a new package** → **OK**.



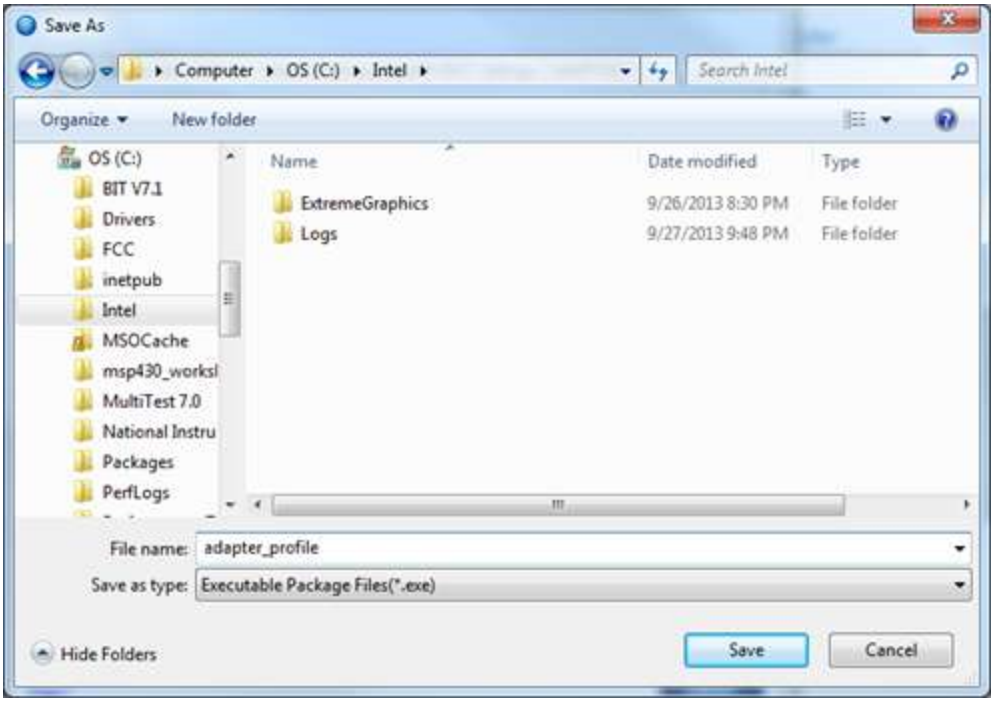
7. Select the **Application Settings** tab.
8. Select **Include Application Settings in this package**.
9. Select **Adapter Switching**
10. **Check Enable Adapter Switching**.
11. Click **Close**



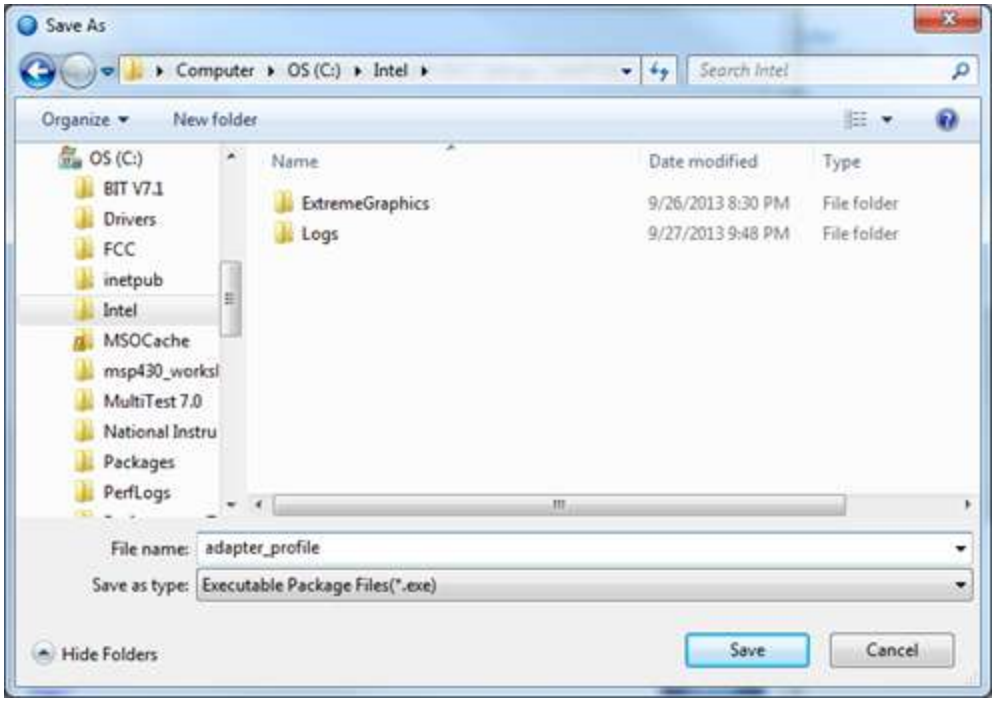
12. Click **Yes**.



13. Enter a **filename** and choose a **location** to save the package file.

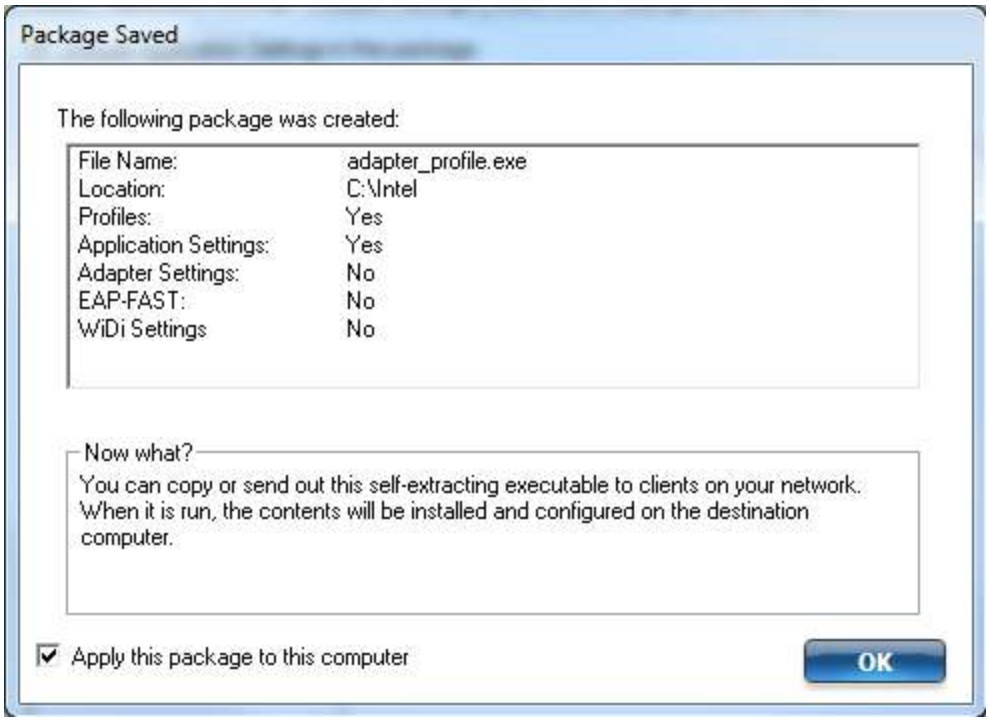


14. Click **Finish** after the save operation completes.



15. Click **Apply this package to this computer**.

Note: You can open and apply the saved package file on other computers that have the Administrator Toolkit installed.



When connecting and disconnecting the wired LAN cable you should now see system tray icons, indicating Proset disabling and enabling the wireless adapter.

Appendix A: Touch Driver Configuration

The Microsoft Inbox Touch driver is best touch driver to use; however, if special features are needed such as touch sound, click modes, and other touch options, then use the appropriate touch driver depending on the attached display. Touch drivers are available on the NCR Support website page. See below touch drivers.

eGalax Touch Driver

On a 5968 AUO PCAP touch display, use eGalax touch driver for touch to work. eGalax Touch driver can be downloaded in NCR Support website below.

http://www5.ncr.com/support/support_drivers_patches.asp?Class=External\Terminals\7701XR5\Windows\Windows10\display

Touch Base Driver

For a 5968 PCAP touch display, it is recommended to use Microsoft Inbox Touch driver; however, if special features are needed, then use the touch base driver. The touch base driver can be downloaded on the NCR Support website below.

http://www5.ncr.com/support/support_drivers_patches.asp?Class=External/Peripherals\Display\5968\display

Microchip Touch Driver

For a 5967 touch display, it is recommended to use the microchip touch driver for touch display to work. Microchip Touch driver can be downloaded on the NCR Support website below.

http://www5.ncr.com/support/support_drivers_patches.asp?Class=External/Peripherals\Display\5967\display

Appendix B: Touchscreen Calibration

Only units with resistive touchscreens need to be calibrated. PCap displays do not require calibration.

Proper Touchscreen Methods

Before performing the calibration procedure please observe the following guidelines for proper/improper methods of touching the screen.

- Face the monitor directly.
- Perform the calibration in the position (sitting or standing) that you normally expect to use the touchscreen.
- Touch the calibration target firmly and precisely with your fingertip. During calibration, be careful to keep your fingernails and other fingers away from the touchscreen as you touch each target.
- The hand and calibration finger should be perpendicular (straight up) from the touch-screen during touch down and removal of the calibration finger. Keep the other fingers closed and away from the touch-screen.

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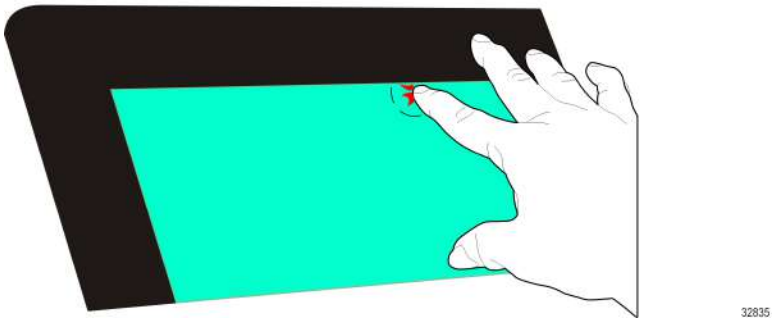
- Do NOT touch the bezel with your other fingers.



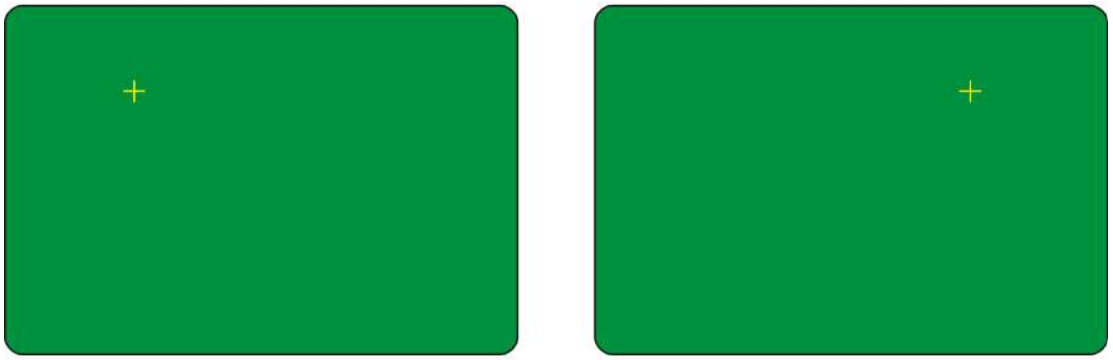
Calibrating the Touchscreen

Resistive Touchscreen Calibration

1. Run the calibration program.
   a. Open Windows Explorer.
   b. Navigate to the calibration program.

      C: → Install → Touch → Drivers → Resistive Touch Calibartion

2. Touch the center of the cross-hair target. When the target is touched, it disappears and another target appears.



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3. Repeat the procedure for each target as they appear.