USER GUIDE

NCR RealPOS XR6 (7603)

Release 1.0

B005-0000-2400

Issue A

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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 XR6* 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.

Caution: This product does not contain user serviceable parts. Servicing should only be performed by a qualified service technician.

Fuse Replacement

Warning: For continued protection against risk of fire, replace only with the same type and ratings of fuse.

Attention: Pour prévenir et vous protéger contre un risque de feu, remplacer la fusible avec une autre fusible de même type, seulement.

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.**

References

- *NCR RealPOS XR6 Site Preparation Guide* (B005-0000-2401)
- *NCR RealPOS XR6 Hardware Service Manual* (B005-0000-2402)
- *NCR RealPOS XR6 Parts Identification Manual* (B005-0000-2403)

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Chapter 5: BIOS Setup

Revision Record

Issue	Date	Remarks
A	Aug 2015	First Issue

Chapter 1: Product Overview

Introduction

The NCR RealPOS XR6 (also known as NCR 7603) is a compact POS solution that combines the reliability and security of a retail-hardened POS terminal with the performance and flexibility of industry-standard PC technology. With an open architecture and Intel® processor, the NCR RealPOS XR6 supports the latest POS applications for Windows® to help you service your customers quickly and efficiently. And, it all fits in a small footprint that helps conserve valuable space at the Checkstand.

To complete your POS solution, choose from NCR's extensive line of peripherals, including printers, displays, keyboards and scanners. The NCR RealPOS XR6 enables you to protect your investment in legacy serial devices or choose from the growing list of USB peripherals. The powered peripheral ports and 24V printer interface simplify cable management and reduce potential points of failure.

Product IDs

Major Model	CPU
7603-1100	RealPOS XR6, Intel Celeron G1820TE, Dual Core 2.3 GHz, 4 GB DDR3, Diskless
7603-1300	RealPOS XR6, Intel Core-i3 4350T Dual Core 3.1 GHz, 4 GB DDR3, Diskless
7603-1500	RealPOS XR6, Intel Core-i5 4590T Dual Core 3.0 GHz, 4 GB DDR3, Diskless

Configurations

The NCR RealPOS XR6 is an affordable, retail-ready POS solution that provides outstanding value for any size retailer. It supports a broad range of certified NCR peripherals and applications. The RealPOS XR6 features the smallest form factor in its class and offers versatile configuration and mounting options.

Choose from NCR's extensive line of peripherals, including printers, displays, keyboards and scanners. The RealPOS XR6 provides flexible connectivity options to power peripherals as well as dual display support for customer-facing advertising and messaging. The system can be configured modularly or stacked on an NCR 2181 Cash Drawer in an integrated fashion.

Modular Configuration

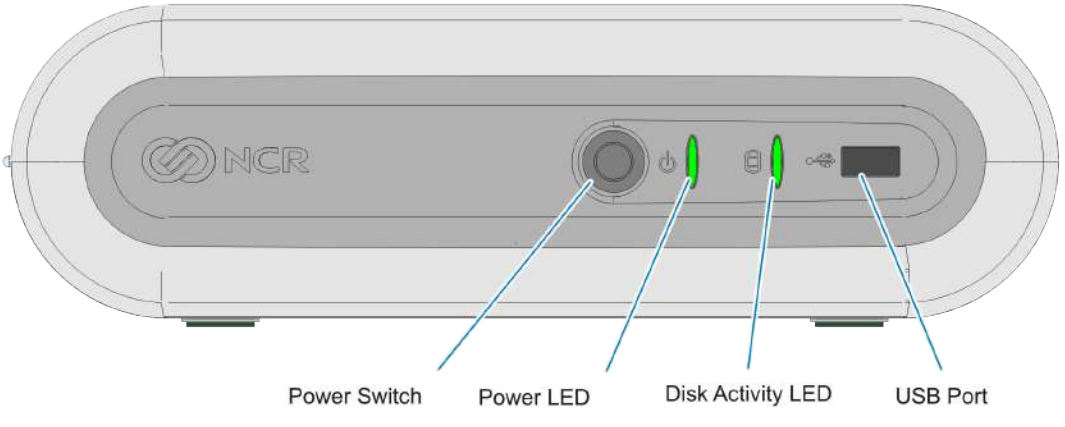
Stacked Configuration

An optional stand is available to mount the terminal vertically.

Vertical Stand Configuration

Flush Wall Mount (7409-K502)

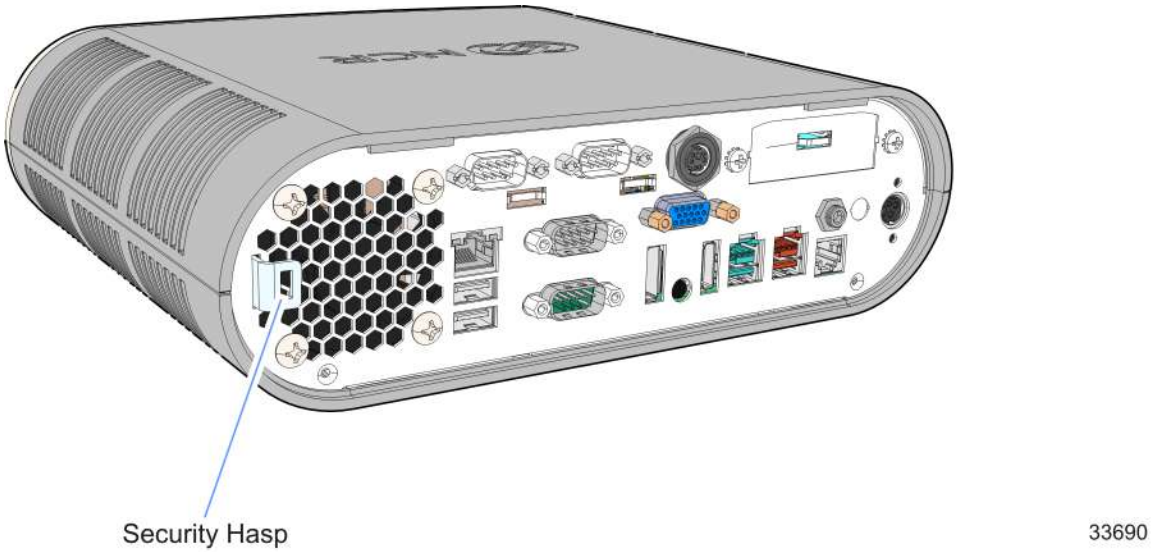
Operator Controls



LED Diagnostic Indicators on page 34.*Diagnostics* on page 34. for more information about the LED Diagnostic Indicators.

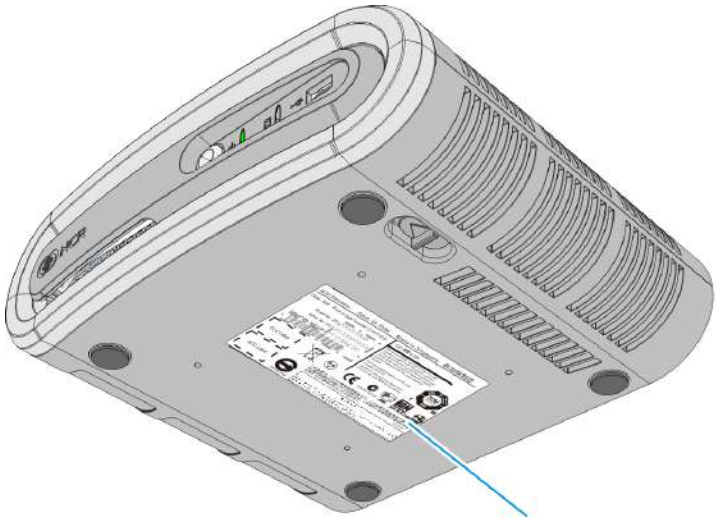
Cabinet Security

The 7603 has easy access to the internal components. However, the case can be secured to a fixed object (desk, pole, etc) by attaching a standard Kensington lock to the Security Hasp. In addition a small padlock can be attached to the hasp to prevent the unit from being opened.



Serial Number/Model Number Label

The serial number and model number are included on the Certification Label located on bottom of the terminal. A Microsoft Certificate of Authenticity (COA) label is included if the terminal is ordered and shipped with a pre-installed Microsoft Operating System. There are two types of Microsoft COA stickers. Depending on the Microsoft Operating System ordered the label is located on either the Bottom Cover for Windows 7 or next to the Certification Label for SLEPOS, POSReady 2009, and POSReady 7.



Model/Serial Number Label 28563a

Features

Motherboard

- Intel's Haswell Chipset
- Up to 8GB DDR3 Memory, 1333 MHz, 2 Memory Sockets
- Serial ATA (SATA) Hard Drive Interface
- High-speed Gigabit Ethernet
- Four Powered Serial ports
- HDMI Connector
- Display Port Connector
- DVI-D connector
- VGA connector
- PS/2 Connector supporting Mouse and Keyboard through a Y-cable
- USB Ports
  - One 12V USB+Power port
  - Two Type-A USB Connectors
  - One 24V USB+Power port

Note: For security purposes individual USB ports can be disabled in the BIOS at: **Chipset** >> **PCH-IO Configuration** >> **SB USB Configuration**

- Dual cash drawer support from one connector using Y-cable
- Audio Line Out (Amplified)
- Three 12V USB+Power ports on a USB Daughter Card (Optional)
- DC Power Jack for Power Brick
- Image Recovery Button

Storage Media

- 2.5" SATA Hard Drive (Feature)
- 2.5" SATA Solid State Drive (Feature)

Power Supply

- 150W Output power
- Switching Power Supply, External 24V Adapter
- MEPS Level V mark (efficiency 87% minimum)
- Supports 24V retail printers at 55W maximum when connected to 7603

Operating Systems

- Windows 7 Professional (32/64-Bit)
- Windows Embedded POSReady 7 (32/64-Bit)

- Windows Embedded POSReady 2009
- SUSE Linux SLEPOS11 SP2

Graphics

The Motherboard has integrated graphics on board. PCI Express x16 graphics adapters. are not supported.

Output ports

Dual independent displays in Concurrent (Clone) and Extended Desktop modes are supported by the 7603.

HDMI

Digital interface for monitor or HDTV driven from Digital Port B on the CPU using a Standard vertical Type A HDMI connector on rear IO.

Note: An adapter cable can be used to support DVI.

Display Port

Display Port driven from Digital Port C on the CPU using a standard vertical Display Port connector on rear I/O.

VGA

Analog display signals for legacy monitors. Standard DB-15 connector on rear IO.

Power Management

The BIOS supports the Advanced Configuration and Power Management Interface (ACPI) 3.0 specification. A key feature of ACPI is that the operating system, not the BIOS, configures and implements power management. The 7603 terminal supports the Global system power states defined by ACPI:

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 7603 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 7603 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 on-board USB 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					
	S0Working	S1Standby	S2	**S3 Suspend to RAM	S4Hibernate	**S5Soft Off
Supported	Y	Y	N	Y	Y	Y
Description	Fully Functional	• Video Back Light Off • HDD Off • Cache Flush • Memory in Slow Refresh • CPU Halted		• Video Back Light Off • HDD Off • Cache Flush • Memory in Slow Refresh • CPU Halted	• Video Back Light Off • HDD Off • Cache Flush • Memory in Slow Refresh • CPU Halted	OFF
Power Supply Status	On	On		Powered Down**	Powered Down**	Powered Down**
Power Consumption*	37	24		2	1	<1
	Wake Options					
Power Switch	N/A	Y		Y	Y	Y
PS/2 Keyboard	N/A	Y		Y	N	N
PS/2 Mouse	N/A	Y		Y	N	N
USB Keyboard	N/A	Y		Per O/S	N	N
USB Mouse	N/A	Y		Per O/S	N	N
LAN (magic packet)	N/A	Y		Y	Y	Y
RTC Alarm	N/A	Y		Y	Y	Y
Serial Port (RI)	N/A	Y		N	N	N

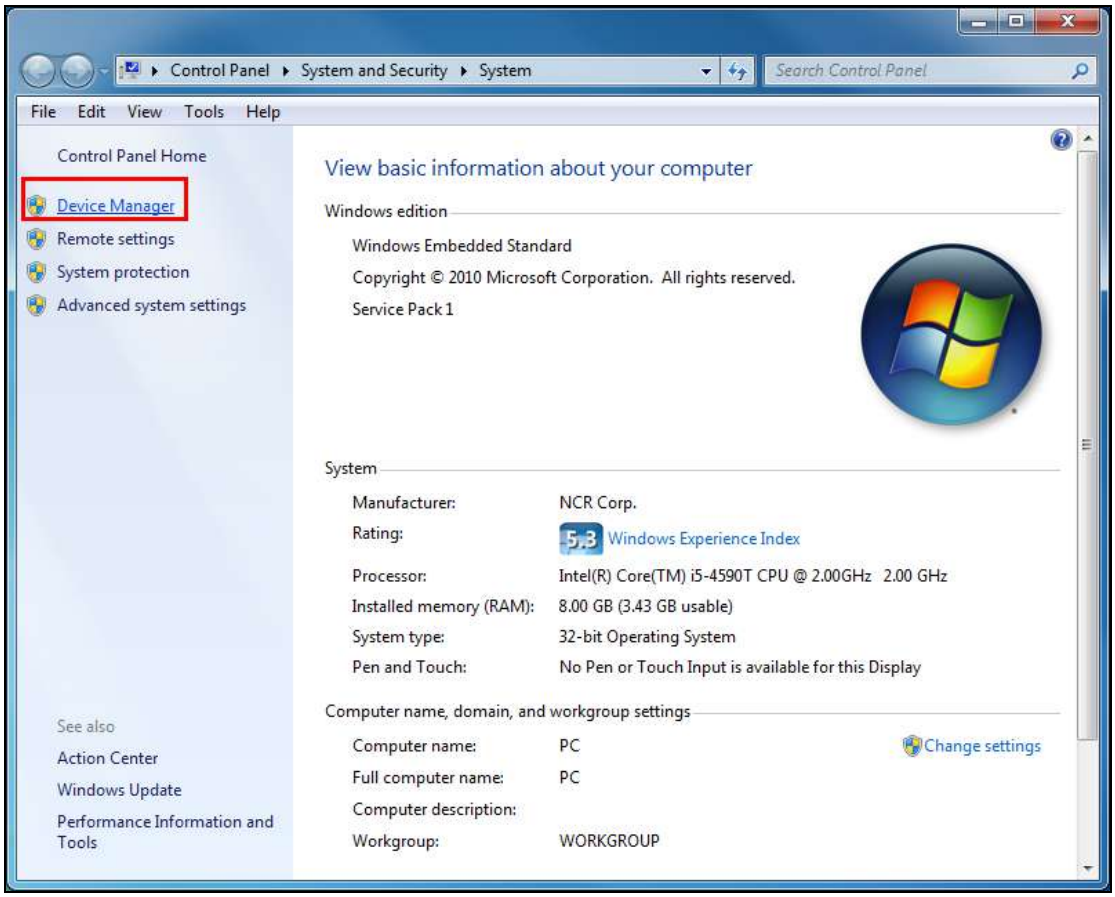
Note: Power consumption based on the following configuration with no peripherals Intel Celeron 900, 512MB DIMM, HDD
*Maintains small voltage to support wake circuits)
**The external power supply is ON while in S3-S5. The motherboard shuts down all power circuits except for a small voltage to support wake circuits. Power to the 24V USB printer port and the Cash drawer is also disconnected while in S3-S5

Enabling Wake on LAN

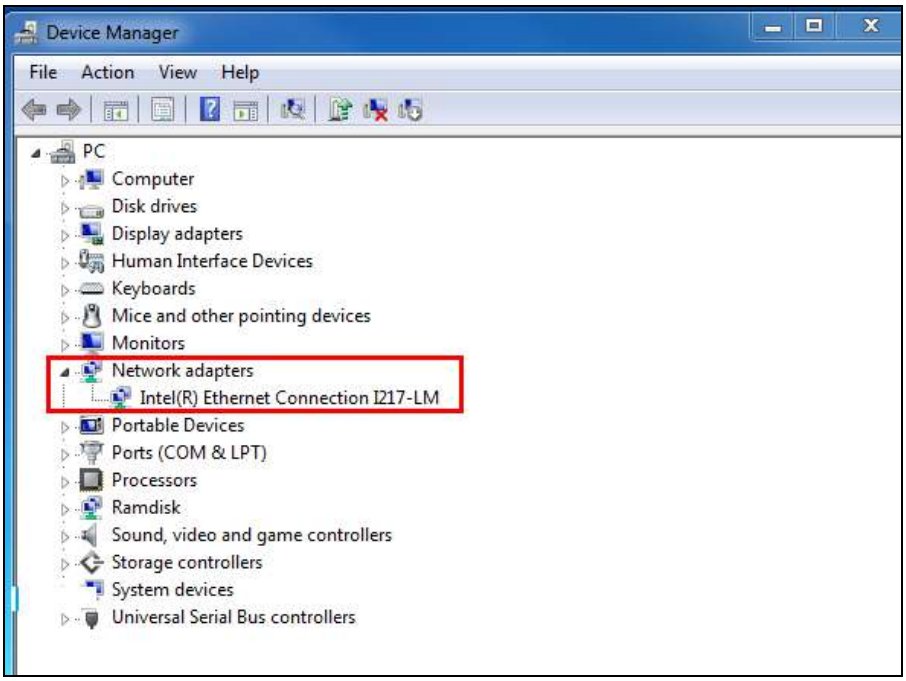
In order for Wake on LAN to function the Network driver must be enabled (factory default). The procedure for enabling the driver depends on which operating system you are using.

Windows 7

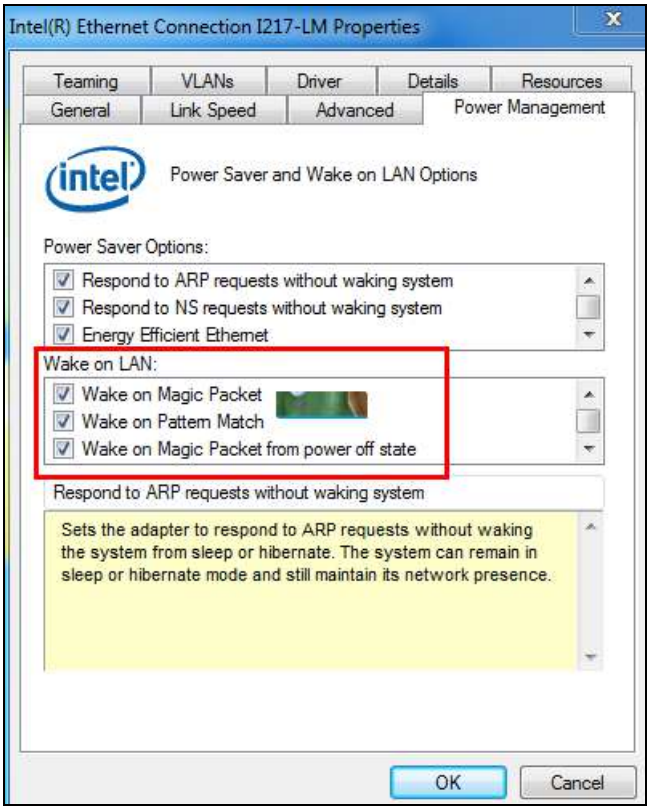
1. **Computer** >> **System Properties***tab* >> **Device Manager**



2. Select **Network adapters.**
3. Right-click **Intel(R) Ethernet Connection J217-LM** >> **Properties**.



4. Under the *Power Management* tab, *Wake on Magic Packet* and *Wake on Pattern Match* and *Wake on Magic Packet from power off state* option boxes should be checked. Select **OK** after making any changes.



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 7603 Atom D2550 Processor supports C0 and C1 states. Support of deeper sleep states is not required due to its inherently low power consumption.

Operator Displays

NCR 5943 12.1-Inch LCD

The NCR 5943 LCD is an LED backlit LCD display (XGA, 1024 x 768). The display is powered by the terminal from a +12V USB Plus Power port. The remote mount must be ordered separately.

- LCD panel
  - Display Size: 12.1-inch
  - LCD Technology: TFT, Pixel Configuration: RGBW Rectangle
  - LCD Backlit Technology: LED-Backlit
  - Native Format: 1024x768, 262,144 colors: (RGB 6bits) color depth or greater
  - Viewing Direction: 12 o'clock
  - 50K hour minimum backlight ½ life at rated luminance
- VESA & Industry Standards
- Retail hardened display
- Dual video inputs, standard analog (DB15) video interface and DVI interface
- No OSD controls - all SW driven
- Flexible cable length options (compatibility with NCR 1m & 4m external cables)
- Clean (hidden) cable management
- ISO 3-Track/JIS 2-Track MSR (Optional

NCR 5943 15-Inch LCD

The NCR 5943 LCD is an LED backlit LCD display (XGA, 1024 x 768). The display is powered by the terminal from a +12V USB Plus Power port. The remote mount must be ordered separately.

- LCD panel
  - Display Size: 15-inch
  - LCD Technology: TFT, Pixel Configuration: RGBW Rectangle
  - LCD Backlit Technology: LED-Backlit
  - Native Format: 1024x768, 262,144 colors: (RGB 6bits) color depth or greater
  - Viewing Direction: 12 o'clock
  - 50K hour minimum backlight ½ life at rated luminance
- Standard VGA and DVI video inputs
- VESA 75 Mounting Compliance
- Retail hardened display
- Standard VGA and DVI video inputs
- No OSD controls - all SW driven
- ISO 3-Track/JIS 2-Track MSR (Optional
- Integrated speakers

NCR 5967 12-Inch Touch LCD

The NCR 5967 Touch LCD is an LED backlit LCD display (XGA, 1024 x 768) with capacitive touch screen. The display is powered by the terminal from a +12V USB Plus Power port. The remote mount must be ordered separately.

- LCD panel
  - Display Size: 12.1”
  - LCD Technology: TFT, Pixel Configuration: RGBW Rectangle
  - LCD Backlit Technology : LED-Backlit
  - Native Format: 1024x768, 262,144 colors: (RGB 6bits) color depth or greater
  - Display Mode: Normally white
  - Viewing Direction: 12 o’clock
  - 370 cd/m2 (typ), 300 cd/m2 (min) luminance to user
- 50K hour minimum backlight ½ life at rated luminance
- VESA & Industry Standards
- Spill proof and sealed
- Dual video inputs, standard analog (DB15) video interface and DVI interface.
- LCD LED Backlight is controllable using soft DDC/CI UTILILTY at full or reduced brightness (no physical DDC/CI UTILILTY buttons)
- ISO 3-Track/JIS 2-Track MSR (Optional)
- USB Port

NCR 5967 15-Inch Touch LCD

The NCR 5967 Touch LCD is an LED backlit LCD display (XGA, 1024 x 768) with capacitive touch screen. The display is powered by the terminal from a +12V USB Plus Power port. The remote mount must be ordered separately.

- LCD panel
  - Display Size: 15-inch
  - LCD Technology: TFT, Pixel Configuration: RGBW Rectangle
  - LCD Backlit Technology: LED-Backlit
  - Native Format: 1024x768, 262,144 colors: (RGB 6bits) color depth or greater
  - 50K hour minimum backlight ½ life at rated luminance
- Touch Sensor; Capacitive Touch, USB I/F
- Standard VGA and DVI video inputs
- VESA 75 Mounting Compliance
- Retail hardened display
- Standard VGA and DVI video inputs
- No OSD controls - all SW driven
- ISO 3-Track/JIS 2-Track MSR (Optional
- Integrated speakers
- USB Port

NCR 5954 15-Inch DynaKey

The NCR RealPOS 5954 USB DynaKey is a Point-of-Sale (POS) keypad with a built-in 15-inch flat panel Liquid Crystal Display (LCD). Unique to the DynaKey is a set of ATM-style keys (DynaKeys), which are located beside the display. The functions of these keys change depending on the software application appearing on the LCD.

Note: USB DynaKey requires Windows XP/XPe.

The combined display and keypad is designed to reduce operator training time, simplify complex POS transactions and improve associate/cashier productivity. Combined with the appropriate applications software, the DynaKey can virtually eliminate the need for an operator to memorize function key locations and sequence.

The USB DynaKey interfaces with the host terminal via two cables.

- Digital Video Interface (DVI) cable for video
- Powered Universal Serial Bus (USB) for data and power

The DynaKey is available in two color schemes.

- Light Gray (G11)
- Charcoal Gray (CG1)

NCR 5982 6.5-Inch LCD Display

The 5982 LCD Display is a terminal-powered color 6.5 Inch VGA LCD.

Features

- 5-inch VGA Monochrome LCD (640 x 480 VGA)
- Contrast Control
- LED Back Light
- Keyboard Mount
- Low-Post Table-Top Mount
- VGA Video
- Powered by 12 V USB Cable

NCR 5976 2x20 LCD Customer Display

The NCR RealPOS 5976-1xxx Customer Display is a 2-line x 20-character LED backlit Liquid Crystal Display (LCD), which can display any downloadable codepage of single byte characters. It supports both RS-232 and USB interfaces.

- 5976-1100 2x20 LCD (G11)
- 5976-1200 2X20 LCD (CG1)

There are four post options, available in 4 inch increments.

Features

- 2x20 Character Liquid Crystal Display (LCD)
- LCD Technology: Advance Black Nematic (ABN)
  - True white on black LED display
  - Sealed against dust and spill resistant
- High-Contrast/High Bright
- Low Power Consumption
- 7x9 pixel characters
- Character height
  - Minimum - 9.5mm
  - Maximum - 10.5mm
- LED backlight: 50K hour minimum backlight life at ½ rated luminance
- Luminance: 200-500 nits
- Three pre-loaded Code pages
  - Up to 19 downloadable Code pages
- MB Flashable memory

Power Supply

- Universal Power Supply (12V, 12W output)
- 8 pin Molex Connector

EIA-232 or USB 2.0 I/F support

- The components for both interfaces are populated on a single printed circuit board. Both interfaces are active, though only one interface can be physically connected at a time. The display communicates via the interface that is connected to it.

Mounting Options

- Table Mount, 4-in. Post
- Table Mount, 8-in. Post
- Table Mount, 12-in. Post
- Table Mount, 16-in. Post
- Integrated Mount for NCR 7456, 7457, 7458

Character Sets

- Support for 19 character sets
- 3 Character sets in base unit
  - Code Page 858 (International)
  - Katakana
  - Code Page 866 (Cyrillic)
- 2 MB Flash Memory for support of up to 16 additional character sets

Keyboards

NCR 5932 Keyboards

The NCR 5932 Keyboards are intended for harsh retail environments and contain an internal membrane to protect against objects such as paper clips, staple wires, pins, and so forth, from falling between the keys and damaging the electronics. This technology improves overall reliability not typically found in standard PC keyboards or many retail keyboards.

The RealPOS XR6 supports the following NCR 5932 Keyboards:

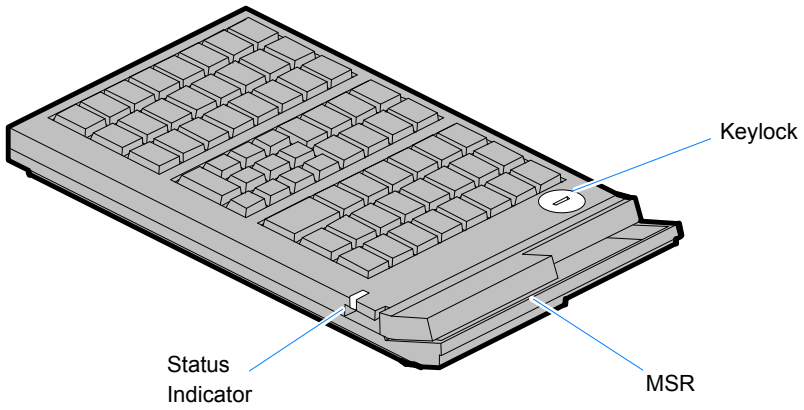
- NCR 5932-222x 64-Key PS/2 POS Keyboard
- NCR 5932-5xxx USB Big Ticket Keyboard
- NCR 5932-65xx PS/2 Compact Keyboard
- NCR 5932-66xx USB Compact Keyboard

Keyboard Power

The RealPOS XR6 supplies power to the PS/2 keyboard even when in the OFF state. This is for configurations that require the terminal to turn on when a key is pressed. Most NCR PS/2 keyboards have a Power ON LED which stays illuminated, indicating power is present in the keyboard. Pressing a key may also cause tones to be sounded, but unless the terminal is configured to power up when a key is press, nothing happens

NCR 5932-222x 64-Key PS/2 POS Keyboard

The NCR 64-Key POS Keyboard, designed for checkout environments where alpha entry is not required, includes 55 assignable function keys and a numeric keypad with 11 keys.



Features

- Keylock
- Speaker
- Scanner
- System Status Indicator LED
- 68-Inch PS/2Keyboard Cable

Note: Configure a NCR 5932-2xxx if you need an MSR feature.

The Wedge controller handles the operations of the user-programmable speaker, Magnetic Stripe Reader (MSR), keylock, and scanner connector. Please refer to the Wedge Software User's Guide (BD20 1368 A) for detailed information about interfacing and configuring these devices.

Keylock

The Big Ticket and 64-key keyboards have a four-position keylock switch. The table following explains the keylock positions.

Abbreviation	Position	Description
Ex	Exception	Used by the customer or service representative to perform low-level programming such as terminal diagnostics, configuring the terminal, or loading the terminal.
L	Locked	Used to lock keyboard input to prohibit use of normal functions.
R	Register	Used when performing normal retail mode functions.
S	Supervisor	Used by supervisor to provide highest level of terminal control in cases such as refunds and running totals.

Speaker

A programmable speaker generates key clicks and error tones.

Buzzer

The buzzer is an internal on board Buzzer.

System Status Indicator LED

The system status indicator is a two-color LED. The green color indicates the keyboard has power. Red indicates an error condition. When the system is off, the LED does not light up.

When the 64-key keyboard is in the special PC setup mode, the LED flashes red/green.

The status and condition indicated by the LED are as follows:

Status	Condition
Green	Power ON
Red	Wedge controller reporting an error condition
Flashing red/green	Keypad of 64-key keyboard in *PC Setup* mode
Off	System OFF (see *Keyboard Power* section)

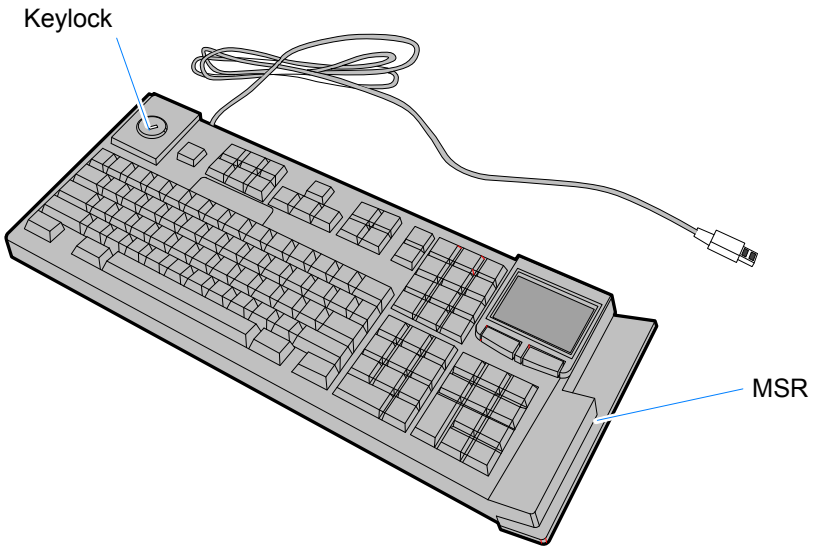
MSR (Magnetic Stripe Reader)

The MSR is an optional feature that provides support for reading magnetically coded data cards. The keyboards support two different types of MSR:

- ISO Tracks 1, 2, and 3
- JIS-II and ISO Track 2 (Big Ticket and full-featured 64-key keyboards only)

Note: MSR signals are routed to the Wedge controller and passed into the system keyboard data stream. For more information about the Wedge controller, refer to *Wedge Software User's Guide* (BD20-1368-A)

NCR 5932-5xxx USB Alphanumeric Big Ticket Keyboard



The *NCR USB Alphanumeric Big Ticket Keyboard* is a multifunction keyboard that is two keyboards built into one.

The keyboard consists of two major sections:

- 38-key POS keyboard
- Industry-standard alphanumeric PC keyboard

The keyboard contains the key matrix and other POS-specific functions such as keylock, speaker, system status indicator, and magnetic stripe reader (MSR). This 5932 keyboard also has a USB port to connect a Scanner or other USB device.

Features

The NCR 5932 USB Keyboard supports the following features:

- Integrated Touch Pad, Keylock, Speaker, 3-Track Magnetic Stripe Reader (MSR)
- Keyboard Status LEDs
- USB cable
- Additional external USB ports
- No language characteristics

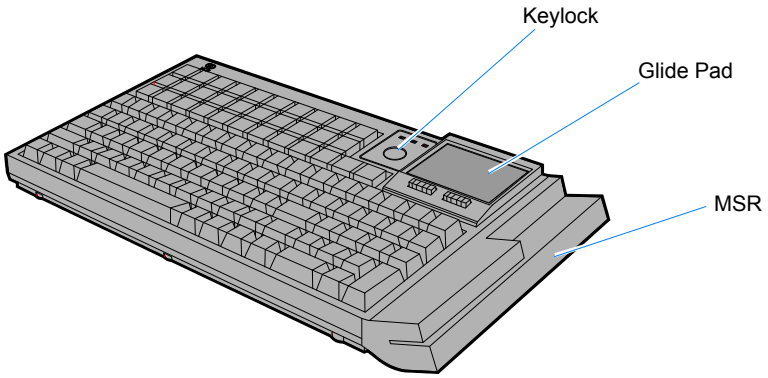
Note: Refer to NCR 5932 USB Keyboard User's Guide (B005-0000-1395) for further detailed information.

NCR 5932-65xx PS/2 Programmable POS Keyboard

The *NCR 5932 PS/2 Programmable POS Keyboard* is a multifunctional keyboard that is two keyboards built into one.

The keyboard consists of two major sections:

- 32-key Point-Of-Sale Keyboard
- PC type Alphanumeric Keyboard



29168

The keyboard includes the following features:

- Keylock
- Tone Indicator
- Keyboard Status Indicator
- Magnetic Stripe Card Reader (MSR)
- Glide Pad

NCR 5932-66xx USB Programmable POS Keyboard

The *NCR 5932 PS/2 Programmable POS Keyboard* is a multifunctional keyboard that is two keyboards built into one.

The keyboard consists of two major sections:

- 32-key Point-Of-Sale Keyboard
- PC type Alphanumeric Keyboard

The keyboard includes the following features:

- Keylock
- Tone Indicator
- Keyboard Status Indicator
- Magnetic Stripe Card Reader (MSR)
- Glide Pad

Printers

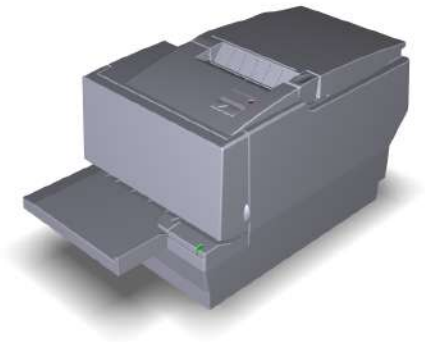
NCR 7167 Printer

The NCR 7167 Printer is a fast, quiet, relatively small and very reliable multi function printer. It prints receipts, validates and prints checks, and prints on a variety of single or multiple part forms. There is not journal as it is kept electronically by the host terminal. The printer can connect through a USB port or a serial port. It can receive power from a power supply or through a USB+ power cable.

Features

- Print speed up to 90 lines/sec (44 columns)
- Supports 80/58 mm media rolls
- Easy drop-in paper loading
- Dual Interface board w/auto-sensing

NCR 7168 Printer



The NCR 7168 Printer is a fast, quiet, relatively small and very reliable multiple-function printer with front and back printing on the receipt paper capability. It prints receipts, validates and prints checks, and prints on a variety of single- or multiple-part forms. There is no journal as it is kept electronically by the host computer.

The industry-standard RS-232C communication interface allows the 7168 to be connected to any host computer that uses RS-232C or USB communication interface.

The receipt station uses thermal printing technology. Therefore, there is no ribbon cassette to change and paper loading is extremely simple. Printing on single- or multiple-part forms, validating checks, and printing checks is also easy in the accommodating slip station.

Another feature is the Magnetic Ink Character Recognition (MICR) check reader with parsing, which reads account numbers on checks for easy verification. An extended slip table is available for handling large forms and is standard with the MICR option.

Features

- Print speed up to 52 lines/sec (44 columns)
- Supports 58/80 mm media rolls
- Easy drop-in paper loading
- Dual Interface board w/auto-sensing

NCR RealPOS 7197 Printer

The *NCR 7197 Printer* is a fast, quiet, relatively small and very reliable printer. The printer can connect through a USB port or a serial port. It receives power from the 24V connector on the terminal or from an external power supply.

Features

- Print speed up to 90 lines/sec (44 columns)
- Supports 80/58 mm media rolls
- Easy drop-in paper loading
- Dual Interface board w/auto-sensing

NCR 7198 Printer

The NCR 7198 printer is a fast, quiet, relatively small and very reliable printer with front and back printing on the receipt paper capability. The printer can connect through a USB port or a serial port. It can receive power from a power supply or through a USB+ power cable.

The NCR 7198 Printer is a fast, quiet, relatively small and very reliable printer with front and back printing on the receipt paper capability. The printer can connect through a USB port or a serial port. It can receive power from a power supply or through a USB+ power cable.

Features

- Print speed up to 52 lines/sec (44 columns)
- Supports 58/80 mm media rolls
- Supports RoL media
- Automatic paper detect (type)
- Easy drop-in paper loading
- Dual Interface board w/auto-sensing

Chapter 2: Hardware Installation

This chapter explains how to install the RealPOS XR6 hardware, including out-of-box installation and how to install the optional peripheral devices. The 7603 is very flexible to install. This document discusses a typical configuration. Your configuration may require adjustments to the procedures.

Installation Restrictions

- Before installing the RealPOS XR6, read and follow the guidelines in the RealPOS XR6 Site Preparation Guide (B005-0000-2401) and the NCR Workstation and Peripheral AC Wiring Guide (BST0-2115-53).
- Install the RealPOS XR6 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 RealPOS XR6 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 RealPOS XR6.

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

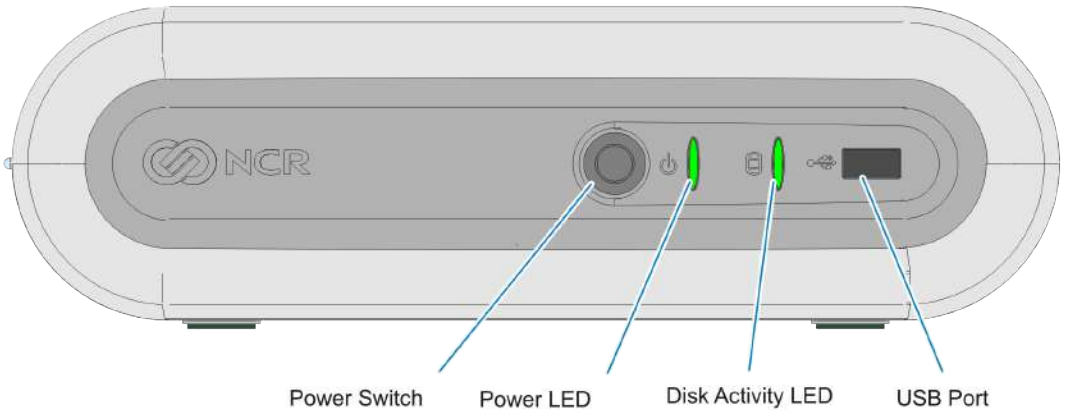
Caution: Do not connect or disconnect the transaction printer while the terminal is on. This can result in system or printer damage.

Chapter 2: Diagnostics

LED Diagnostic Indicators

The two front panel LEDs also function as diagnostic indicators, defined as follows.

Note: The cell colors indicate the color of the LED at that particular time.



Current System Operation	Suspect Component	System State	Power LED	Disk Activity LED	Corrective Action
Normal Operation	N/A	System ON	ON	OFF	N/A
Normal Operation	N/A	System ON with HDD Activity	ON	Flashing (HDD Access)	N/A
Normal Operation	N/A	Unit in Suspend (S3)	Blinking (1/Sec)	ON	N/A
• OFF • AC Present	N/A	• OFF • Not in Standby • External P/S ON	OFF	ON	N/A

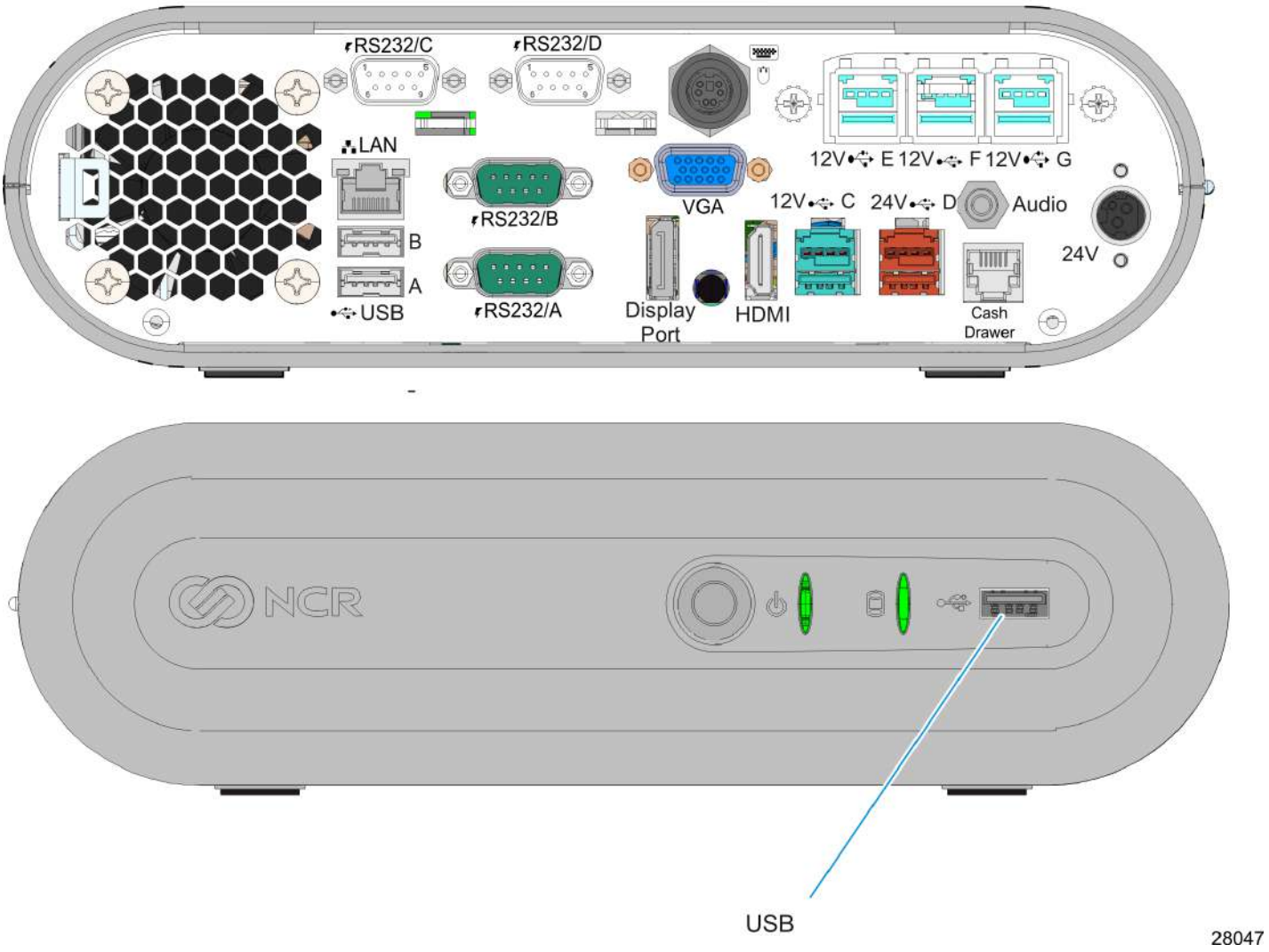
Current System Operation	Suspect Component	System State	Power LED	Disk Activity LED	Corrective Action
• OFF • AC Present	Power System	• OFF • Not in Standby • External P/S ON	OFF	OFF	1. Check AC power to P/S 2. Check P/S 3. Check connection between unit and P/S 4. Check power connection from Back Panel to Motherboard and Motherboard to Front Panel 5. Replace P/S 6. Replace Motherboard 7. Replace Front Panel Board
Runtime	Cooling Component/CPU	Over Temperature	Flashes red/green, then solid red as temperature increases	N/A	1. Check for blocked cooling vents 2. Check for excessive ambient temperature 3. Check cooling components
POST	CPU	CPU not Operating	ON	ON	1. Check for correctly installed CPU 2. Replace Motherboar
POST	BIOS Chip	BIOS Checksum Failure	ON	Flashing (4/Sec)	1. Perform BIOS crisis recover 2. Replace BIOS chip 3. Replace Motherboard

Current System Operation	Suspect Component	System State	Power LED	Disk Activity LED	Corrective Action
POST	Memory	Memory Issue	ON	Flashing (1/Sec)	1. Check for properly installed memory 2. Replace memory 3. Replace Motherboard
POST	Motherboard	No Display	ON	Flashing 1/4 Sec)	Replace Motherboard
POST	Display Motherboard Peripheral	Stopped Prior to Boot	ON	Flashing (1/Sec)	***No Display:*** 1. Check for power to display if no display 2. Check cable connection between Motherboard and display 3. Check for properly functioning display 4. Replace Motherboard ***Display Working:*** 1. Use display to determine failure point via onscreen message and BIOS Setup

Current System Operation	Suspect Component	System State	Power LED	Disk Activity LED	Corrective Action
Boot Time	Boot Media (HDD, LAN)		ON	OFF	***HDD is Boot Device:*** 1. Check HDD status in BIOS Setup 2. Check connections between HDD and Motherboard 3. Replace or re-image HDD 4. Replace Motherboard ***LAN is Boot Device:*** 1. Check for LAN link and activity LEDs on the Back Panel 2. Check LAN cable 3. Replace Motherboard

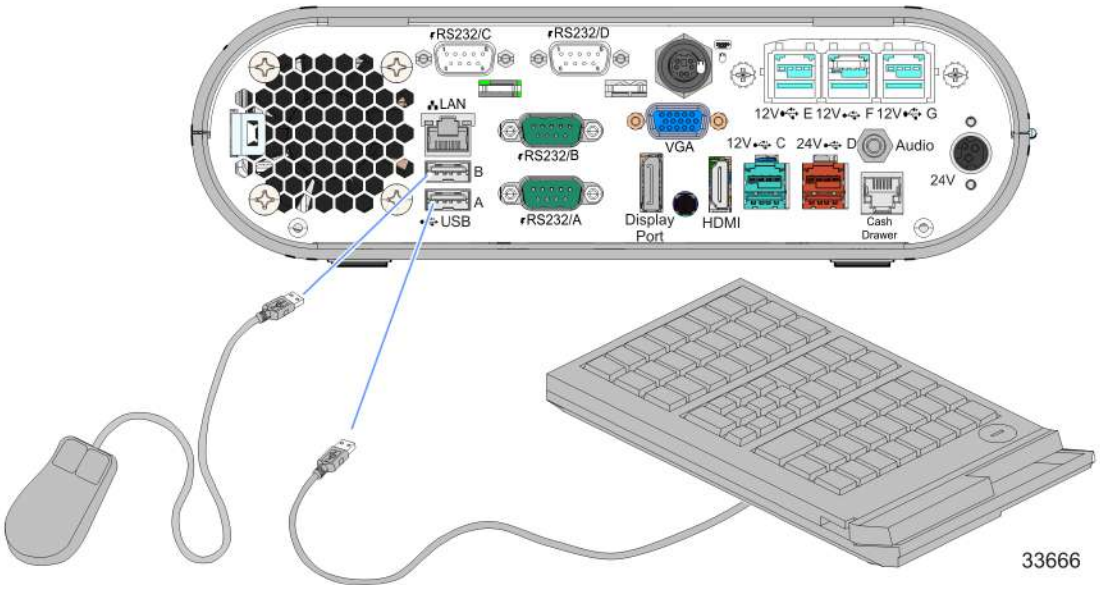
Installing the Terminal

1. Connecting the External Cables
2. Connect the external cables to the connectors located on the rear of the unit. There is also a USB connector on the Front Panel. See the following sections for each component.

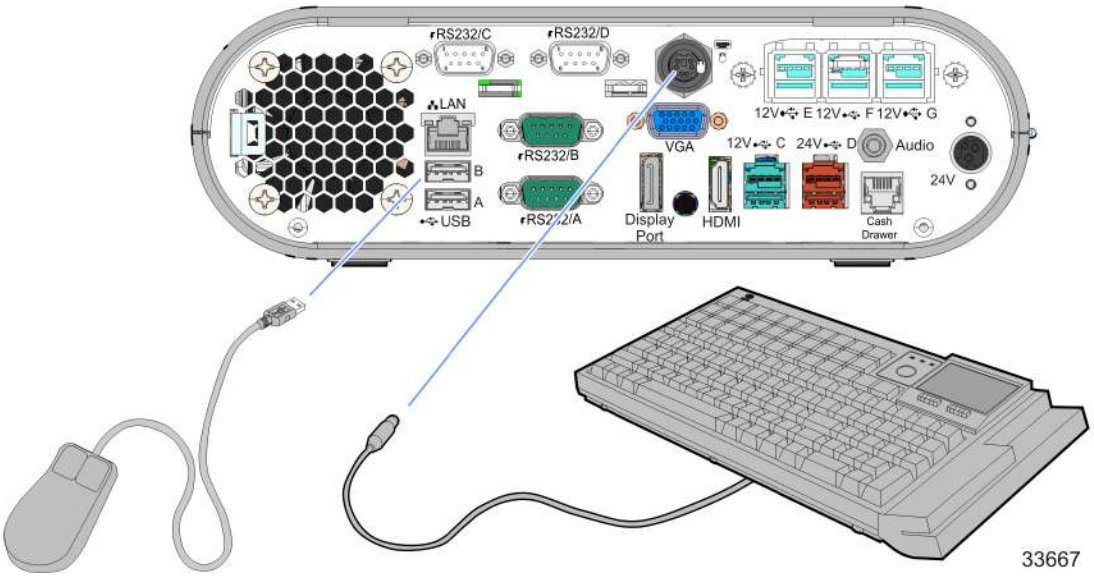


Installing the Keyboard and Mouse

The 7603 supports USB and PS/2 type keyboards. Only USB mice are supported. See the following examples of supported configurations.

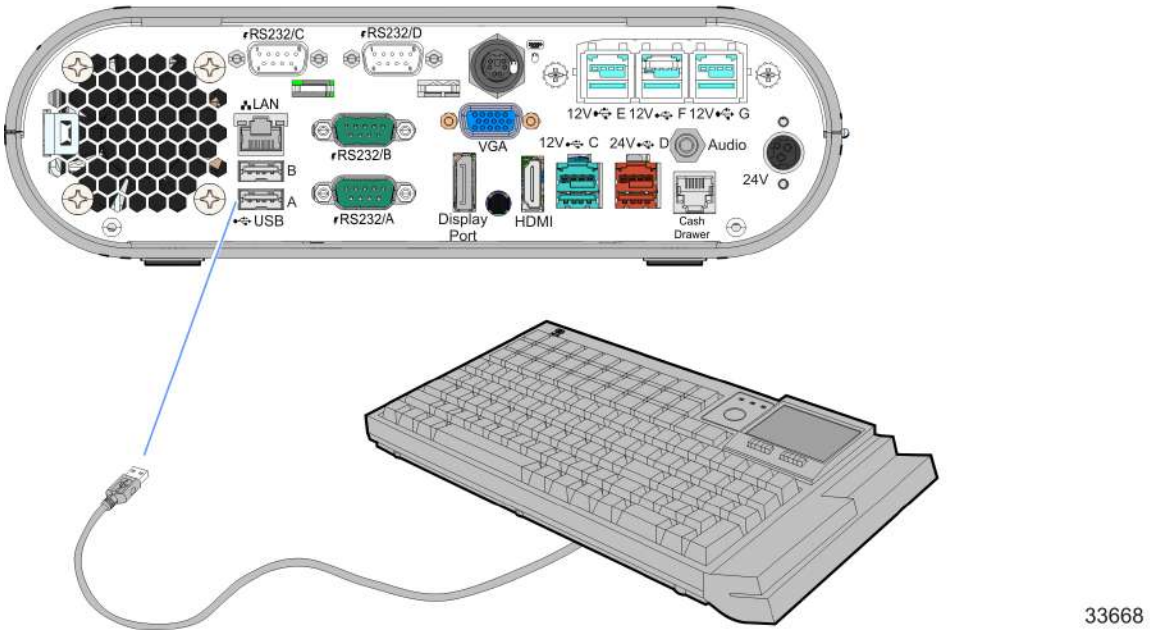


USB Keyboard and USB Mouse



PS/2 Keyboard and USB Mouse

Note: PS/2 Extension Cables cannot be used on PS/2 Keyboards with a Glide Pad.



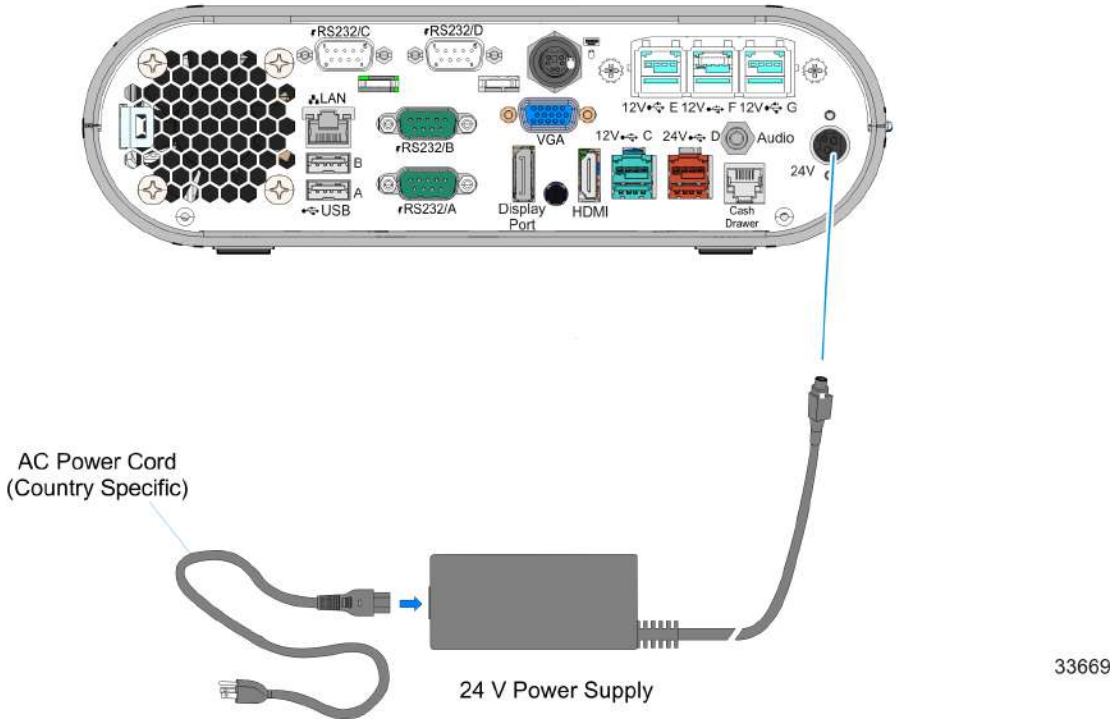
USB Keyboard w/Glide Pad

Connecting AC Power

The 7603 power supply is an external 24 V power brick.

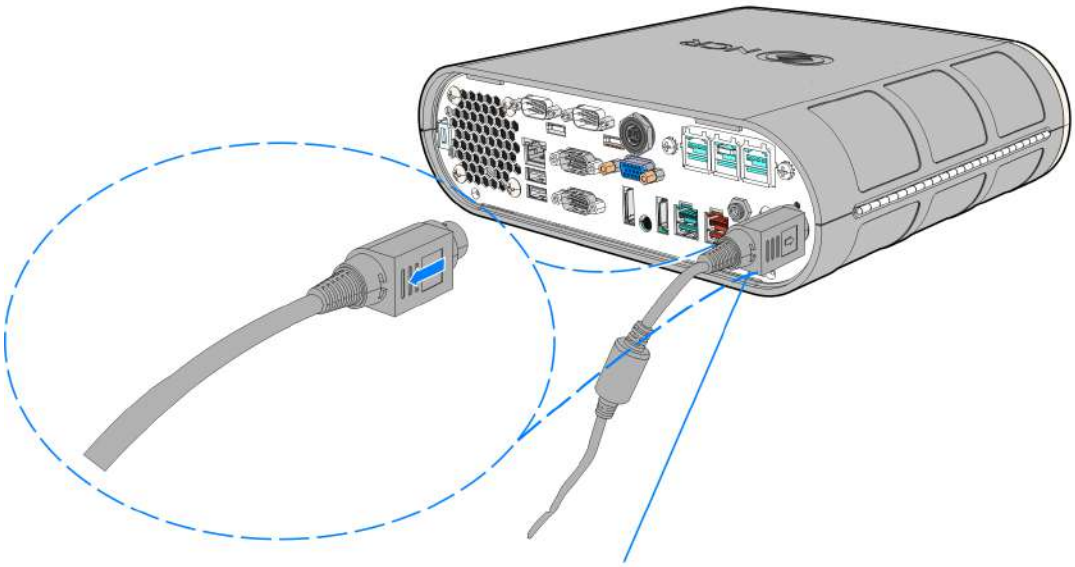
Caution: The 7603 requires the NCR 24 V power supply that is shipped with the terminal. Use of other power bricks may cause damage to the unit.

1. Connect the Power Supply cable to the DC Power connector on the terminal.
2. Connect the AC Power Cord to the Power Supply and to an AC outlet.



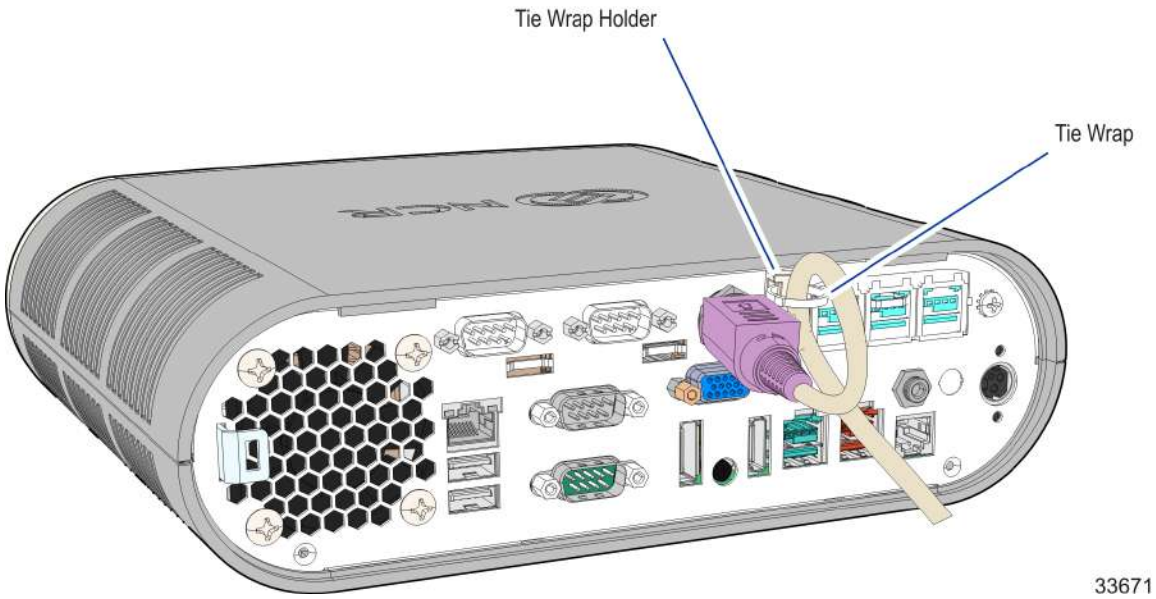
Disconnecting the Power Cable

The Power Cable connector locks into position when connected to the terminal and cannot be removed by simply pulling on the cable. You must grasp the connector and slide the outside housing out from the terminal to unlock it from the terminal connector.

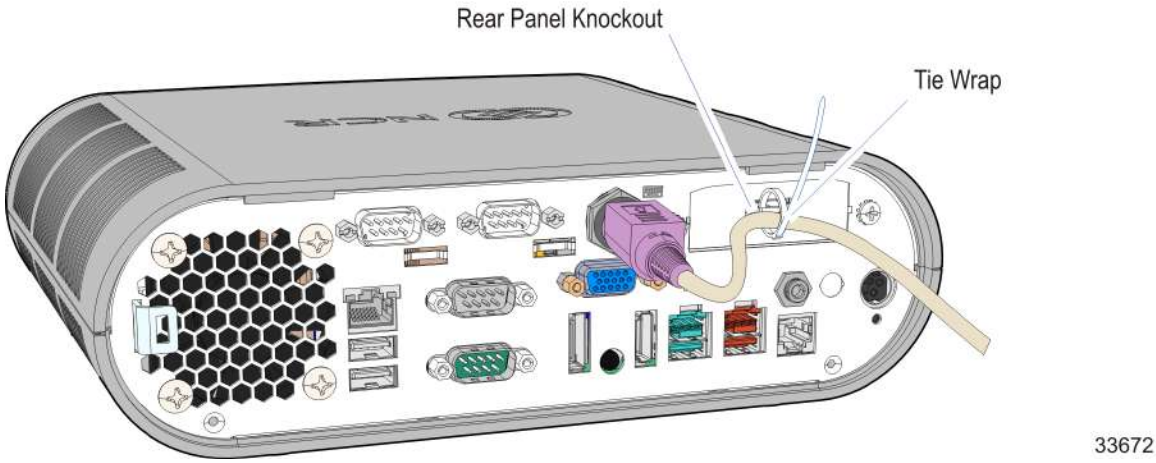


PS/2 Cable Connection

The PS/2 Cable should be secured with a Tie Wrap. On units configured with an Extended I/O Daughter Card the Tie Wrap Holder is used to secure the Cable.



If the Daughter Card is not present the cable is secured to the hook located on the Rear Panel Knockout.

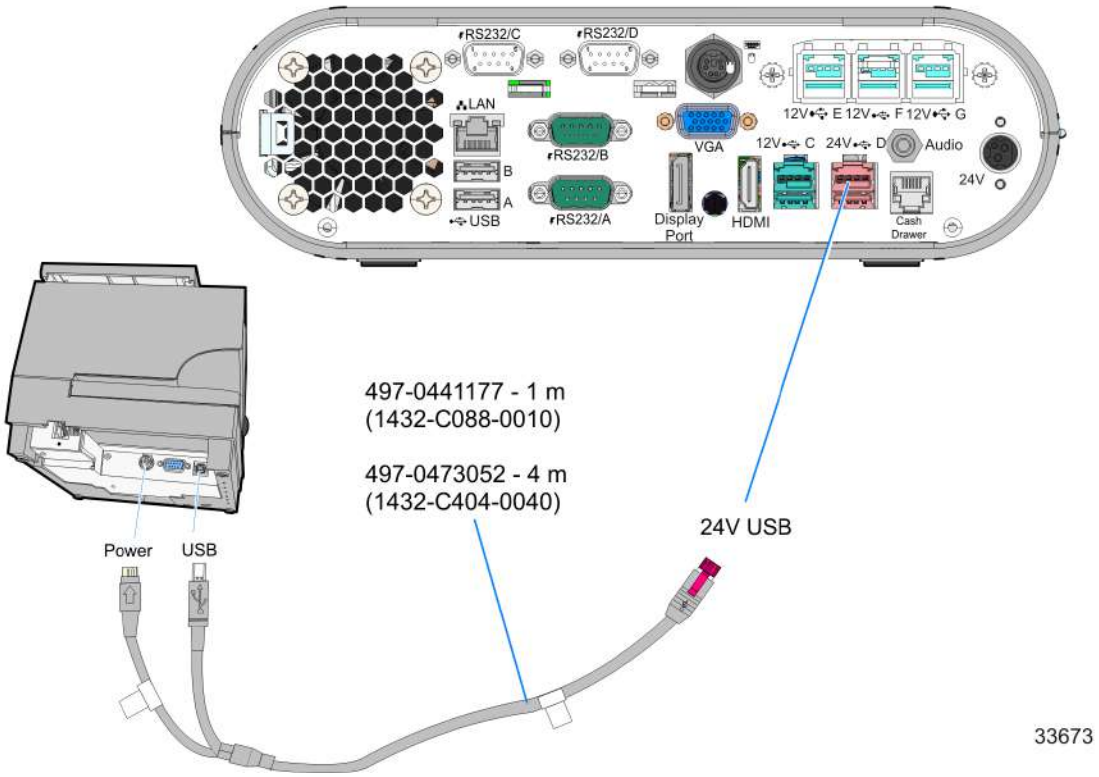


Installing a Transaction Printer

The printers can connect through a USB connector or an RS-232 connector.

USB Installation

Connect the Powered USB Printer Interface Cable to the *USB Connector* and *Power Connector* on the printer and to the *24 V Powered USB Connector* on the terminal.

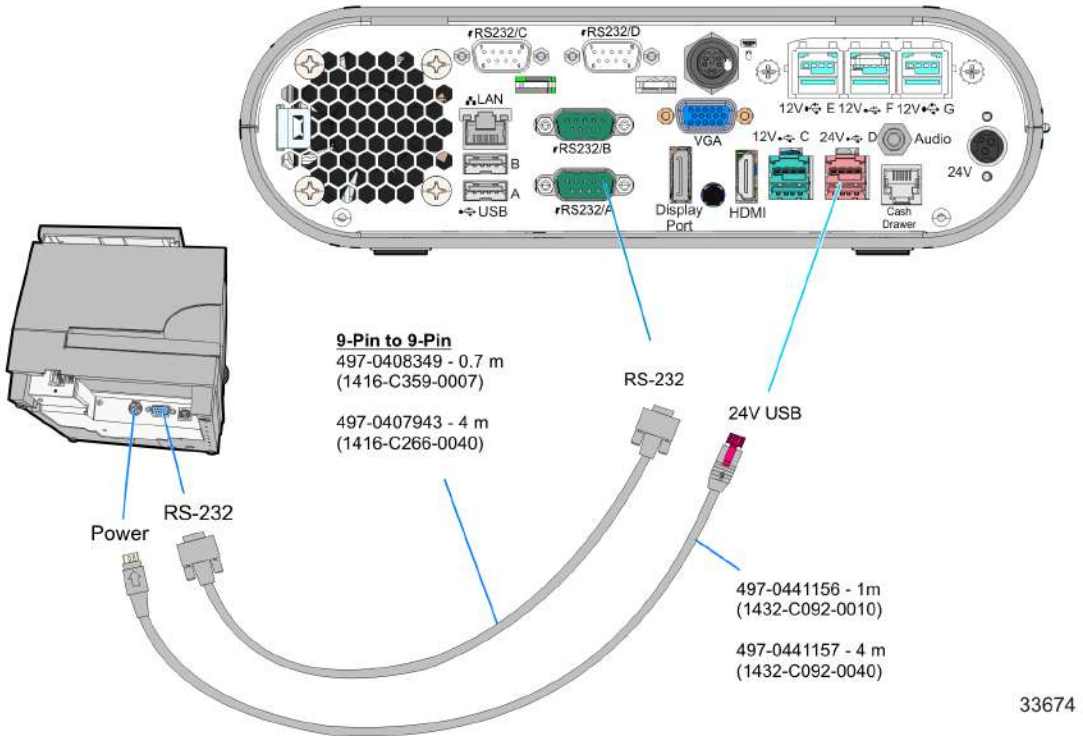


RS-232 Installation

1. Connect the RS-232 Printer Interface Cable to the RS-232 connector on the printer and to a **non-powered***RS-232* connector on the terminal.

Note: The factory default setting for the RS-232 ports is **powered**. See the Appendix: Powered Serial Port Settings.

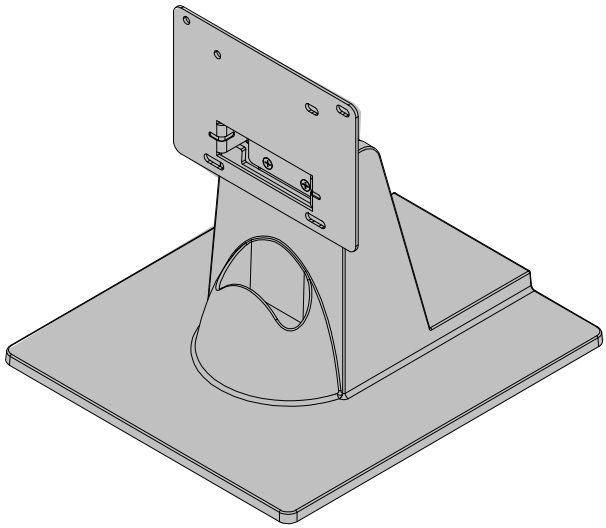
2. Connect the Powered USB Printer Interface Cable to the *Power Connector* on the printer and to the *24V Powered USB Connector* on the terminal.



Installing a Remote Display

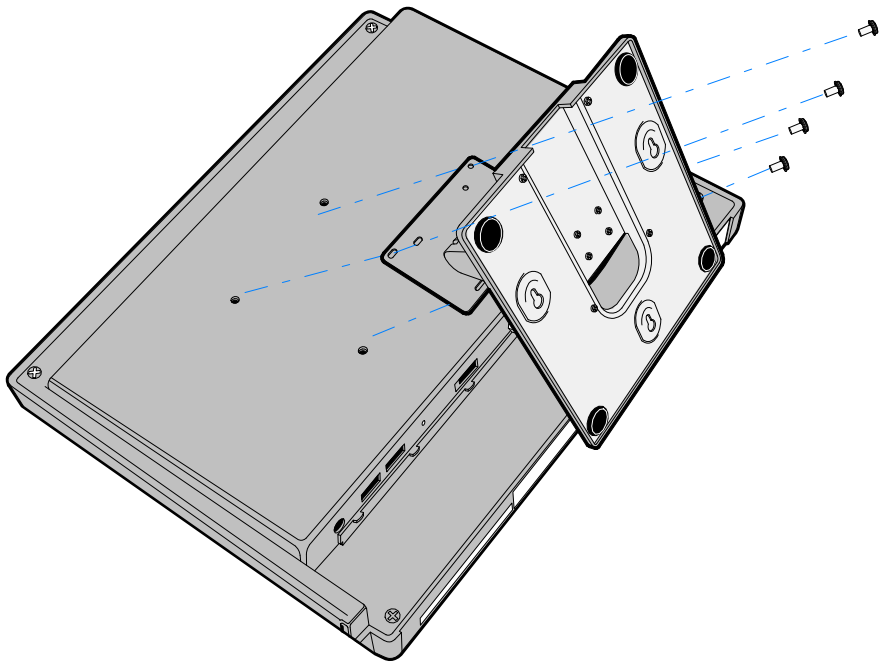
The Standard Remote Mount (5964-K031) is used to mount the following NCR displays.

- NCR RealPOS 5943 12.1-Inch Monitor
- NCR RealPOS 5943 15-Inch Monitor
- NCR RealPOS 5967 12.1-Inch Touch Monitor
- NCR RealPOS 5967 15-Inch Touch Monitor



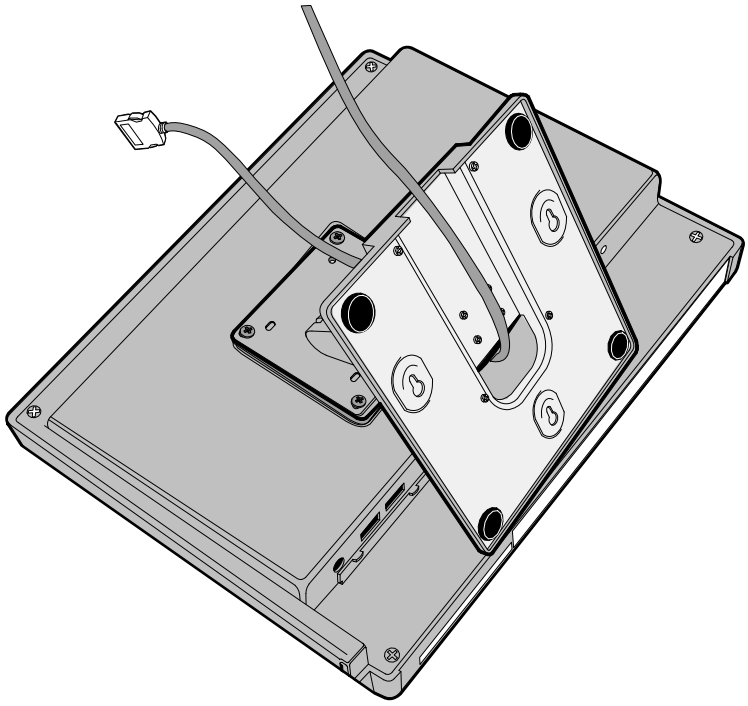
21151b

1. Install the mount onto the back of the Operator Display (4 screws).



26473

2. Route the cable(s) down through the mount and out the back of the base.



26474

3. Connect the cable to the proper connector on the host terminal. See the following sections for cable connections to the host terminal.

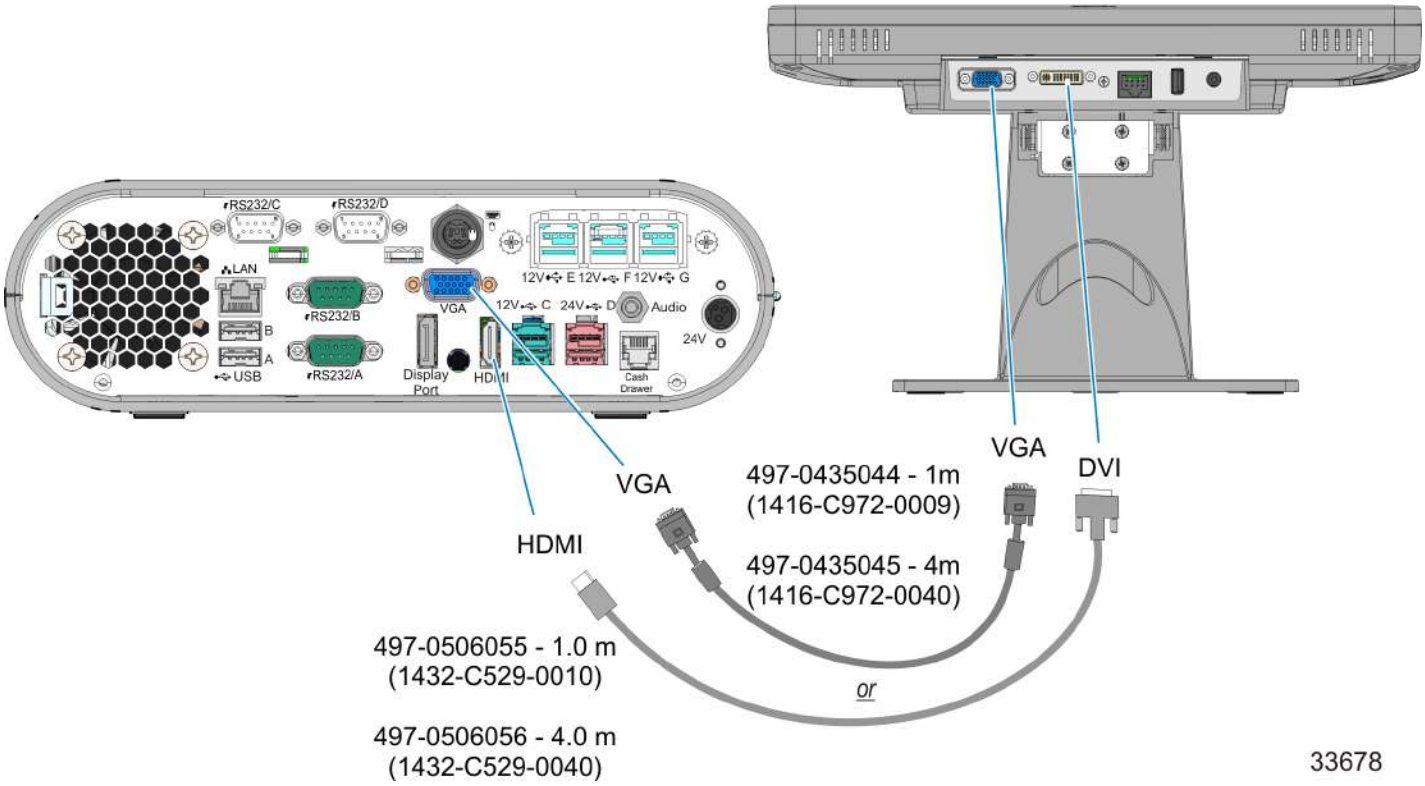
NCR 5943/5967 12-inch LCD Cable Connections

The following illustrations show the cable connections for the 5943 LCD and the 7603 terminal. There are two cables required.

- VGA or DVI cable for video
- Powered Universal Serial Bus (USB) for data and power

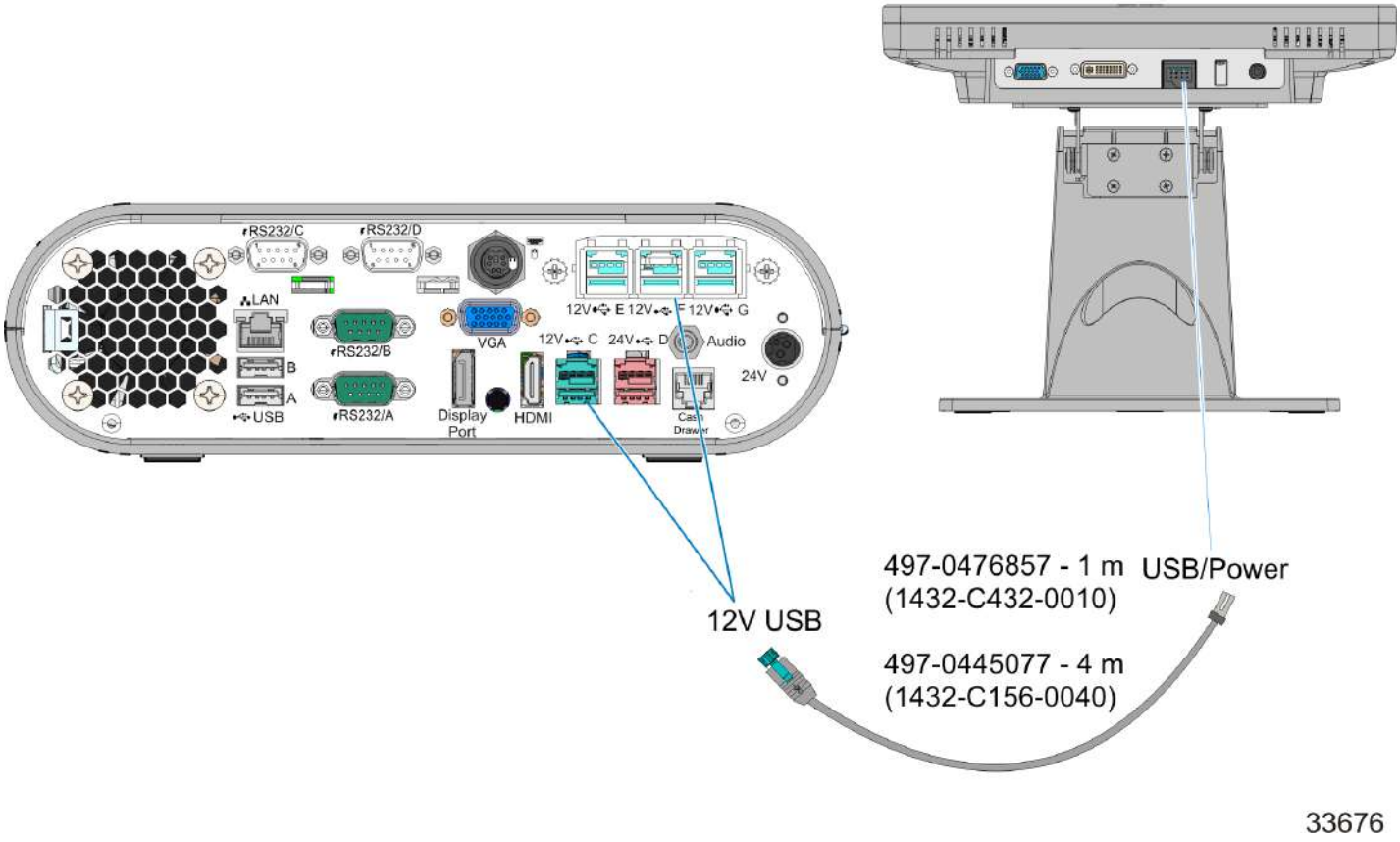
VGA/DVI Connections

Connect either a VGA or a HDMI to DVI cable.



Powered USB Cable Connections

Connect the Powered USB Cable to the 5943 LCD and to one of the 12V Powered USB connectors on the 7603 terminal.



For more information see:

- the *NCR RealPOS 5943 12" LCD User Guide* (B005-0000-2043)
- the *NCR RealPOS 5967 12" LCD User Guide* (B005-0000-2182)

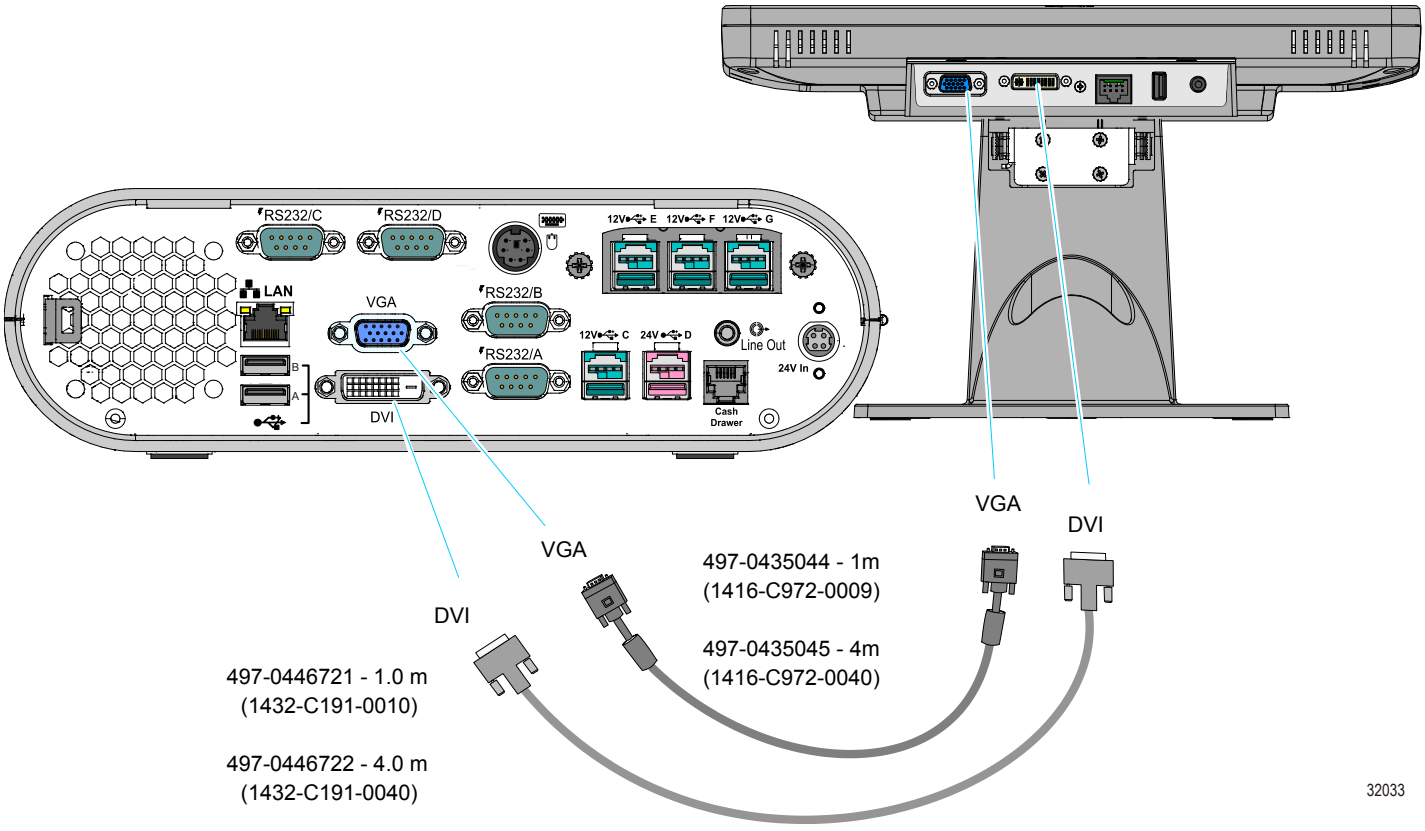
NCR 5943/5967 15-inch LCD Cable Connections

The following illustrations show the cable connections for the 5943 LCD and the 7603 terminal. There are two cables required.

- VGA or DVI cable for video
- Powered Universal Serial Bus (USB) for data and power

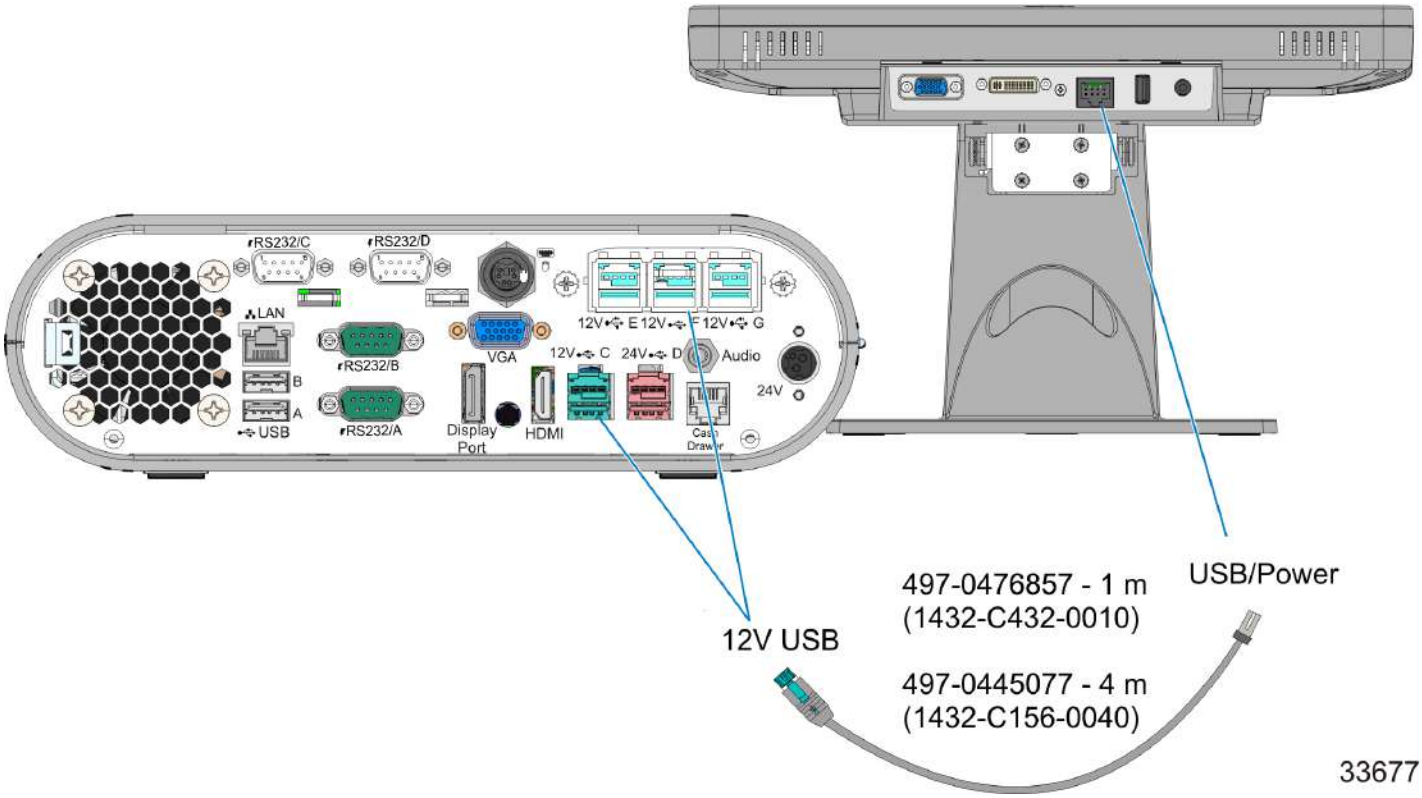
VGA/DVI Connections

Connect either a VGA or an HDMI to DVI cable.



Powered USB Cable Connections

Connect the Powered USB Cable to the 5943 LCD and to one of the 12V Powered USB connectors on the 7603 terminal.



For more information see:

- the *NCR RealPOS 5943 15" LCD User Guide* (B005-0000-2182)
- the *NCR RealPOS 5967 15" LCD User Guide* (B005-0000-2193)

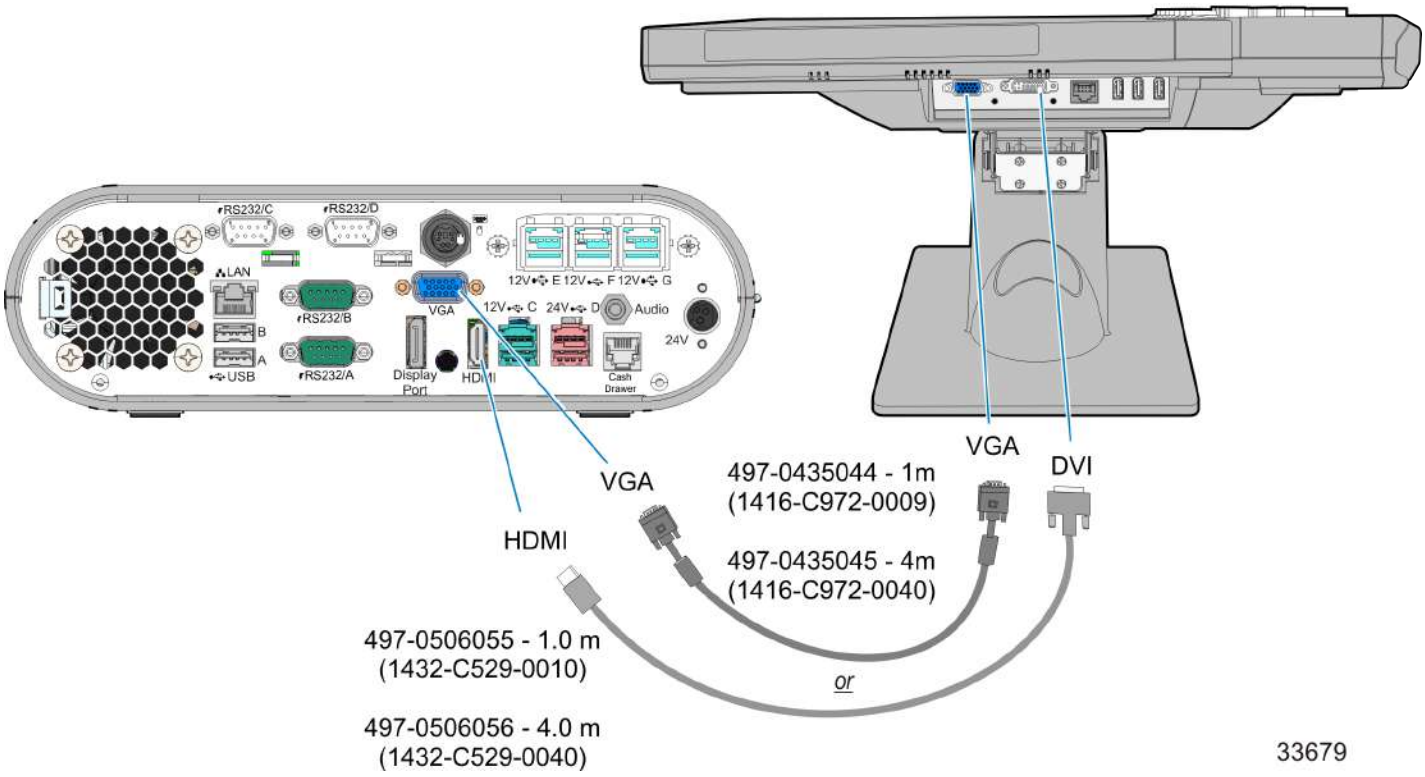
NCR 5954 USB DynaKey Cable Connections

The DynaKey connects to the terminal via two cables.

- DVI or VGA cable for video
- Powered Universal Serial Bus (USB) for data and power

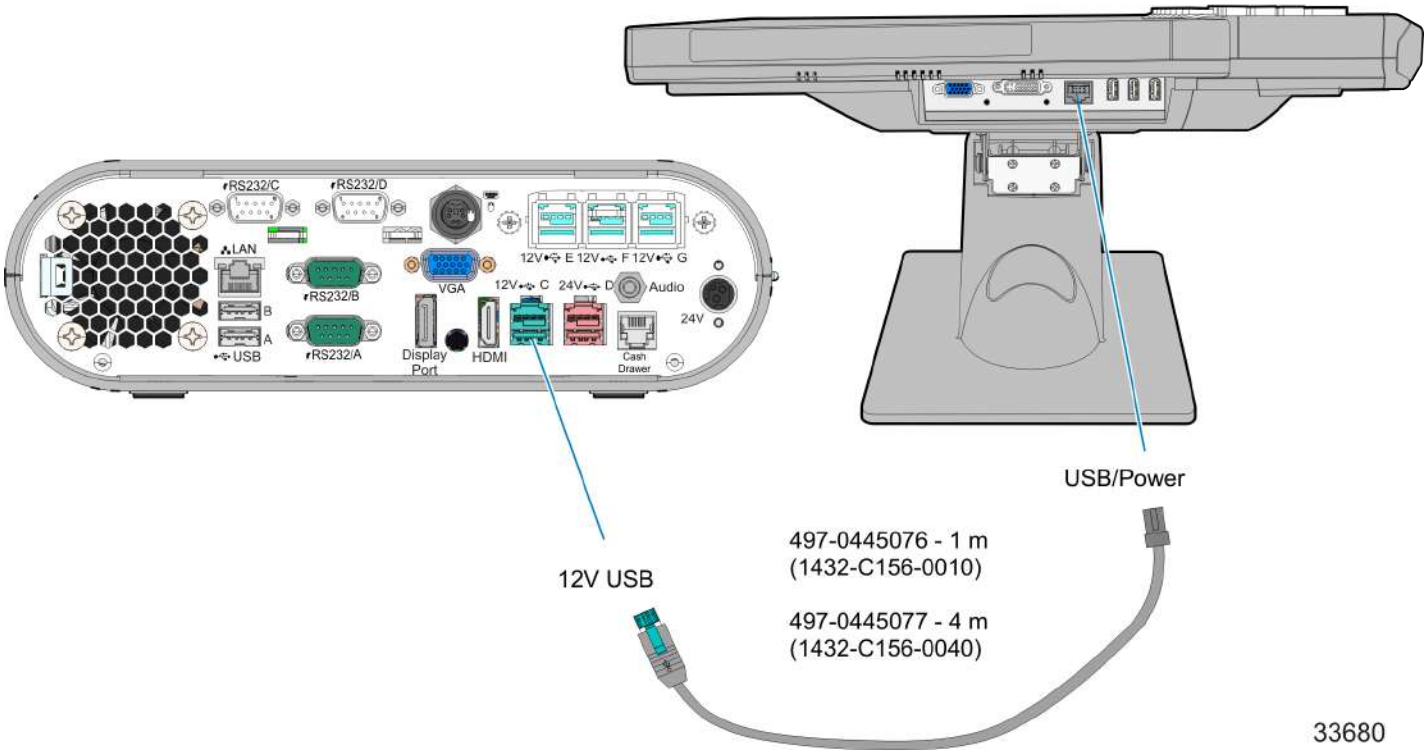
VGA/DVI Cable Connections

Connect the cable to the *DVI* connectors on the DynaKey and terminal.



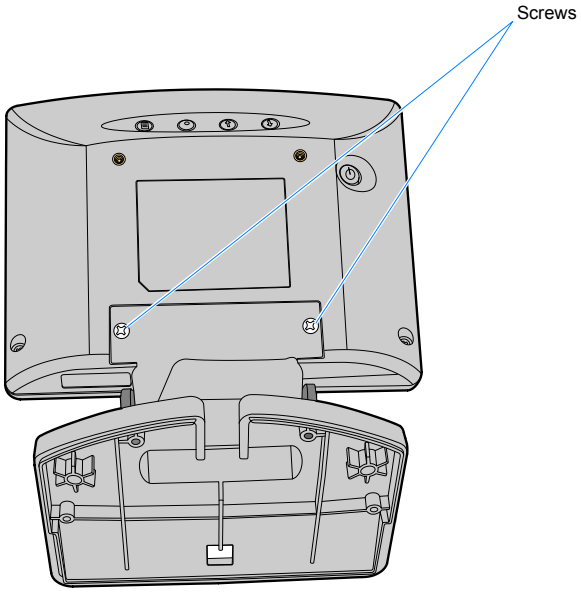
Powered USB Cable Connections

Connect the Powered USB Cable to the DynaKey and to one of the *Powered USB* connectors on the terminal.



Installing an NCR 5982 6.5-Inch LCD

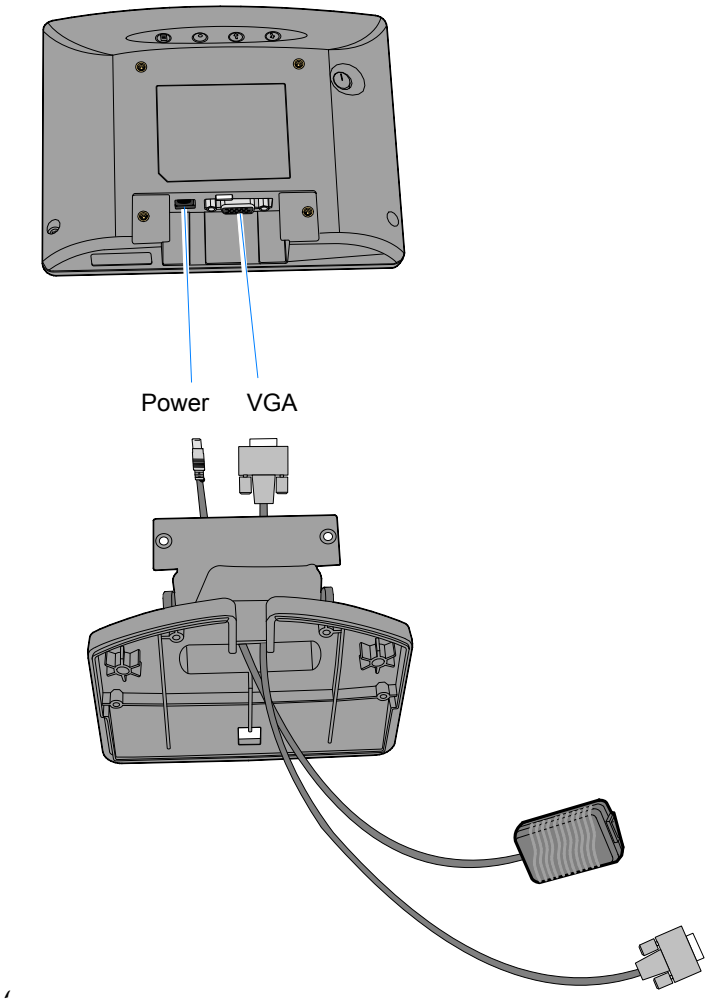
1. Remove the Base from the Display (2 screws).



23162

2. Route the VGA and Power cables up through the bottom of the Base and connect them to the Display.

Note: The power cable can be either an External Power Supply or a Powered USB cable.

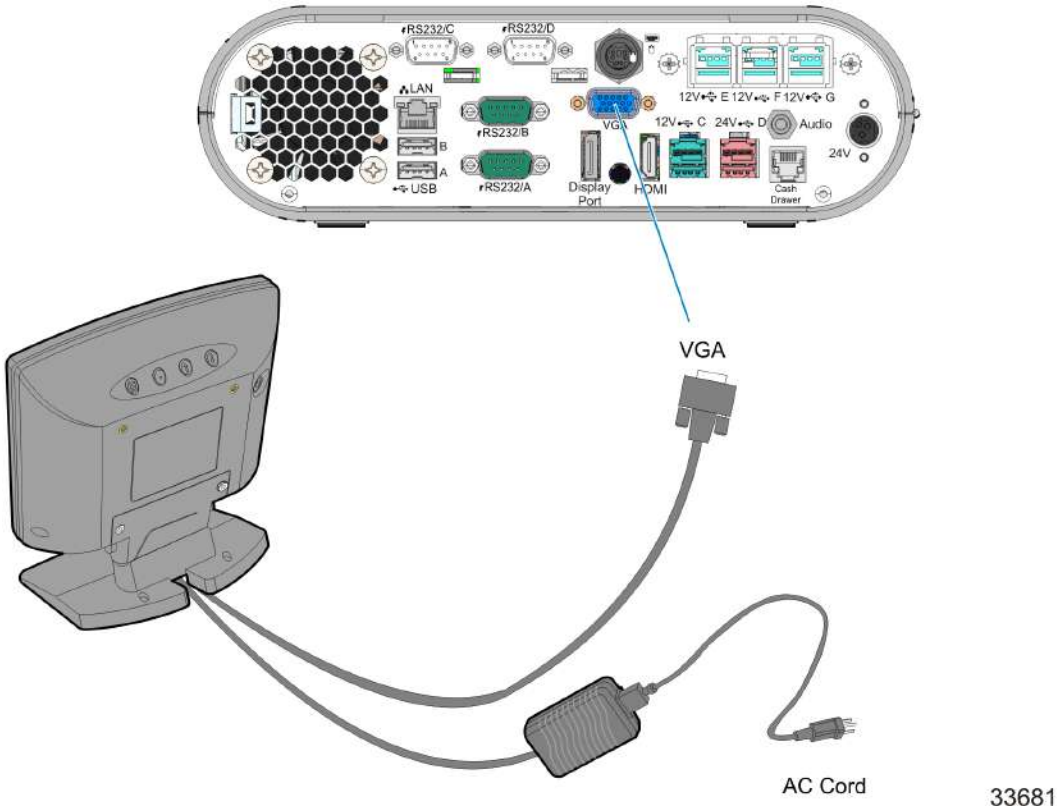


3. Install the Base to the Display (2 screws).
4. Route the cables out the rear of the Base.

5. Connect the Power Cable:

External Power Supply

a. Connect the VGA cable to the *VGA* port on the host terminal.

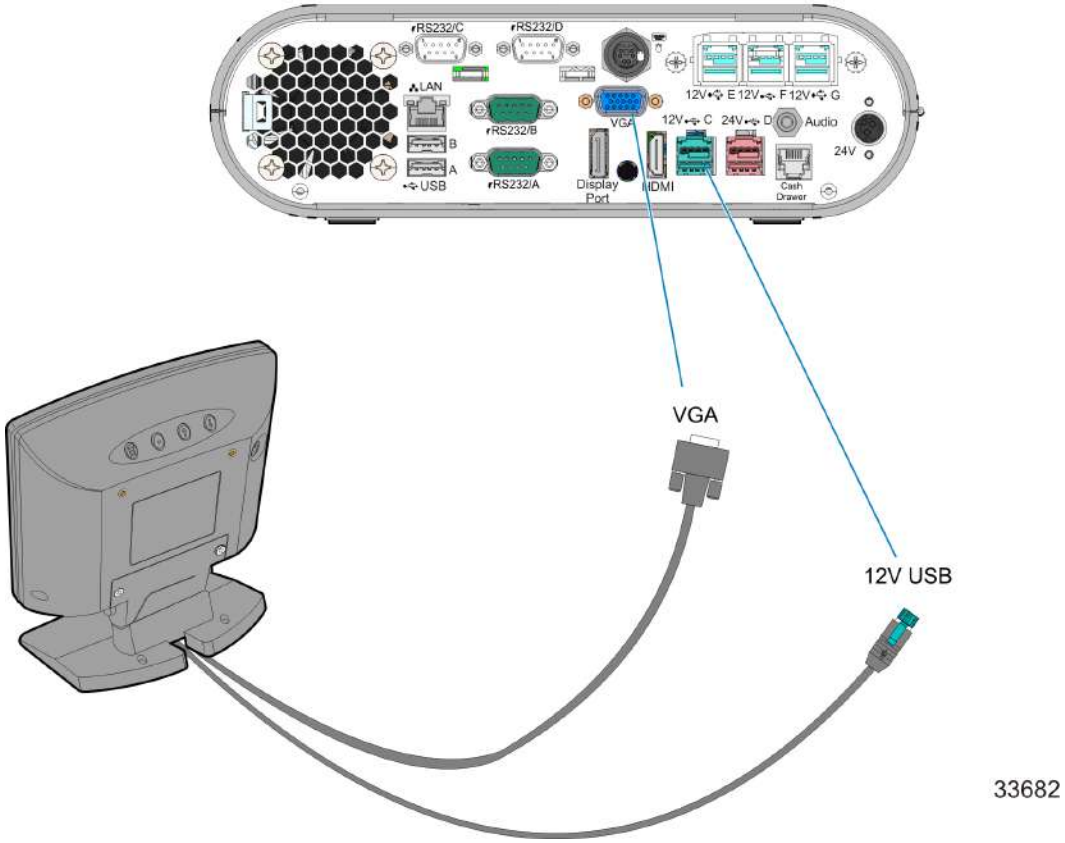


b. Connect the AC Cord to the Power Supply and to an AC source.

Terminal Powered (7446-30303131)

a. Connect the VGA cable to the *VGA* port on the host terminal.

b. Connect the Power Cable to the Powered 12V USB port on the host terminal.

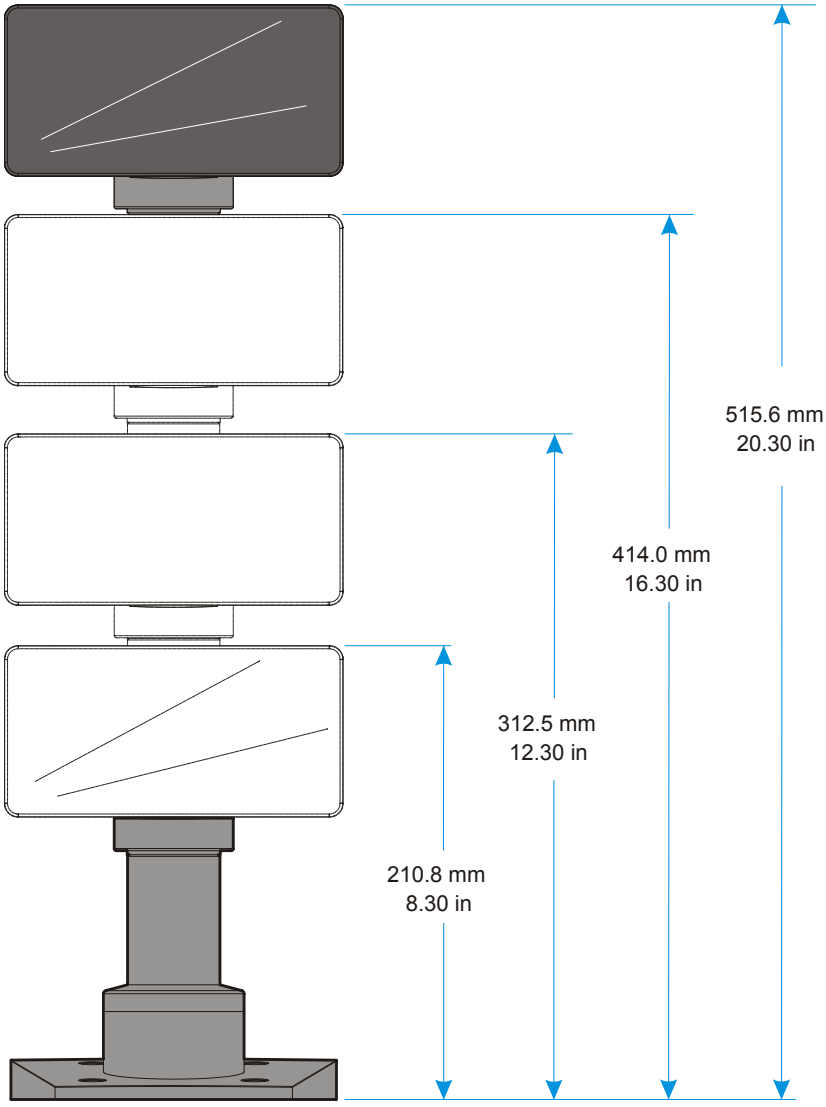


Installing a 5975/5976 Customer Display

The terminal supports two customer displays.

- NCR 5975 Graphical Customer Display (VFD)
- NCR 5976 Remote Customer Display (LCD)

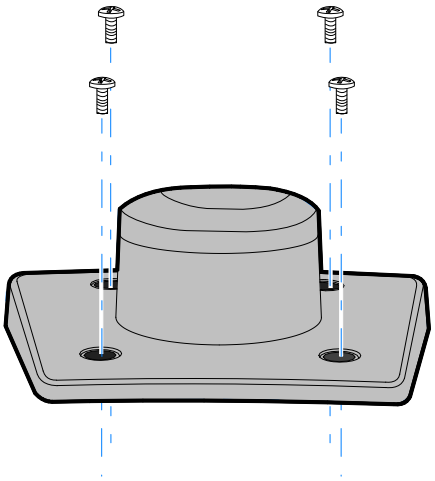
There are four different length posts available, in four inch increments.



31177

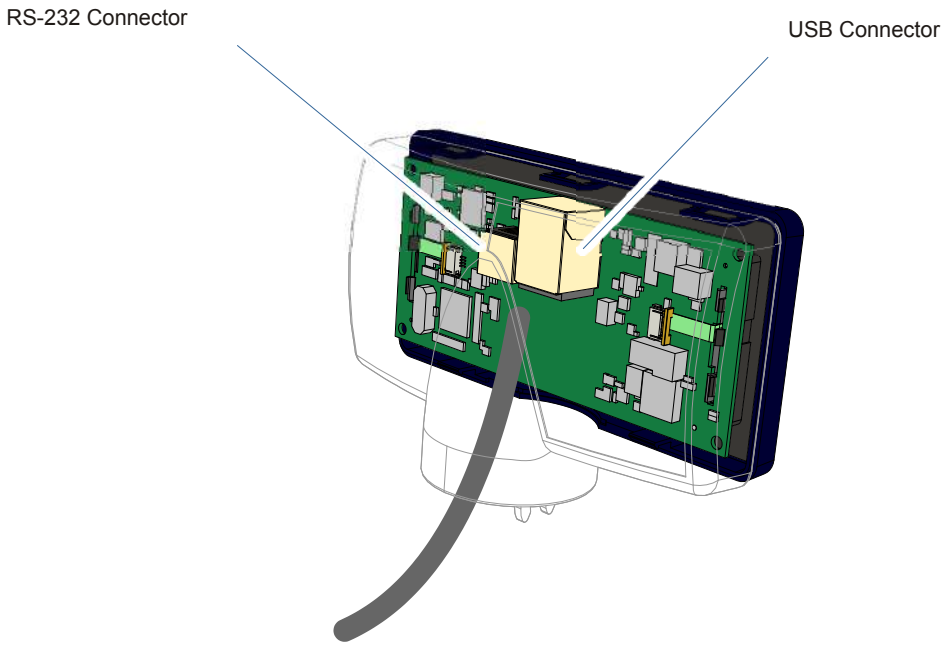
Note: Heights greater than 215 mm (8.5 in.) should be screwed to the counter top.

1. Locate the Display Mount within 4 meters (13 ft.) of the host terminal.
2. Determine if the cable should be routed down through the mounting surface or if it should be run on top of the surface. Drill a hole if necessary.
3. If you are installing with a post greater than 215 mm (8.5 in.) secure the Base Plate with screws (4) that are appropriate for the surface that you are installing the Base Plate to.



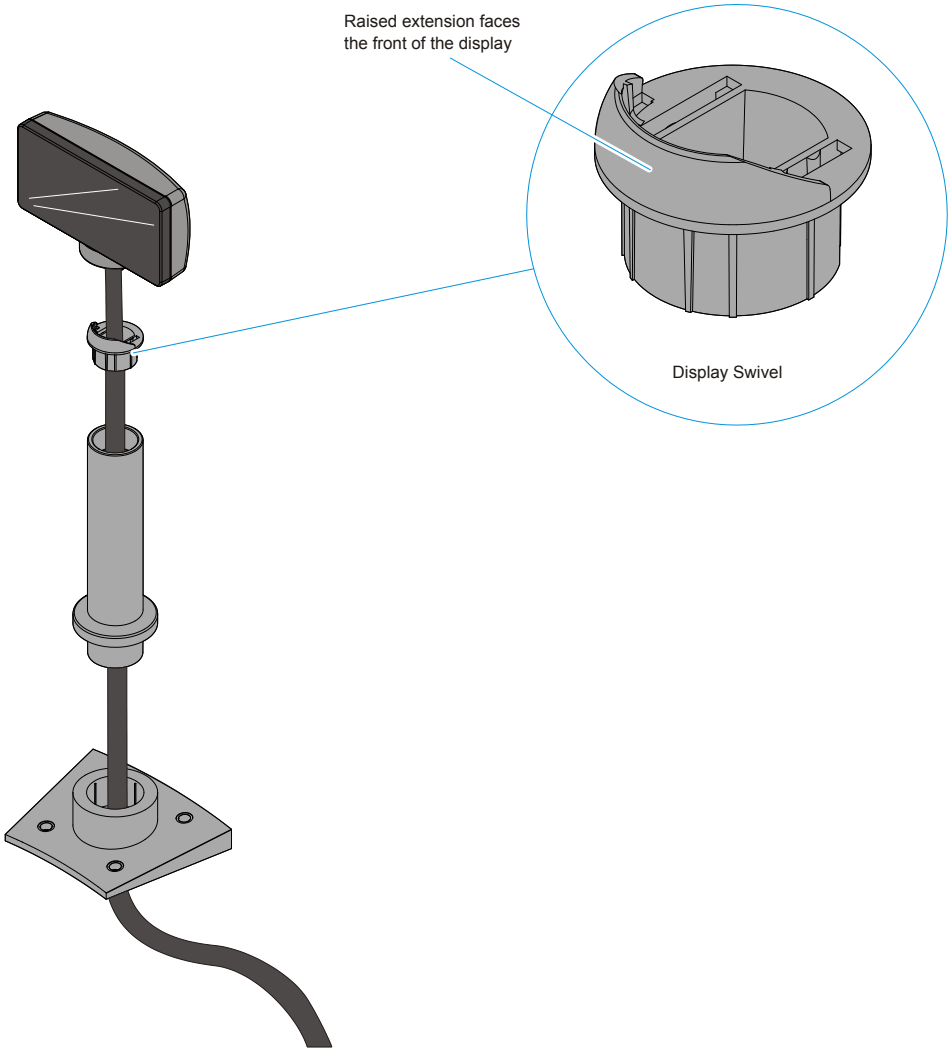
22930

4. Connect the Interface Cable to the Display Module, either RS-232 or USB.



31174

5. Route the Interface Cable through the Post and assemble the Post components.



6. Connect the Display Cable to the terminal.

RS-232 Interface

Connect the I/F cable to a powered RS-232 connector on the terminal.

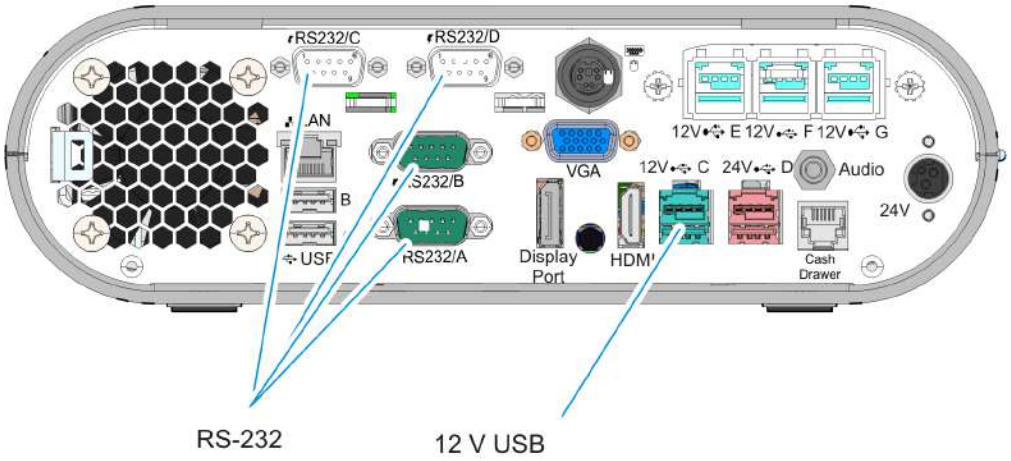
Note: The factory default settings for the COM1 and COM2 ports are powered by default. To change a port to non-powered see the *Powered Serial Port Settings* appendix.

Configure the terminal serial port as follows:

```
9600 baud, 8 data bits, 1 start bit, 1 stop bit, No parity
```

USB Interface

Connect the I/F cable to the powered 12V Powered USB connector on the terminal.

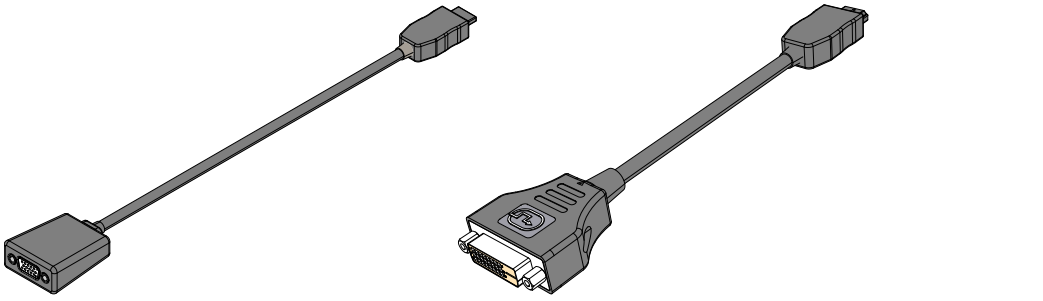


Installing a Secondary Display (Dual Display)

The 7603 Motherboard features a 15 pin D-Shell VGA connector, an HDMI connector, and a DisplayPort connector. Dual independent displays are supported for any combination of these outputs, with display resolutions up to 1920x1200 on each. Dual display mode can be a clone (same video data displayed on both displays) or an extended desktop (the desktop spans across both displays).

For older displays that only have VGA or DVI connect the two displays having the same interface types using one of the following two devices.

- *DisplayPort to VGA Adapter* (7606-K352). This device adapts the Motherboard DisplayPort port to VGA.
- *DisplayPort to DVI Adapter* (7606-K353). This device adapts the Motherboard DisplayPort port to DVI.



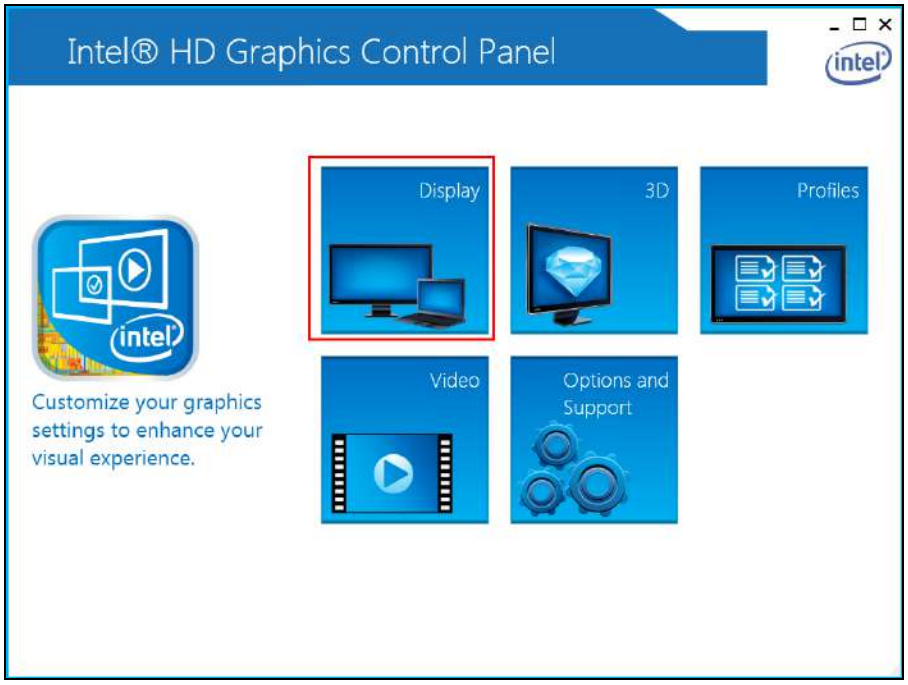
7606-K352 7606-K353 30691

Setting the Display Mode

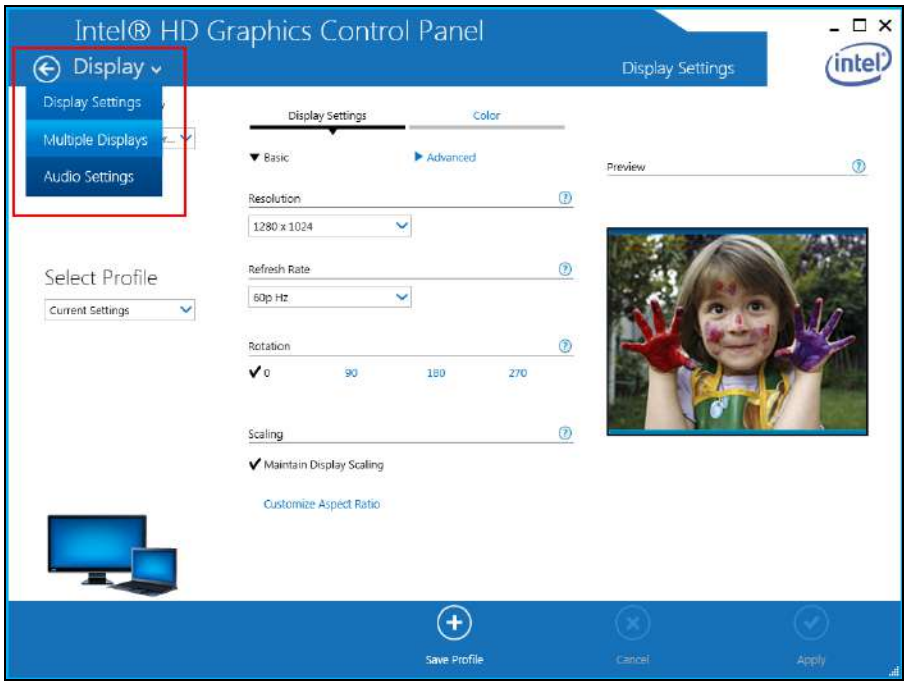
Note: Use this procedure for configuring displays that are connected to the Motherboard ports.

The dual mode is configured with the *Intel® Graphics and Media Control Panel*. Right-click the Desktop. From the menu select **Graphics Properties** to display the panel.

1. In the opening screen select **Display**.

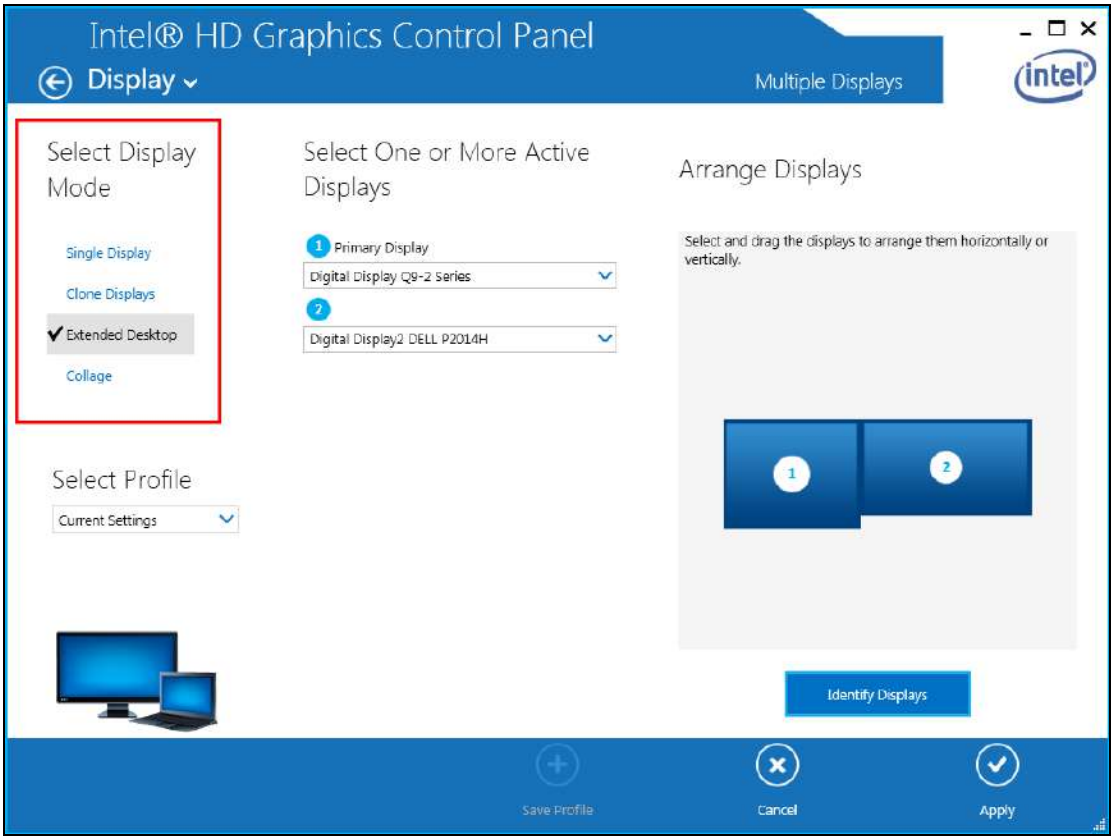


2. Select **Display** >> **Multiple Displays**.

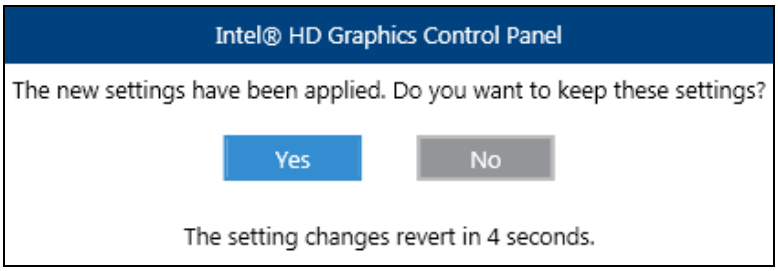


3. Select the display *Display Mode*.

Configuration Mode	Description
Single Display	Single display (even if two displays are connected)
Clone Displays	Drives both displays with the same video content.
Extended Desktop	Drives the both displays with the desktop that spans from one display onto the other.



4. Select which display you want as the Primary Display (This display has the Start button and Taskbar) in the *Primary Display* drop-down menu.
5. Select **Apply**.
6. Select **Yes** within 15 seconds to accept the new settings.



Applications may behave differently in a multi-monitor configuration depending on their implementation:

- Standard Windows applications that use the GDI (Graphics Device Interface) will clip the window to each display and accelerate the images separately using the display hardware.
- Applications that span multiple monitors and use Microsoft DirectX*, Direct3D* or DirectDraw* will be software accelerated.
- OpenGL* applications may exit unexpectedly, hardware accelerate one display with unknown results on the other or be software accelerated.
- A full screen command prompt or MS-DOS* application will only function on the Primary Device.

Installing a Cash Drawer

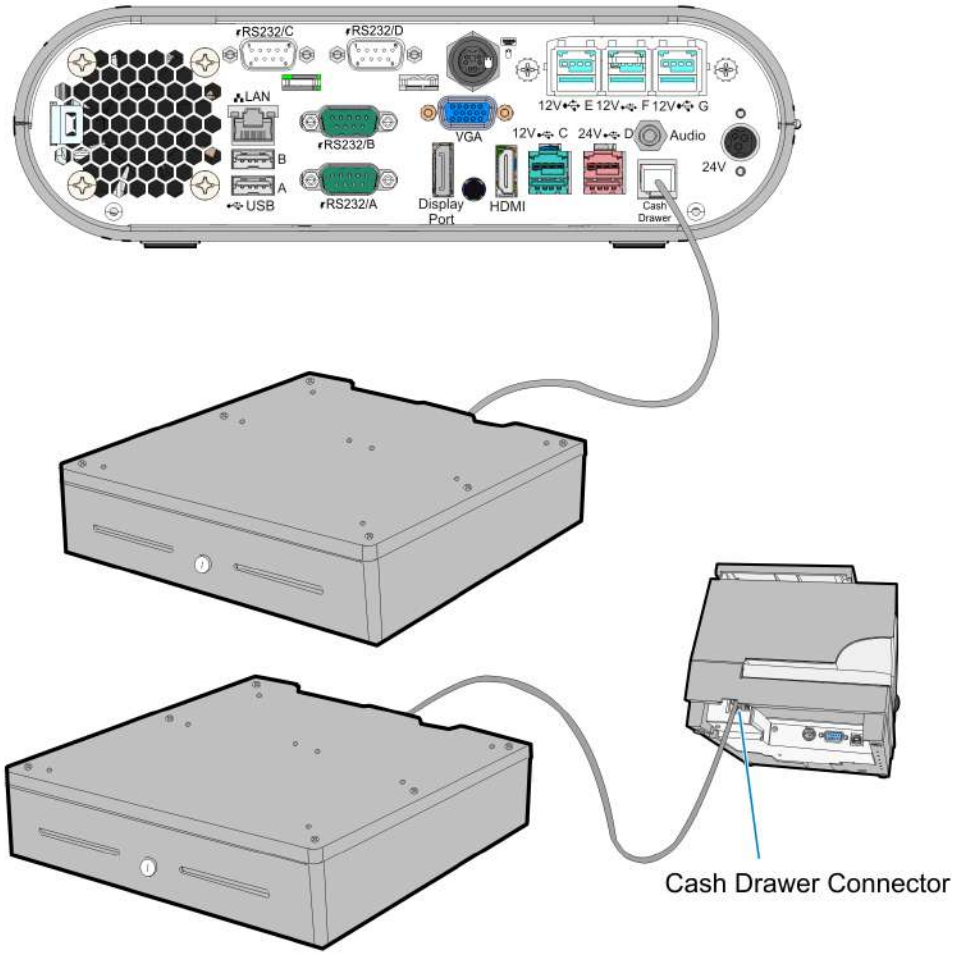
The small footprint of the RealPOS XR6 permits the terminal to rest directly on most cash drawers. However, other peripherals like the keyboard or printer may or may not fit. The Cash Drawer can connect to the Cash Drawer connector or to the transaction printer.

Note: The 7603 is not designed for integration with any current NCR cash drawer.

The 7603 supports the following Cash Drawers:

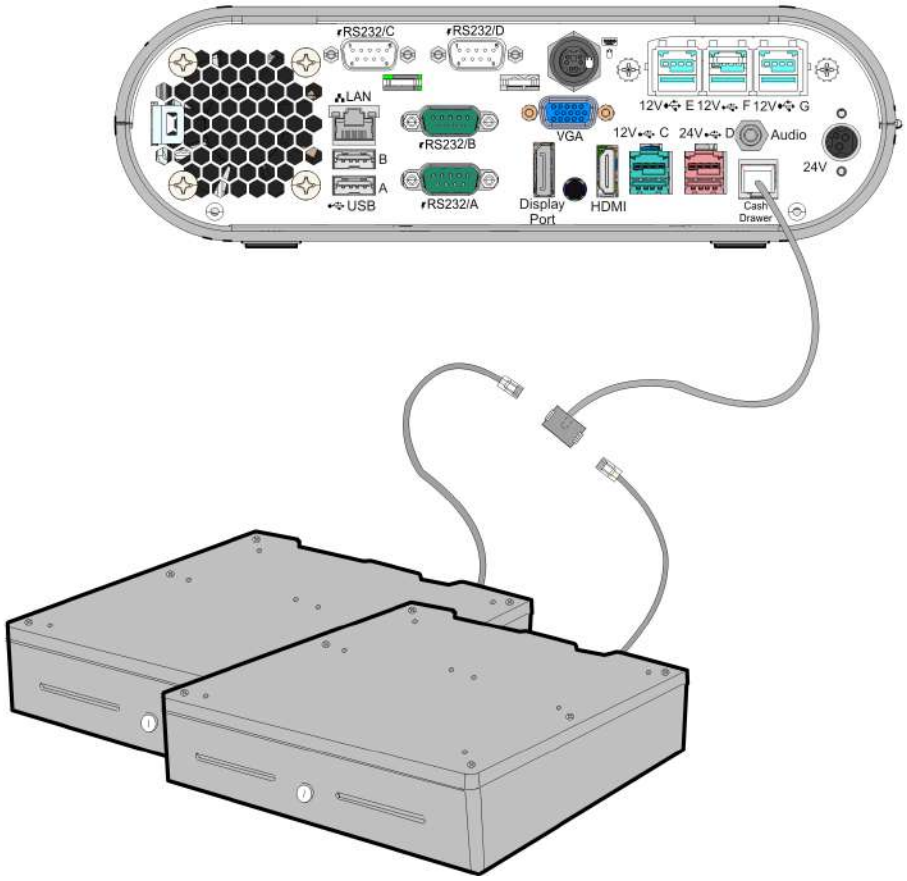
- 2181 Full-Size Cash Drawer
- 2183 Mid-Range Cash Drawer
- 2186 Compact Cash Drawer
- 2189 Full-size Cash Drawer

The Cash Drawer can be connected to the Back Panel on the 7603 or to the Cash Drawer Connector on the transaction printer.



Installing Two Cash Drawers

The 7603 supports a 2-drawer configuration with a Y-cable (1416 C372 0006).



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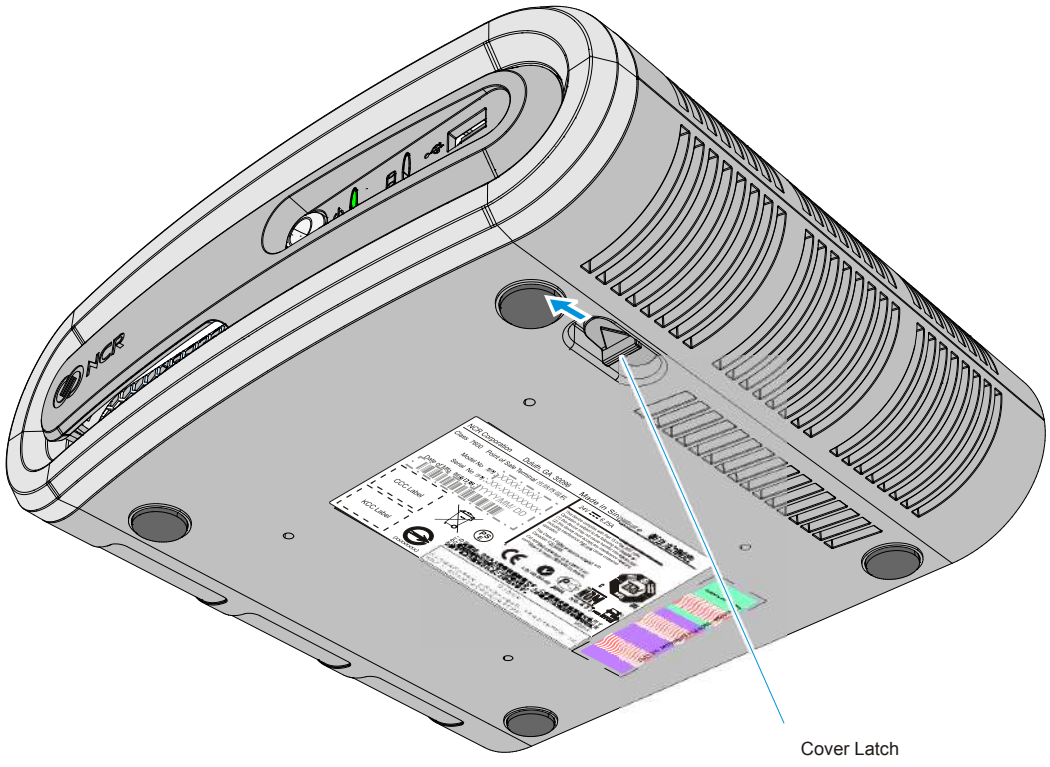
Replacing the Hard Disk Drive

The Hard Disk Drive (HDD) is mounted on the inside of the Top Cover.

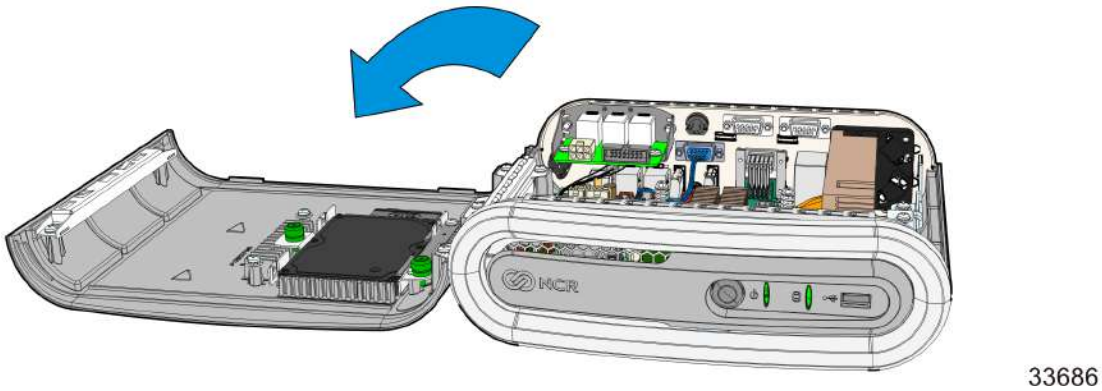
1. Slide the Cover Latch on the bottom of the unit forward to unlock the Top Cover.

Note: First remove the Security Lock on the rear if present.

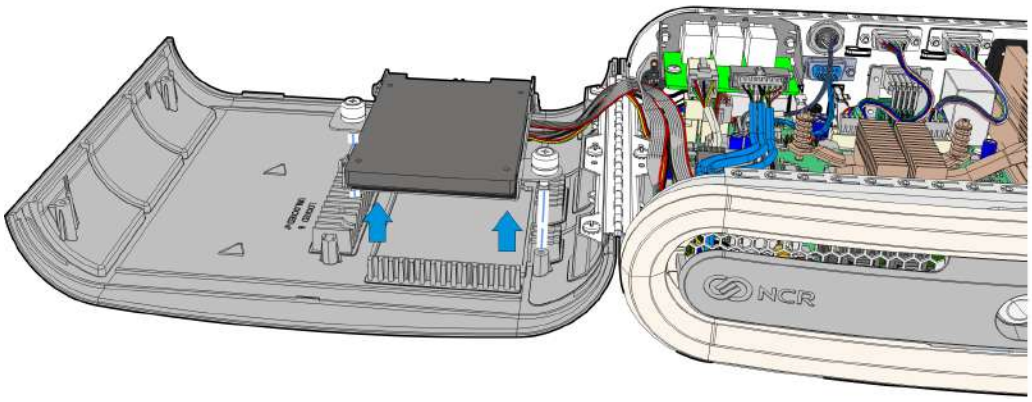


2. Pivot the Top Cover open and gently rest it on the table surface.

Caution: When opening the cover, do not allow it to drop onto the table surface. The mechanical shock can damage the HDD.



3. Disconnect the SATA cable(s) from the storage device(s).
4. Loosen the thumbscrews (2) that secure the HDD Assembly to the Top Cover.
5. Remove the HDD Assembly.



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Chapter 3: Disk Image Backup and Recovery Tool

Introduction

This chapter 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:

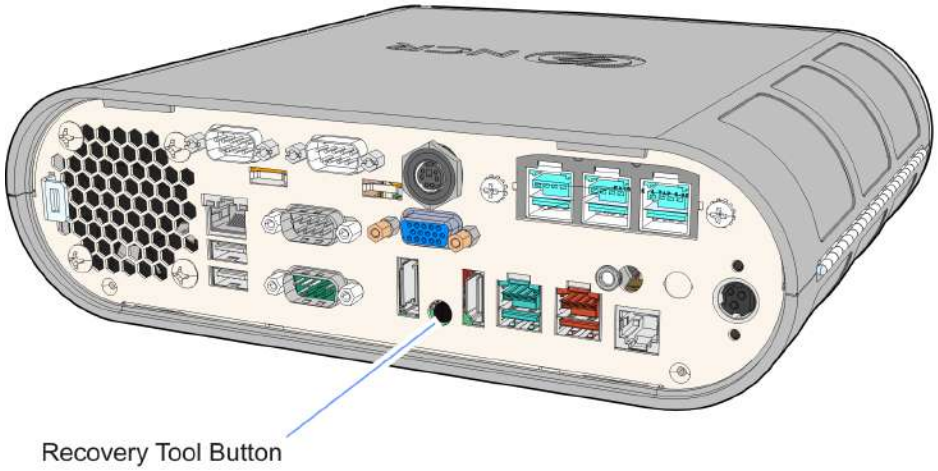
- Network
- USB Drive
- Hard Drive/Solid State Device (if present on the terminal)

Running the Recovery Tool

Starting the Recovery Tool

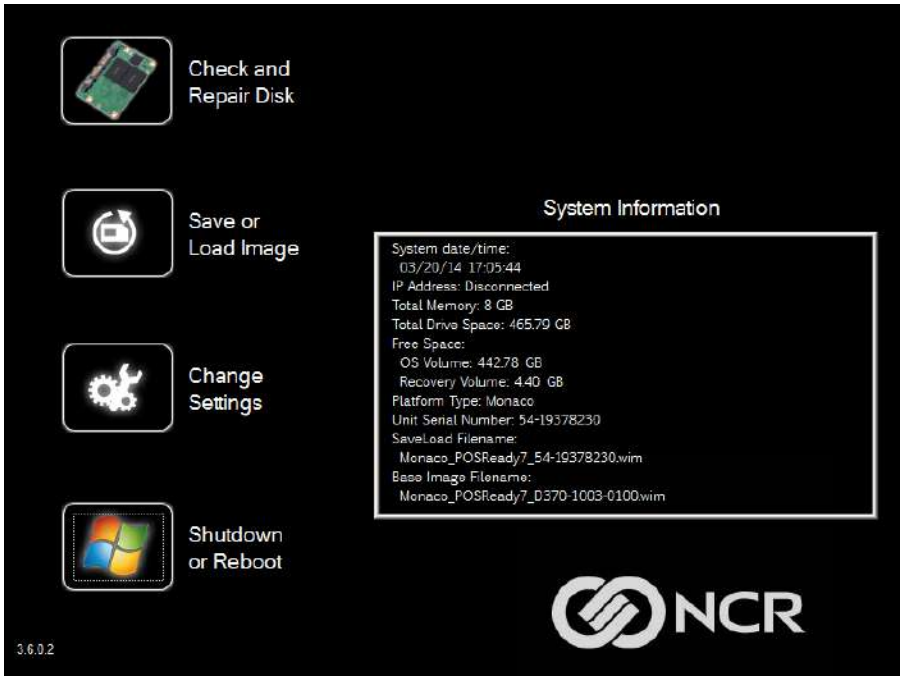
The Recovery Tool Button is located on the I/O Panel.

1. Begin with terminal OFF.
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 Button**.
3. Continue holding the **Recovery Tool Button** for 5 — 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.

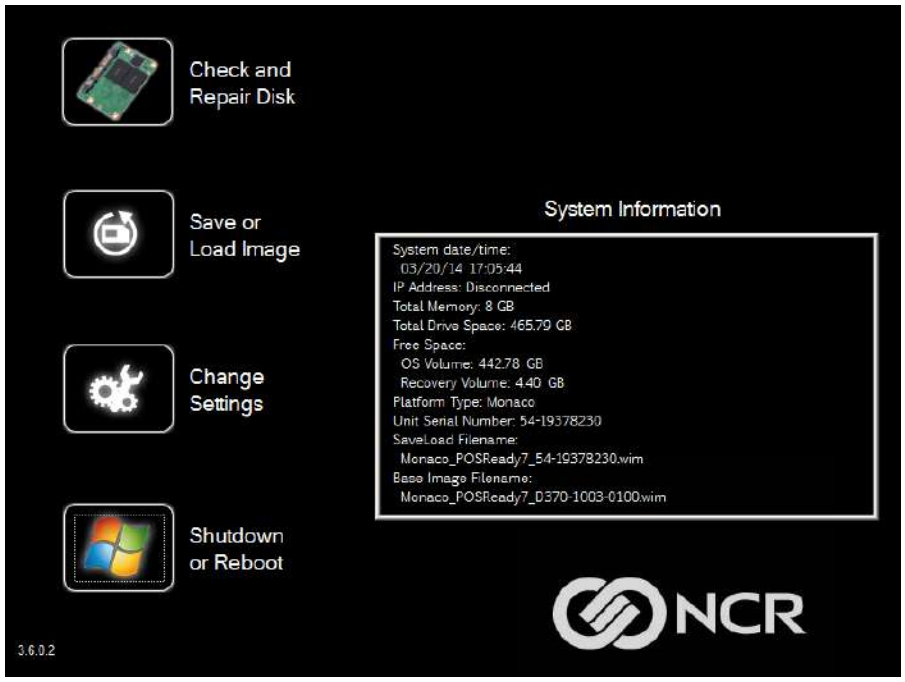
System Information

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.

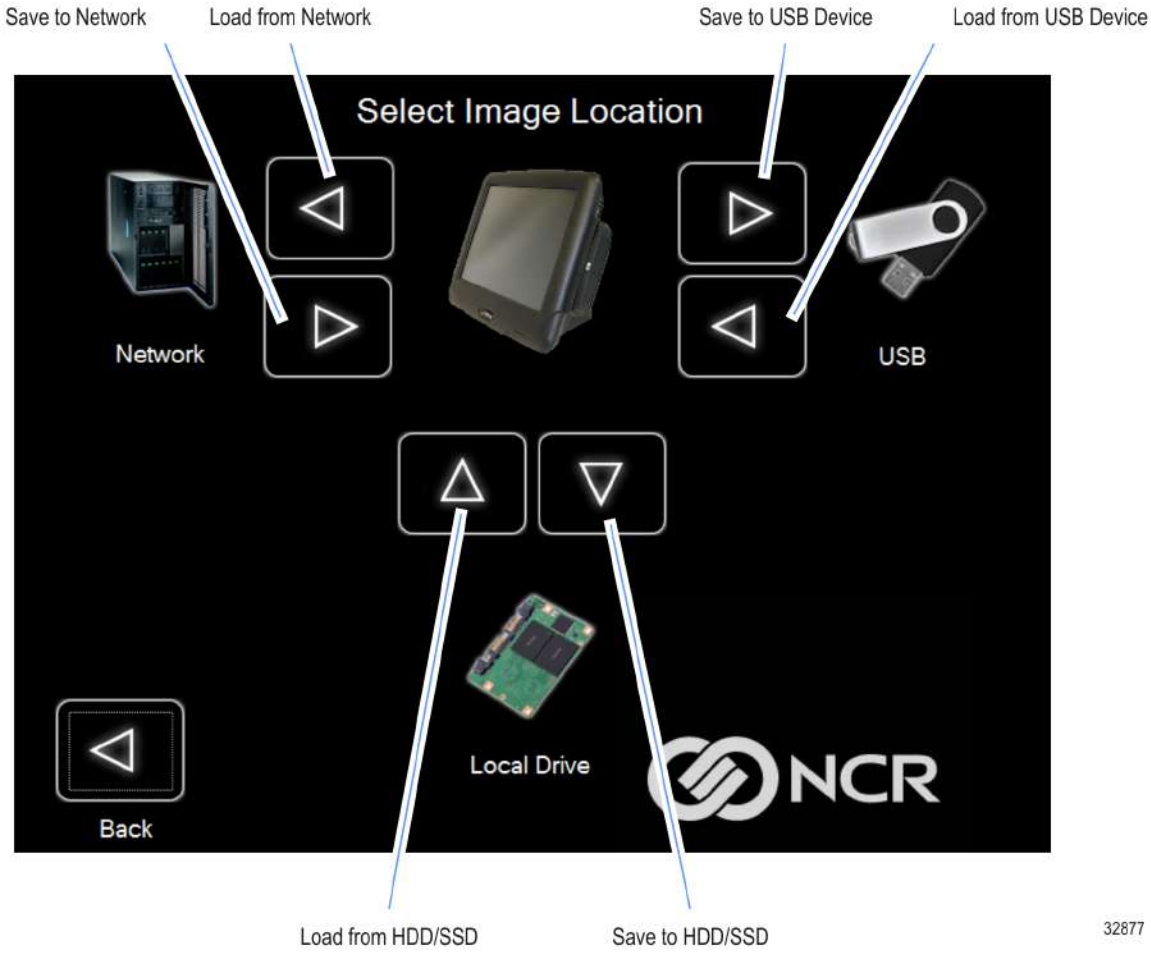
1. On the *Main Screen,* click on **Save or Load Image.**



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

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.

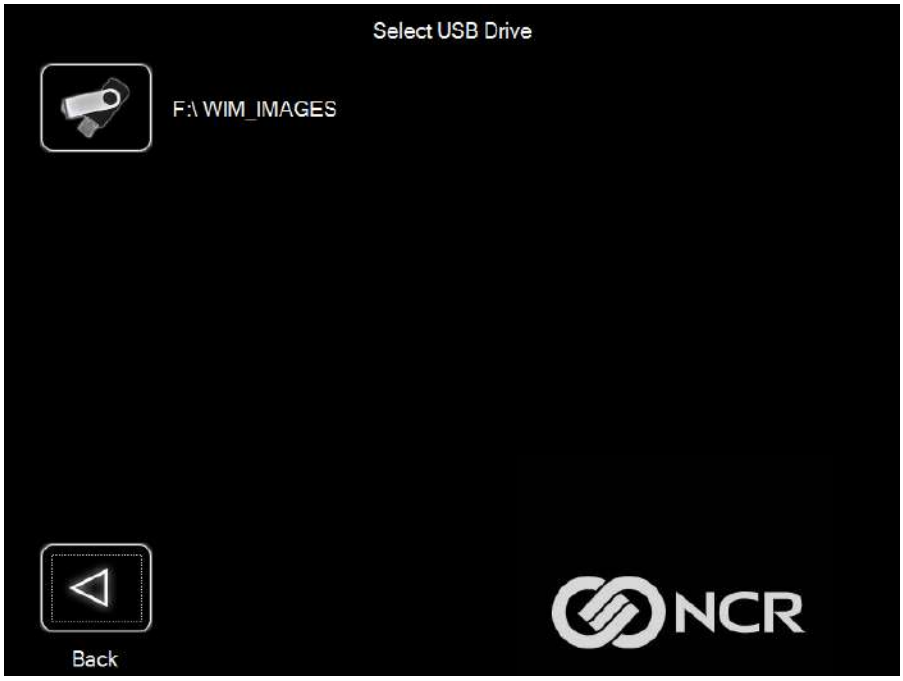
- Hard Disk Drive/Solid State Device
- USB Device
- Network

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**.

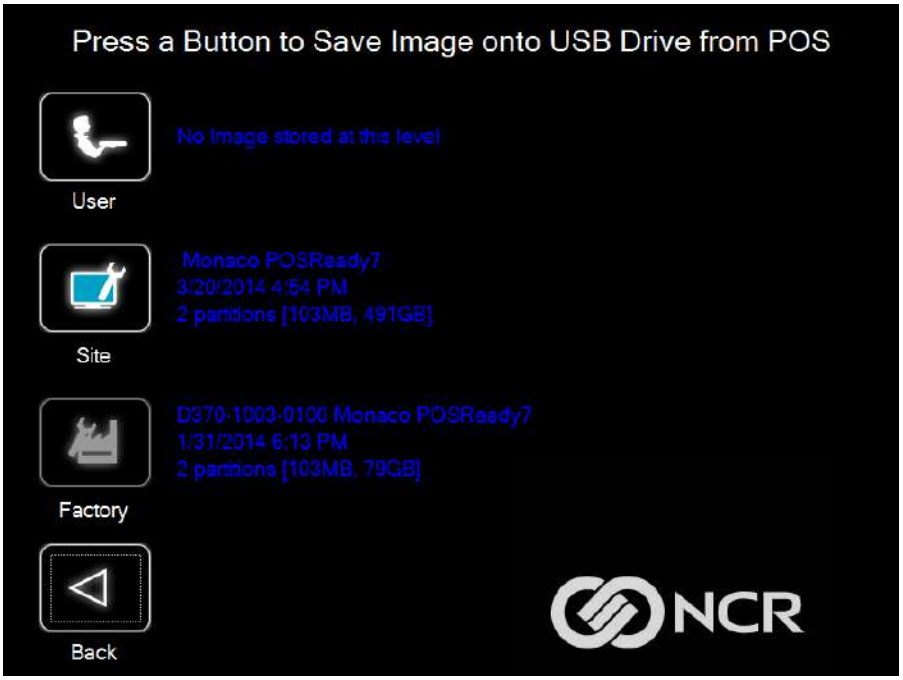


If this is the first backup performed on this POS then the image is automatically saved as a *Site* backup.

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.



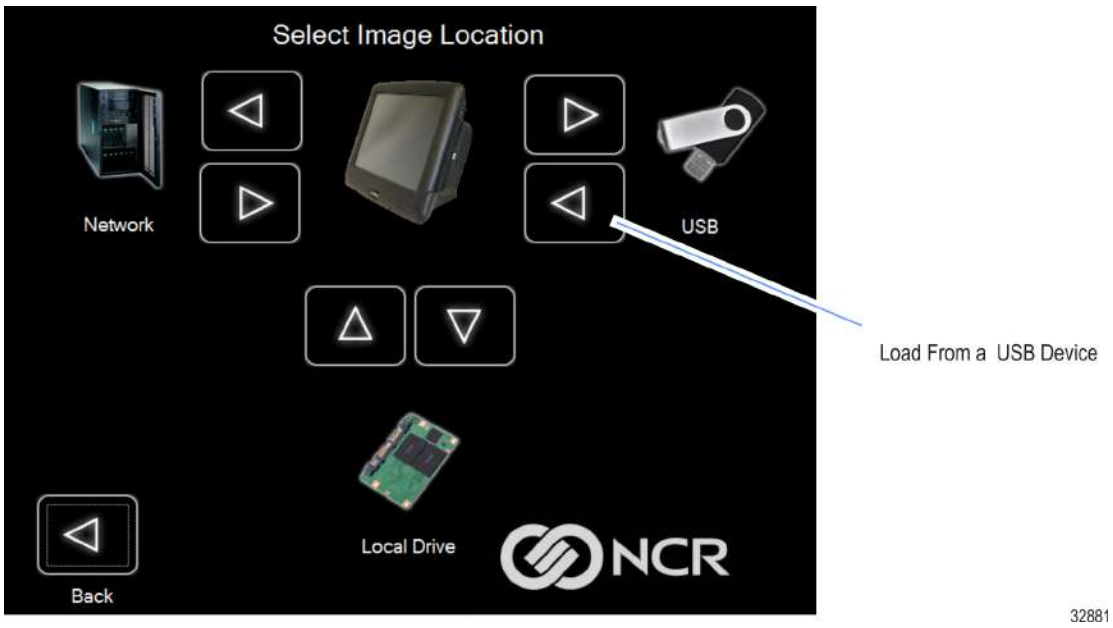
The image information is updated with the new image date.

Loading An Image

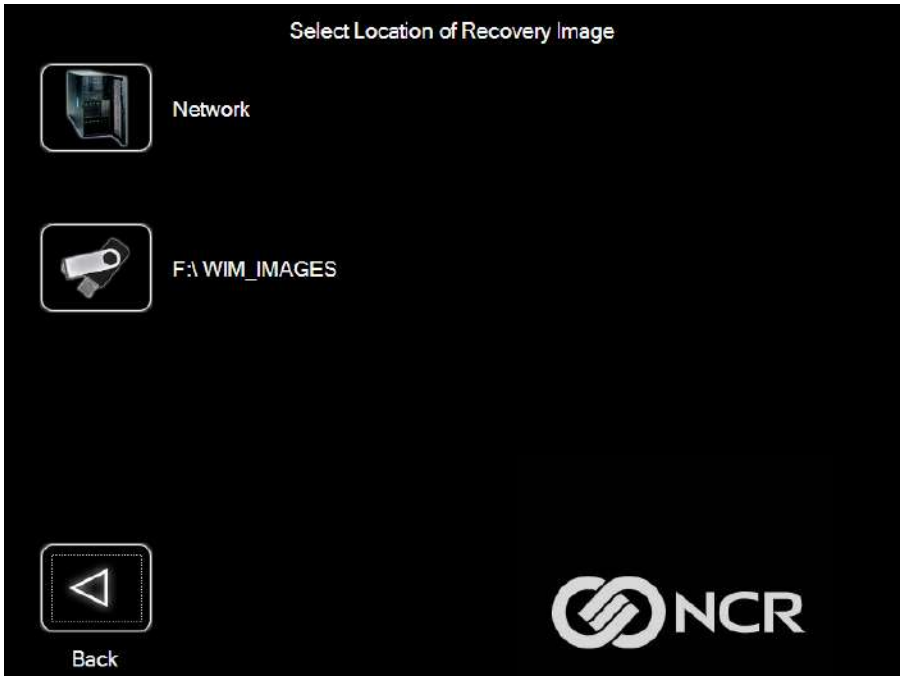
Caution: Do NOT remove power during an Image Load. Complete the Operating System setup and then shut down Windows properly. Removing power prematurely will corrupt the image display various messages about Windows failed to load or about missing or corrupt registry. If this happens you can do an Image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

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

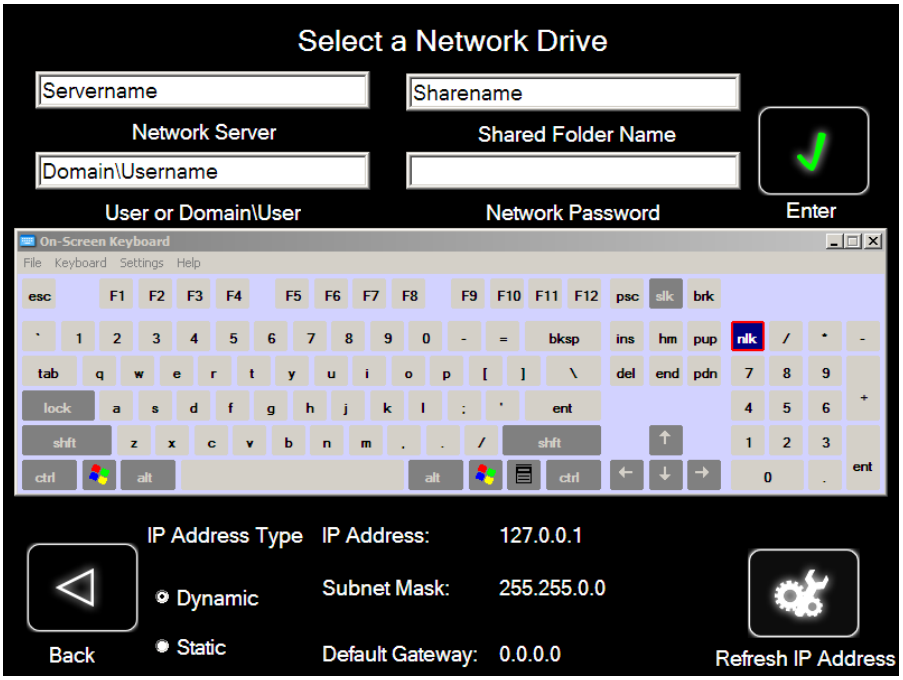
   Example: Click on the **USBLoad Button**.



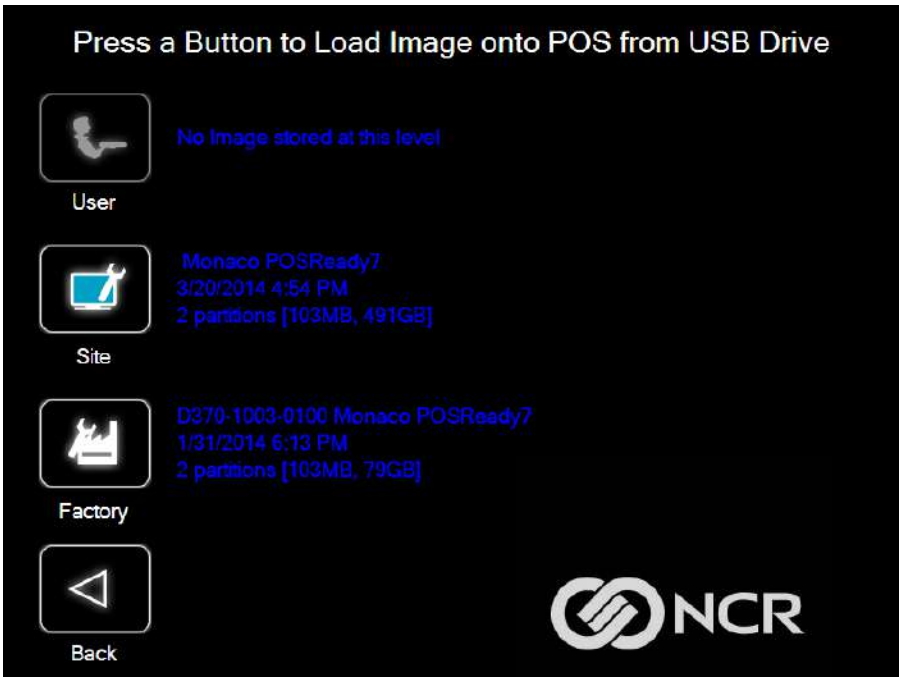
2. Click on the **USB Button**.



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

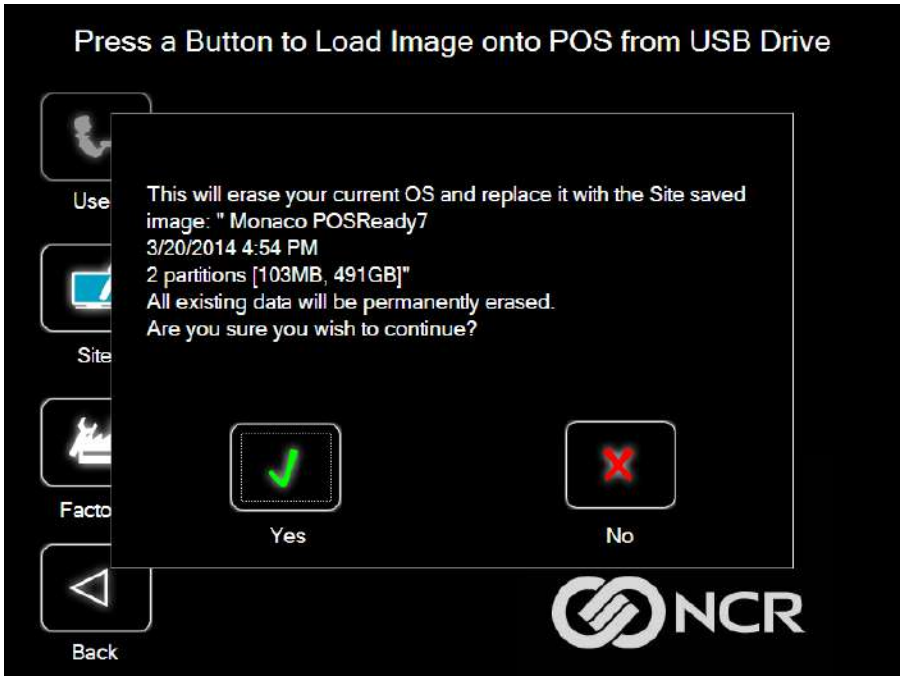


3. Select the *Image Type*.
   - **User Image** - Most recent routine backup.
   - **Site Image** - Image of the terminal after application components were loaded.
   - **Factory Image** - This is the NCR Base Image as shipped from the factory.

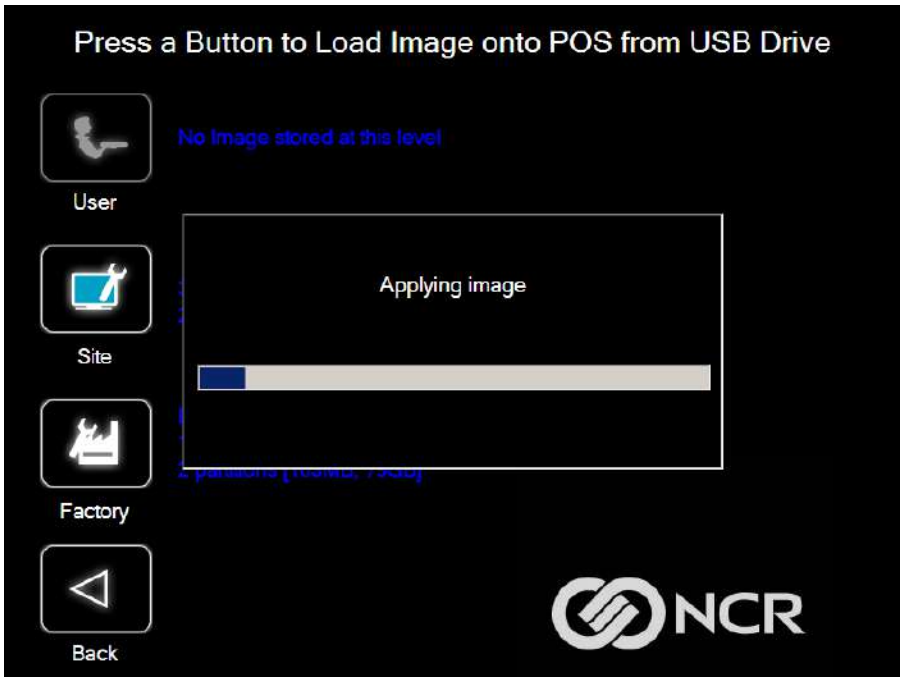


4. Click **Yes** to to apply the image.

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

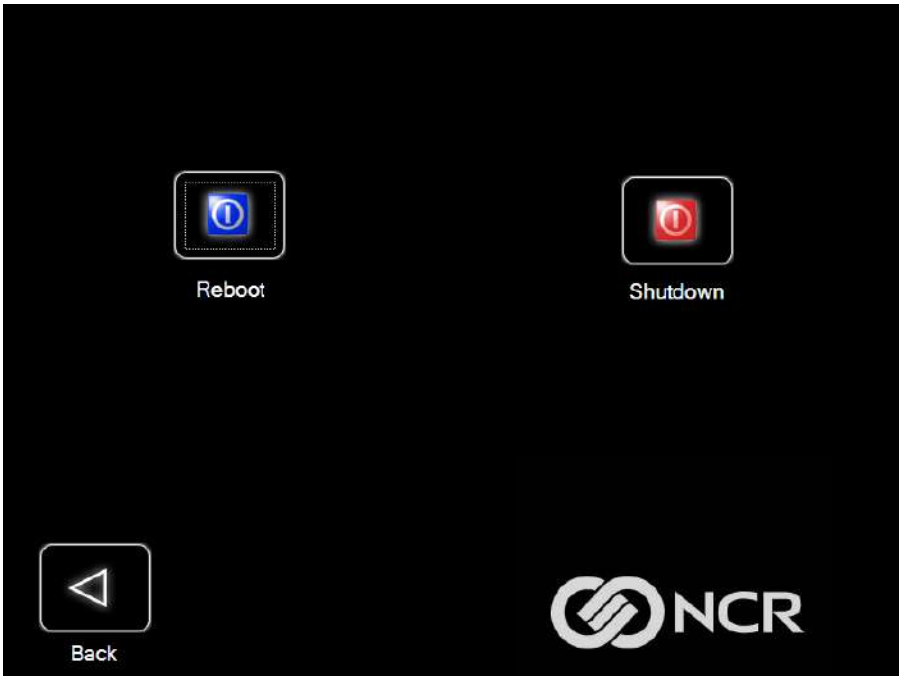


A progress bar is displayed as the image is applied.



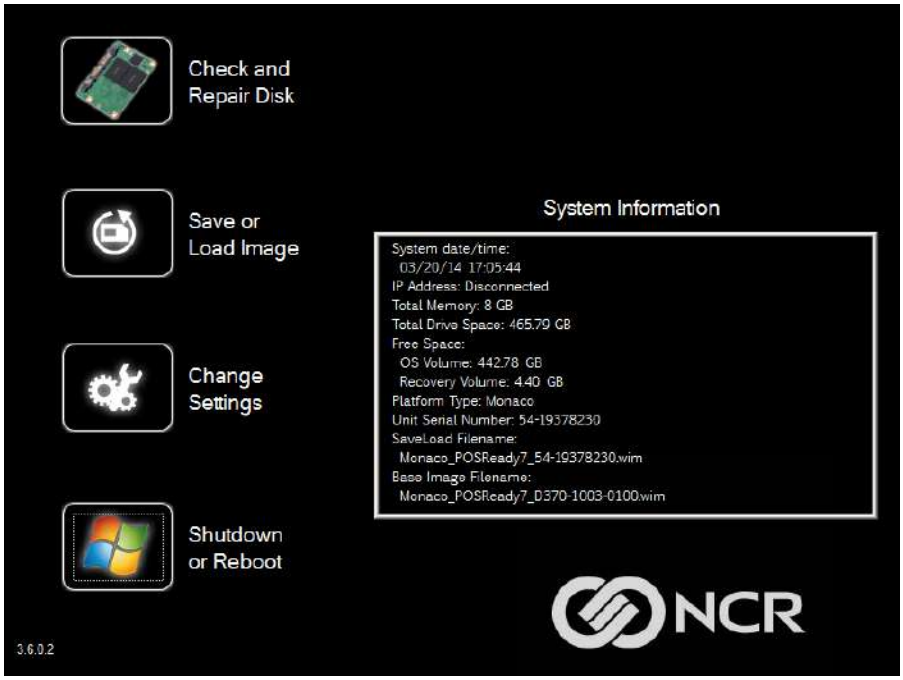
A message is displayed when the load is complete.

5. **Reboot** the POS.



Change Settings

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

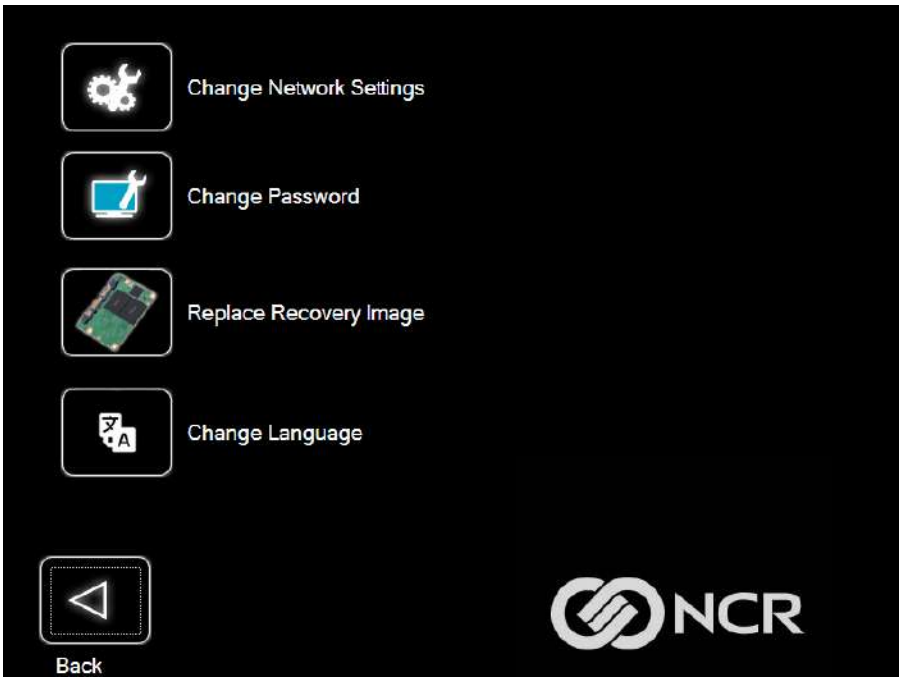


There are four functions available on the *Change Settings* screen.

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

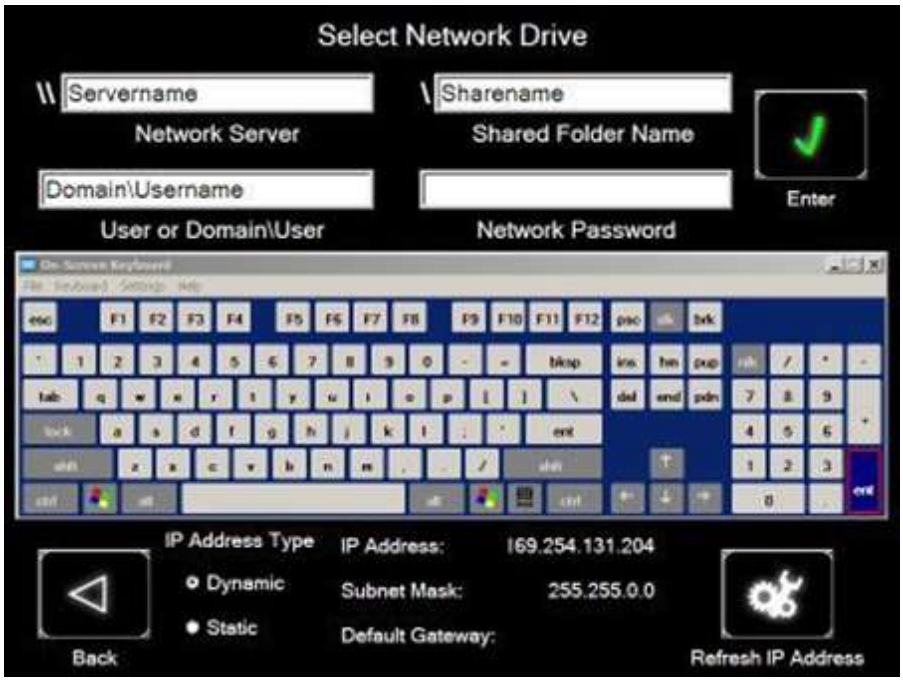
Change Network Settings

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



2. Enter the **Password**.

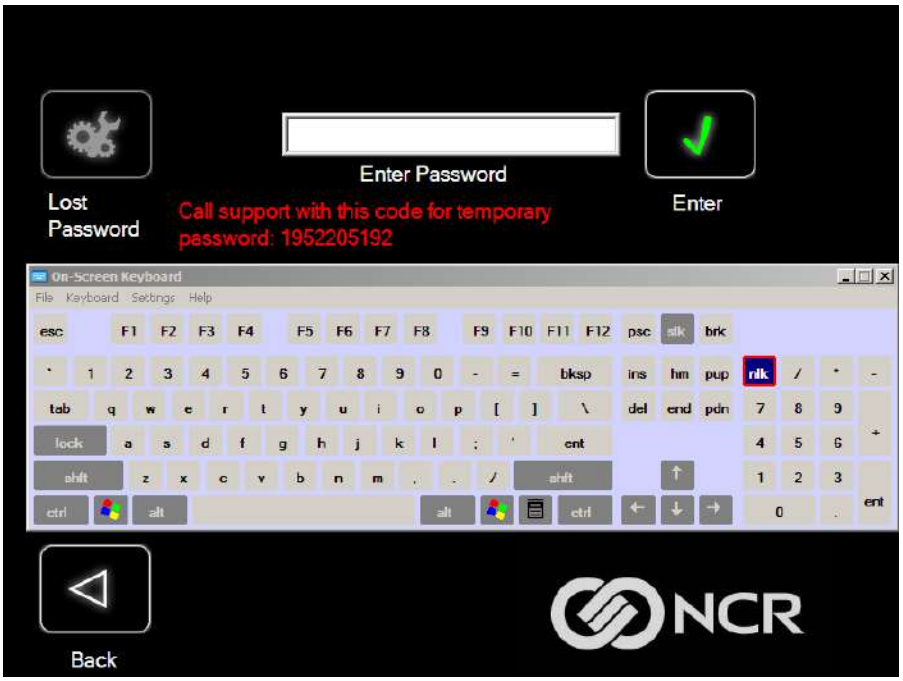
3. Enter the network configuration settings and then click [**Enter**].



Change Password

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

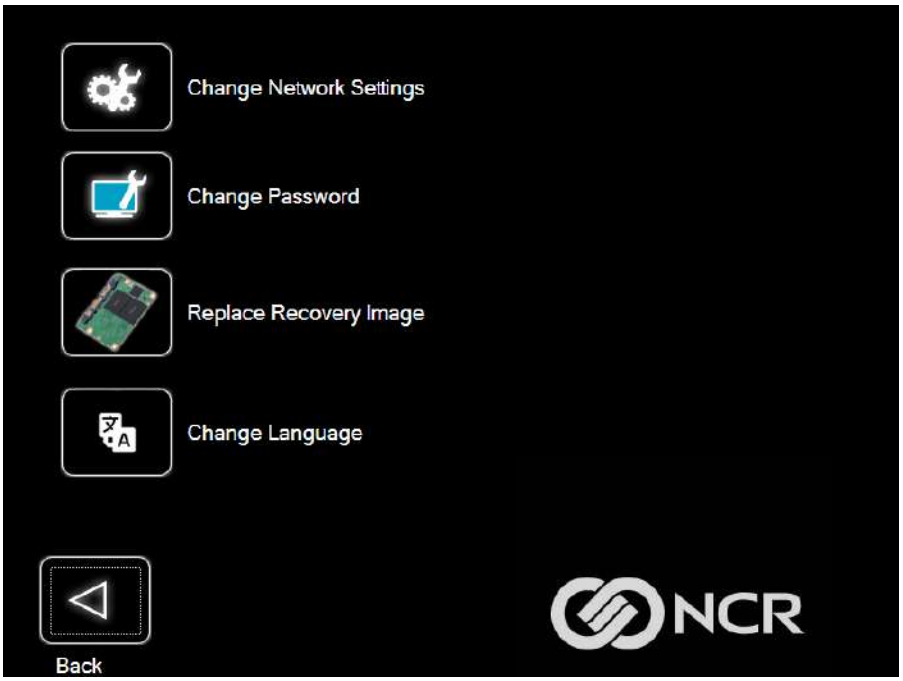
If you have forgotten/lost the password you can click on Lost Password. A unique code is generated that you can provide to NCR Support to get a new temporary password.



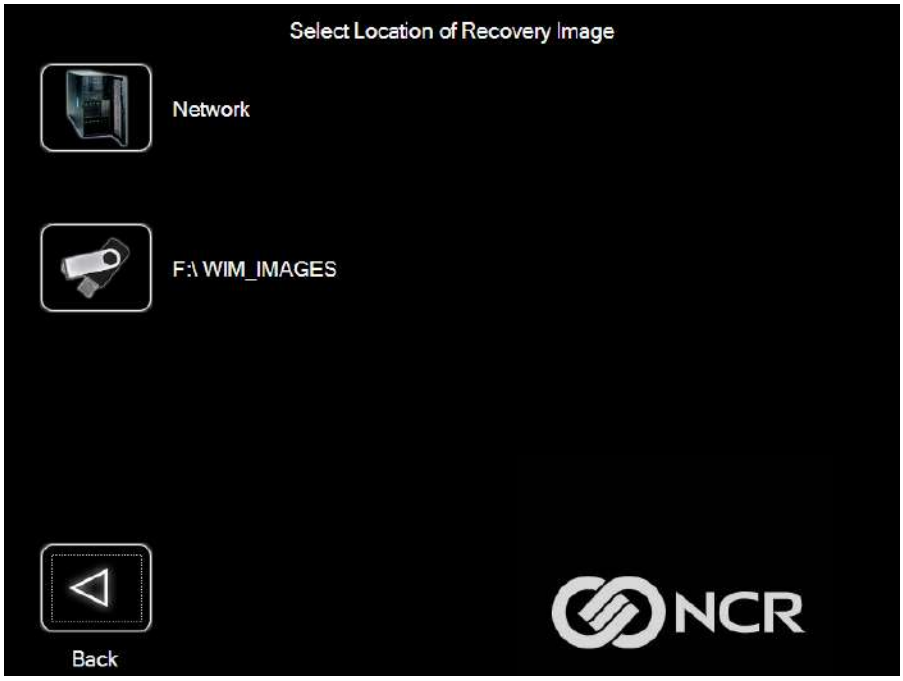
Replace Recovery Image

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**.



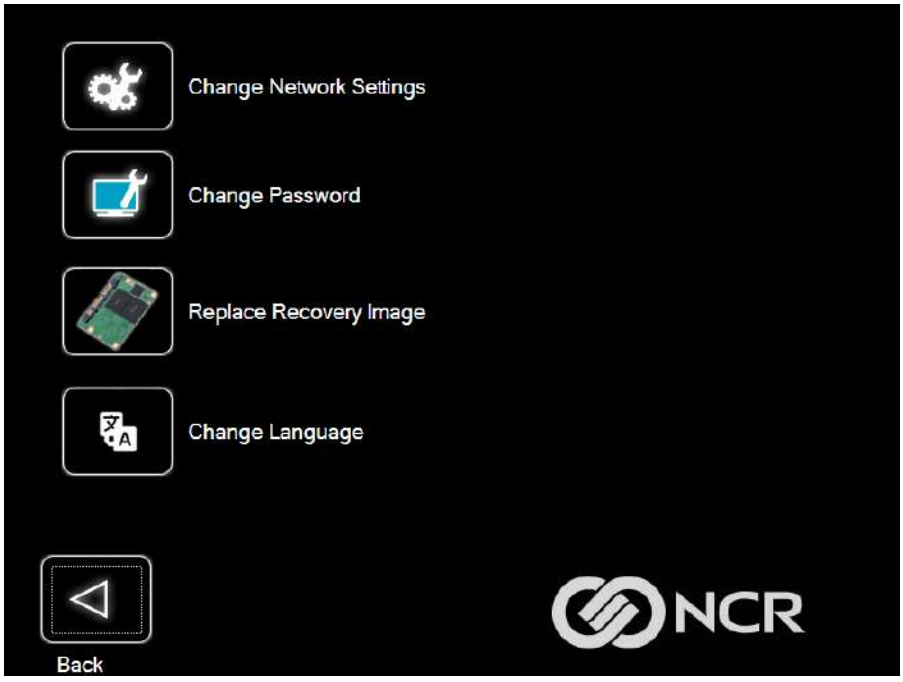
2. Click on the source of the *Recovery Image*.



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.

Chapter 4: 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 7610 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.

See the *BIOS Default Settings* sections later in this chapter for the pre-installed Setup defaults.

BIOS Default Values

NCR BIOS Version: 8.5.6.0

Main Menu

System Language	[English]
System Time	(variable)
System Date	(variable)

Advanced Menu

Network PCE Loading	[Disabled]
Mass Stprage [topm ROM Loading	[Enabled]
► **ACPI Settings**	
Enable ACPI Auto Configuration	[Disabled]
Enable Hibernation	[Enabled]
ACPI Sleep State	[Suspend Disabled]
Lock Legacy Resources	[Disabled]
S3 Video Repost	[Disabled]
► **Trusted Computing**	
Configuration	*Configuration*
Security Device Support	[Enabled]
► **NCR POS**	
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]
Power Button 4 sec. Operation	[Power OFF]
Logo Display	[Logo]

► **CPU Configuration**	
Active Processor Cores	[All]
Limit CPUID Maximum	[Disabled]
Execute Disable Bit	[Enabled]
Intel Virtualization Technology	[Enabled]
Hardware Prefetcher	[Enabled]
Adjacent Cache Line Prefetch	[Enabled]
CPU AES	[Enabled]
EIST	[Enabled]
Intel TXT(LT) Support	[Disabled]
► **SATA Configuration**	
SATA Controller(s)	[Enabled]
SATA Mode Selection	[RAID]
Pcie Nand Configuration	[Disabled]
SATA Test Mode	[Disabled]
Aggressive LPM Support	[Enabled]
SATA Controller Speed	[Default]
. ►*Software Feature Mask Configuration*	
. RAID0	[Enabled]
. RAID1	[Enabled]
. RAID10	[Enabled]
. RAID5	[Enabled]
. Intel Rapid Recovery Technology	[Enabled]
. OROM UI and BANNER	[Enabled]
. HDD Unlock	[Enabled]
. LED Locate	[Enabled]
. IRRT Only on eSATA	[Enabled]
. Smart Response Technoly	[Enabled]
. OROM UI Delay	[2 Seconds]
Alternate ID	[Disabled]

. ► *Serial ATA Port 0/1/2*	
. Port 0/1/2	[Enabled]
. Hot Plug	[Enabled]
. Mechanical Presence Switch	[Disabled]
. External SATA	[Disabled]
. SATA Device Type	[Hard Disk Drive]
. Spin Up Device	[Disabled]
► AMT Configuration	
Intel AMT	[Disabled]
BIOS Hotkey Pressed	[Disabled]
MEBx Selection Screen	[Disabled]
Hide Un-Configure ME Confirmation	[Disabled]
MEBx Debug Message Output	[Disabled]
Un-Configure ME	[Disabled]
Amt Wait Timer	0
Disable ME	[No]
ASF	[Enabled]
Activate Remote Assistance process	[Disabled]
USB Configure	[Enabled]
PET Progress	[Enabled]
AMT CIRA Timeout	0
WatchdDog	[Disabled]
. OS Timer	0
. BIOS Timer	0
► HDD S.M.A.R.T. Status	
SATA Port0	ST250VT000-1BS (250.0)
SMART Status	Supported /OK
SATA Port1	Not Present
SMART Status	N/A
SATA Port1	Not Present

SMART Status	N/A
► **USB Configuration**	
Legacy USB Support	[Enabled]
XHCI Hand-off	[Enabled]
EHCI Hand-off	[Disabled]
Port 60/64 Emulation	[Enabled]
USB hardware delays and time-outs:	
USB transfer time-out	[20 sec]
Device reset time-out	[20 sec]
Device power-up delay	[Auto]
► **Info Report Configuration**	
Summary Screen	[Disabled]
► **SMART Settings**	
SMART Self Test	[Disabled]
► **System Super IO Configuratoin**	
. ►*Serial Port 1/A Configuration*	
. Serial Port	[Enabled]
. Device Settings	IO=3F8h; IRQ=4;
. I/O Base Address	[0x3F8]
. IRQ	[IRQ4]
. ►*Serial Port 2/B Configuration*	
. Serial Port	[Enabled]
. Device Settings	IO=2F8h; IRQ=3;
. I/O Base Address	[0x2F8]
. IRQ	[IRQ3]
. Device Mode	[Standard Serial Po. . .]
. ►*Serial Port 3/C Configuration*	
. Serial Port	[Enabled]
. Device Settings	IO=3E8h; IRQ=11;
. I/O Base Address	[0x3E8]

. IRQ	[IRQ11]
. Device Mode	[Standard Serial Po. . .]
. ►*Serial Port 4/D Configuration*	
. Serial Port	[Enabled]
. Device Settings	IO=2E8h; IRQ=10;
. I/O Base Address	[0x2E8]
. IRQ	[IRQ10]
. Device Mode	[Standard Serial Po. . .]
. ►*Parallel Port Configuration*	
. Parallel Port	[Disabled]
► **H/W Monitor**	
Smart Fan Mode	[Automatic Mode]
Fan OFF temperature limit	10
Fan Start temperature limit	40
Fan Start PWM	50
PWM Slope	[2 PWM]
Hardware Health Monitoring	Typical *(Acceptable Range)*
CPU Die Temperature	+46°C *(less than 55°C)*
CPU VRM Temperature	+51°C *(less than 55°C)*
System Temperature	+51°C *(less than 55°C)*
CPU Fan Speed	[5192] *(min 2500)*
System Fan Speed	[N/A]
VDIMM	+1.488 V *(1.4 - 1.6 V)*
VCORE	+1.088 V *(0.25 - 1.52 V)*
VCC3	+3.344 V *(3.04 - 3.57 V)*
+12V	+12.096 V *(11.2 - 12.8 V)*
VCC5	+5.004 V *(4.6 - 5.4 V)*
VAXG	+0.416 V *(0.25 - 1.52 V)*
VBAT	+2.912 V *(< 2.9 V)*

► Serial Port Console Redirection	
COM0 (Disabled)	
Console Redirection	Port is Disabled
COM1(Pci Bus0,Dev0,Func0) (Disabled)	
Console Redirection	Port is Disabled
Serial Port for Out-of-Band Management/Windows Emergency Management Services (EMS)	
Console Redirection	[Disabled]
. ►*Console Redirection Settings*	
. Out-of-Band Mgmt Port	[COM0 (Disabled)]
. Terminal Type	[BT-UTF8]
. Bits per second	[115200]
. Flow Control	[None]
. Data Bits	8
. Parity	None
. Stop Bits	1
► Network Stack	
Network Stack	[Disable Link]
► Intel Ethernet Connection I217-LM	
. ►NIC Configuration	
, Link Speed	[Auto Negotiated]
. Wake On LAN	[Enabled]
. Link Status	[Disconnected]

Chipset

► **PCH-IO Configuration**	
. ► PCI Express Configuration	
. PCI Express Clock Gating	[Enabled]
. DMI Link ASPM Control	[Enabled]
. DMI Link Extended Synch Control	[Disabled]
. PCIE Root Port Function Swapping	[Enabled]
. Subtractive Decode	[Disabled]
. ► PCI Express Root Port 1,2,4,5,6,7,8	
. PCI Express Root Port 1,2,4,5,6,7,8	[Enabled]
. ASPM Support	[Auto]
. . URR	[Disabled]
. . FER	[Disabled]
. . NFER	[Disabled]
. . CER	[Disabled]
. . CTO	[Disabled]
. . SEFE	[Disabled]
. . SENFE	[Disabled]
. . SECE	[Disabled]
. . PME SCI	[Enabled]
. . Hot Plug	[Disabled]
. PCIe Speed	[Auto]
. Detect Non-Compliance Device	[Disabled]
. Extra Bus Reserved	0
. Resreved Memory	10
. Reserved I/O	4
. PCIE LTR	[Enabled]
. PCIE LTR Lock	[Enabled]
. Snoop Latency Override	[Auto]
. Non Snoop Latency Override	[Auto]

. ► USB Configuration	
. EHCI	[Enabled]
. USB Ports Per-Port Disable Control	[Disabled]
. ► PCH Azalia Configuration	
. Azalia	[Auto]
. Azalia Docking Support	[Disabled]
. Azalia PME	[Disabled]
. ► BIOS Security Configuration	
. SMI Lock	[Disabled]
. BIOS Lock	[Disabled]
. GPIO Lock	[Disabled]
. BIOS Interface Lock	[Enabled]
. RTC RAM Lock	[Enabled]
PCH LAN Controller	[Enabled]
. Wake on LAN	[Enabled]
Wake on WLAN Enable	[Disabled]
Wake on WLAN Enable From DeepSx	[Disabled]
Restore AC Power Loss	[Power On]
► System Agent (SA) Configuration	
VT-d	[Enabled]
. ►*Graphics Configuration*	
. Graphics Turbo IMON Current	31
. Skip External Gfx Card	[Disabled]
. Primary Display	[Auto]
. . Primary PEG	[Auto]
. . Primary PCIE	[Auto]
. Internal Graphics	[Auto]
. Aperture Size for Hazwell	[256M]
. CD Clk Frequency	[540MHz]
. DVMT Pre-Allocated for Hazwell	[32MB]

. ALS Support	[Enabled]
. DVMT Total Gfx Mem	[128MB]
. Gfx Low Power Mode	[Enabled]
. Panel Power Enable	[Disabled]
. ►*LCD Control*	
. . Primary IGFX Boot Display	[VBIOS Default]
. . LCD Panel Type	[VBIOS Default]
. . SDVO-LFP Panel Type	[VBIOS Default]
. . Panel Scaling	[Auto]
. . Backlight Control	[PWM Inverted]
. . BIA	[Auto]
. . Spread Spectrum Clock Chip	[Pff]
. . TV1 Standard	[VBIOS Default]
. . TV2 Standard	[VBIOS Default]
. . Acive LFP	[Int-LVDS]
. . Panel Color Depth	[18 Bit]

Boot Menu

Boot Configuration	
Setup Prompt Timeout	1
Bootup NumLock State	[On]
Quiet Boot	[Disabled]
Fast Boot	[Disabled]
Boot mode select	[Legacy]
Fixed Boot Order Priorities	
Boot Option #1	[Network]
Boot Option #2	[Hard Disk: ST250VT . . .]
Boot Option #3	[USB Key]
Boot Option #4	[USB Hard Disk]
Boot Option #5	[USAB CD/DVDE]
Boot Option #6	[USB Floppy]
Boot Option #7	[CD/DVDE]
. ► *CSM16 Parameters*	
. GateA20 Active	[Upon Request]
. Option ROM Messages	[Force BIOS]
. . *CSM Parameters*	
. . Launch CSM	[Enabled]
. . Boot option filter	[UEFI and Legacy]
. . Launch PXE OpROM policy	[Legacy only]
. . Launch Storage OpROM policy	[Legacy only]
. . Launch Video OpROM policy	[Legacy only]
. . Other PCI device ROM priority	[UEFI OpROM]
. ► *Hard Disk Drive BBS Priorities*	
. . Boot Option #1	[SATA PM: ST250VT0 . . .]
. ► *Network Drive BBS Priorities*	
. . Boot Option #1	[IBA GE Slot 00C8 v1561]

Chapter 5: Initial Terminal Imaging

Introduction

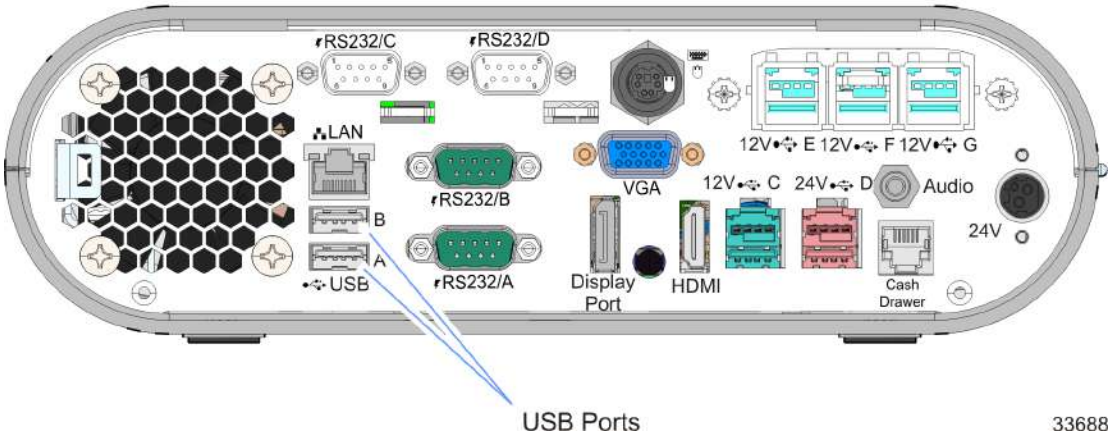
Factory default HDD/SSD images for the RealPOS *XR7* POS are distributed on bootable auto-imaging USB Flash Drive media. The following procedures describe how to apply/restore an image on the terminal.

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.

Imaging Procedure

1. Connect the 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. This can be done by pressing **F8** during the boot and choosing the USB option (**NCR**), or by entering *BIOS Setup* and changing the boot order.
4. The system boots in the Windows PE OS environment. Press **Y** on the keyboard at the confirmation prompt to re-image the terminal.
5. When the imaging process is complete, enter **Exit** on the keyboard to reboot the system.
6. After the reboot, remove the USB Flash Drive and disconnect the keyboard.

Chapter 5: 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 7610 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.

See the *BIOS Default Settings* sections later in this chapter for the pre-installed Setup defaults.

BIOS Default Values

NCR BIOS Version: 8.5.6.0

Main Menu

System Language	[English]
System Time	(variable)
System Date	(variable)

Advanced Menu

Network PCE Loading	[Disabled]
Mass Stprage [topm ROM Loading	[Enabled]
► **ACPI Settings**	
Enable ACPI Auto Configuration	[Disabled]
Enable Hibernation	[Enabled]
ACPI Sleep State	[Suspend Disabled]
Lock Legacy Resources	[Disabled]
S3 Video Repost	[Disabled]
► **Trusted Computing**	
Configuration	*Configuration*
Security Device Support	[Enabled]
► **NCR POS**	
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]
Power Button 4 sec. Operation	[Power OFF]
Logo Display	[Logo]

► **CPU Configuration**	
Active Processor Cores	[All]
Limit CPUID Maximum	[Disabled]
Execute Disable Bit	[Enabled]
Intel Virtualization Technology	[Enabled]
Hardware Prefetcher	[Enabled]
Adjacent Cache Line Prefetch	[Enabled]
CPU AES	[Enabled]
EIST	[Enabled]
Intel TXT(LT) Support	[Disabled]
► **SATA Configuration**	
SATA Controller(s)	[Enabled]
SATA Mode Selection	[RAID]
Pcie Nand Configuration	[Disabled]
SATA Test Mode	[Disabled]
Aggressive LPM Support	[Enabled]
SATA Controller Speed	[Default]
. ►*Software Feature Mask Configuration*	
. RAID0	[Enabled]
. RAID1	[Enabled]
. RAID10	[Enabled]
. RAID5	[Enabled]
. Intel Rapid Recovery Technology	[Enabled]
. OROM UI and BANNER	[Enabled]
. HDD Unlock	[Enabled]
. LED Locate	[Enabled]
. IRRT Only on eSATA	[Enabled]
. Smart Response Technoly	[Enabled]
. OROM UI Delay	[2 Seconds]
Alternate ID	[Disabled]

. ►*Serial ATA Port 0/1/2*	
. Port 0/1/2	[Enabled]
. Hot Plug	[Enabled]
. Mechanical Presence Switch	[Disabled]
. External SATA	[Disabled]
. SATA Device Type	[Hard Disk Drive]
. Spin Up Device	[Disabled]
► AMT Configuration	
Intel AMT	[Disabled]
BIOS Hotkey Pressed	[Disabled]
MEBx Selection Screen	[Disabled]
Hide Un-Configure ME Confirmation	[Disabled]
MEBx Debug Message Output	[Disabled]
Un-Configure ME	[Disabled]
Amt Wait Timer	0
Disable ME	[No]
ASF	[Enabled]
Activate Remote Assistance process	[Disabled]
USB Configure	[Enabled]
PET Progress	[Enabled]
AMT CIRA Timeout	0
WatchdDog	[Disabled]
. OS Timer	0
. BIOS Timer	0
► HDD S.M.A.R.T. Status	
SATA Port0	ST250VT000-1BS (250.0)
SMART Status	Supported /OK
SATA Port1	Not Present
SMART Status	N/A
SATA Port1	Not Present

SMART Status	N/A
► **USB Configuration**	
Legacy USB Support	[Enabled]
XHCI Hand-off	[Enabled]
EHCI Hand-off	[Disabled]
Port 60/64 Emulation	[Enabled]
USB hardware delays and time-outs:	
USB transfer time-out	[20 sec]
Device reset time-out	[20 sec]
Device power-up delay	[Auto]
► **Info Report Configuration**	
Summary Screen	[Disabled]
► **SMART Settings**	
SMART Self Test	[Disabled]
► **System Super IO Configuratoin**	
. ►*Serial Port 1/A Configuration*	
. Serial Port	[Enabled]
. Device Settings	IO=3F8h; IRQ=4;
. I/O Base Address	[0x3F8]
. IRQ	[IRQ4]
. ►*Serial Port 2/B Configuration*	
. Serial Port	[Enabled]
. Device Settings	IO=2F8h; IRQ=3;
. I/O Base Address	[0x2F8]
. IRQ	[IRQ3]
. Device Mode	[Standard Serial Po. . .]
. ►*Serial Port 3/C Configuration*	
. Serial Port	[Enabled]
. Device Settings	IO=3E8h; IRQ=11;
. I/O Base Address	[0x3E8]

. IRQ	[IRQ11]
. Device Mode	[Standard Serial Po. . .]
. ►*Serial Port 4/D Configuration*	
. Serial Port	[Enabled]
. Device Settings	IO=2E8h; IRQ=10;
. I/O Base Address	[0x2E8]
. IRQ	[IRQ10]
. Device Mode	[Standard Serial Po. . .]
. ►*Parallel Port Configuration*	
. Parallel Port	[Disabled]
► **H/W Monitor**	
Smart Fan Mode	[Automatic Mode]
Fan OFF temperature limit	10
Fan Start temperature limit	40
Fan Start PWM	50
PWM Slope	[2 PWM]
Hardware Health Monitoring	Typical *(Acceptable Range)*
CPU Die Temperature	+46°C *(less than 55°C)*
CPU VRM Temperature	+51°C *(less than 55°C)*
System Temperature	+51°C *(less than 55°C)*
CPU Fan Speed	[5192] *(min 2500)*
System Fan Speed	[N/A]
VDIMM	+1.488 V *(1.4 - 1.6 V)*
VCORE	+1.088 V *(0.25 - 1.52 V)*
VCC3	+3.344 V *(3.04 - 3.57 V)*
+12V	+12.096 V *(11.2 - 12.8 V)*
VCC5	+5.004 V *(4.6 - 5.4 V)*
VAXG	+0.416 V *(0.25 - 1.52 V)*
VBAT	+2.912 V *(< 2.9 V)*

► **Serial Port Console Redirection**	
COM0 (Disabled)	
Console Redirection	Port is Disabled
COM1(Pci Bus0,Dev0,Func0) (Disabled)	
Console Redirection	Port is Disabled
Serial Port for Out-of-Band Management/Windows Emergency Management Services (EMS)	
Console Redirection	[Disabled]
. ►*Console Redirection Settings*	
. Out-of-Band Mgmt Port	[COM0 (Disabled)]
. Terminal Type	[BT-UTF8]
. Bits per second	[115200]
. Flow Control	[None]
. Data Bits	8
. Parity	None
. Stop Bits	1
► **Network Stack**	
Network Stack	[Disable Link]
► **Intel Ethernet Connection I217-LM**	
. ►NIC Configuration	
, Link Speed	[Auto Negotiated]
. Wake On LAN	[Enabled]
. Link Status	[Disconnected]

Chipset

► **PCH-IO Configuration**	
. ► PCI Express Configuration	
. PCI Express Clock Gating	[Enabled]
. DMI Link ASPM Control	[Enabled]
. DMI Link Extended Synch Control	[Disabled]
. PCIE Root Port Function Swapping	[Enabled]
. Subtractive Decode	[Disabled]
. ► PCI Express Root Port 1,2,4,5,6,7,8	
. PCI Express Root Port 1,2,4,5,6,7,8	[Enabled]
. ASPM Support	[Auto]
. . URR	[Disabled]
. . FER	[Disabled]
. . NFER	[Disabled]
. . CER	[Disabled]
. . CTO	[Disabled]
. . SEFE	[Disabled]
. . SENFE	[Disabled]
. . SECE	[Disabled]
. . PME SCI	[Enabled]
. . Hot Plug	[Disabled]
. PCIe Speed	[Auto]
. Detect Non-Compliance Device	[Disabled]
. Extra Bus Reserved	0
. Resreved Memory	10
. Reserved I/O	4
. PCIE LTR	[Enabled]
. PCIE LTR Lock	[Enabled]
. Snoop Latency Override	[Auto]
. Non Snoop Latency Override	[Auto]

. ► USB Configuration	
. EHCI	[Enabled]
. USB Ports Per-Port Disable Control	[Disabled]
. ► PCH Azalia Configuration	
. Azalia	[Auto]
. Azalia Docking Support	[Disabled]
. Azalia PME	[Disabled]
. ► BIOS Security Configuration	
. SMI Lock	[Disabled]
. BIOS Lock	[Disabled]
. GPIO Lock	[Disabled]
. BIOS Interface Lock	[Enabled]
. RTC RAM Lock	[Enabled]
PCH LAN Controller	[Enabled]
. Wake on LAN	[Enabled]
Wake on WLAN Enable	[Disabled]
Wake on WLAN Enable From DeepSx	[Disabled]
Restore AC Power Loss	[Power On]
► System Agent (SA) Configuration	
VT-d	[Enabled]
. ►*Graphics Configuration*	
. Graphics Turbo IMON Current	31
. Skip External Gfx Card	[Disabled]
. Primary Display	[Auto]
. . Primary PEG	[Auto]
. . Primary PCIE	[Auto]
. Internal Graphics	[Auto]
. Aperture Size for Hazwell	[256M]
. CD Clk Frequency	[540MHz]
. DVMT Pre-Allocated for Hazwell	[32MB]

. ALS Support	[Enabled]
. DVMT Total Gfx Mem	[128MB]
. Gfx Low Power Mode	[Enabled]
. Panel Power Enable	[Disabled]
. ► *LCD Control*	
. . Primary IGFX Boot Display	[VBIOS Default]
. . LCD Panel Type	[VBIOS Default]
. . SDVO-LFP Panel Type	[VBIOS Default]
. . Panel Scaling	[Auto]
. . Backlight Control	[PWM Inverted]
. . BIA	[Auto]
. . Spread Spectrum Clock Chip	[Pff]
. . TV1 Standard	[VBIOS Default]
. . TV2 Standard	[VBIOS Default]
. . Acive LFP	[Int-LVDS]
. . Panel Color Depth	[18 Bit]

Boot Menu

Boot Configuration	
Setup Prompt Timeout	1
Bootup NumLock State	[On]
Quiet Boot	[Disabled]
Fast Boot	[Disabled]
Boot mode select	[Legacy]
Fixed Boot Order Priorities	
Boot Option #1	[Network]
Boot Option #2	[Hard Disk: ST250VT . . .]
Boot Option #3	[USB Key]
Boot Option #4	[USB Hard Disk]
Boot Option #5	[USAB CD/DVDE]
Boot Option #6	[USB Floppy]
Boot Option #7	[CD/DVDE]
. ► *CSM16 Parameters*	
. GateA20 Active	[Upon Request]
. Option ROM Messages	[Force BIOS]
. . *CSM Parameters*	
. . Launch CSM	[Enabled]
. . Boot option filter	[UEFI and Legacy]
. . Launch PXE OpROM policy	[Legacy only]
. . Launch Storage OpROM policy	[Legacy only]
. . Launch Video OpROM policy	[Legacy only]
. . Other PCI device ROM priority	[UEFI OpROM]
. ► *Hard Disk Drive BBS Priorities*	
. . Boot Option #1	[SATA PM: ST250VT0 . . .]
. ► *Network Drive BBS Priorities*	
. . Boot Option #1	[IBA GE Slot 00C8 v1561]

Chapter 6: BIOS Updating Procedure

Introduction

This chapter discusses procedures on how to update the terminal BIOS. The software is distributed via the NCR Website.

The BIOS update can be performed using the following methods:

- Bootable USB CD Drive
- Bootable USB Memory Device
- Network - Refer to the *NCR Retail Systems Manager (RSM) Software User's Guide*, (B005-0000-1518) for information about this procedure.

Prerequisites

The following are required to perform a SPI/BIOS update.

- 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 XR6 Rel. 1.0 (7603-1xxx)** >> **BIOS.**
  3. Select the desired BIOS File.
     - ISO Image - Used with CD ROM boot device
     - Disk Image - Used with Floppy Disk boot device
     - Network Image - Used with Network boot
     - USB Memory Key Image - Used with USB boot device
  4. Save the software to your local hard drive.

Creating the Bootable Media

Creating a Bootable CD

The downloaded file is a CD image file (ISO) containing the files necessary to create a bootable CD. A system with a CD/DVD burner is required to perform this function.

1. Insert a writable CD in the CD/DVD burner drive.
2. Record the downloaded image file onto the CD using a utility that is capable of burning ISO files.

Note: You cannot simply drop the file on the CD and burn it. You must use software capable of recording ISO images onto CDs.

Creating a Bootable USB Memory Drive

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

1. Insert a USB drive that is formatted as FAT (or FAT32).
2. Unzip the downloaded files.
3. Copy the files to the root directory of the USB drive.
4. Open a DOS command window.
5. Change directory to the USB Memory Drive.
6. Execute the following command:

   `Syslinux -fma <USB drive letter>`

   Example: `Syslinux -fma f:`

   This command erases any bootable methods that may be present on the USB drive and replaces it with the SPI/BIOS update process.

   If the resulting USB memory drive is not bootable, try the following command. This runs slower but is more effective.

   `Syslinux -sfma <USB drive letter>`

   Important: Do not run syslinux by double-clicking on it because it may affect the boot drive of the terminal being used to create the drive.

   Windows 7 Note: The above commands must be executed as administrator. Failure to run as administrator results in an MBR write failure. To open a command shell with administrator privileges perform the following:

   Start→All Programs→Accessories→Command Prompt→
   [right-click]**"Run as"→Administrator**

BIOS Updating Procedures

1. Insert the media containing the BIOS update software into the terminal.
2. Connect a USB keyboard.
3. Press **[F8]** during boot (when you see the NCR logo) to enter the Boot Select menu.
4. Select **USB:[name of device]**.
5. The terminal boots and displays the BIOS Update main menu.

   There are six options from the main menu to run the update program. Three run automatically and two are interactive. *Option 1, the Automatic BIOS Update* executes automatically in 10 seconds unless the up/down arrow is pressed.

Automatic Method

With the Automatic Method you may see a prompt to enter the DMI (Desktop Management Interface), which is the terminal Class/Model/Serial information. This happens if the program detects invalid DMI information in the current BIOS, or if you are replacing the processor board, which has no Class/Model/Serial information in the BIOS. DMI information is mandatory.

Interactive Method

This method permits you to input/replace the Class/Model/Serial information that is stored in the BIOS.

Note: DMI information that is currently stored in the BIOS is displayed during power up. Press **[Tab]** at the NCR Logo to remove the logo. Press **[Pause]** to freeze the screen. Press **[Esc]** to continue.

6. Make a menu selection and follow the screen prompts (Option 1 is recommended).

```
1 Update BIOS - No prompt for Serial/Model/Class unless invalid

***** Forced Update of Serial/Model/Class Information *****

2 Update BIOS - Always enter Serial/Model/Class

3 Update DMI only - Serial/Model/Class update ONLY (no BIOS Update)

***** For Service Personnel Only *****

4 Update BIOS - Default Serial/Model/Class
```

Option 1 - Update BIOS - No prompt for Serial/Model/Class unless invalid

1. Highlight Option 1 and press **[ENTER]**. (Executes automatically in 10 seconds unless the up/down arrow is pressed.)
2. The Flash Program updates the BIOS and automatically reboots the terminal.

Option 2 - Update of BIOS - Always enter Serial/Model/Class

This option prompts for Class/Model/Serial information at the beginning of the program and then updates the BIOS only.

1. Highlight Option 2 and press **[ENTER]**.
2. At the prompt press **[ENTER]** to enter the Class/Model/Serial Number information (DMI). Follow the onscreen format instructions.

   Example: `7610-1000-8801`**[ENTER]**
   `54-19378230`**[ENTER]**

3. Press **[1]** to confirm the data and to continue.
4. The Flash Program updates the BIOS and automatically reboots the terminal.

Option 3 - Update DMI only - Serial/Model/Class update ONLY (no BIOS Update)

This option lets you enter the DMI information only. The BIOS is not updated.

1. Highlight Option 3 and press **[ENTER]**.
2. At the prompt press **[ENTER]** to enter the Class/Model/Serial Number information (DMI). Follow the onscreen format instructions.

   Example: `7610-1000-8801`**[ENTER]**
   `54-19378230`**[ENTER]**

3. Press **[1]** to confirm the data and to continue.
4. Remove the USB device before the system boots.
5. System is ready for operation.

Option 4 - Update BIOS - Default Serial/Model/Class information

This option is for Service Personnel only. It updates the BIOS but leaves the *Class/Model/Serial* fields empty (erased). The DMI information is then entered when the board is installed in a terminal.

1. Highlight Option 4 and press [**ENTER**].
2. The BIOS are updated and the system reboots.
3. Remove the BIOS Update media before the system boots.
4. System is ready for operation.

Chapter 7: Maintenance

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.

Touch Screen Cleaning Procedures

1. Using a soft cloth dampened with isopropyl alcohol or a mild non-abrasive soap & water solution, gently wipe the touch screen 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 touch screen

MSR Cleaning Procedures

MSR Cleaning Cards and MSR Treatment Cards may be purchased from NCR or KIC Products. For details, see*http://www.ncr-direct.com* or *http://www.kicproducts.com*.

MSR Cleaning and Treatment Cards

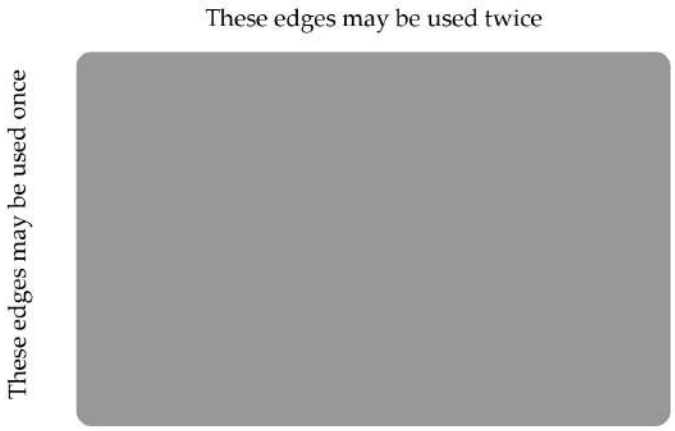
Part	Part Number	NCR Part Number
MSR Cleaning Card, Dry		998-0052929
MSR Cleaning Card, Wet	520522 (box of 50)	603-9014730
MSR Treatment Card	9436-2446 (box of 20)	497-0453056

MSR Treatment Card

The MSR Treatment Card is used to assist in protecting Magnetic Stripe Readers from Electrostatic Discharge (ESD), which can cause failures when swiping cards that have metallic hologram stripes.

Swipe the card through the MSR in a smooth motion. Only swipe it down ONCE and up ONCE. Allow the device to dry for 5 minutes before swiping any other cards.

Note: Each long side of the card may be used twice. Each short side of the card may be used only once. Thus, a single card can treat 6 MSR devices with one UP and one DOWN swipe per MSR device. These limits should not be exceeded due to the possibility of spreading contaminants from machine to machine and/or reducing ESD protection.



Note: If all six up/down swipes are not used on a fresh card it should be placed in a sealed (Ziploc) bag for future use.

Cleaning/Treatment Frequency

New MSR:

Prior to placing in operation, the MSR device should be swiped with the MSR Treatment Card.

Existing MSR:

An existing MSR should be cleaned using an MSR Cleaning Card before treating it with a MSR Treatment Card. For low use retail establishments, the cleaning and treatment procedures should be followed at least once per month. In areas of extremely high traffic (in excess of 500 swipes per day) or an operating environment that is high in contaminants, such as found in the food service industry, a weekly cleaning and treatment should be performed.

Appendix A: **Powered Serial Port Settings**

The serial ports on the 7603 can be configured as powered or not. The default setting for all the ports is 12 V powered. To change the settings open the Top cover and change the jumpers on the Motherboard using the illustrations below.