NCR RealPOS 5967 12-Inch Touch LCD

Release 1.0

User Guide

B005-0000-2045

Issue A

To maintain the quality of our publications, we need your comments on the accuracy, clarity, organization, and value of this book.

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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 5967* conforms to all applicable legal requirements. To view the compliance statements see the *NCR RealPOS Peripherals Safety and Regulatory Statements* (B005-0000-1701).

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.

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 5967 LCD Parts Identification Manual* (B005-0000-2046)

Table of Contents

Revision Record

Issue	Date	Remarks
A	Jan 2012	First issue

Chapter 1: Overview

Introduction

The NCR 5967 is a 12-inch TFT LCD display with a capacitive Touch Screen (XGA, 1024 ◎ 768). The display is powered from the terminal via +12VUSB Plus Power.

It is available in two color schemes:

- Beige (G11)
- Charcoal Gray (CG1)

Model Numbers

Major Model	Description
5967-1000	12” led Display, No MSR, No Mount (G11)
5967-1100	12” led Display, No MSR, No Mount (CG1)

Compatibility

The 5967 LCD Display is designed as an optional input/output device for the following host terminals:

- NCR RealPOS 80 (7458) Retail Terminal
- NCR RealPOS 80c (7457) Retail Terminal
- NCR RealPOS 80*XRT* (7459) Retail Terminal
- RealPOS 70 (7402) Retail Terminal
- NCR RealPOS 70*XRT* (7403) Retail Terminal
- NCR RealPOS 30 (7446) Retail Terminal
- NCR RealPOS 40 (7600) Retail Terminal
- NCR RealPOS 60 (7601) Retail Terminal
- NCR RealPOS 25 (7610) Retail Terminal
- NCR RealPOS 50 (7611) Retail Terminal
- NCR RealPOS 22/23 (7449) Retail Terminal

Supported Resolutions

- VGA (640 × 480)
- SVGA (800 × 600)
- XGA (1024 × 768)

Standard Features

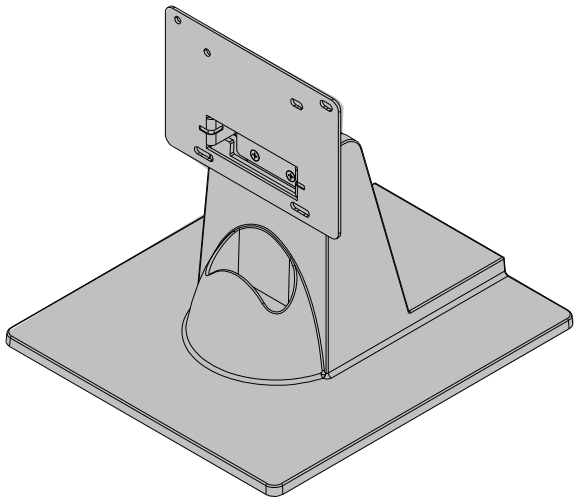
The 5967 consists of a plastic housing, sheet metal interior, a 12' LCD, a controller board, a powered USB cable (1M/4M), an audio cable (0.9M/4.6M), a video cable (0.9M/4.6M), an optional Magnetic Stripe Reader (MSR), a standard power brick, a manual and a shipping box. It has the following features:

- 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/m^2 (typ), 300 cd/m^2 (min) luminance to user
  - 50K hour minimum backlight ½ life at rated luminance
- VESA & Industry Standards
  - Support full screen scaling of VESA & Industry standard video modes / refresh rates thru 1024x768@75Hz
  - Support VESA 75mm mount standards (do not recess mount plate)
  - Support current VESA EDID / DDC standards
  - Support VESA power management standards
- Retail hardened display
  - Integrated enclosure containing an optional MSR mount points
  - Rigid mounting attachments
  - Latching / strain relieved cables used where possible
  - 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)
- Flexible cable length options (compatibility with NCR 1m & 4m external cables)
- Clean (hidden) cable management
- ISO 3-Track/JIS 2-Track MSR (Optional)
- USB Port

Optional Mounts

Table Top Mount

The 5967 LCD display can be mounted on the Standard Remote Table Top Mount (5967-K030/K031).



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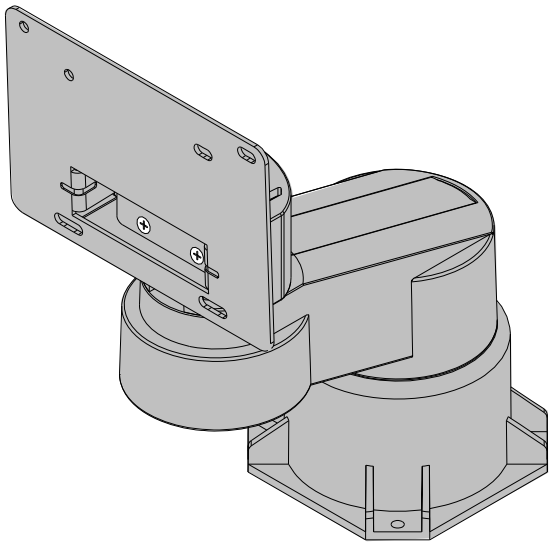
Integrated Mount

The 5967 LCD display can be mounted on the Standard Integration Tray Display Mount (5964-K022/K023), which is used in the various terminal integration tray mounts.



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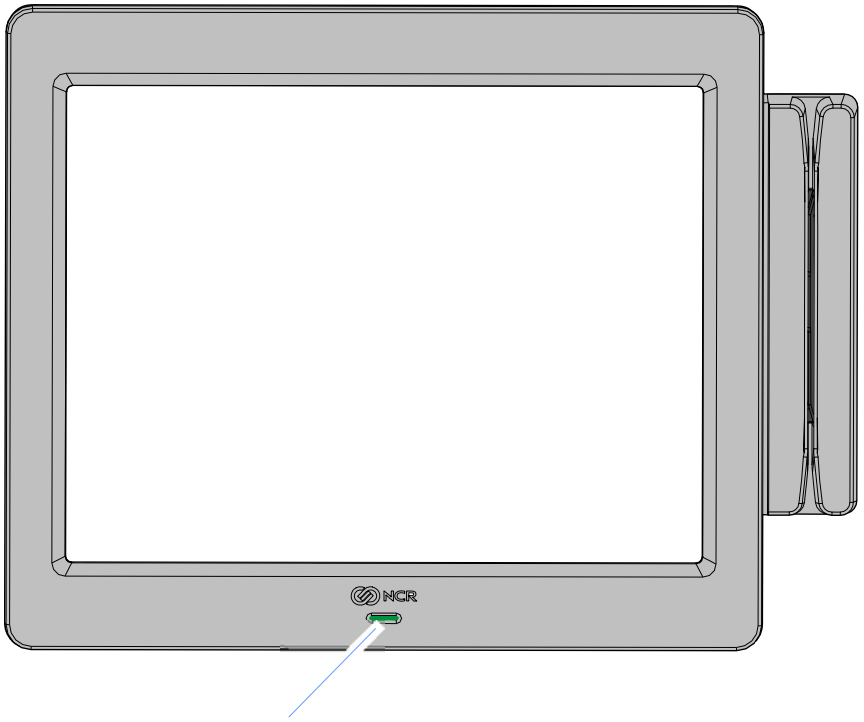
Display Controls

Power Indicator

The LED is green while in the normal ON state and red while in the Power Save mode.



Chapter 2: Site Preparation

Physical Environment

Operating Range

Condition	Range
Temperature	5° to 45°C
Relative Humidity	10% to 90% (Non-condensing)

Storage Range

Condition	Range
Temperature	-10° to 50°C
Relative Humidity	10% to 90%

Transit Range

Condition	Range
Temperature	-40° to 60°C (One-week max.)
Relative Humidity	5% to 95%

Electrical Environment

Power is supplied to the display either from an external power supply or through a Powered USB interface. In either case, the nominal input voltage shall be +12 volts and conform to the following:

Parameter	Minimum	Typical	Maximum
Input Voltage	+10.8 V	+12.0 V	+13.2 V

Power Consumption

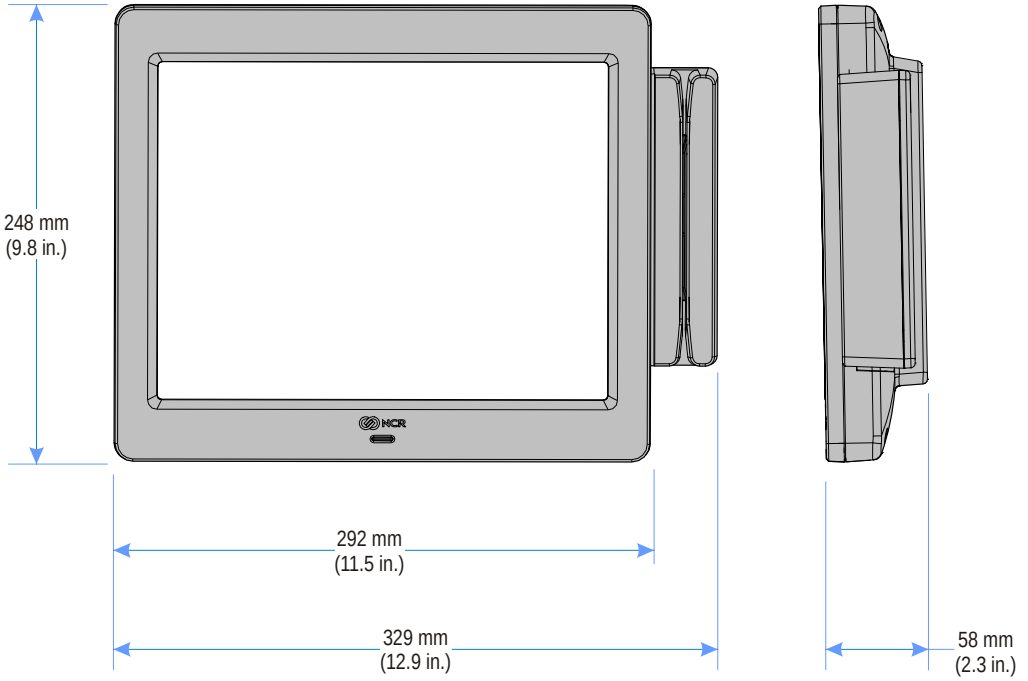
Parameter	Typical	Standby
Input Power	+16.3 W	+1.1 W

Weight

2.1 kg (4.8 lbs.)

Dimensions

LCD Display



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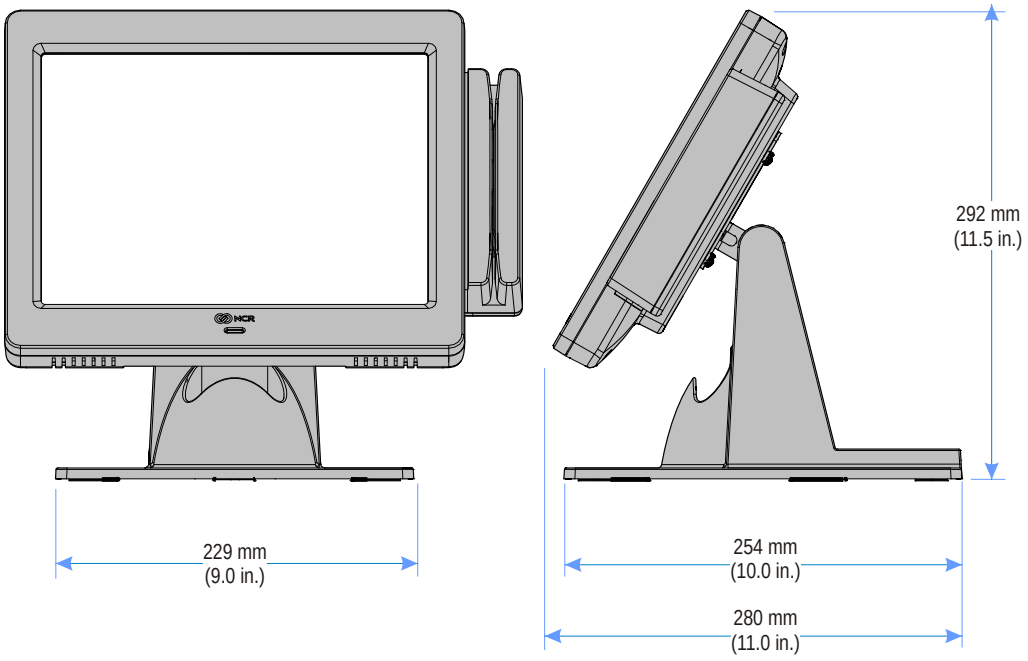
LCD Display on the Standard Table-Top Mount



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Chapter 3: Hardware Installation

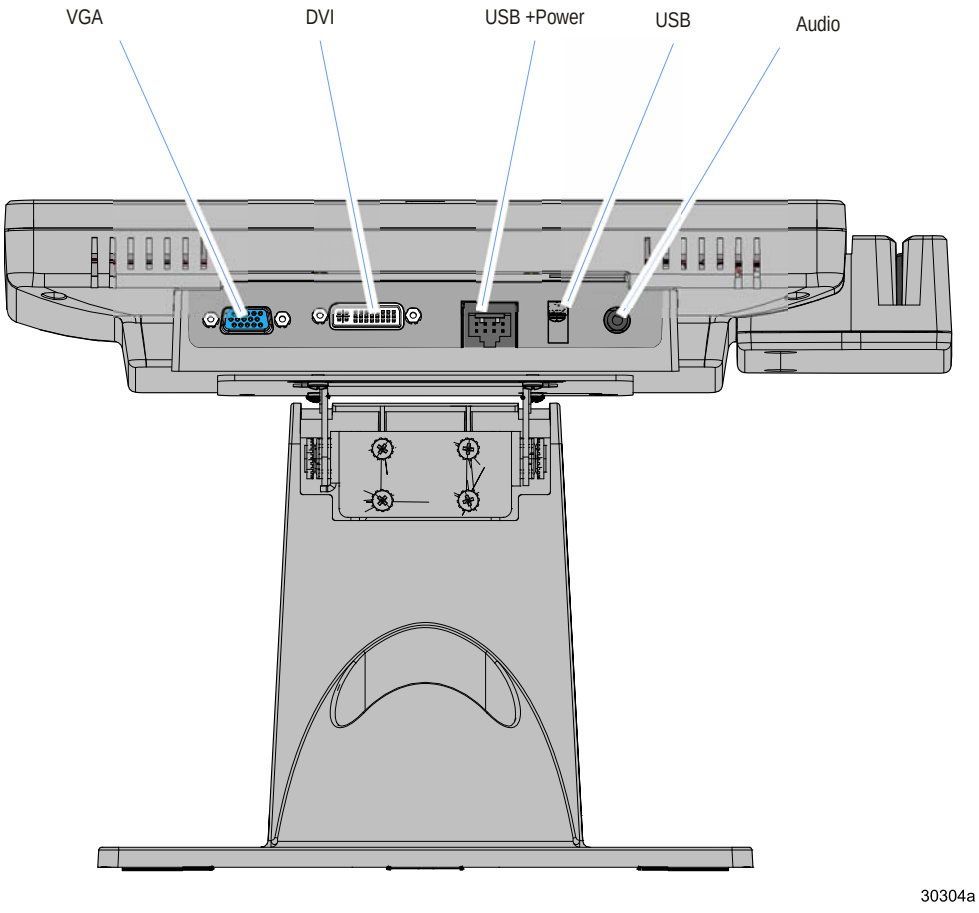
Introduction

Caution: This device should only be powered by a power supply source which meets Safety Extra Low Voltage (SELV) and LPS (Limited Power Source) requirements per UL1950, IEC 950, and EN 60 950. The power source must be certified by the appropriate safety agency for the country of installation.

Caution: Use a grounding strap when installing this feature.

Connector Panel Access

The 5967 peripheral cable connectors are located on the bottom of the assembly.



Mounting Options

The 5967 has a VESA standard 75mm mounting pattern on the back of the enclosure. The unit is shipped with mounting screws installed.

Connecting to a POS

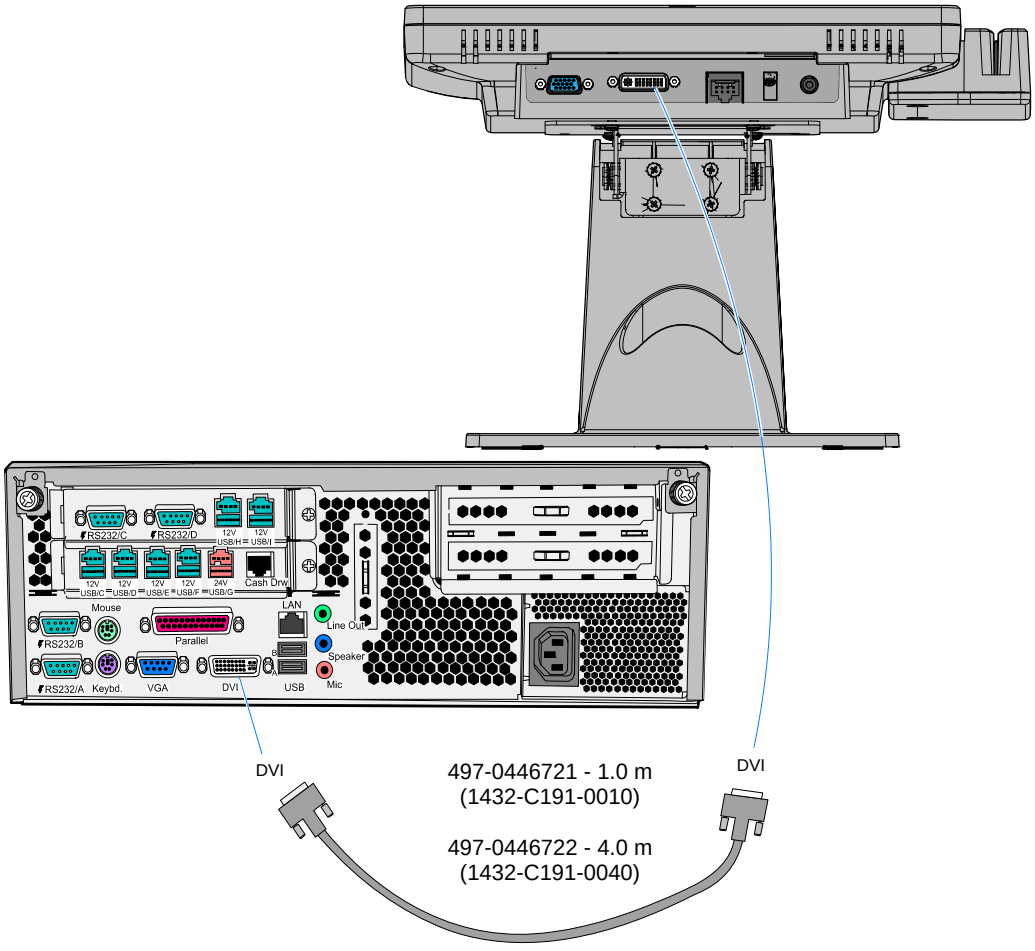
The following illustrations show the cable connections for the 5967 and a host terminal. There are two cables required.

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

  Note: Optional Power Brick is available when USB power is not available on the host terminal. A special USB cable is used for data in this case.
- There is a standard USB port on the 5967 that can be used for an additional USB device.

DVI Connections (Video)

Connect the VGA Cable to the *VGA* connectors on both the 5967 LCD and host terminal.



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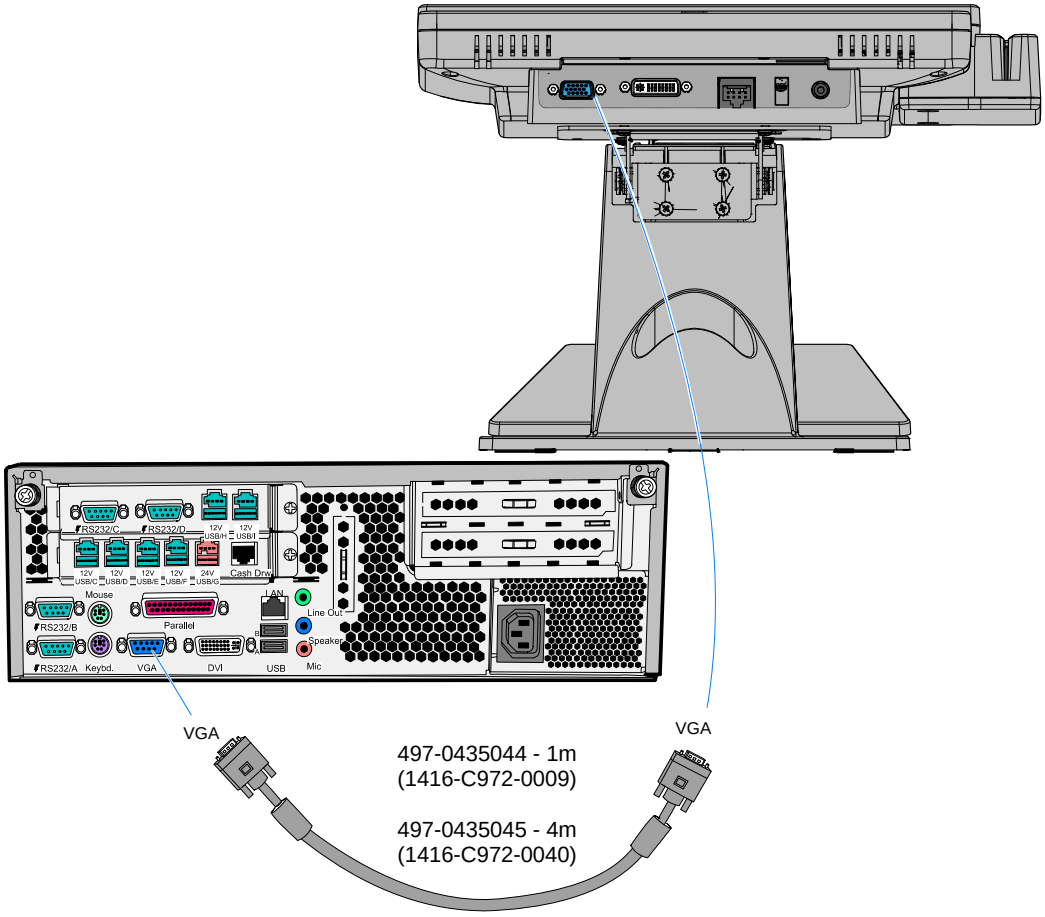
VGA Connections (Video)

Connect the VGA Cable to the *VGA* connectors on both the 5967 LCD and host terminal.



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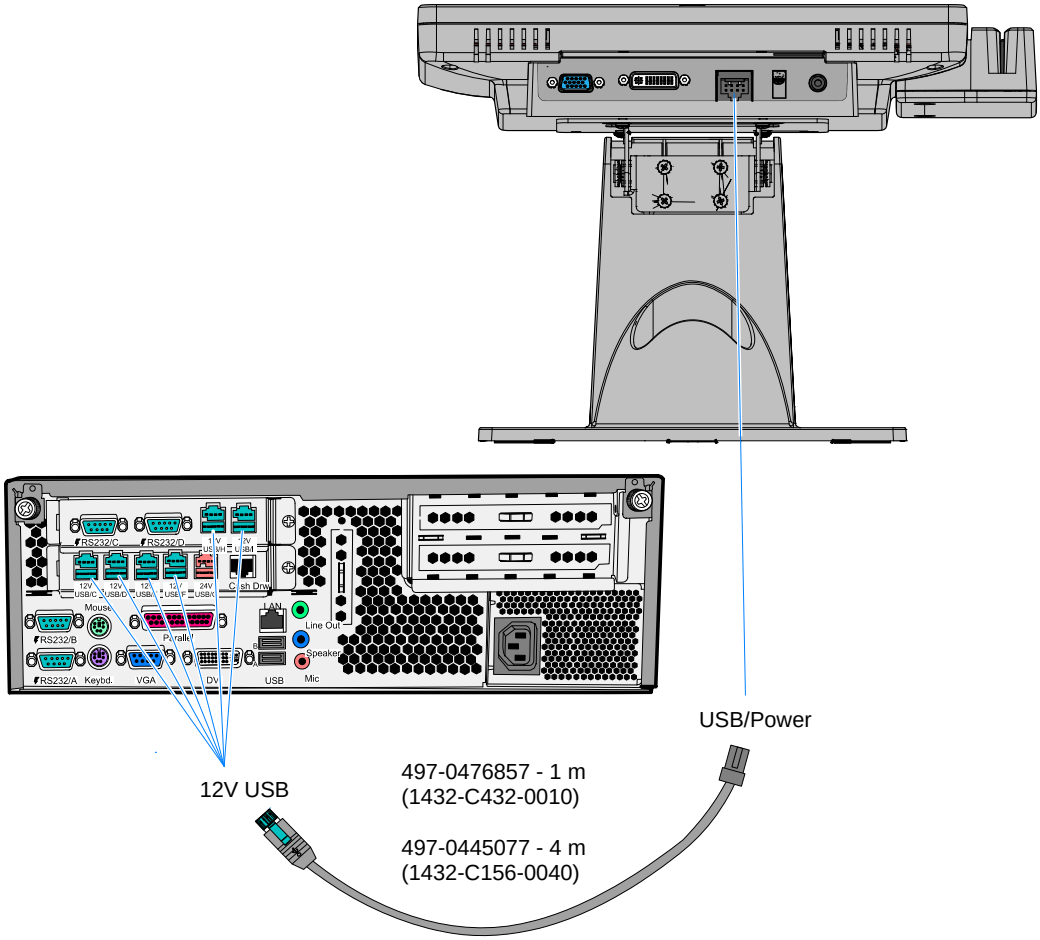
Powered USB Cable Connections (Power and Data)

Connect the Powered USB Cable to the 5967 LCD and to one of the *12V Powered USB* connectors on the host terminal.



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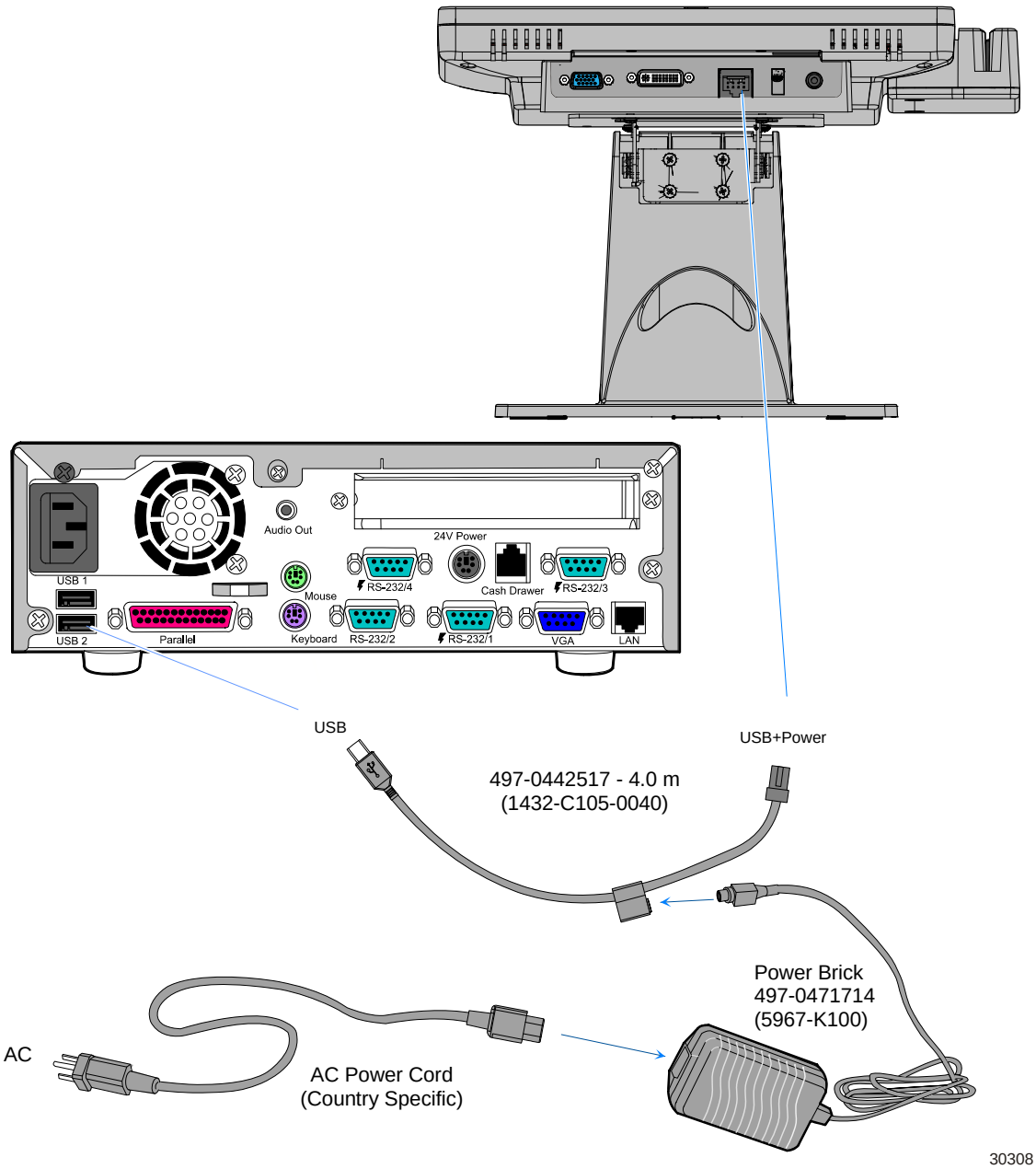
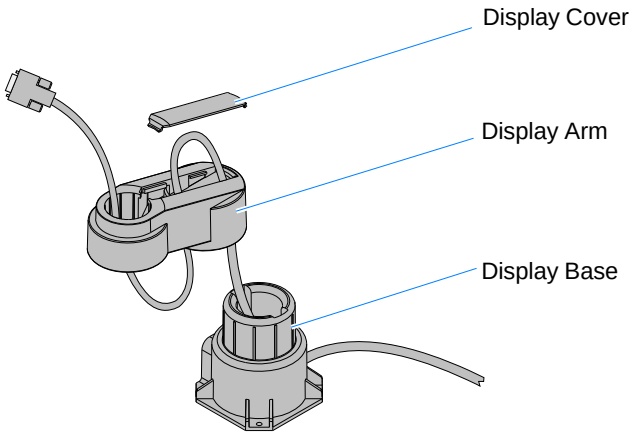
Power Brick and USB Connections (Power and Data)

1. Connect the USB Power Cable to the 5943 *USB+Power* connector.
2. Connect the Power Brick DC Cable to the USB Power Cable.
3. Connect the AC Power Cord to the Power Brick and an AC outlet.



Cable Routing

Standard Integration Tray Display Mount (5964-K022/K023)



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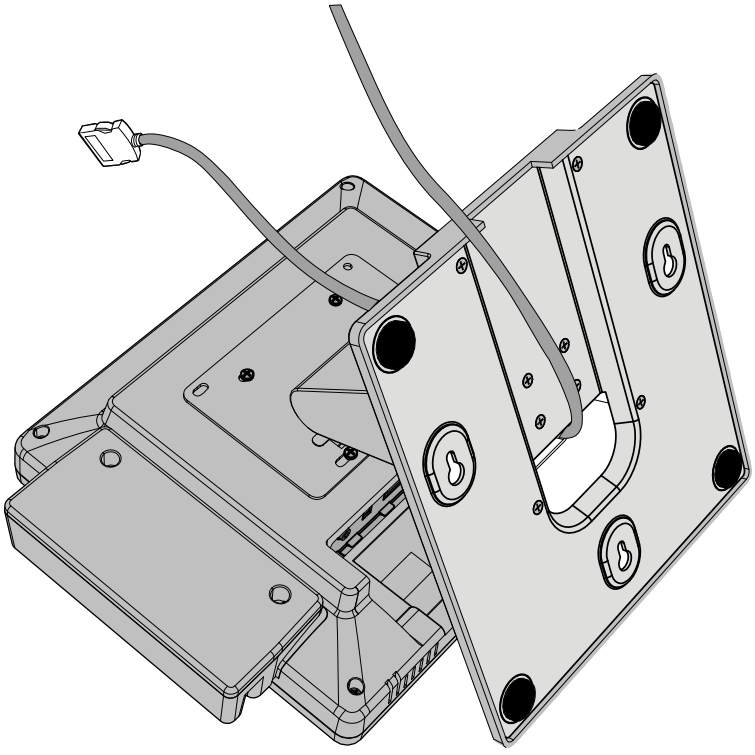
Standard Remote Table Top Mount (5964-K030/K031)



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Chapter 4: NCR Software OSD Utility

Introduction

The NCRDDCCI Configuration Utility is used to adjust display parameters, such as Brightness, Contrast, and color. It also provides monitor identification information, such as the name, serial number, and manufacturer.

Supported Features

Note: Not all features are supported on every monitor.

- Brightness
- Contrast
- V Position
- H Position
- Phase
- Clock
- Red/Green/Green Video Gain
- Color Temperature
- Auto Setup
- Restore Default Settings
- V Moire
- H Moire
- V Size
- H Size

Running the Utility

The application is located in the Control Panel.

Start → Control Panel → NCR Software OSD (32 bit)

Main Menu

Monitors Detected Panel

This panel lists all the monitors connected to the system. If more than one monitor is connected, the first monitor is selected by default.

Center Panel

The Center Panel displays information pertaining the the selected control.

Refresh Button

Use this button after connecting a new monitor to refresh the data.

About Button

This button displays a brief description of the utility.

Help Button

This button displays the Help File.

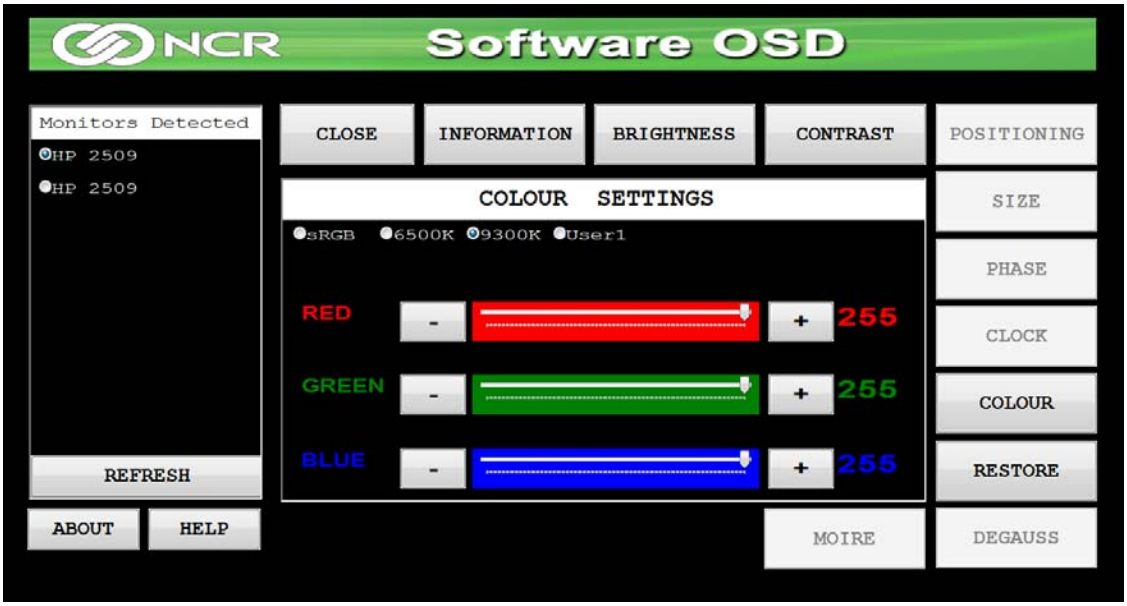
Control Buttons

These are the button showing the available features that can be modified. Unavaiable features are greyed out.

Adjustment Procedure

The adjustment procedures are similar for the features. The Color adjustment shown below is an example.

1. Select the **Colour** button.



2. Drag the slider to the right to increase the value of the property or to the left to decrease it. Alternatively, you can click on the "**+**" and "**-**" buttons to change the value.

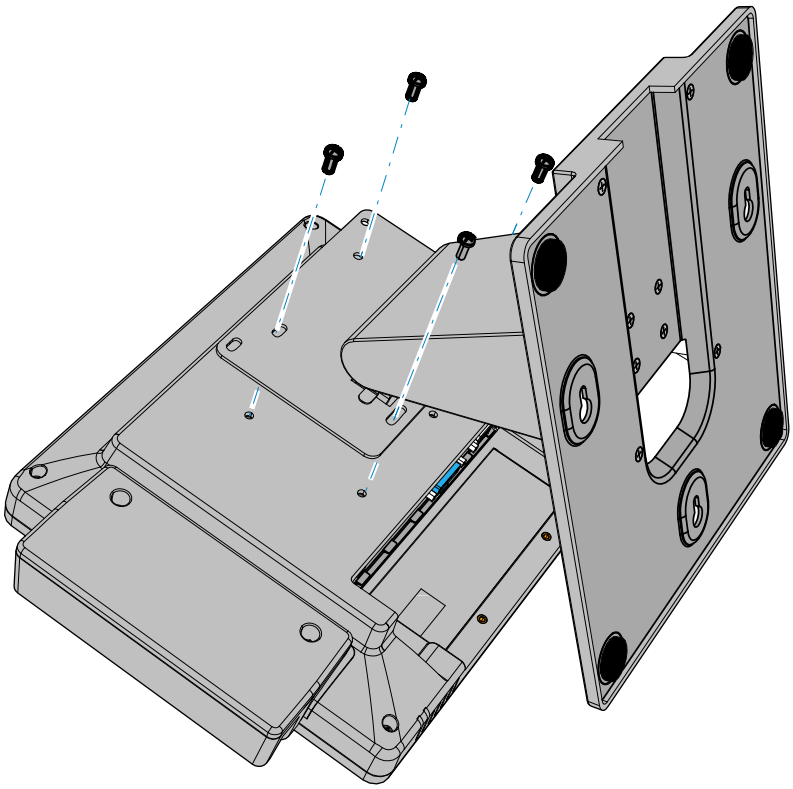
Chapter 5: Disassembly Procedures

This section explains how to disassemble the 5967 LCD Display for servicing.

Caution: Power down the terminal before disassembling the unit.

Removing the LCD Monitor from the Mount

1. Remove the screws (4) that secure the Mount to the 5967 Display.



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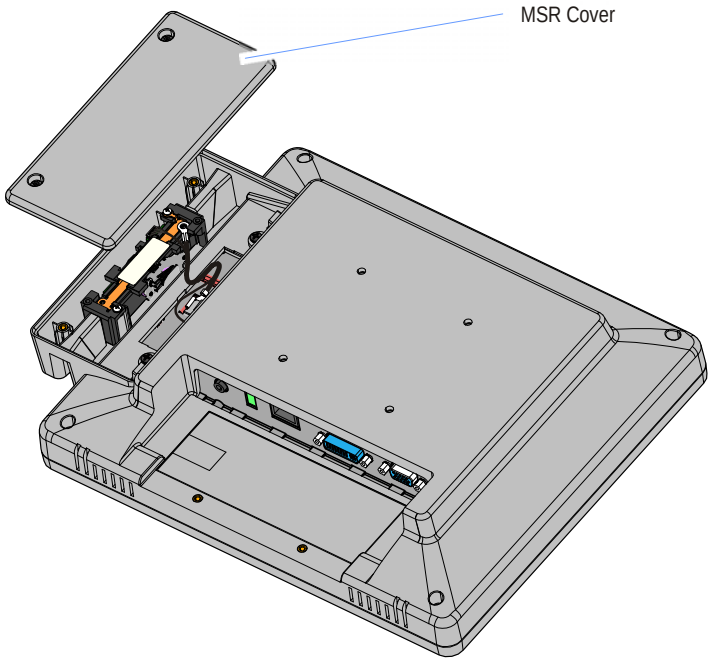
Removing the MSR

1. Remove the MSR Cover (2 captive screws).



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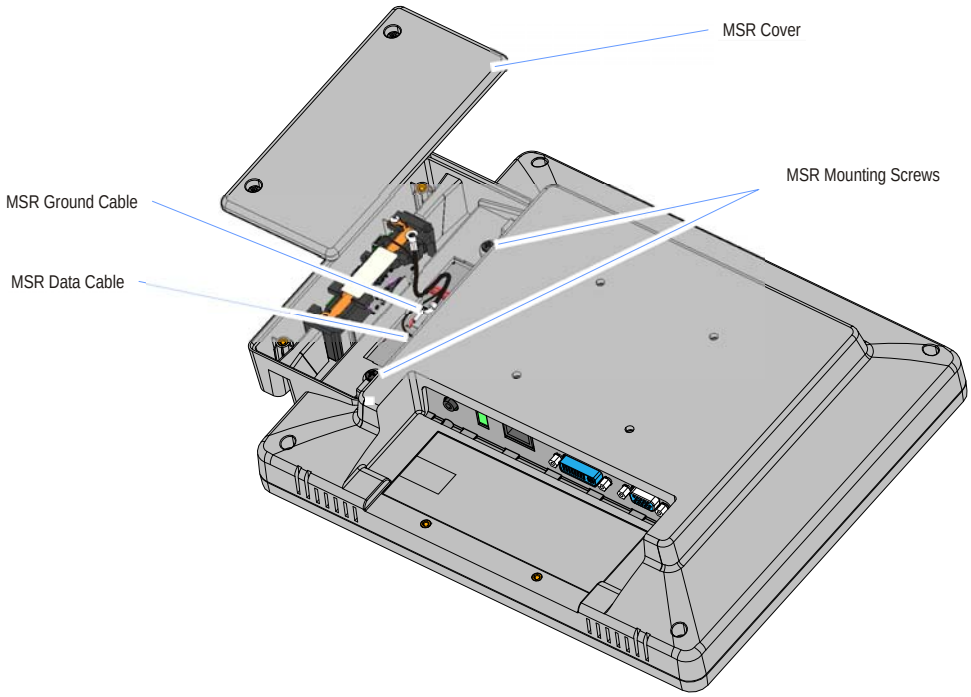
2. Remove the MSR Assembly (2 screws).
3. Disconnect the MSR Data Cable and Ground Cable.

Note: When re-installing the MSR you may find it easier to first remove the terminal Rear Cover to connect the MSR Data Cable.



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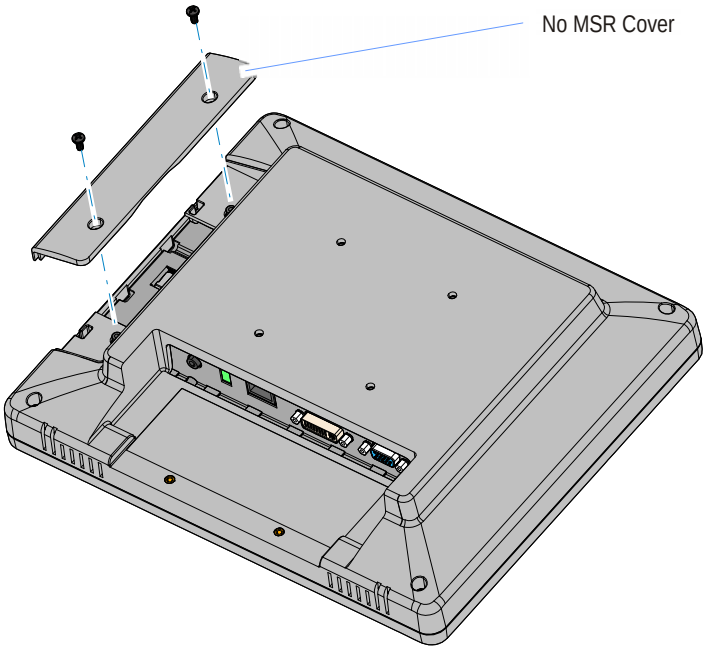
No MSR

If the unit is not configured with an MSR there is a No MSR Cover to remove (2 screws).



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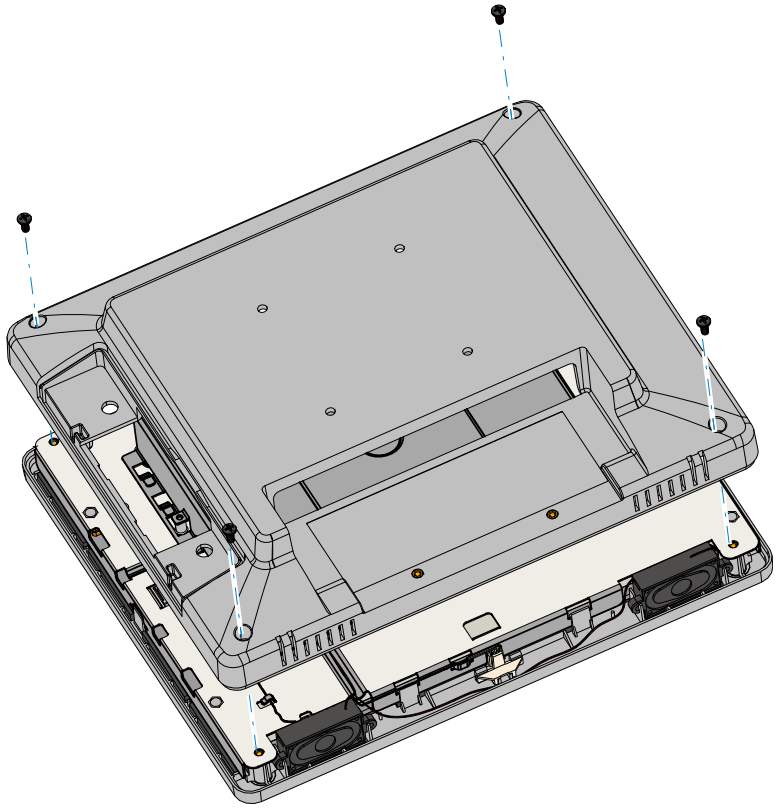
Removing the Rear cover

1. Remove the MSR Assembly (or the No MSR Cover is there is no MSR present).
2. Remove terminal Rear Cover (4 screws).



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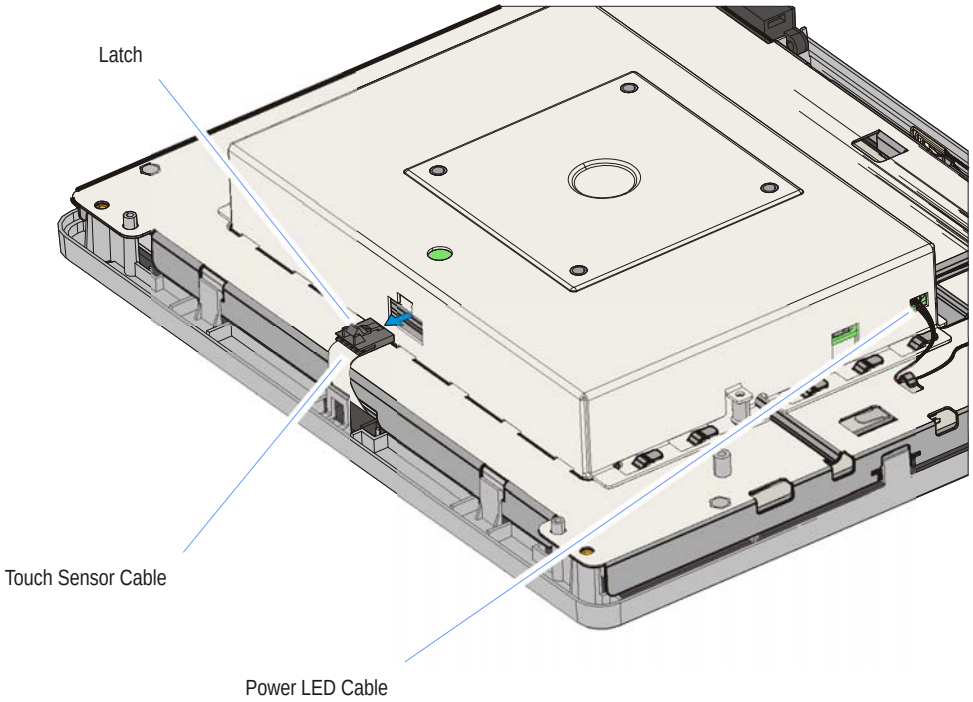
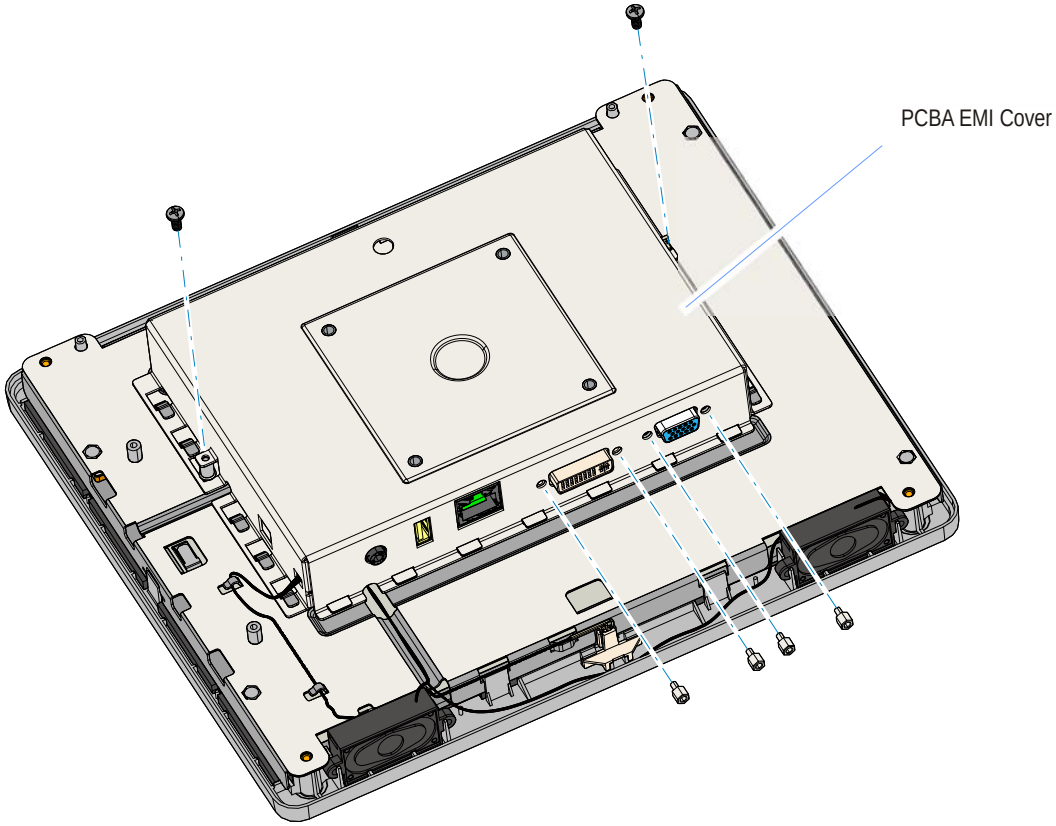
Removing the Personality and Video Boards

1. Disconnect the Power LED Cable.
2. Insert a small screwdriver into the hole in the top of the PCBA EMI Cover. Press down on the connector latch to release the Touch Sensor Cable connector from the PCB connector.



3. Remove the PCBA EMI Cover screws; one screw on each side and the 3/16 Hex screws (4) from the video connectors.



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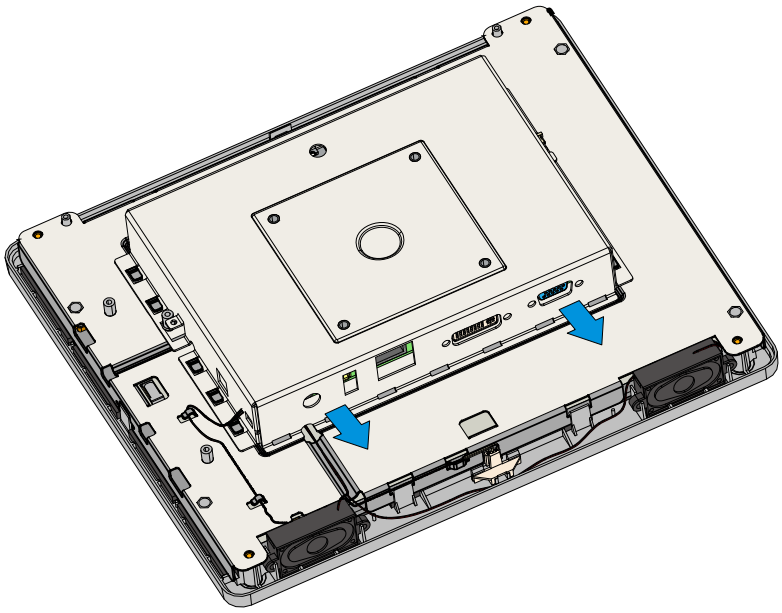
4. Slide the PCBA EMI Cover as shown to disengage it from the tabs on the chassis.



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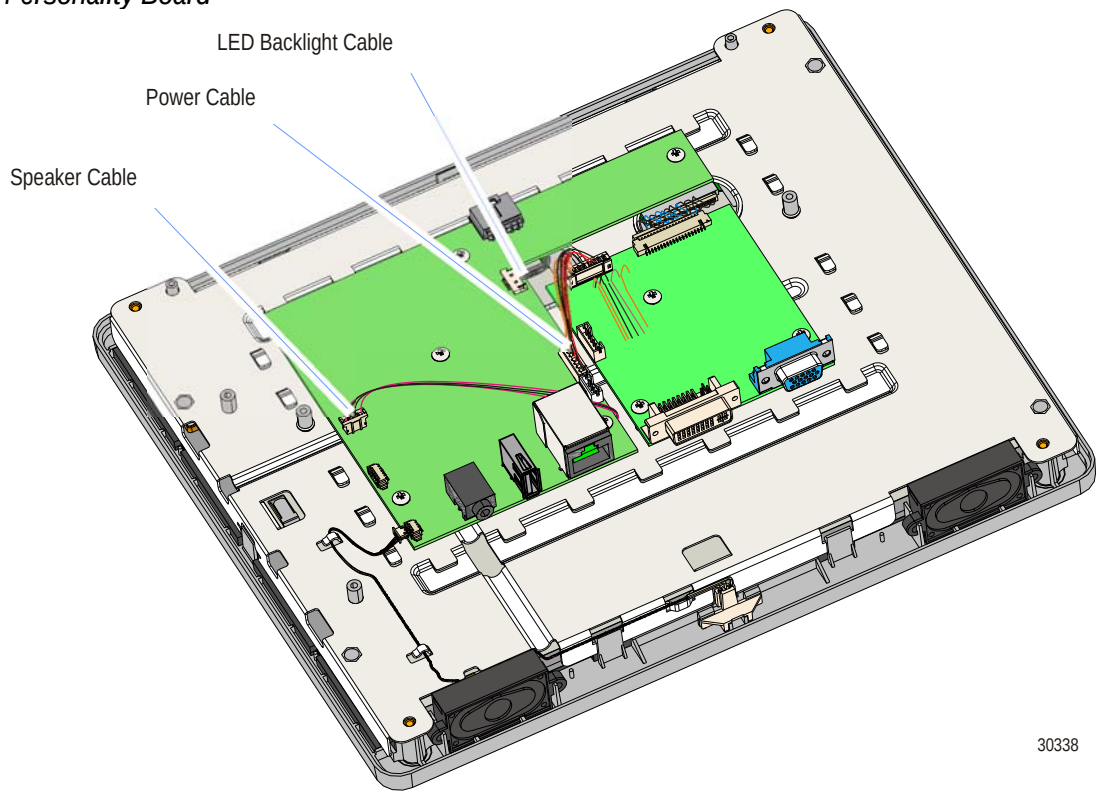
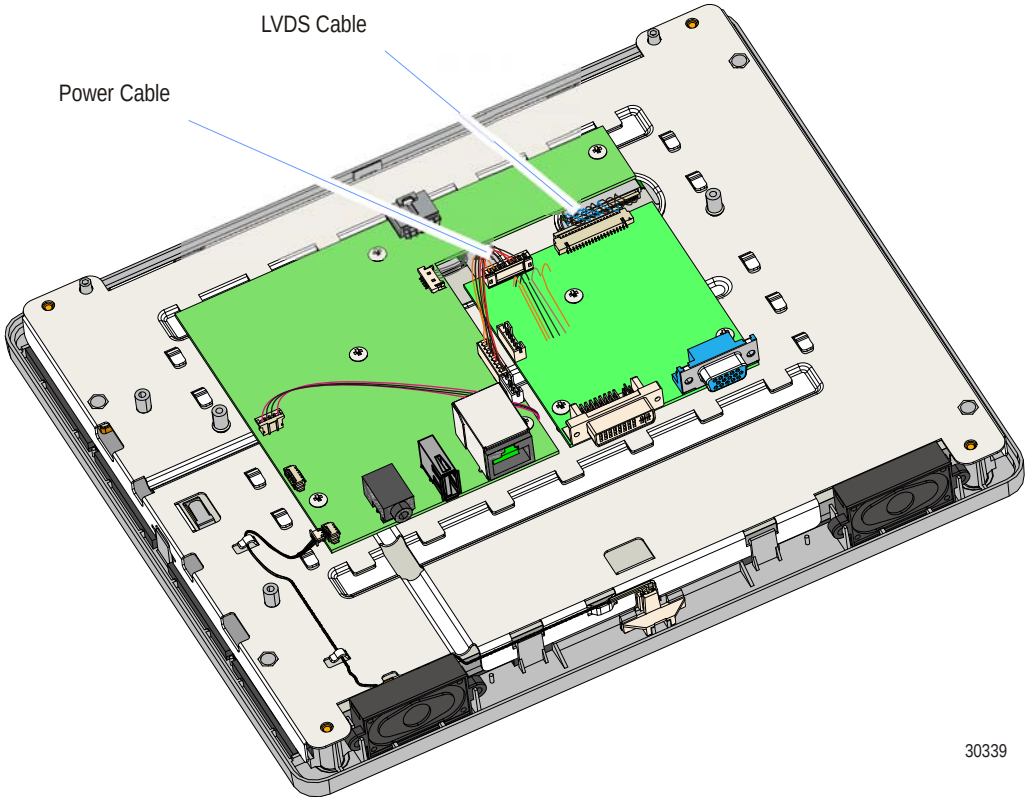
5. Carefully disconnect the cables from the boards.

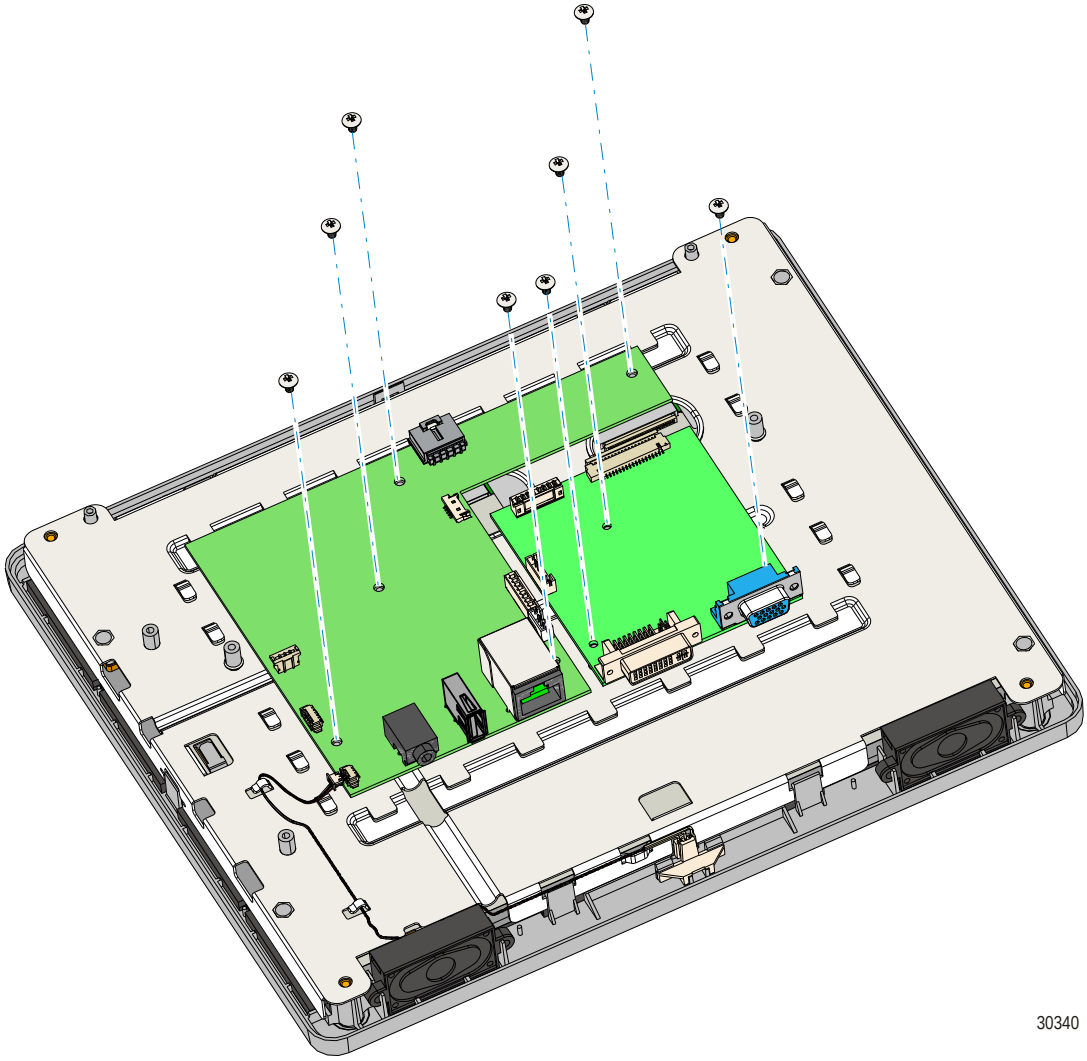
Personality Board



Video Board



6. Remove the screws that secure the boards.



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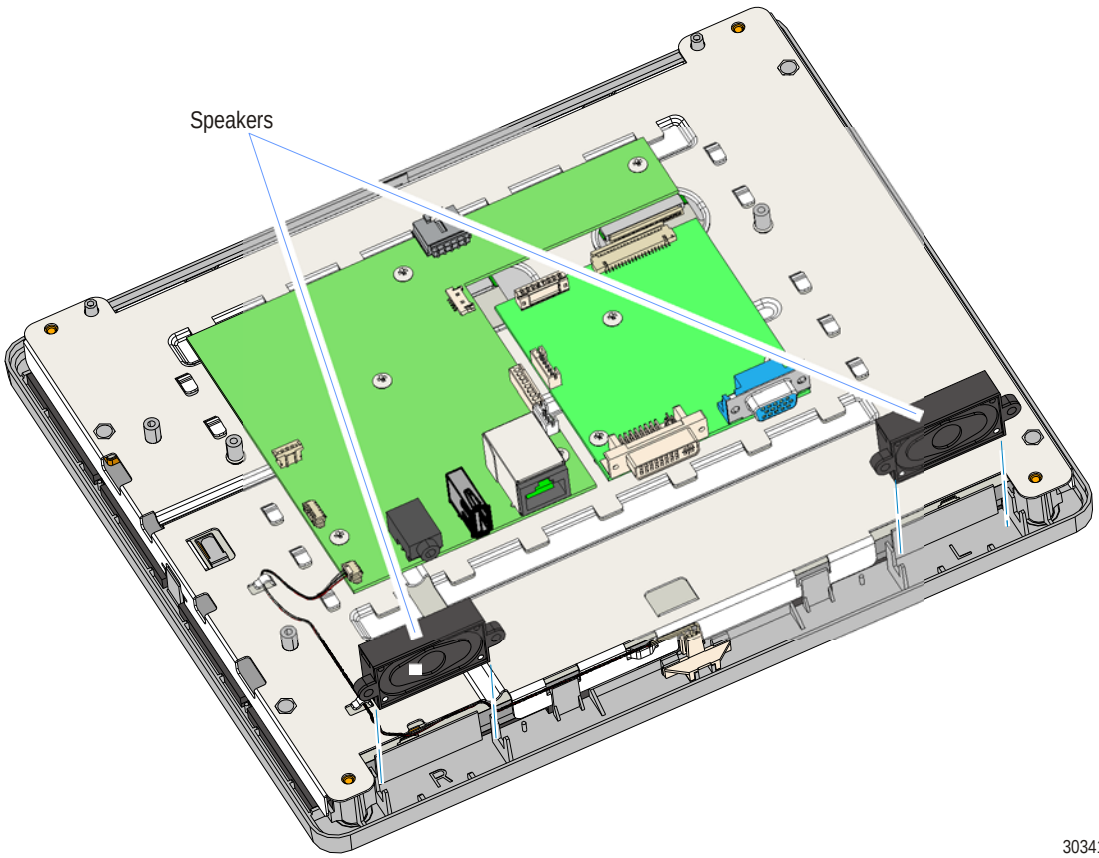
Removing the Speakers

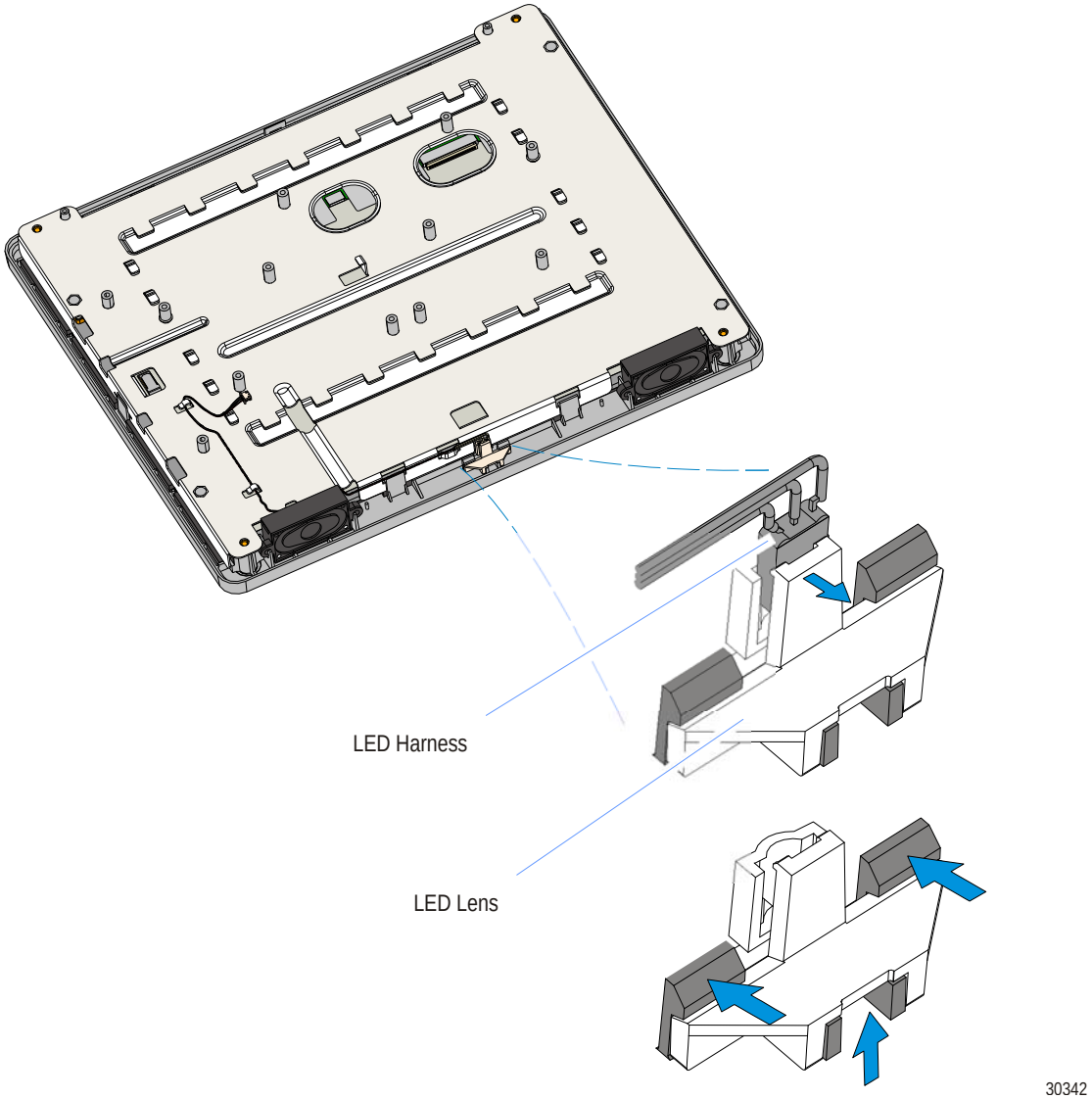
Remove the speakers from the Front Bezel (no screws).



30341

Removing the LCD

1. Remove the LED Harness. Pry the LED Lens open as shown to release the harness.



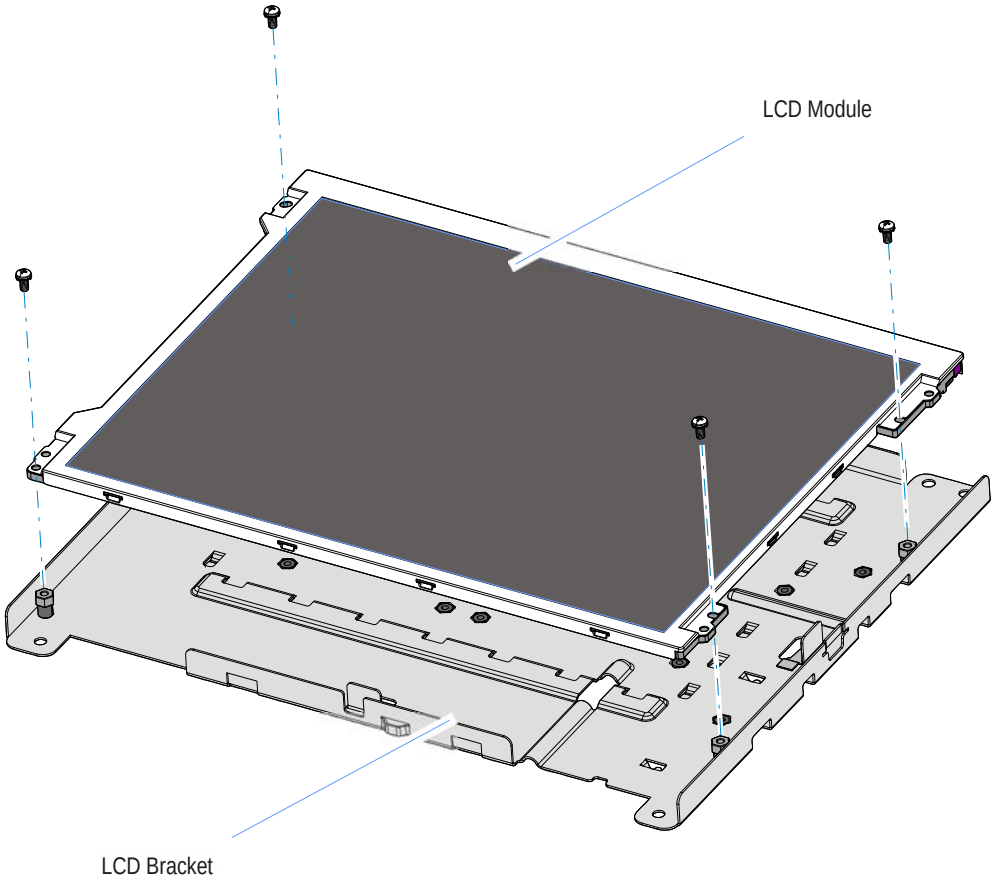
Removing the LED Lens

Remove the LED Lens by pressing on the two latches and gently prying up on the bottom of the lens with a small screwdriver. Use care when doing this because the lens is easily damaged.

2. The LCD Assembly is held in place on the Bezel by plastic latches around the edges of the Bezel. Press on the latches on the bottom and side edges as you gently pry the LCD Assembly from the Bezel.

Caution: Use care when handling the LCD Module. These parts must be free of finger prints and foreign debris after reassembly.

3. Remove the LCD from the LCD Bracket (4 screws).

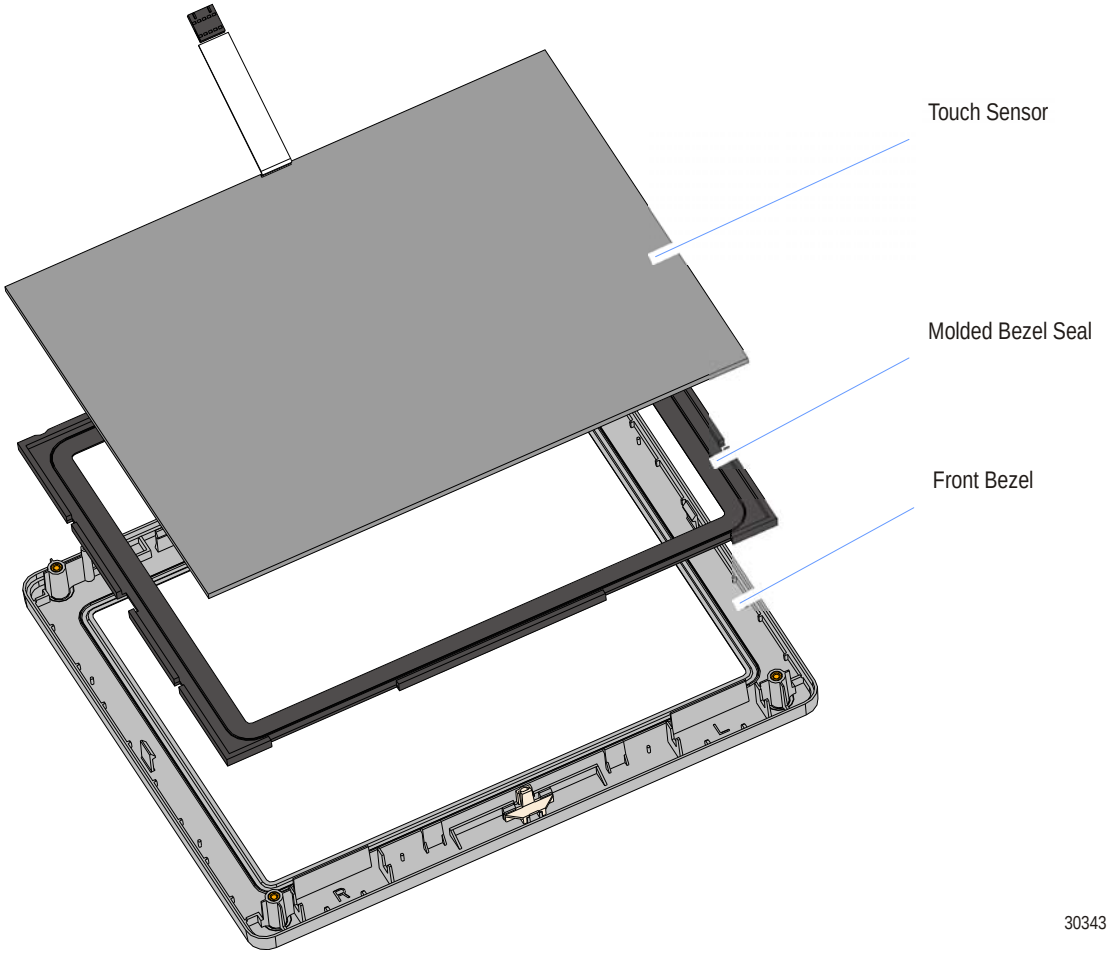


Removing the Touch Sensor

Remove the Touch Sensor and Molded Bezel Seal from the Front Bezel.

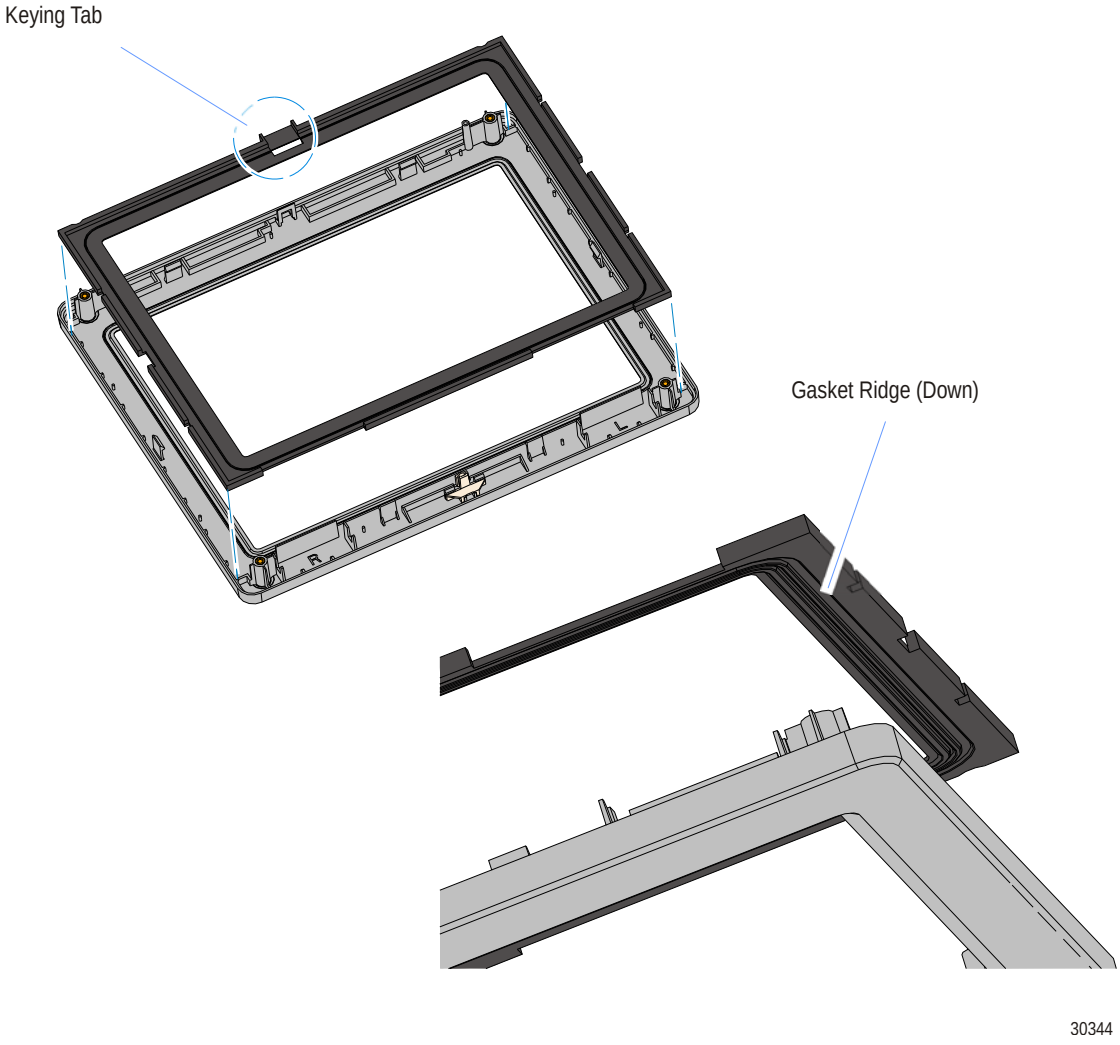
Caution: Do not lift the Touch Sensor by the cable.

Caution: Keep the Touch Sensor free from dirt and fingerprints.



Re-installing the Touch Sensor

1. Install the Molded Bezel Seal. Note that it is installed with the *keying tab* at the top and with the ridges in the gasket facing down.



2. Install the Touch Sensor in the Molded Bezel Seal. Note that the Flat Cable is connected to the *rear* side (inside) of the Touch Sensor.

After replacing the Touch Sensor you must perform the calibration procedure.

Chapter 6: Touch Screen Calibration – Windows

Installing and Calibrating the Touch Screen

Be sure to observe for the following Touch Screen calibration guidelines:

- Recalibrate the touch screen anytime the system has been disassembled for servicing.
- The latest calibration software can be downloaded from the NCR website.

  http://www.ncr.com

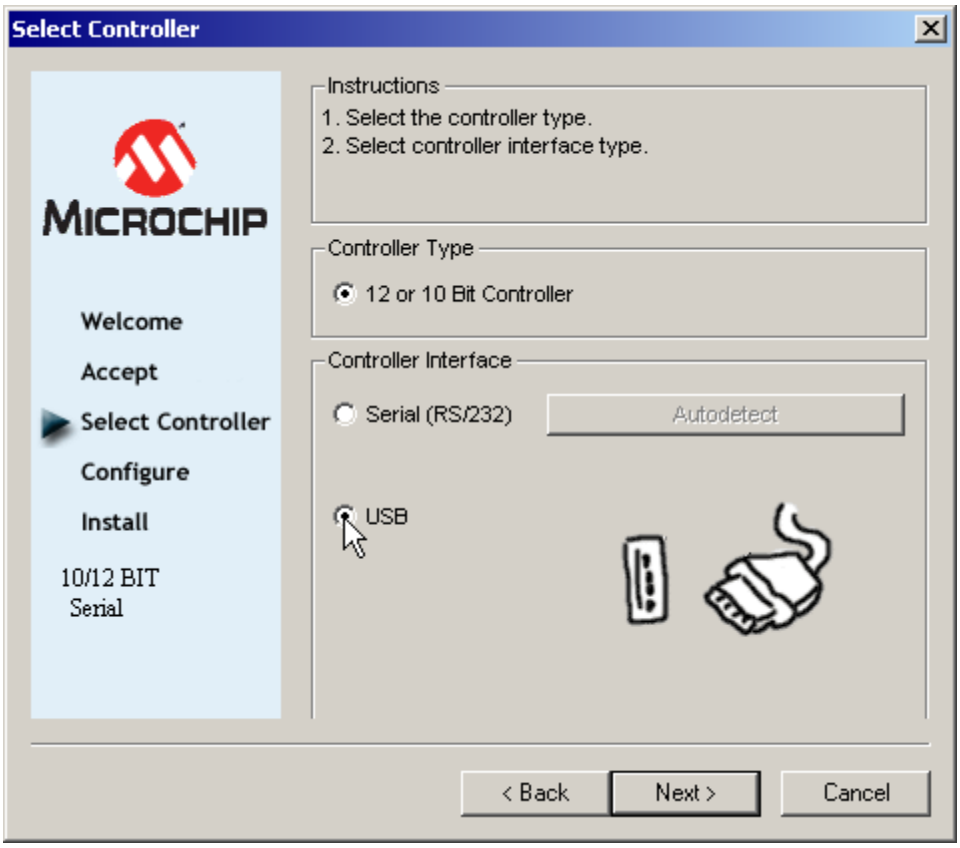
  1. At this site, select the **Support** tab.
  2. Select **Drivers and Patches** → **Retail Support Files** → **Retail Platform Software** → **5967**
  3. Download the Microchip Touch Driver (version 6.43d or later).

Installing the Driver

Note: If you have a previous version of another touch screen driver loaded on your system you must completely remove it using the Control Panel *Add/Remove* program before continuing with this installation process.

1. Extract the driver installation files into to a working directory on the POS terminal.
2. Run the **Setup.exe** program from this directory.
3. Welcome screen > **Next**
4. License Agreement screen > Accept, **Next**

5. Use the USB Controller Interface > **Next**.



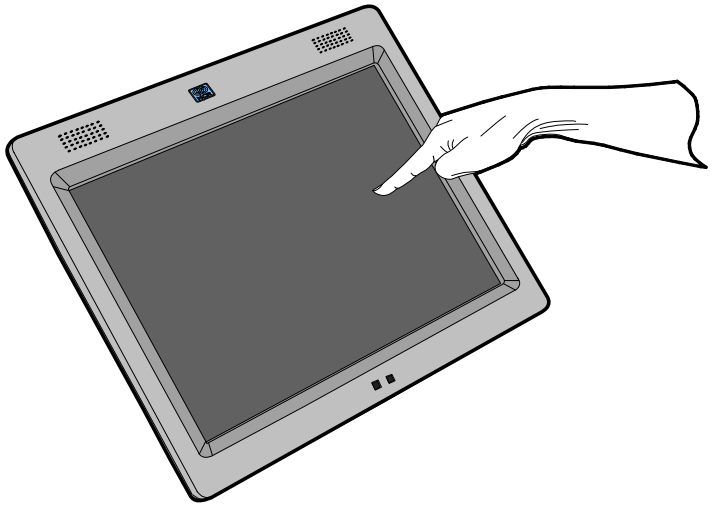
6. Setup is ready to install > **Next** > **Finish**

   At the completion of the install program the driver is loaded and functioning. You do not have to restart your system.

Calibrating the Touch Screen

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

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



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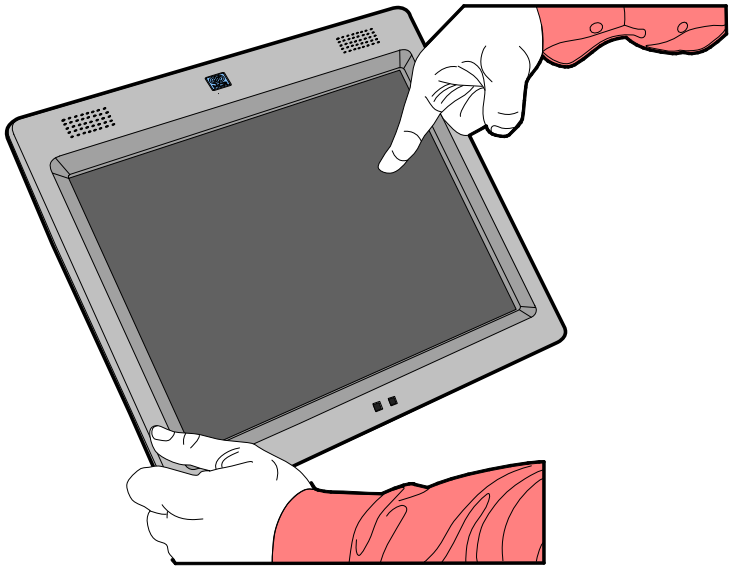
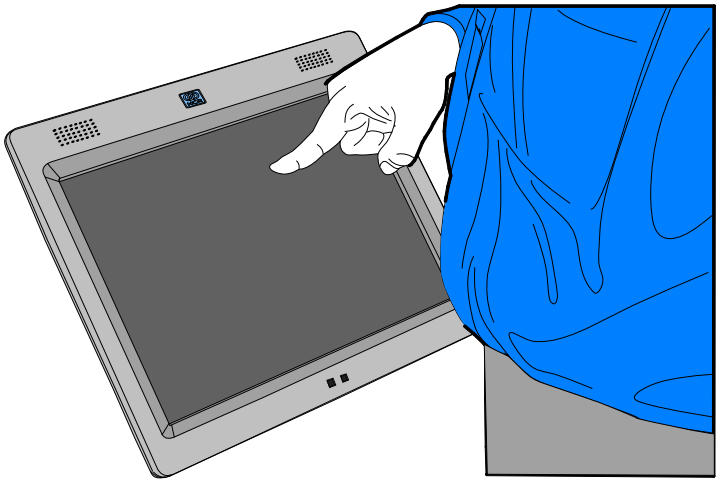
- Do NOT touch the display or bezel with your other hand.



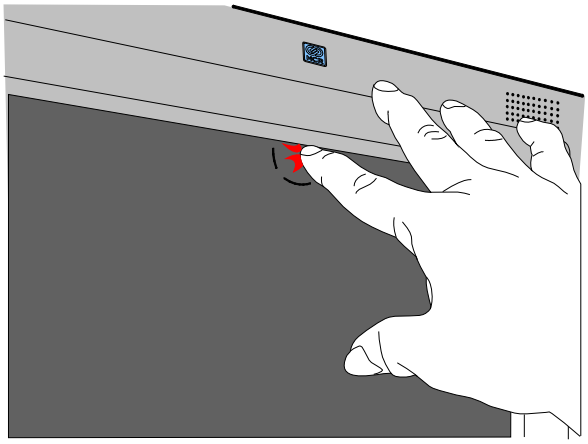
27733

- Do NOT get your body too close to the display.



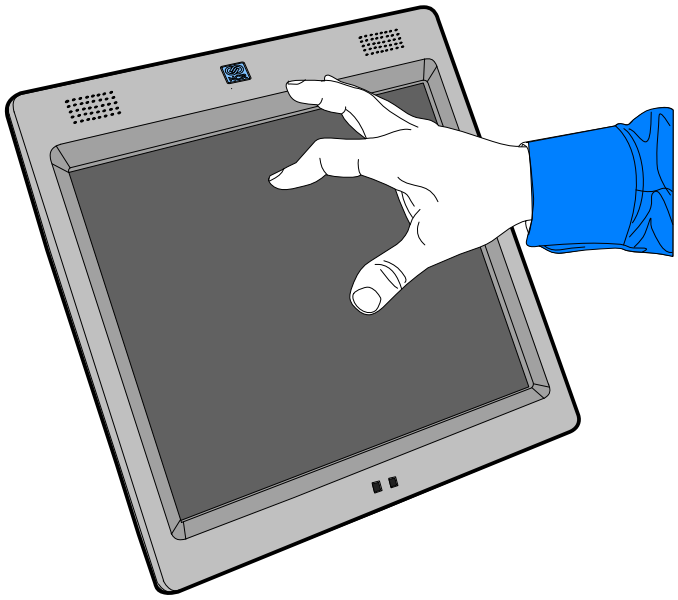
27734

- Do NOT touch the bezel with your other fingers.



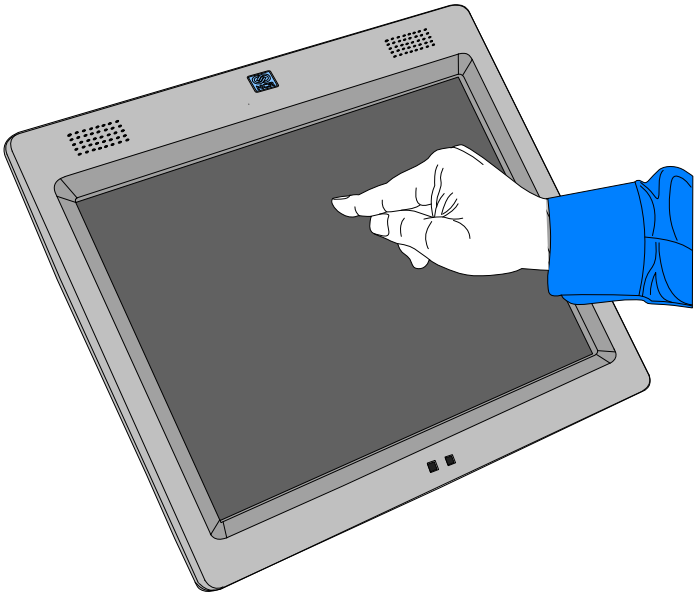
27735

- Do NOT spread your other fingers near the touch-screen surface.



27736

- Do NOT get your hand and other fingers too close to the bezel.



27737

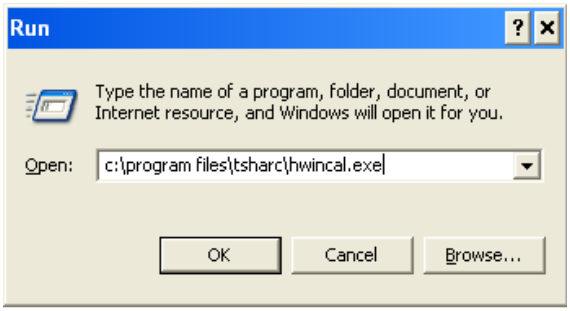
Calibration Procedures

Note: In order to achieve an accurate calibration the touch display must in the normal operating position when AC power is applied to the terminal (45 degrees can be assumed if this not known). If this was NOT done properly then begin with Step 1. Otherwise skip to Step 2.

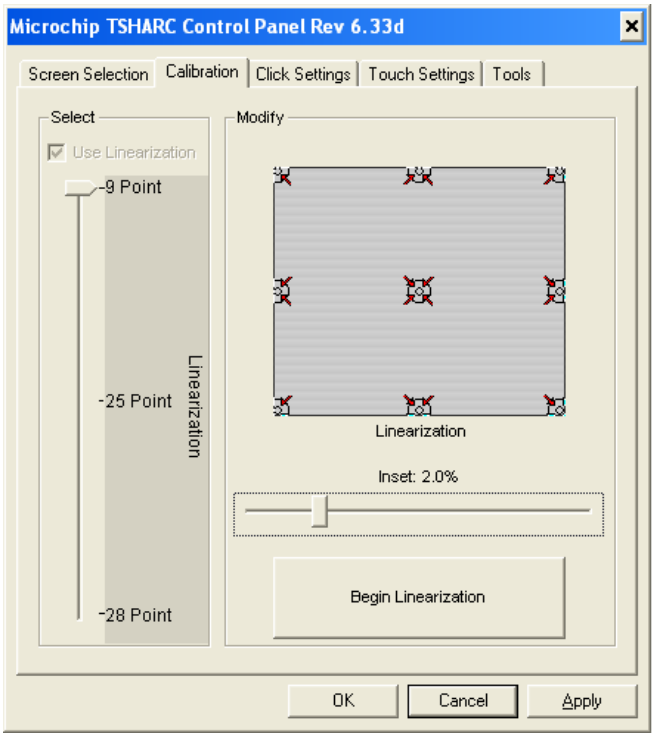
1. Disconnect the power cord from the power source, if possible. It is best to remove the AC power from the wall outlet to avoid having to move the head.

   Wait at least 10 seconds. Then, while keeping the head in the normal operating position and your hands off of the glass and bezel, plug the cord back in. The head can be touched or moved after AC power has been applied for at least two seconds.

2. Select **Start** > **Programs** > **Microchip TSHARC Control Panel**.



3. Select the *Calibration* Tab.
4. Select *9-Point w/Linearization*.
5. Select the *Begin Linearization* button.

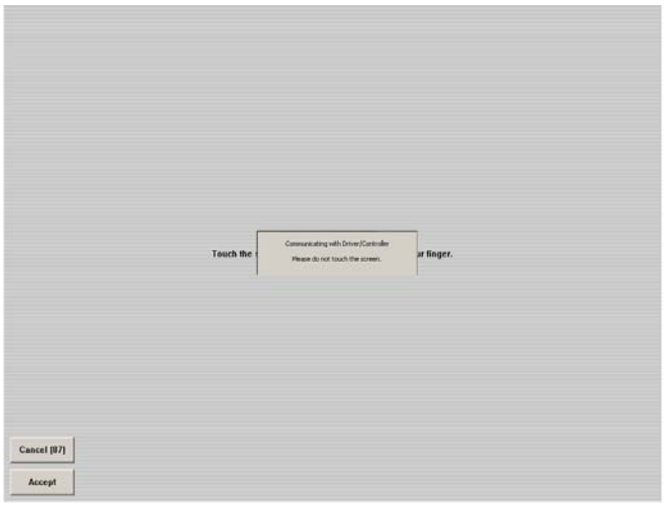


6. Touch the center of the target. Pull your finger a few inches away from the screen when you see the *Release* message.

7. Repeat the process for each target location as they appear.
8. After all targets have been touched a test screen displays. Touch the screen in various locations to verify the calibration results. Select **Accept** if you are satisfied with the results. If not, select **Cancel** and repeat the process.

   Note: Do not touch **ESC** to exit from this screen.

9. After touching **Accept** you are warned to not touch the screen.

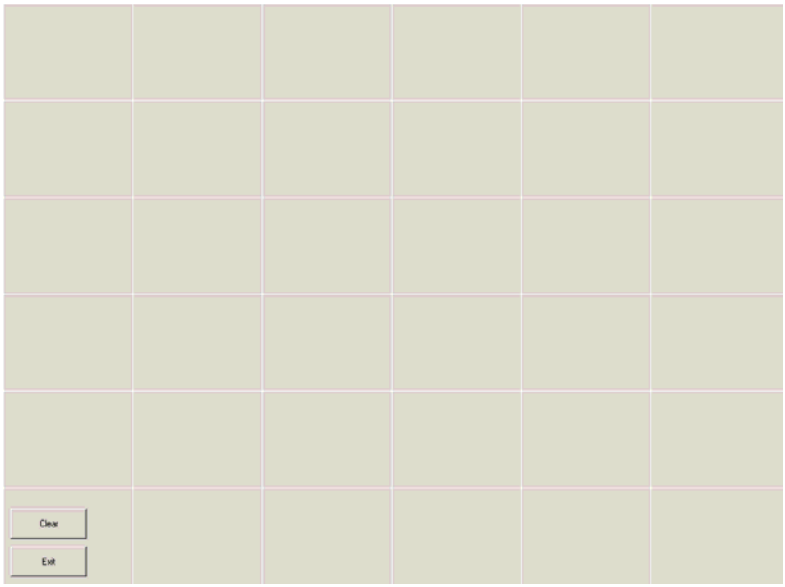


Caution: Touching the screen during this time can cause the application to hang. This screen automatically closes after the touch controller has completed communicating. When complete, the system returns to the desktop with the TSHARC Control Panel displayed.

Verifying the Calibration

1. Select the **Tools** tab.
2. Select the **Drawing Test** button.
3. Test the calibration on the draw screen.

   Touch the screen in various spots and trace each of the horizontal and vertical lines, including the border around the screen.



   In this test, all touches are persistent, including touch downs (green dots) and touch ups (red dots).

   After tracing the lines, review the drawn lines to make sure they closely follow the underlying pattern. Pay close attention to the edges of the display and the corners since this is where an incorrect calibration is most noticeable. If a line or point appears to be outside the pattern, try pressing the area to see how far the cursor is from the touch point. If the registered touch is greater than 7 mm away from where the touch occurred, repeat the calibration.

4. Select **Exit** to close this screen and to return to the Microchip TSHARC Control Panel.
5. Select the **Calibration** tab to repeat the calibration procedure or select **Apply** and then **OK** if you are satisfied with the results and want to close the application.

Optional Settings

After the touch screen is calibrated, adjust the other features to meet your personal preferences.

1. Double-Click Option
2. Right-Mouse Click
3. Touch Modes
4. Touch Sounds

Chapter 6: Touch Screen Calibration - Linux

Calibration Procedures

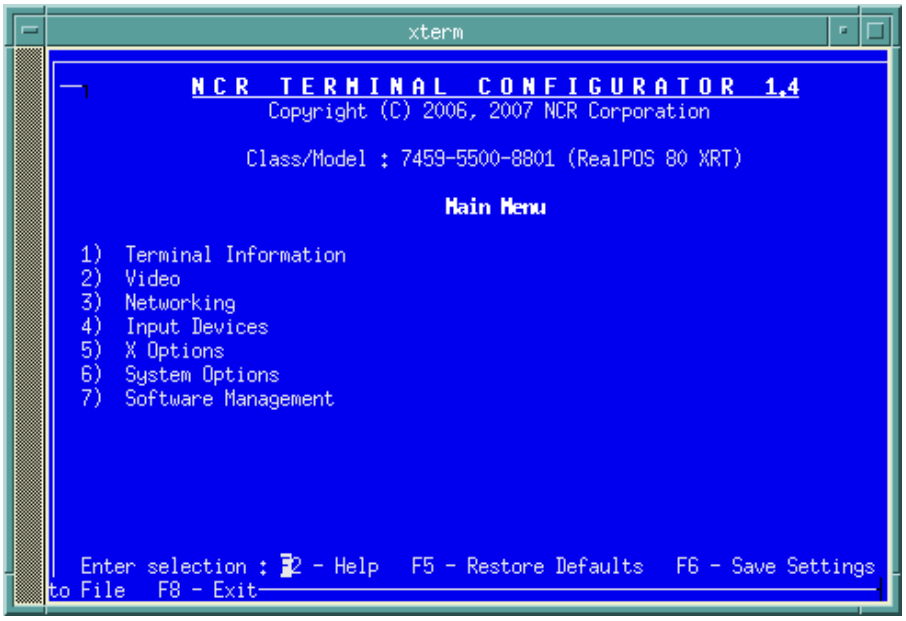
The Touch Screen Calibration Utility is included in the NCR Linux Terminal Configurator, which gets installed when you install the NLPOS Linux software.

For more information about the Terminal Configurator, see the *NCR Linux Terminal Configurator User's Guide*, B005-0000-1743.

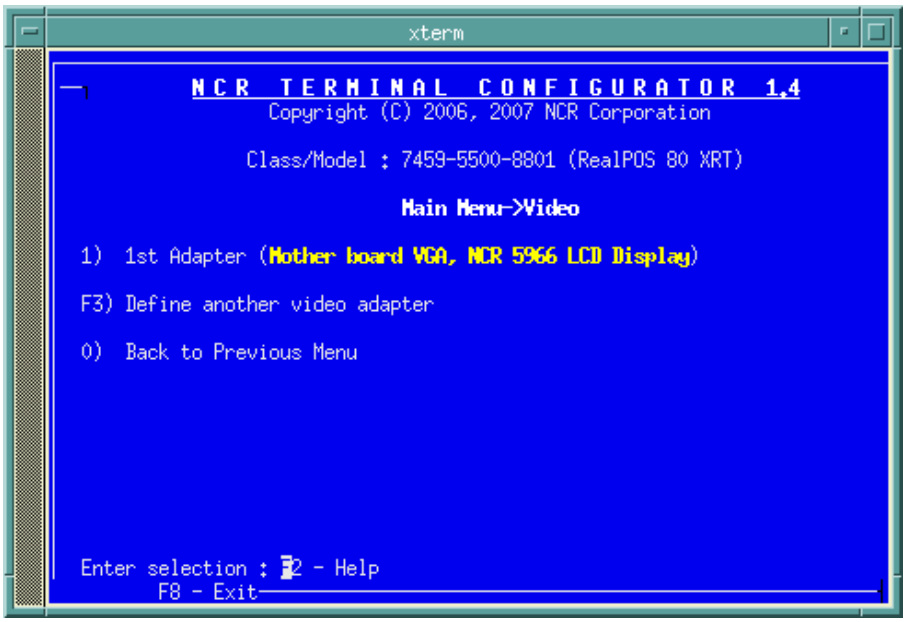
1. Start the Terminal Configurator Utility. At the prompt enter:

   `TerminalConfig`

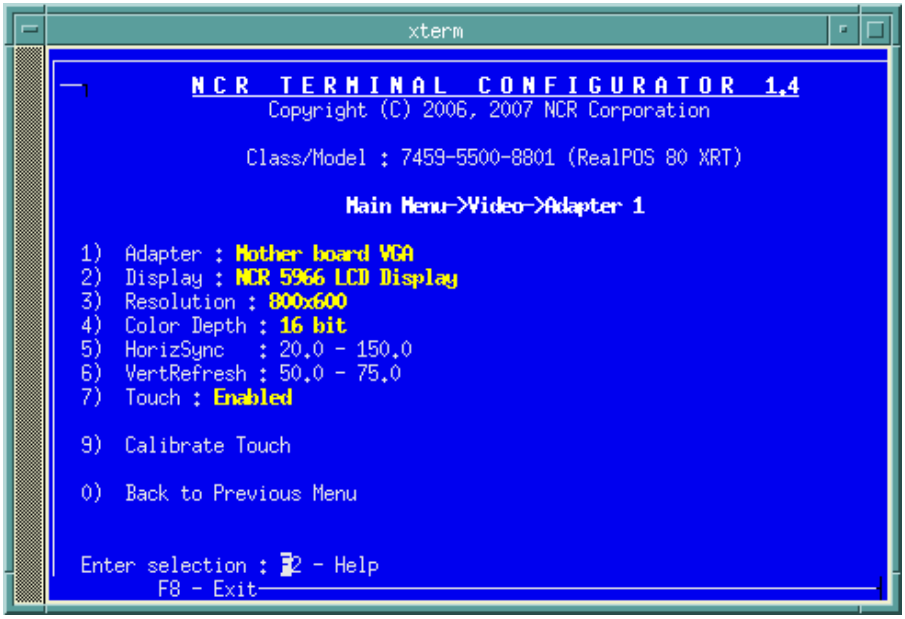
2. At the Main Menu, select: **2) Video**.



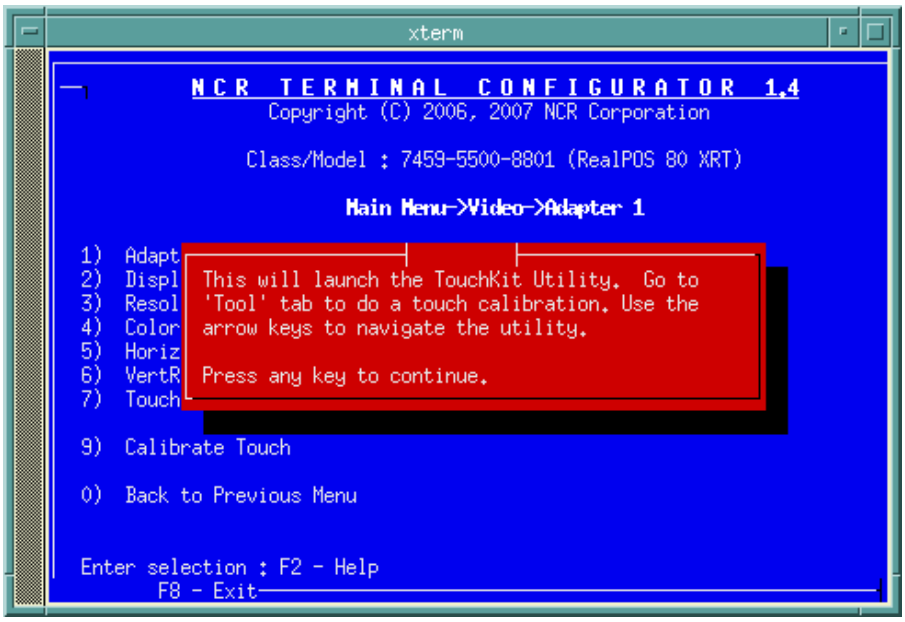
3. Select: **1) Adapter**.



4. Select: **9) Calibrate Touch**.



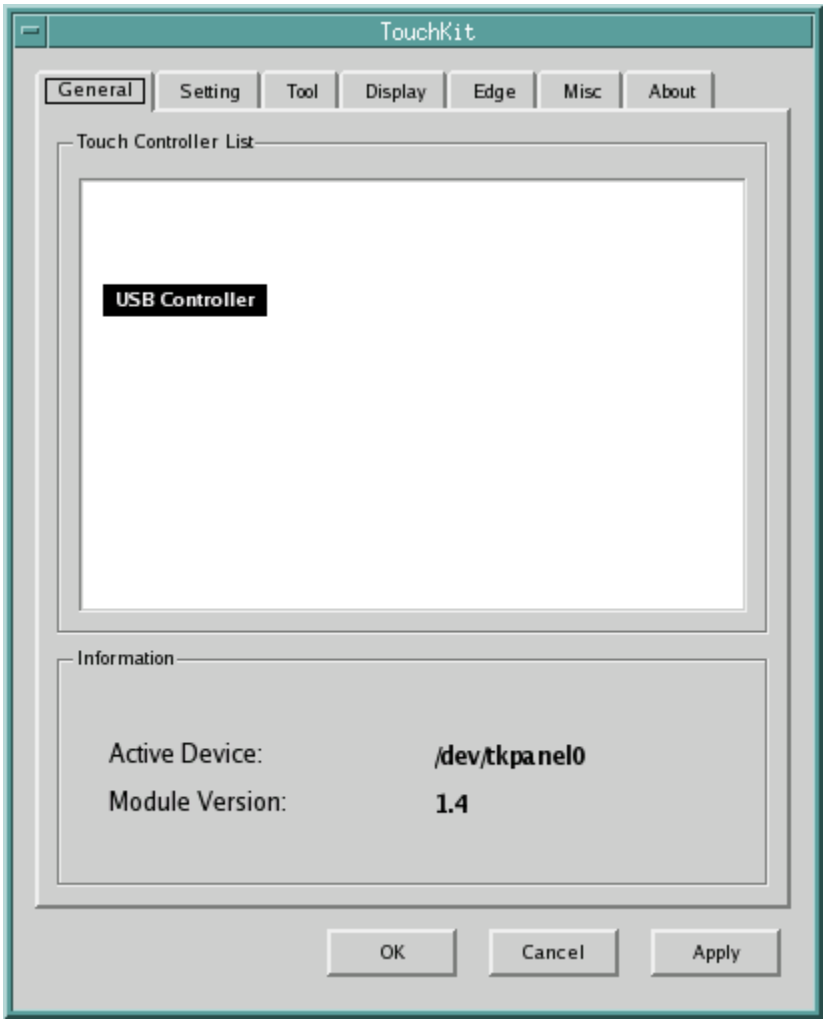
5. Press any key to continue.



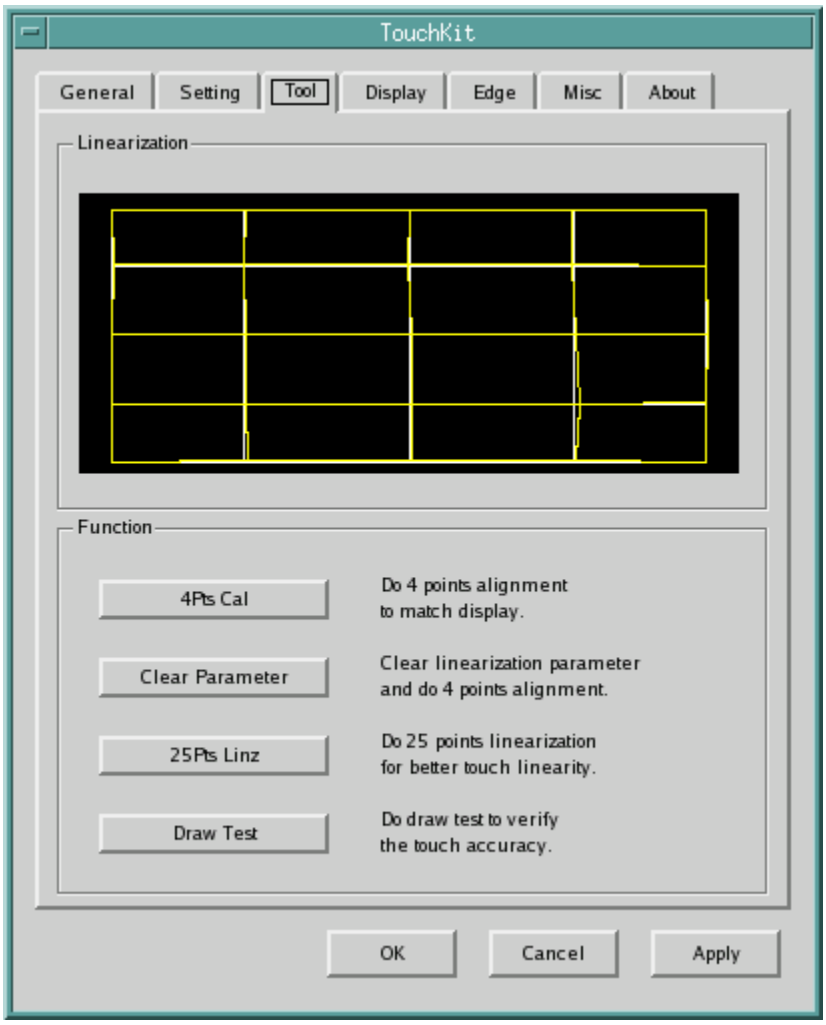
4-Point Calibration Procedure

Note: The *25-Point Linearization* procedure should be performed first if either the Touch Screen Sensor or the Controller Board is replaced.

1. From the TouchKit window, select the *Tool* tab.

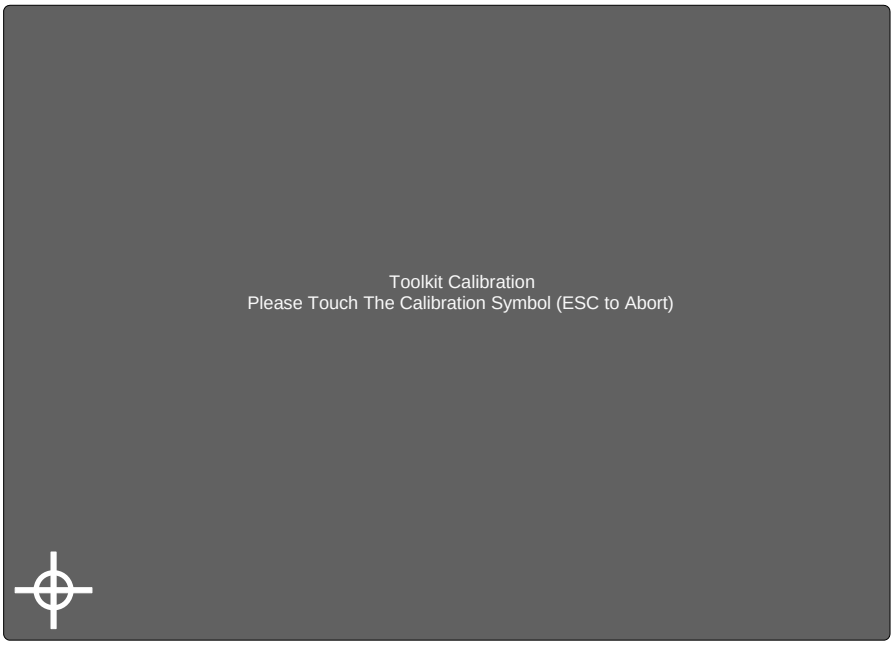


2. Select **4-Pts Cal** to start the calibration.



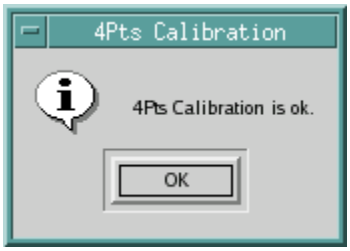
3. Place a stylus in the center of the flashing target in the lower left-hand corner of the screen and hold it until it beeps.

   Note: For best results, a stylus should be used to calibrate the screen rather than your finger. Not all operators use the same touching techniques and can result in poor calibration on terminals that have multiple operators.



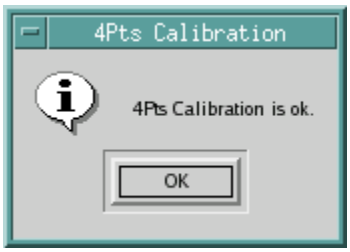
24913

4. Repeat this procedure for the other three targets.
5. Select **OK** to continue.



6. Test the calibration by moving the stylus around on the screen and verifying that the cursor follows it. Also, touch all 4 Corners and verify that the cursor moves deeply into the corners.
7. If you are satisfied with the calibration results select **OK** to exit the TouchKit Utility.

8. Select **OK** to continue.

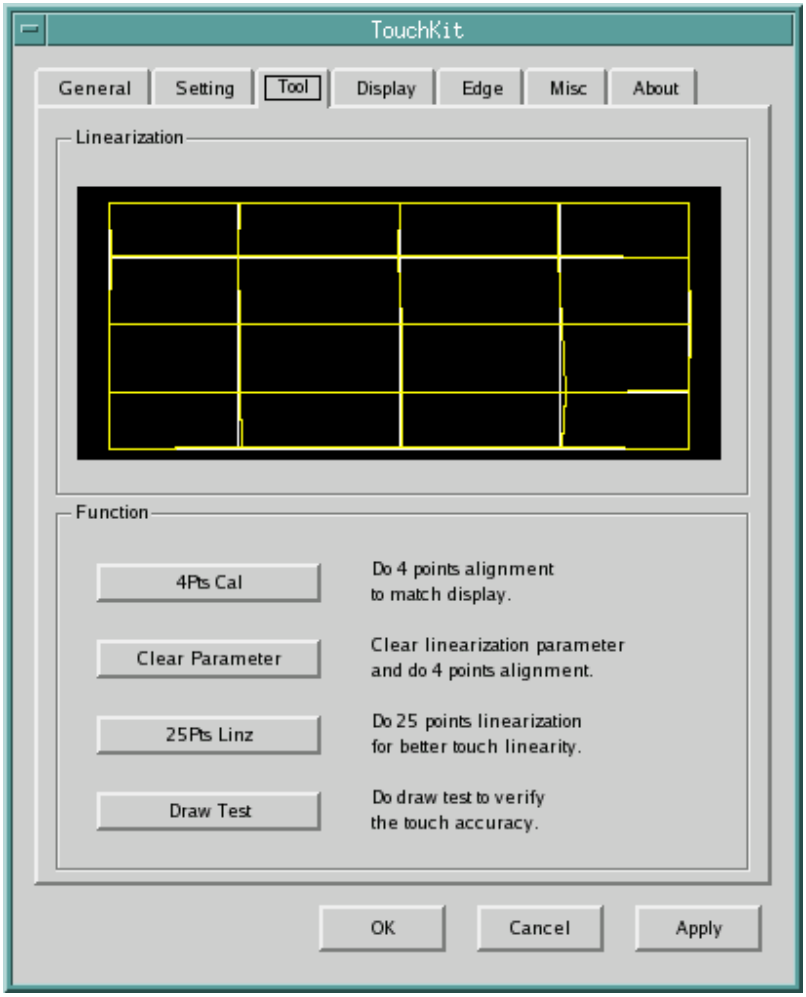


25-Point Linearization Procedure

The *25-Point Linearization* procedure should be performed if either the Touch Screen Sensor or the Controller Board is replaced.

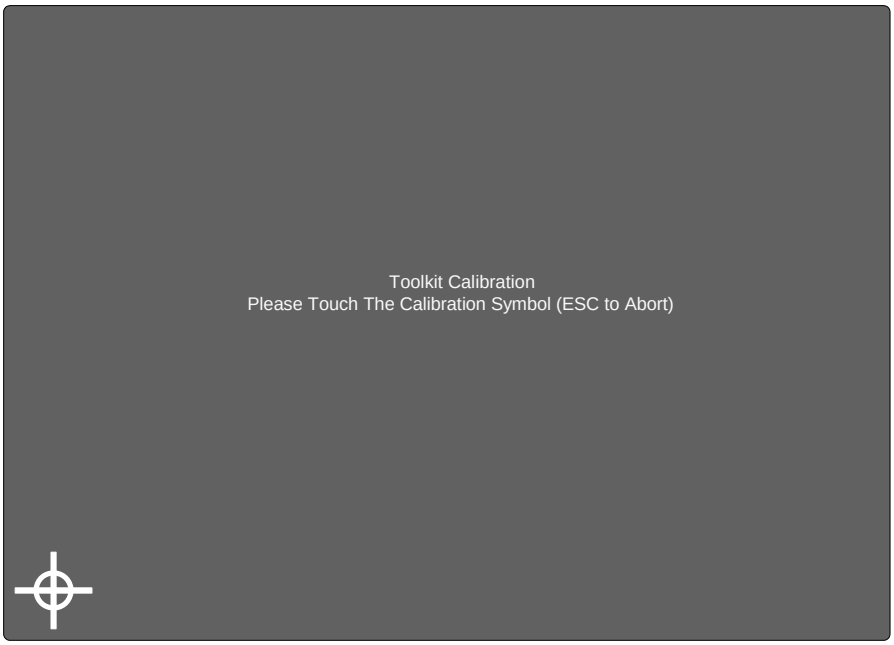
Note: On new terminals the display is pre-linearized from the factory and performing the linearization procedure can result in loss of the factory settings and reduced performance

1. Select the **25 Pts Linz** button to begin the linearization process.



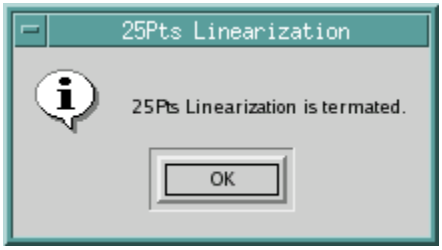
2. Place a stylus in the center of the flashing target in the lower left-hand corner of the screen and hold it until it beeps.

   Note: As with the Calibration Procedure for best results a stylus should be used rather than your finger.



24913

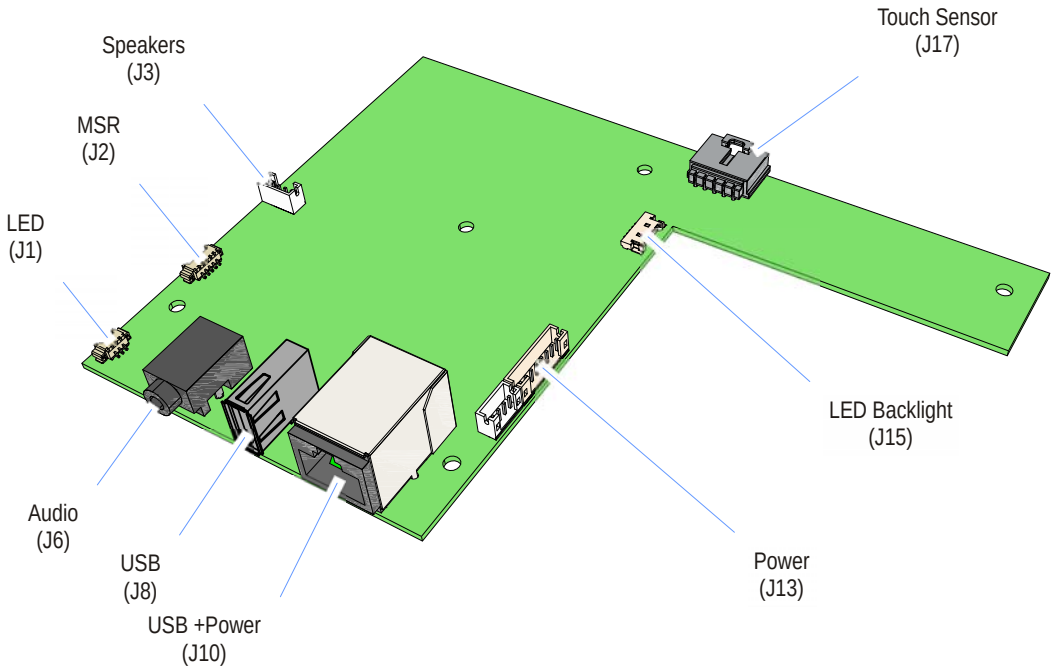
3. Repeat this procedure for the other 24 targets.
4. Select **OK** to continue.



5. Perform the 4-Point Calibration procedure.

Chapter 7: Circuit Boards

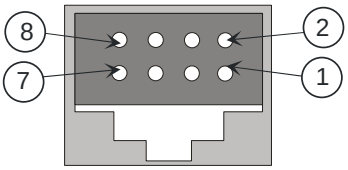
Personality PCB



30345

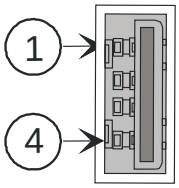
Connectors

USB +Power



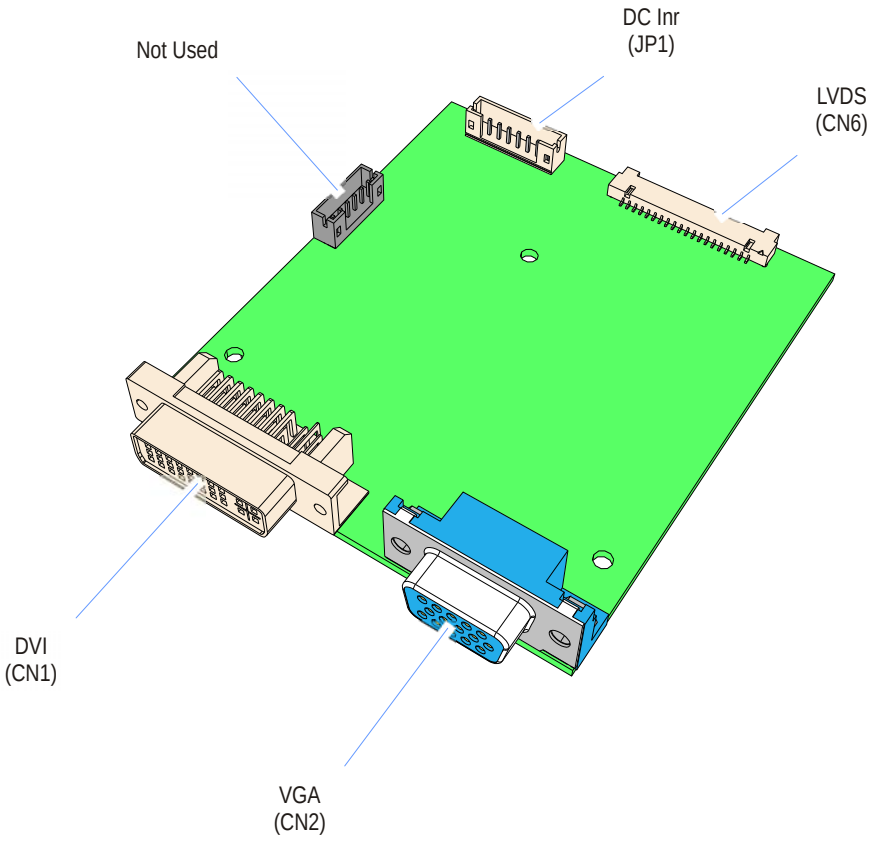
Pin	Function
1	Ground
2	Ground
3	+12V
4	D+
5	+12V
6	D-
7	Ground
8	Vbus

USB



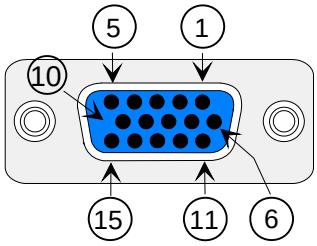
PIN	Signal	Color
1	VBUS	Red
2	D-	White
3	D+	Green
4	GND	Black

Video PCB



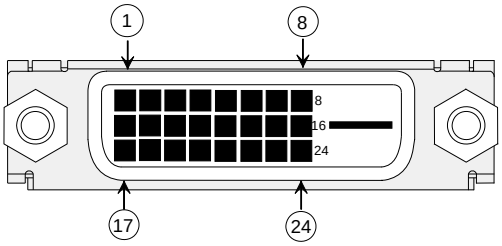
Connectors

VGA Video



Pin	Function	Pin	Function
1	Red	9	+5V DDC
2	Green	10	Sync GND
3	Blue	11	Monitor ID bit 0
4	Monitor ID bit 2	12	SDA (for DDC)
5	VGA detect	13	H – Sync
6	Ground – R	14	V – Sync
7	Ground – G	15	SCL (for DDC)
8	Ground – B		

DVI



Pin	Function	Pin	Function
1	Data2-	13	Data3+
2	Data2+	14	+5V
3	Data2/4_SHLD	15	GND
4	Data4-	16	H_Plug_DET
5	Data4+	17	Data0-
6	DDC_CLK	18	Data0+
7	DDC_Data	19	Data0/5_SHLD
8	A_VSYNC	20	Data5-
9	Data1-	21	Data5+
10	Data1+	22	CLK_SHLD
11	Data1/3_SHLD	23	CLK+
12	Data3-	24	CLK-

Chapter 7: Maintenance

Cabinet and Screen Cleaning Procedures

NCR touch screen terminals are designed for general retail applications. These products are resistant to spills and dust. However, these products are not spill proof or dust proof.

To maintain proper operation, users should prevent water, beverages, or cleaning agents from being introduced into the unit during storage, operation, or cleaning.

To clean your terminal, use the following procedures:

1. Disconnect the unit from the power outlet before cleaning.
2. Use a soft cloth dampened lightly with a mild non-abrasive soap & water solution or 70% Isopropyl Alcohol.
3. Gently wipe the subject area clean.
4. Wipe the damp areas dry. Make sure the glass and touch screen edges are completely dry before using the unit.
5. Avoid getting any liquids inside the unit. If liquid does get inside, have a qualified service technician check it before you power it on again.

Cleaners/Solvents to Use

Use the following cleaner/solvents to clean the unit.

- Mild Non-Abrasive Soap and Water Solution

  or

- 70% Isopropyl Alcohol

Cleaners/Solvents to NOT Use

Do NOT use any of the following to clean the unit. They can damage the unit.

- Methyl Alcohol
- Degreasers
- Ethyl Alcohol
- Ammonia-based Cleaners such as glass cleaners (Windex)
- Abrasive Cleaners
- Vinegar Cleaners
- Any Strong Dissolvent
- Thinner
- Benzene
- Compressed Air.
- Solvents
- Bleach

Cleaning the Glass

1. Spray an ammonia-based glass cleaner on a soft cloth and gently wipe the glass screen clean.

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

2. Wipe the screen and edges dry.
3. Allow the glass and screen edges to completely dry before using the unit.
4. When cleaning has been completed, plug in the keyboard cable and power on the workstation.

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.