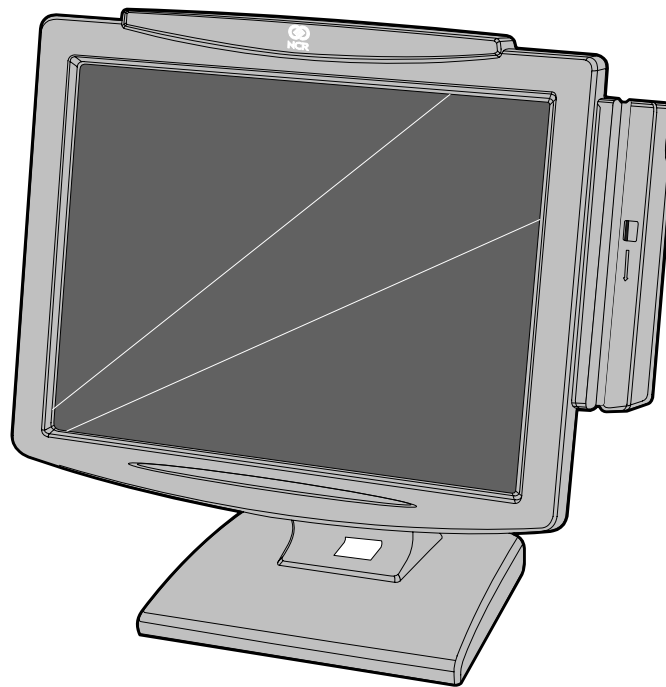


NCR RealPOS Value Touch Display (5966 15-Inch)

Release 1.0

User Guide



B005-0000-1770
Issue D

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

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Revision Record

Issue	Date	Remarks
A	Feb 2007	First issue
B	July 2007	Added Calibration Chapter
C	Jan 2008	Added MSR Driver Chapter
D	Mar 2009	Added Site Preparation Chapter; updated Hardware Installation Chapter

Audience

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

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Safety Requirements

The NCR RealPOS 5966 conforms to all applicable legal requirements. To view the compliance statements see the *NCR RealPOS Peripherals Safety and Regulatory Statements* (B005-0000-1701).

Chapter 1: Overview

NCR's RealPOS 5966 value touch display is designed and developed to provide a cost-effective touch solution for retailers who want to maximize store productivity and extend the life span of the touch display. The NCR 5966 is a 15-inch low cost XGA (1024x768) Liquid Crystal Display with a 5-wire resistive touch screen for operator input.

It has the following features:

- 15" LCD XGA (1024x768) Native Resolution, 160 nit Brightness
- Dual Bulb TFT LCD (also supports VGA, SVGA Resolutions)
- 5-Wire Resistive Touch, USB Interface
- Video - VGA, Standard 15-Pin Female
- Integrated Stereo Speakers
- Power Supplied via AC Line Input or 12 DC Power Brick
- VGA, Touch, Speaker and Power Cables
- Remote Table Top Mount
- Optional MSR- Field Installable, USB Interface
- VESA standard 75mm mounting pattern on the back of the enclosure
- Uses NCR's industry standard OPOS and JavaPOS drivers, supporting most applications and standard NCR supported retail Windows and Linux operating systems.

Model Numbers

Major Model	Description
5966-1011	15" Value Resistive Touch Monitor, 350 nit, Remote Mount, Cables (G11)
5966-1012	15" Value Resistive Touch Monitor, 350 nit, Remote Mount, Cables (CG1)

Product Components

The 5966 is shipped with a Standard Table Top Mount. This mount can be replaced with an NCR 5964-K030 (Beige) or NCR 5964-K031 (Charcoal) Table Top Mount if desired.

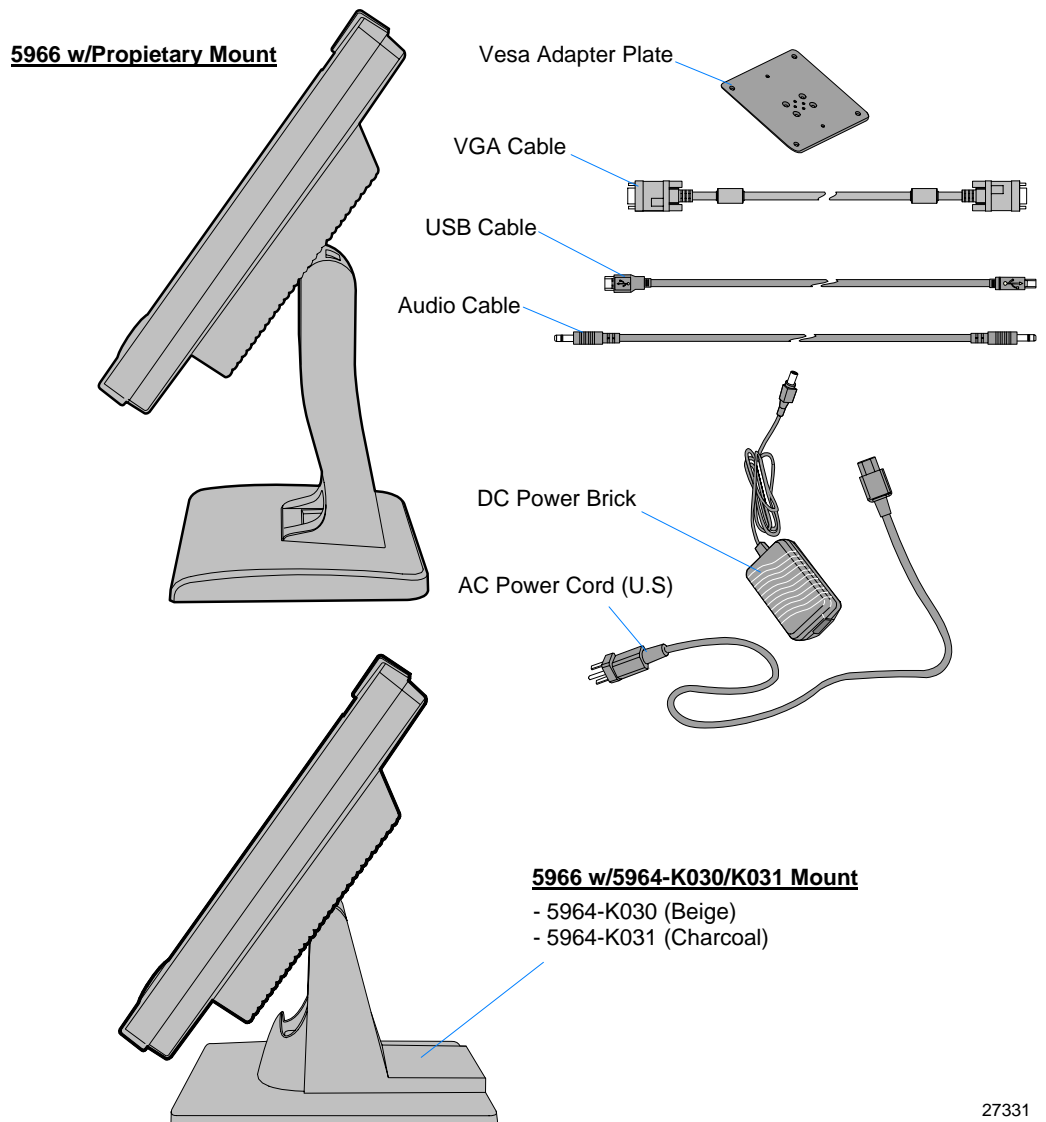
Note: When using the alternate mount the Vesa Adapter Plate is required (included with the unit).

Also included with the unit:

- VGA cable for video
- USB cable for data
- Power Brick is included for when USB power is not available on the host terminal.

Note: The USB Power Cable is ordered separately.

- Audio cable (optional) - Connects to the Audio Connector on the 5966 and the Audio Out port on the host computer.



Chapter 2: Site Preparation

Electrical Requirements

5966 Electrical Requirements

The monitor's power cord plugs into a three-wire, single-phase, 120 or 240 VAC receptacle on the monitor. The available power cords are described in the *System Cables* section.

	120 volt	240 volt
Voltage Ranges	100 - 127 VAC	200 - 240 VAC
Frequency	50/60 Hz	50/60 Hz
Current (A) (Max.)	0.9	0.3

Store AC Wiring Requirements

The customer must provide suitable AC power for the monitor. A dedicated unswitched power line dedicated to the NCR equipment installation is recommended. Refer to the *NCR Workstation and Peripherals AC Wiring Guide* (BSTO-2115-53) for store AC wiring requirements. The AC outlet must be installed near the monitor and easily accessible to the operator.

Environmental Requirements

Barometric Pressure

The terminal operates within the following barometric pressure conditions:

- Maximum operating altitude: 2,750 m (9,843 ft.)
- Operating range of pressure: 105 to 72.4 kPa (15.2 to 10.5 lb./in.)

Temperature

The terminal operates over the temperature ranges shown below. Continuous operation must be avoided at or near the indicated temperature extremes or in locations where the temperature changes beyond the restrictions.

Temperature Parameter	Restriction
Operating	0°C to 40°C (32°F to 104°F), dry bulb
Storage	-20°C to 60°C (-4°F to 140°F), three months

Humidity

The terminal operates within the humidity ranges shown below. Continuous operation must be avoided at or near the indicated humidity extremes or in locations where the humidity changes beyond the restrictions. Never expose the terminal to condensation.

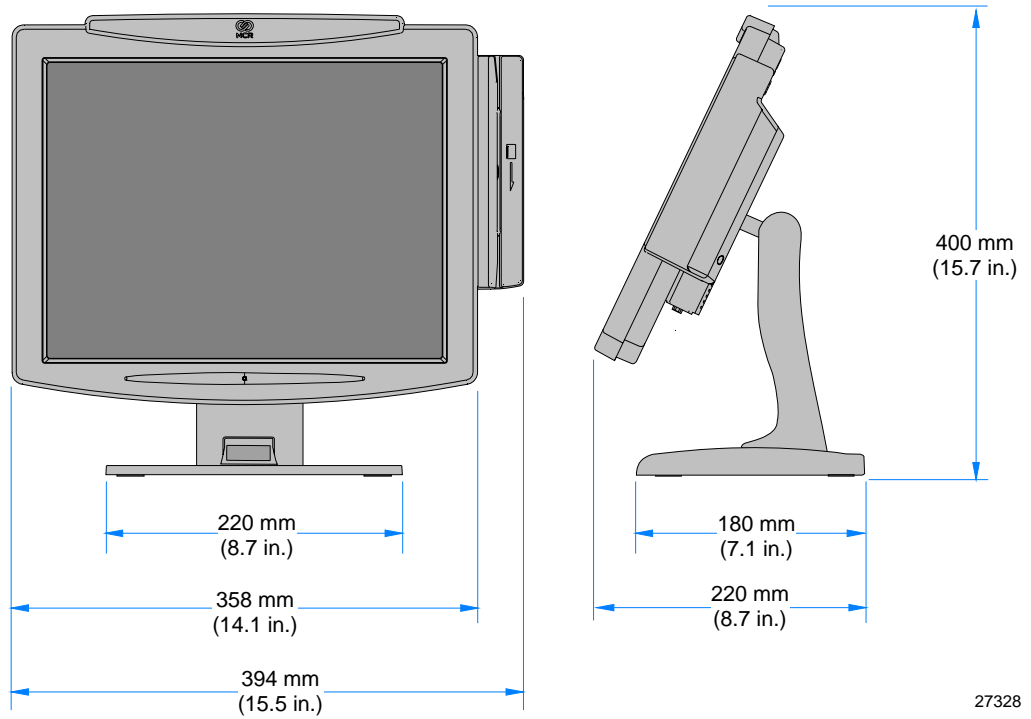
Humidity Type	Restriction
Relative	15% to 85%
Storage	15% to 85%
Shipping	15% to 85%

Weight

5.4 kg (11.9 lbs.)

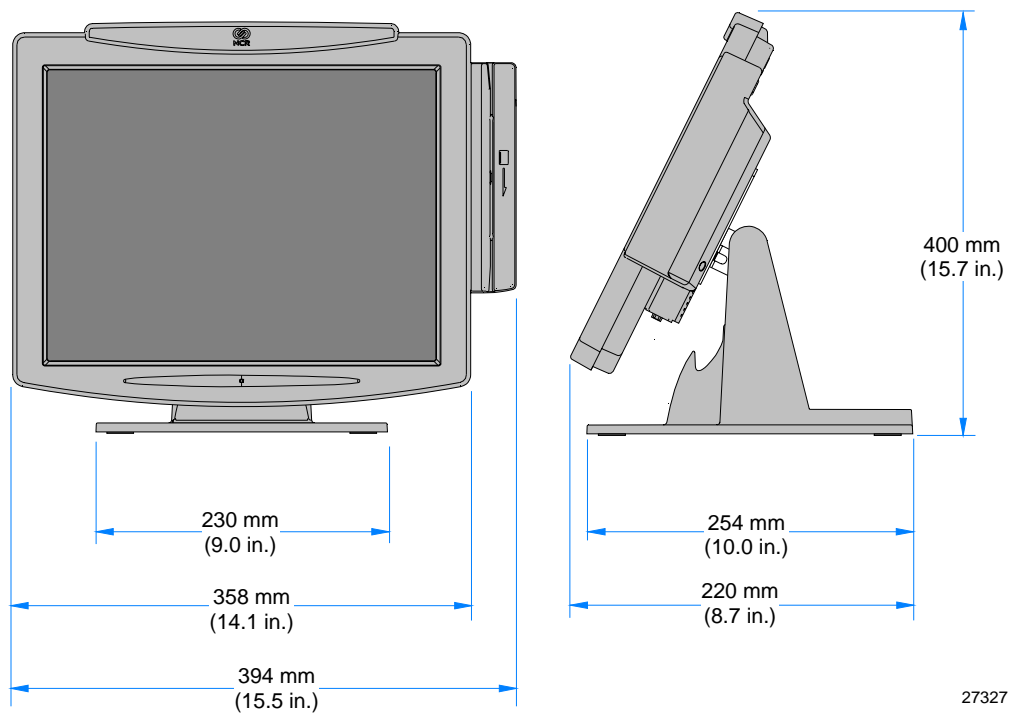
Dimensions

5966 with Table Top Mount



27328

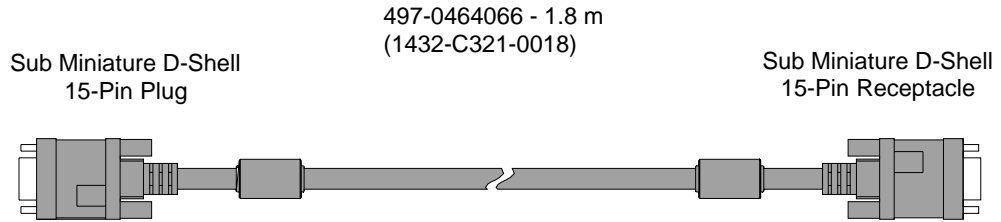
5966 with 5964-K032 Table Top Mount



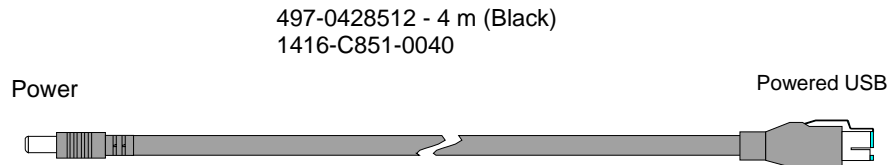
27327

System Cables

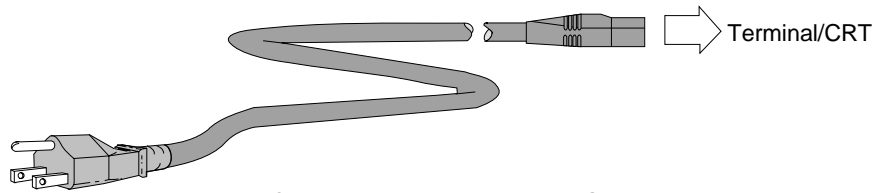
VGA Cable



12.1-Inch LCD Aux Power Cable



Power Cords



1416-C325-0030 006-1009037 - U.S.

The following power cables (not shown)
also have an IEC connection of 45 mm:

1416-C320-0030 006-8601011 - SEV

1416-C321-0030 006-8601012 - U.K.

1416-C322-0030 006-8601019 - Australia

1416-C323-0030 006-8601010 - International

1416-C391-0030 006-8605488 - China

1416-C393-0030 006-8601001 - Japan Twist-Lock

27304

Chapter 3: Hardware Installation

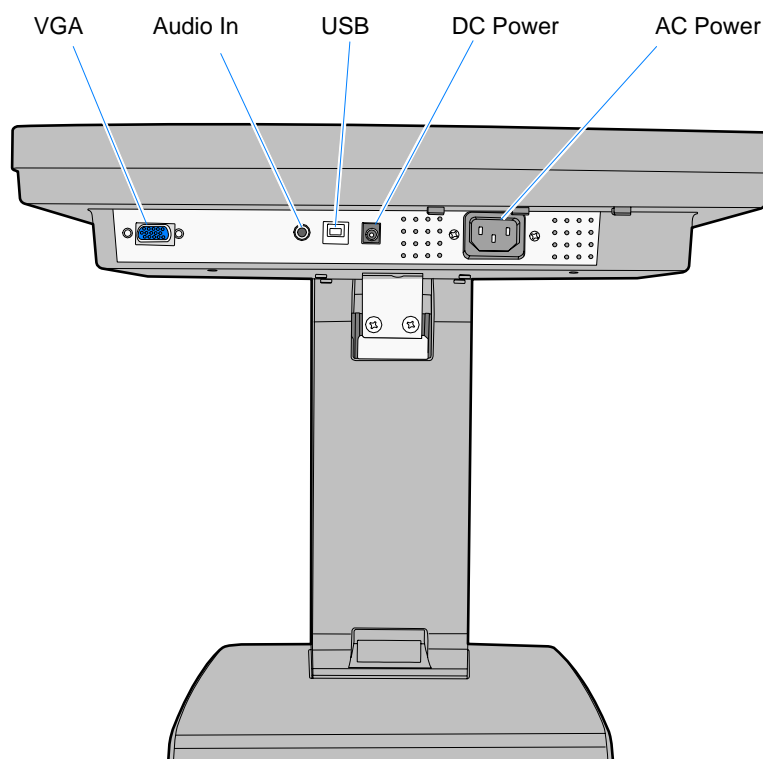
Installing the 5966

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 5966 peripheral cable connectors are located on the bottom of the assembly.



Mounting Options

The 5966 is shipped with a unique 5966 table top mount. However it has a VESA standard 75mm mounting pattern on the back of the enclosure, which supports the following NCR mounts.

- Integration Tray Mount, Beige (5964-K022)
- Integration Tray Mount, Charcoal (5964-K023)
- Table Top Mount, Beige (5964-K030)
- Table Top Mount, Charcoal (5964-K031)
- Checkstand Mount, Beige (5964-K038)
- Checkstand Mount, Charcoal (5964-K039)

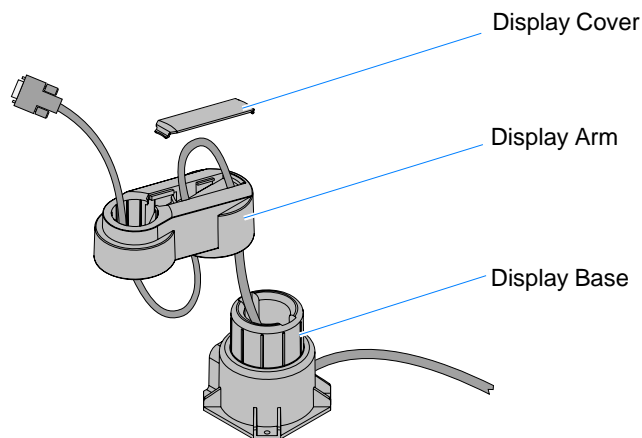
The additional mounts are sold as kits and are ordered separately.

Note: There is a Vesa Adapter Plate included with the 5966 that must be used with the NCR 5964-K030/K031 mount.

Cable Routing

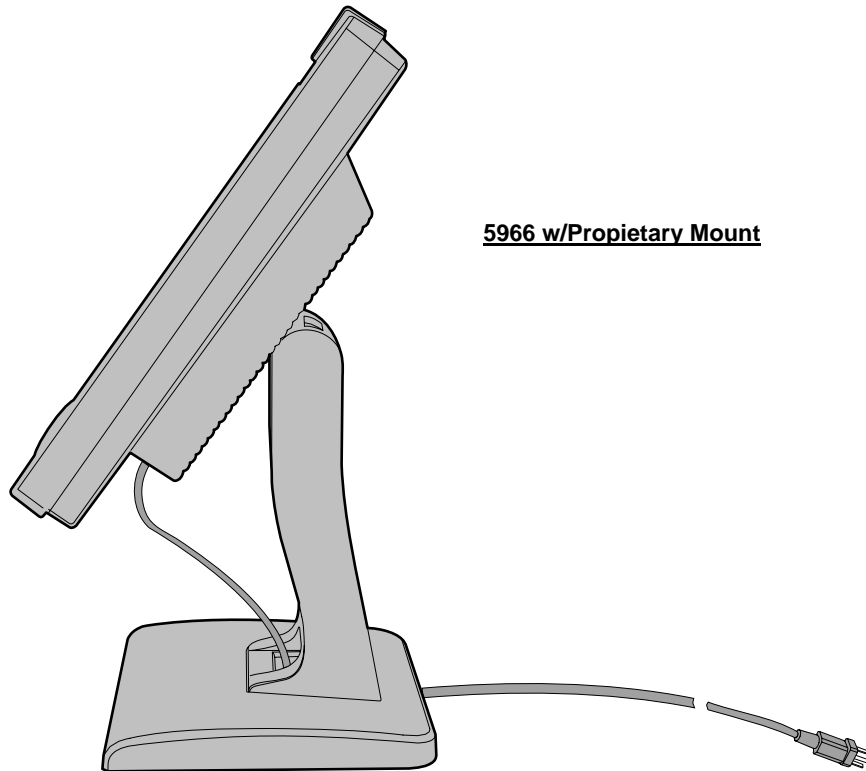
Standard Integration Tray Display Mount (5964-K022/K023)

- 5964-K022 (Beige)
- 5964-K023 (Charcoal)

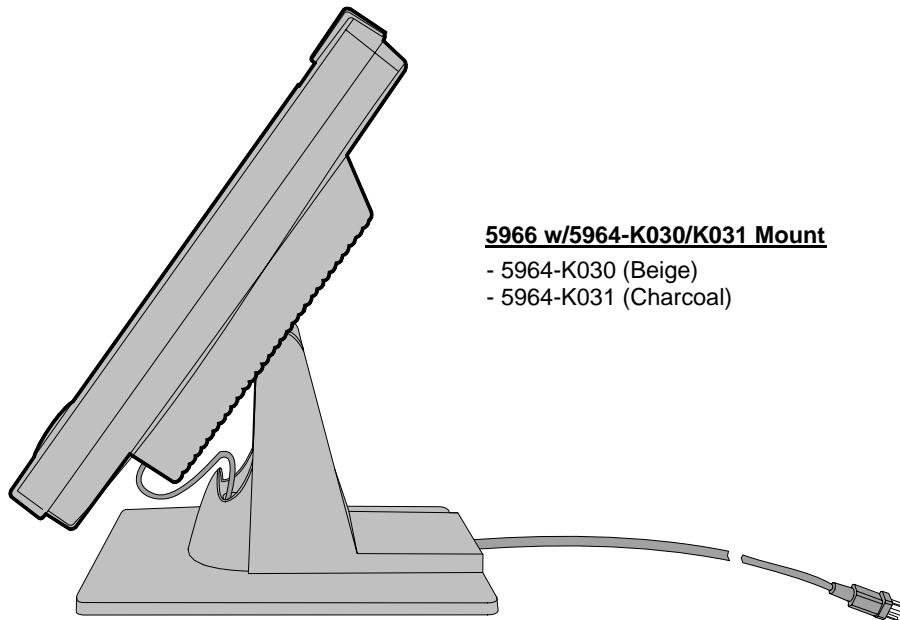


21202b

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



5966 w/Proprietary Mount



5966 w/5964-K030/K031 Mount

- 5964-K030 (Beige)
- 5964-K031 (Charcoal)

Connecting to a POS

The following illustrations show the cable connections for the 5966 and a host terminal. There are two cables required.

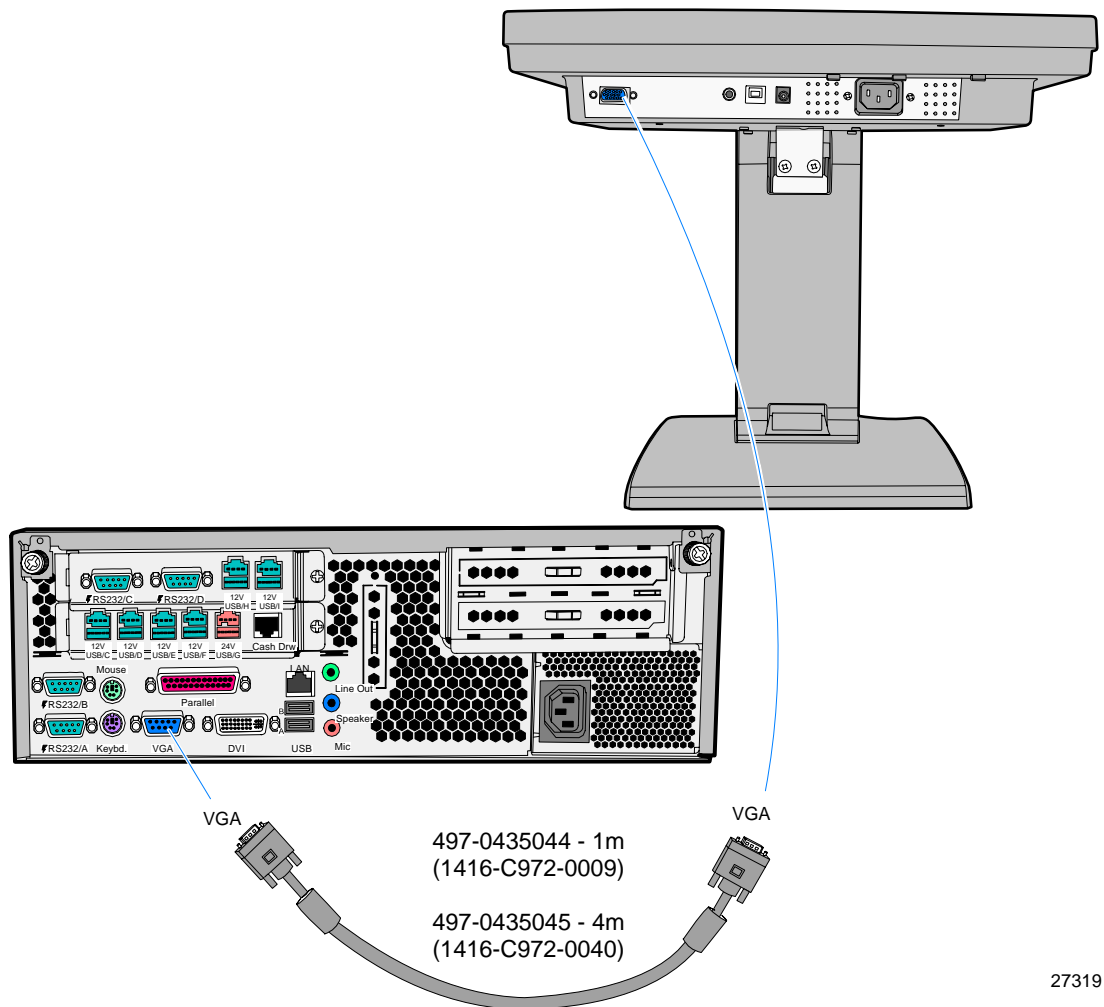
- VGA cable for video
- USB cable for data
- Powered Universal Serial Bus (USB) for power

Note: Optional Power Brick is included for when USB power is not available on the host terminal.

- Audio cable (optional) - Connects to the Audio Connector on the 5966 and the Audio Out port on the host computer.

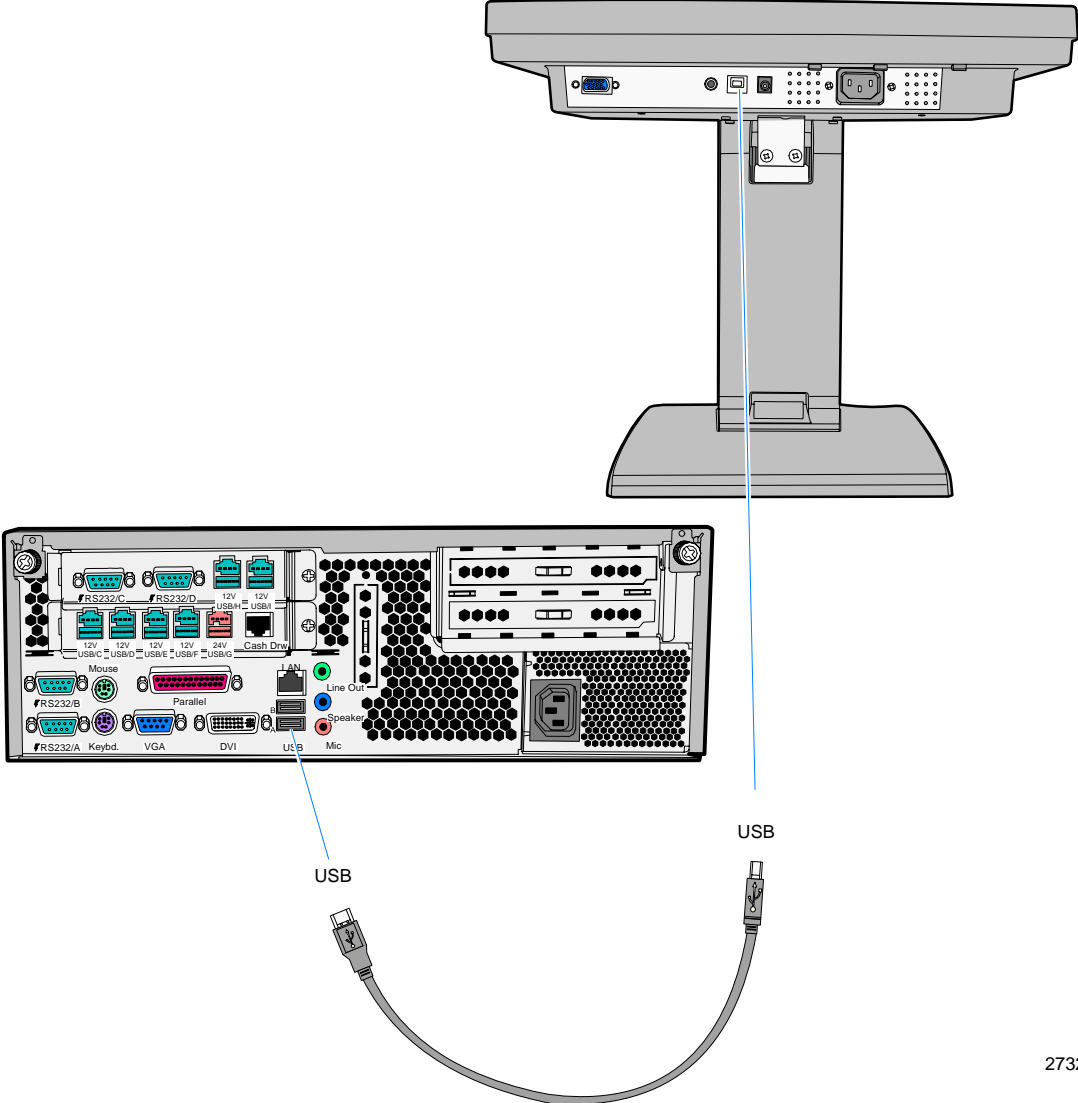
Video Cable Connections

Connect the VGA Cable to the VGA connectors on both the 5966 Touch LCD and host terminal.



Data Cable Connections

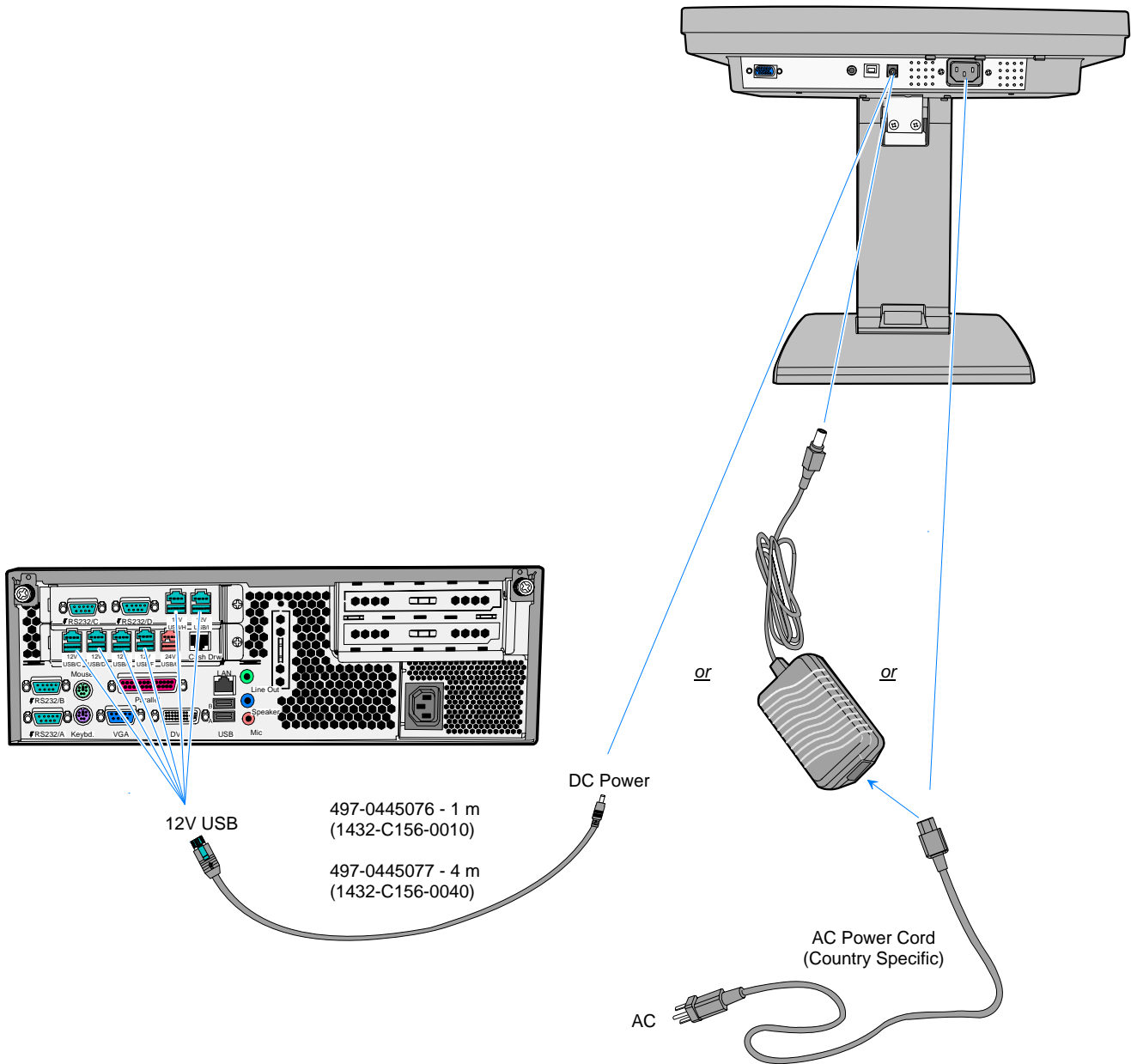
Connect the included USB Cable to the *USB* connector on the 5966 and to a *USB* connector on the host terminal.



Power Cable Connections

There are three methods that can be used to supply power to the 5966.

- Powered USB Cable from the host terminal
- DC Power Brick (Included with the 5966)
- AC – A U.S. Power Cord is supplied with the 5966. International cords must be ordered separately (See the *System Cables* section on Chapter 1).



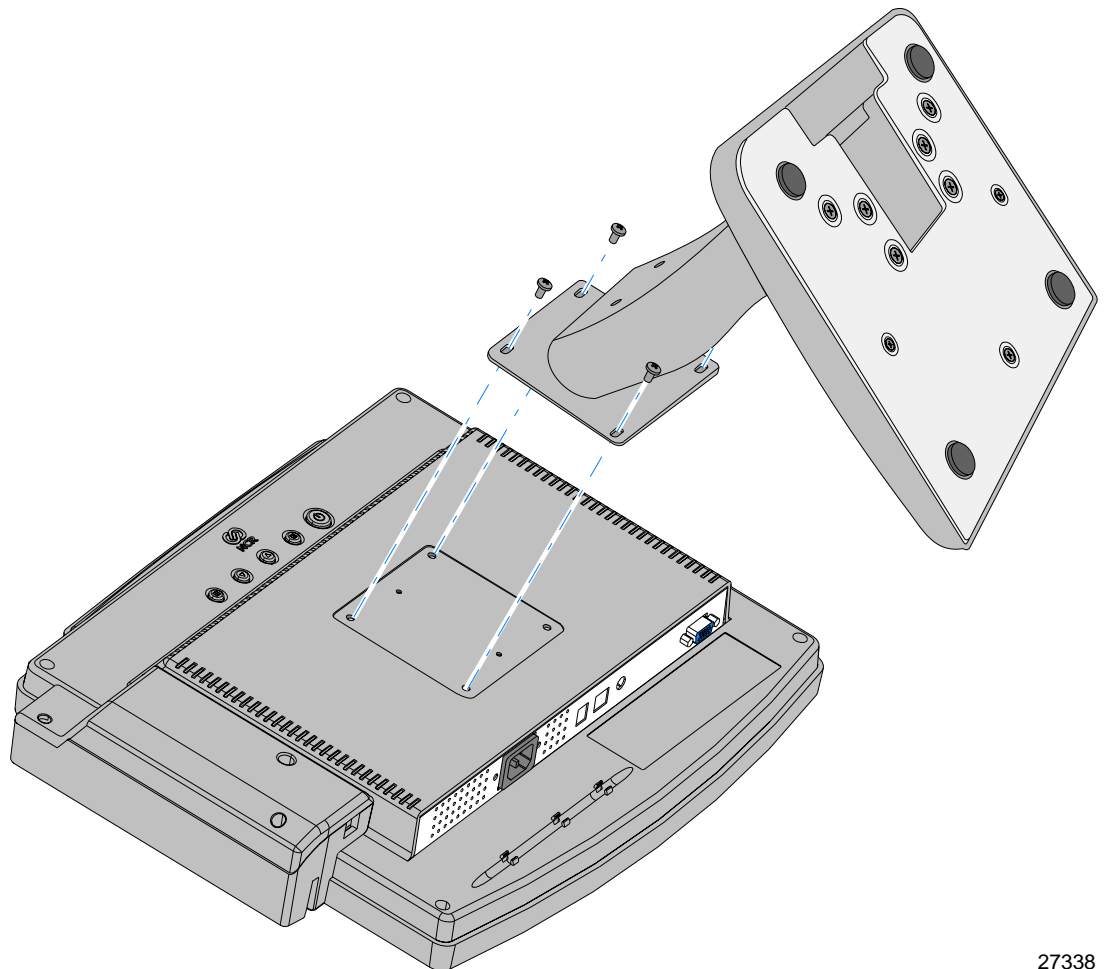
Installing a 5964-K030/K031 Table Top Mount

The 5964-K030/K031 Table Top Mount can be used with the 5966 Display Head in place of the Standard Mount shipped with the unit. There are two versions:

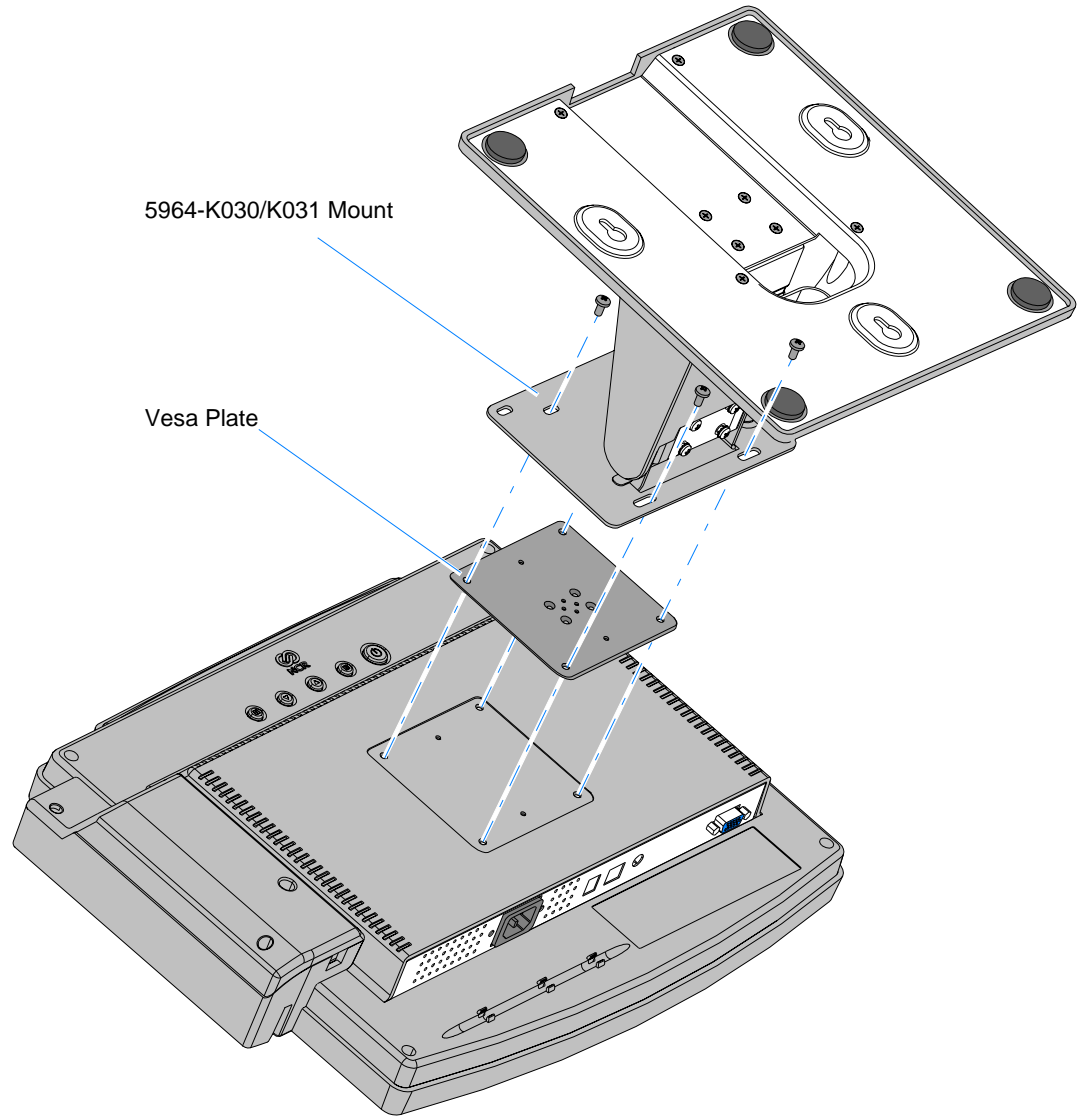
- 5964-K030 (Beige)
- 5964-K031 (Charcoal)

Installation Procedures

1. Lay the 5966 face down on a flat surface.
2. Remove the Standard Mount (4 screws) from the display.
Note: Discard these screws. The 5964 mount requires longer screws.



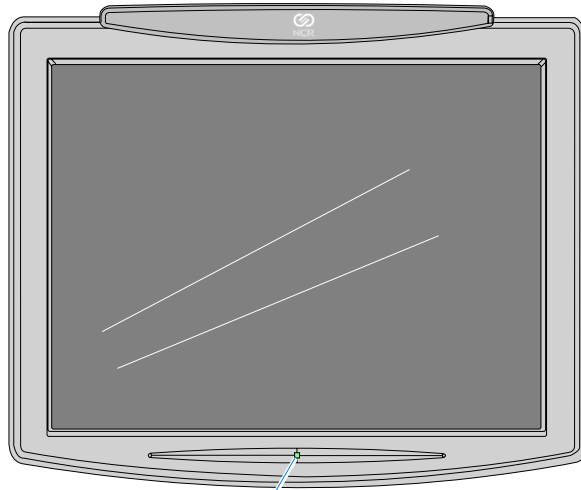
3. Place the Vesa Adapter Plate in the recess in the back of the display.
4. Install the 5964 mount using the screws included with the mount.



Display Controls

Power Indicator

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

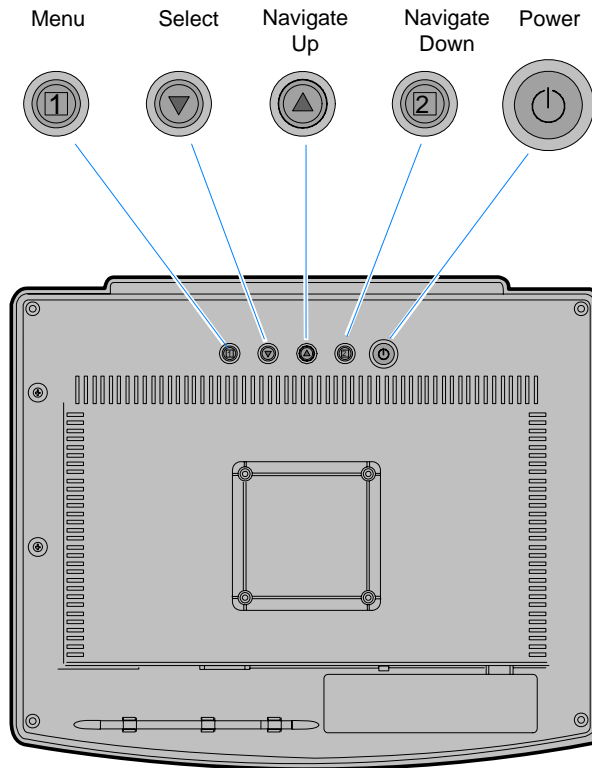


Power Indicator

24316

On Screen Display (OSD)

The OSD is accessed through five pushbuttons on the rear of the display. These buttons provide a way to adjust display parameters of the unit.



24317

Menu Button

Used to enter the OSD menu. This button is also used to return to the previous menu. The changed data is not saved in memory.

Select Button

Used to confirm the current selection. It also used for go back to the previous menu. The changed data is saved in memory.

Navigate Up

Used to scroll up in sub menus or to increase the value of the selected item. Pressing this button when a menu is not active adjusts the *Brightness*.

Navigate Down

Used to scroll down in sub menus or to decrease the value of the selected item. When the OSD menu is not active this button is a shortcut key for the *Auto Config* function.

Power Button

Used to turn the monitor on/off.

Screen Adjustment Operation Procedure

1) Entering the screen adjustment

The setting switches are normally at stand-by. Push the **[1]** button once to display the main menu of the screen adjustment. The adjustable items will be displayed in the main menu.

2) Entering the settings

Use the Adjust ▲ and Adjust ▼ buttons to select the desired setting icon and push the SELECT button to enter sub-menu.

3) Change the settings

After the sub-menu appears, use the Adjust ▲ and Adjust ▼ buttons to change the setting values.

4) Save

After finishing the adjustment, push the **[2]** button to memorize the setting.

5) Return & Exit the main menu

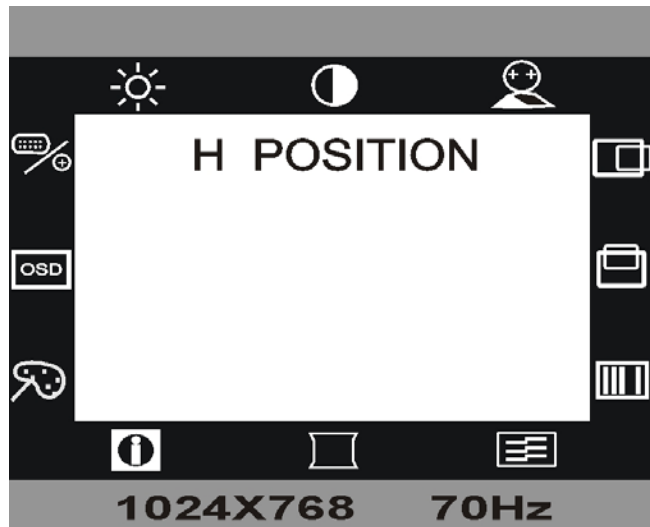
To go back to the previous menu, push the MEMU button.

Chapter 4: OSD Adjustment

Main Menu

The On Screen Display (OSD) main menu is displayed when the [1] key is pressed. The menu is a combination of graphics and text. The column inside the OSD menu shows input image information. The column beneath the menu indicates the item selected.

The ▲ and ▼ keys are used to scroll through items within the menu. The selected item is highlighted as you scroll. The [2] key is used to activate the highlighted item.



OSD Adjusting and Controls

BRIGHTNESS

Setup the brightness of the panel.

CONTRAST

The Contrast menu item is used to adjust image contrast.

AUTO CONFIG

There are two items: AUTO ADJUST and AUTO COLOR . Use the Adjust ▲ and ▼ key to scroll up and down in menu, then press the [2] key to start this function. If the MENU key is pressed, the main menu is re-displayed and nothing is changed.

AUTO ADJUST: Used to perform automatic configuration of the phase, clock, vertical, and horizontal positioning.

AUTO COLOR: It is used to adjust the gain and offset of the Red, Green and Blue channels on the ADC automatically.

H-POSITION

H-Position is used to adjust the horizontal image position manually. A slider with current value is displayed.

V-POSITION

V-Position is used to adjust the vertical image position manually. A slider with current value is displayed.

CLOCK

Reduce vertical stripes in the screen image.

PHASE

Reduce horizontal stripes in the screen image.

SHARPNESS

This can adjust the video quality to be sharp or blur (special for text mode).

INFORMATION

The “INFORMATION” menu provides the user with detailed information regarding the current input format and version (include resolution, horizontal/vertical frequency, and firmware version).

 COLOR

Configure the image color. There are three items : 9300K、 6500K、 USER MODE.


9300K: The item “9300K” is used to default 9300K color temperature.

6500K: The item “6500K” is used to default 6500K color temperature.

USER MODE

RGB ADJUST :

- RED: The item “RED” is used to adjust the gain of red channel in ADC.
- GREEN: The item “GREEN” is used to adjust the gain of green channel in ADC.
- BLUE : The item “BLUE” is used to adjust the gain of blue channel in ADC.

 OSD MENU

There are five items: LANGUAGE, OSD H POSITION, OSD V POSITION, , OSD TIME OUT and OSD BLENDING.

- OSD H POSITION : The item "OSD H Position" is used to setup the OSD menu H position.
- OSD V POSITION : The item "OSD V Position" is used to setup the OSD menu H position.
- OSD BLENDING : To adjust the blending of the OSD MENU.
- OSD TIME OUT : “OSD Time out” is used to set the timeout of the OSD menu. There are three options for the automatic timeout: 20, 40 and 60 seconds.

 MISC MENU

There are two items: audio and reset.

- AUDIO: This is used to adjust the sound volume.
- RESET : Press “Reset” to return the monitor to its factory default settings.

Chapter 5: Touch Screen Calibration - Windows

Installing and Calibrating the Touch Screen

The Touch Screen Calibration Utility is included when you install the TouchKit Driver. This driver can be downloaded from the NCR Web Site.

<http://www.ncr.com>

1. At this site, select **Support** → **Drivers and Patches** → **Retail Support Files** → **Retail Platform Software** → **5966**.
2. Download the Touch Driver: *5966_touch_driver_4.3.6.2817* (or later).

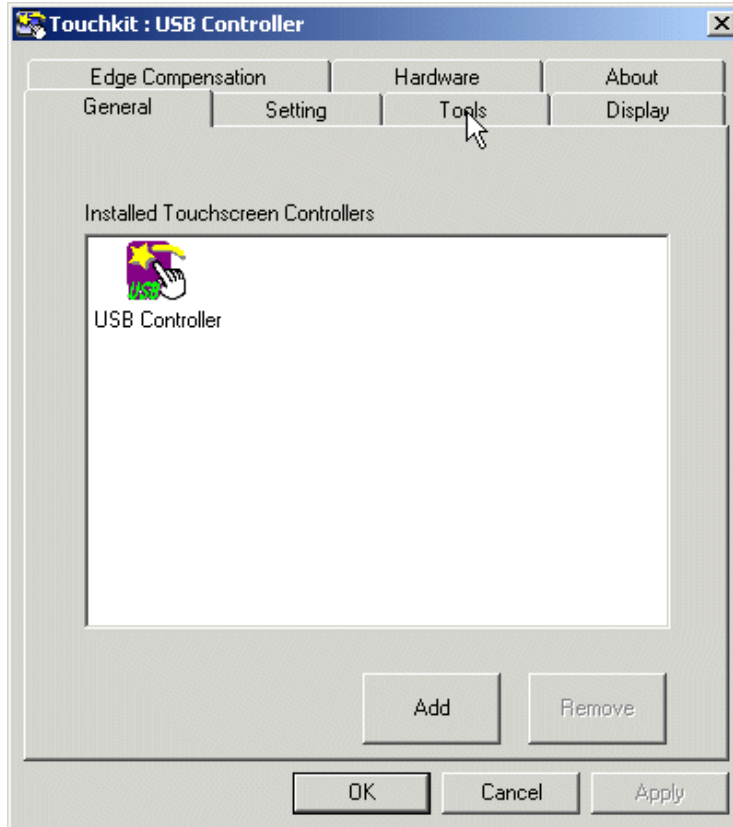
Installing the Driver and Utility

1. Extract the driver installation files into to a working directory on the host terminal.
2. Locate the folder containing the operating system you are using and run the setup program. The name of the setup program varies from OS to OS. Follow the instructions to install the software

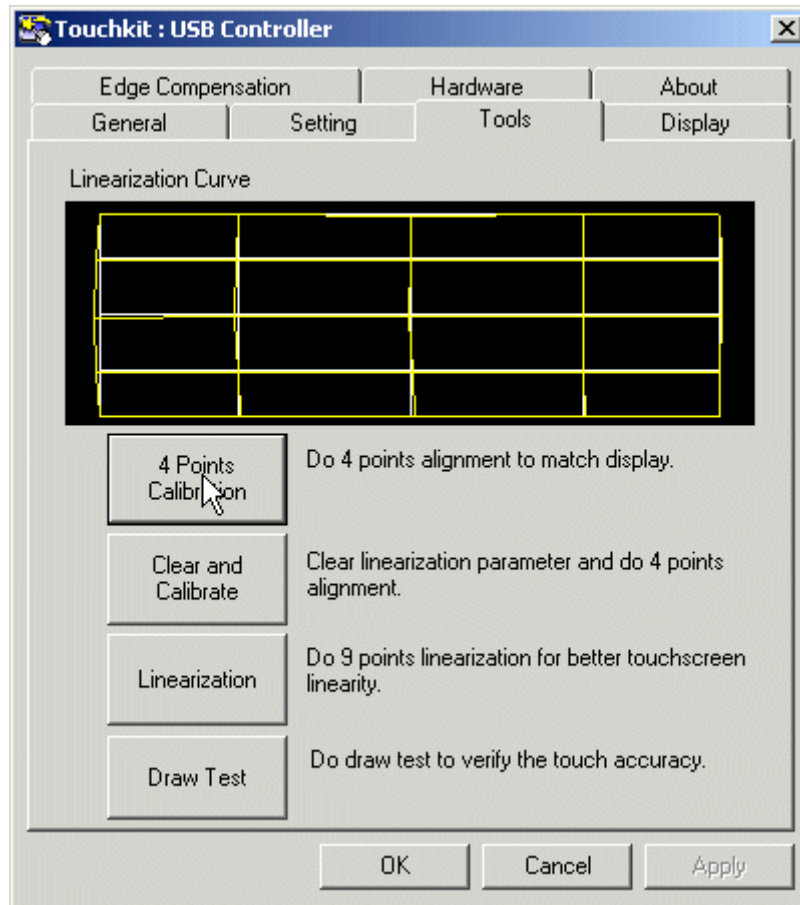
4-Point Calibration Procedure

Note: The *9-Point Linearization* procedure should be performed first if either the Touch Screen Sensor or the Controller Board is replaced.

1. From the Windows Start button, select **Settings** → **Programs** → **TouchKit** → **Configure Utility**
2. From the *TouchKit:USB Controller* screen, select the **Tools** tab.

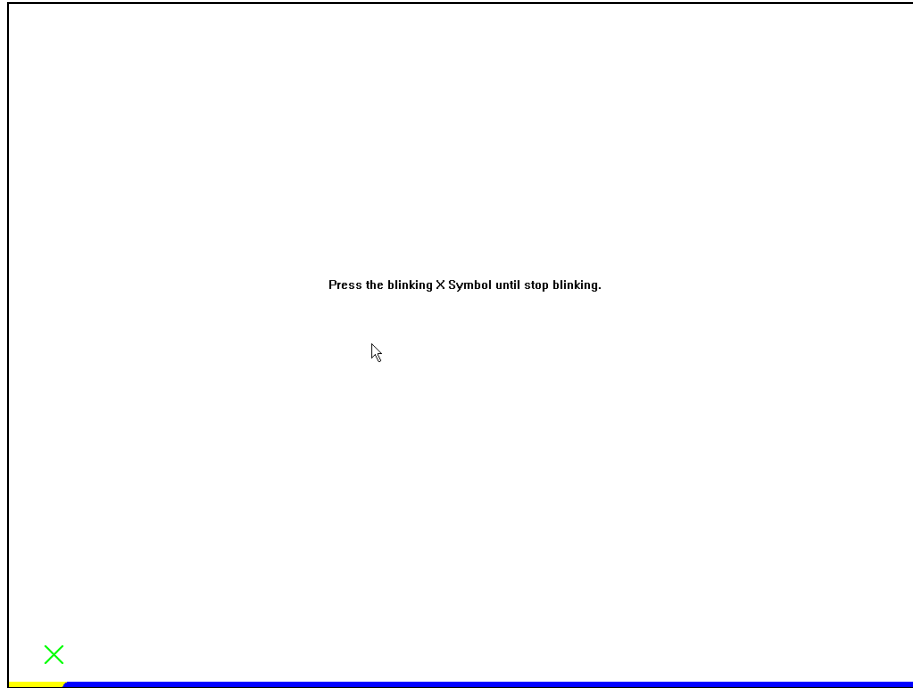


3. Select **4-Points Calibration** to begin calibration.

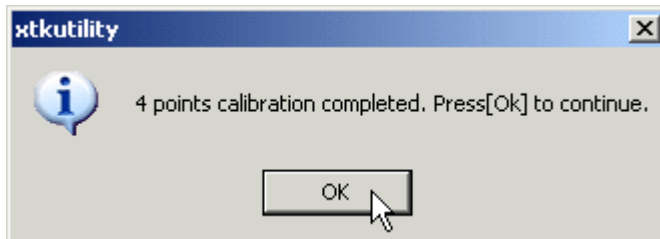


4. Place a stylus in the center of the flashing target in the lower left-hand corner of the screen and hold it until it stops blinking.

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.



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



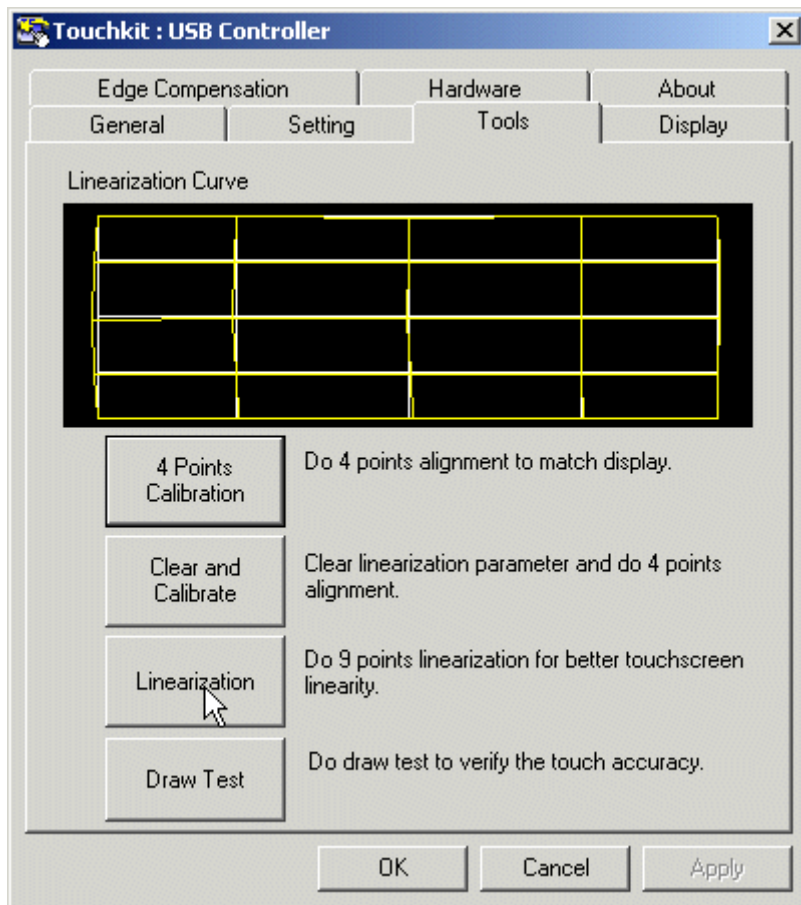
7. Test the calibration by moving the stylus around on the screen and verifying that the cursor follows it. Also, touch all 4 Corners and verify that the cursor moves deeply into the corners.
8. If you are satisfied with the calibration results select **OK** to exit the TouchKit Utility.

9-Point Linearization Procedure

The *9-Point Linearization* procedure should be performed if either the Touch Screen Sensor or the Controller Board is replaced.

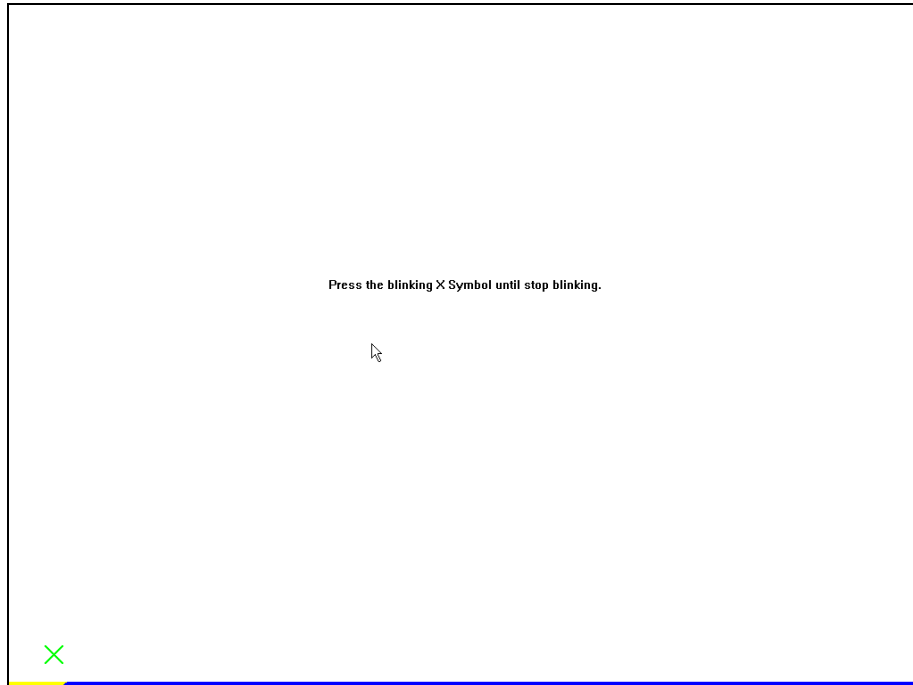
Note: On new terminals the display is pre-linearized from the factory and performing the linearization procedure can result in loss of the factory settings and reduced performance

1. Select the **Linearization** 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 stops blinking.

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



3. Repeat this procedure for the other eight targets.
4. Select **OK** to continue.
5. Perform the 4-Point Calibration procedure.

Chapter 6: Touch Screen Calibration - Linux

Calibration Procedures

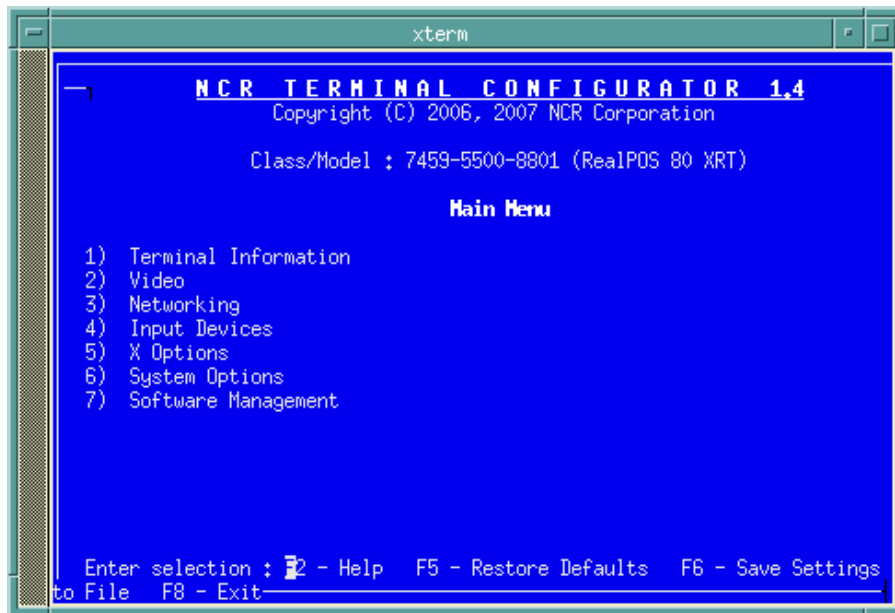
The Touch Screen Calibration Utility is included in the NCR Linux Terminal Configurator, which gets installed when you install the NLPOS Linux software.

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

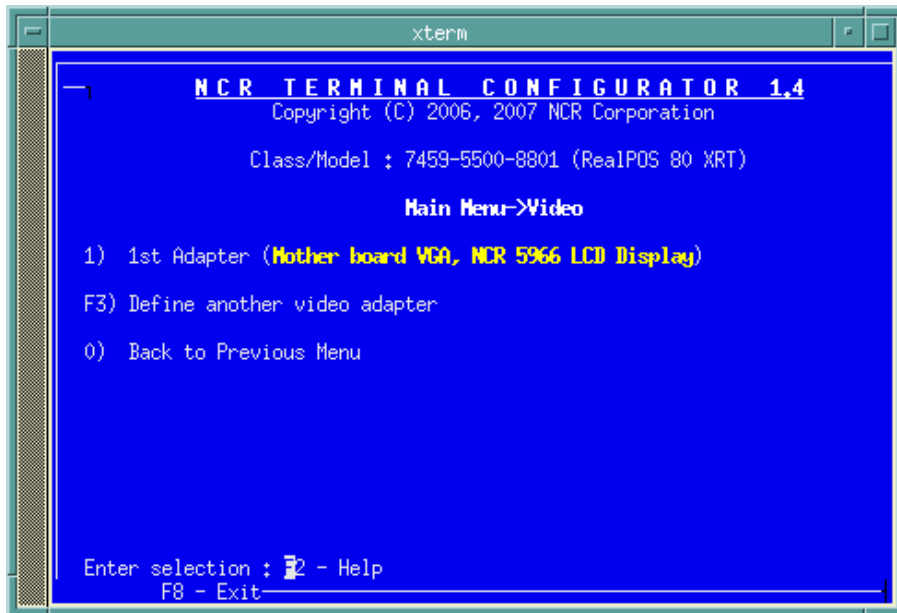
1. Start the Terminal Configurator Utility. At the prompt enter:

```
TerminalConfig
```

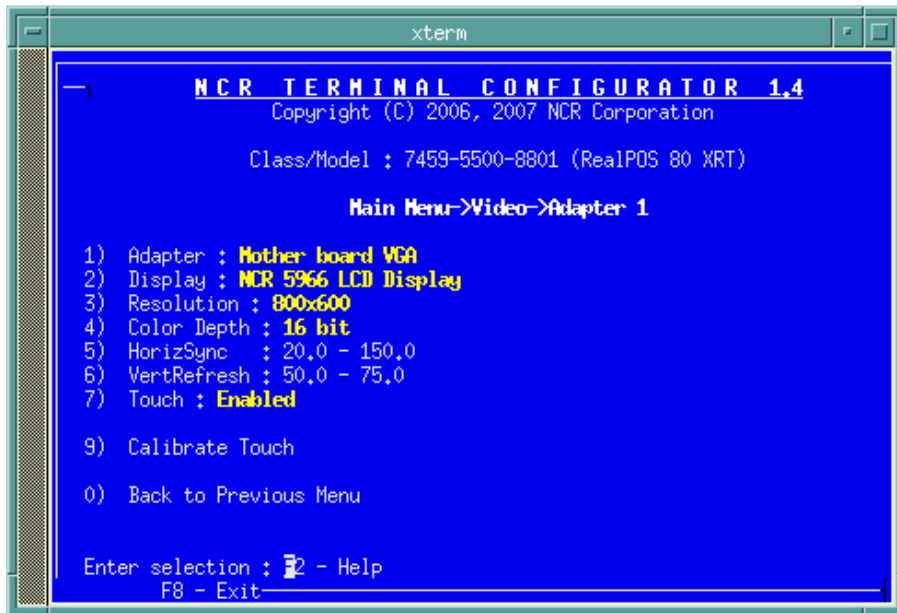
2. At the Main Menu, select: **2) Video**.



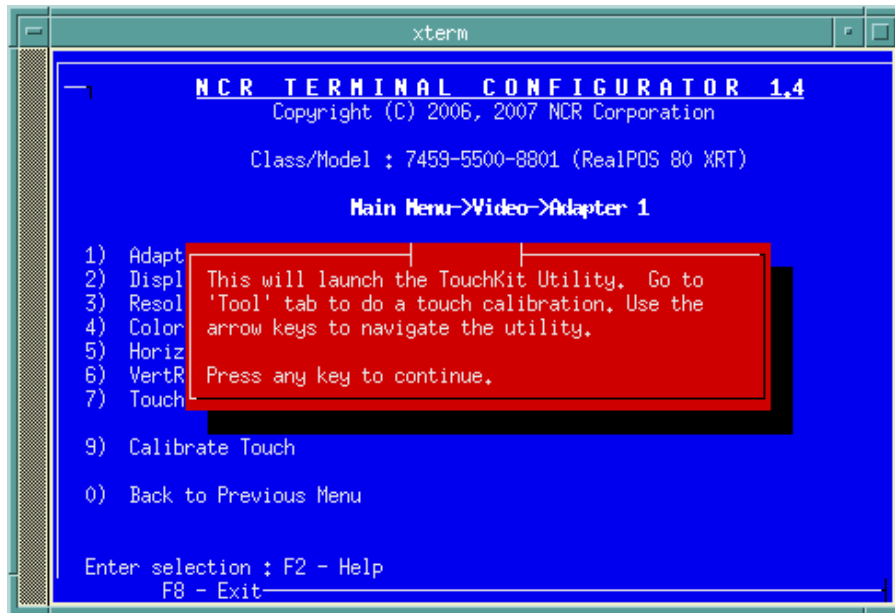
3. Select: **1) Adapter.**



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



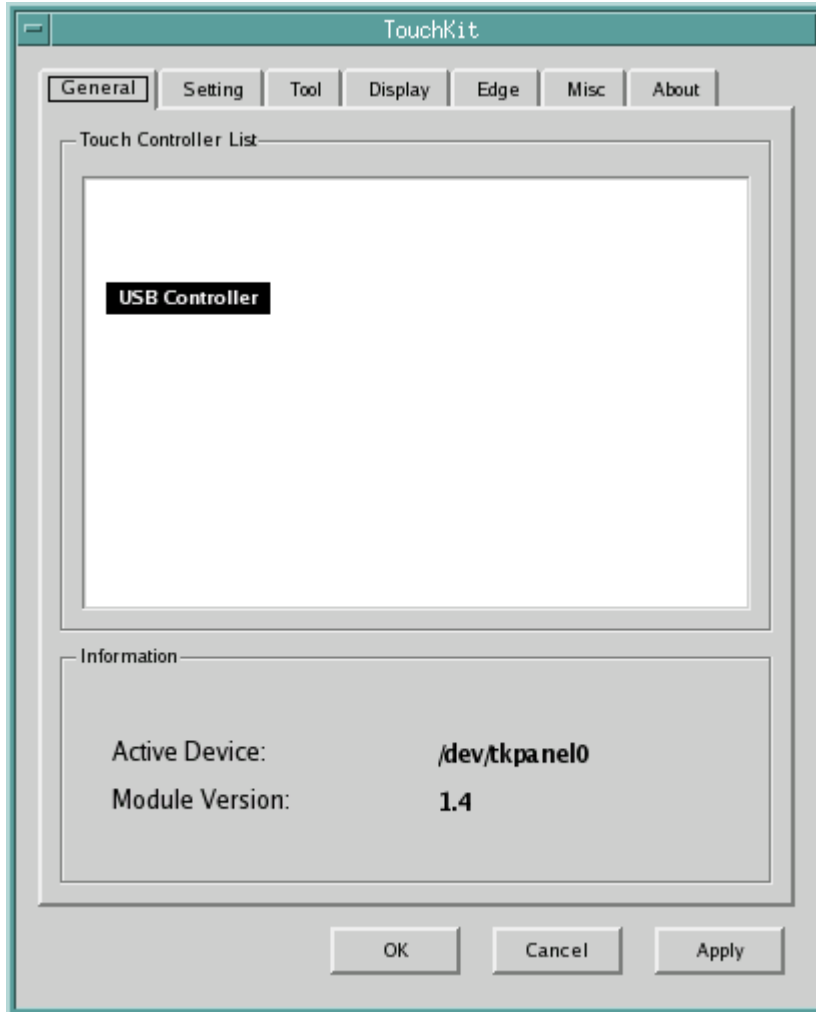
5. Press any key to continue.



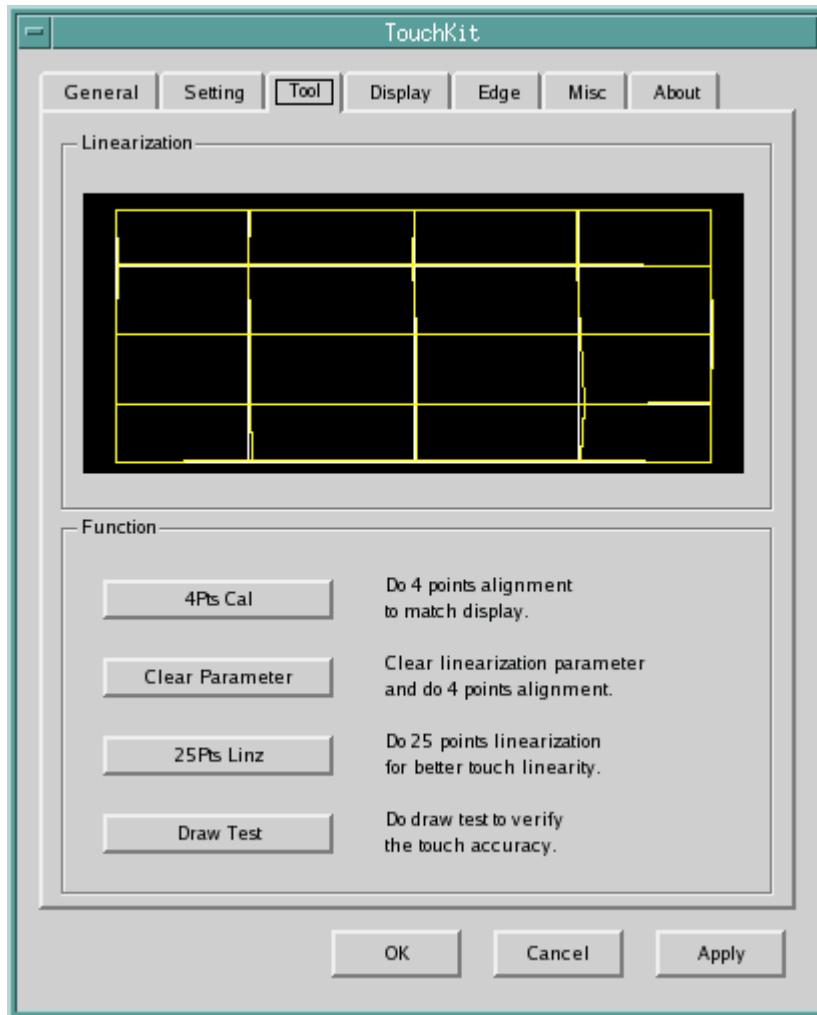
4-Point Calibration Procedure

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.



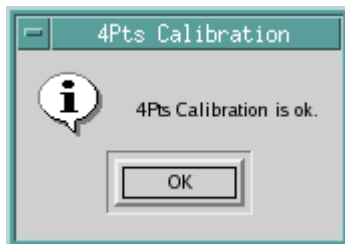
3. Place a stylus in the center of the flashing target in the lower left-hand corner of the screen and hold it until it beeps.

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.



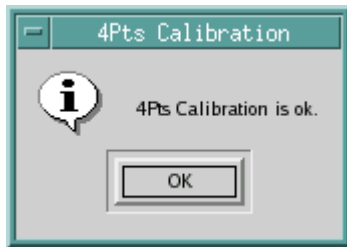
24913

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.

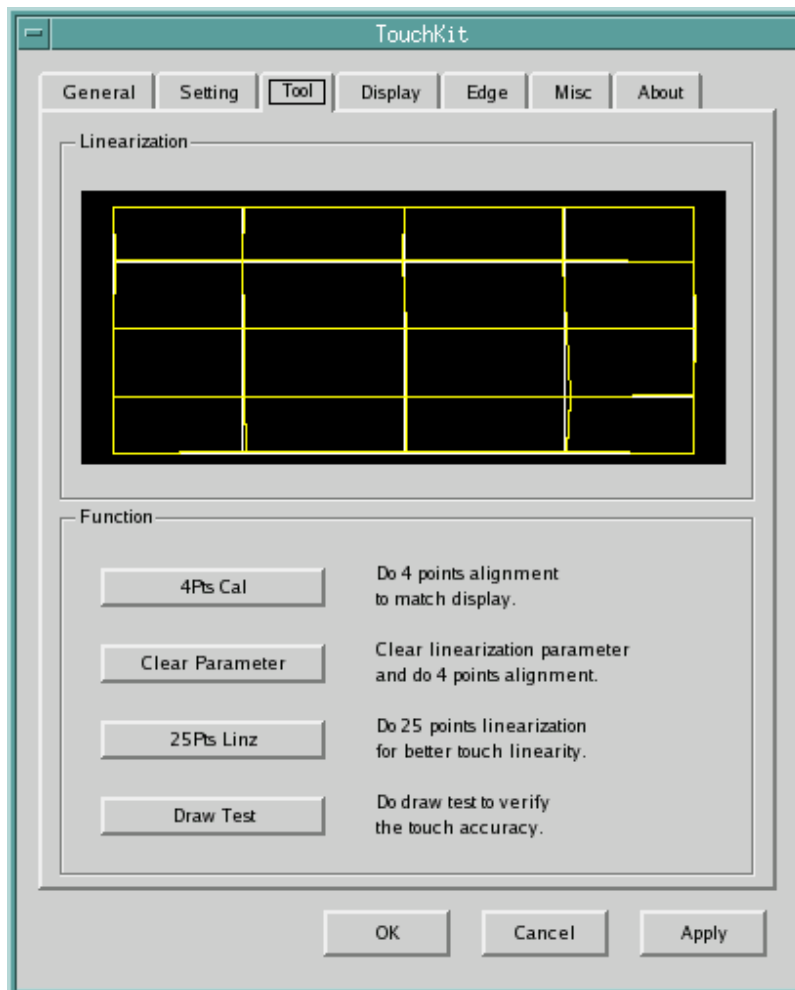


25-Point Linearization Procedure

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.



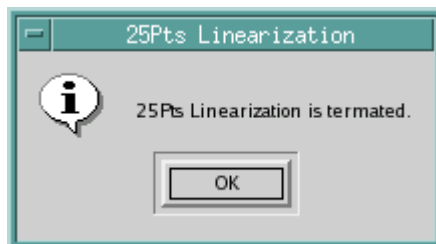
2. Place a stylus in the center of the flashing target in the lower left-hand corner of the screen and hold it until it beeps.

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: Auto Config Adjustment

How to Use the Auto Config Adjustment

This function can tune the parameters of **PHASE**, **CLOCK**, **H-POSITION**, and **V-POSITION**.

Suggesting Adjustment Steps :

1. Enter the “Windows” Shut-down frame.
Note: The **Wallpaper** color CAN NOT be black.)
2. Inactive OSD menu, then press knob ▼ key. The Picture will auto-adjust by itself. After 4 seconds, you can exit OSD and Shut-down frame.

Notes:

- If you do not like the effect of the AUTO CONFIG adjustment, you can adjust the PHASE and CLOCK items using the OSD.
- The AUTO CONFIG adjustment can be used in Windows except with a black background frame. The best effect is in the **SHUT DOWN** frame.

Chapter 8: MSR Driver

The 5966 MSR is a USB device with unique drivers that need to be loaded to enable it.

The drivers are contained within Retail Platform Software (2.4.3.0 or 2.5.0.0) in the directory `C:\Program Files\NCR\Retail Controls\Drivers`, or can be downloaded from the NCR Web Site.

<http://www.ncr.com>

1. At this site, select **Support** → **Drivers and Patches** → **Retail Support Files** → **Retail Platform Software**.
2. In the Peripherals section select **5966**.
3. Download the *5966MSRDrivers.ZIP* file.
4. Copy the file to a working directory on the target retail terminal and extract the files.
5. Right-click on the *.inf file to begin the installation process.

The device is from XAC and should appear as Vendor ID **2182** Product ID **8000**. UPOS support is provided for this device.

Chapter 9: 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 and Treatment Cards

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

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.

These edges may be used twice

These edges may be used once



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:

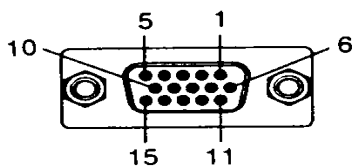
An existing MSR should be cleaned using an MSR Cleaning Card before treating it with a MSR Treatment Card. For low use retail establishments, the cleaning and treatment procedures should be followed at least once per month. In areas of extremely high traffic (in excess of 500 swipes per day) or an operating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

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>.

Appendix A: Technical Data

Video Input Pin Assignment

This section describes the pin assignment of the LCD's video connector. It is called 15 Pin Mini D-sub Connector.



Pin NO.	Signal Connector
1	Red Video Signal
2	Green Video Signal
3	Blue Video Signal
4	N.C.
5	Ground
6	Ground for red video signal
7	Ground for green video signal
8	Ground for blue video signal
9	VGA +5 V
10	PC detection
11	N.C.
12	DDC data
13	Horizontal sync signal
14	Vertical sync signal
15	DDC clock

Display Timing

The following table lists the better display quality modes that the LCD monitor provides. If the other video modes are input, the monitor will stop working or display unsatisfactory picture quality.

VESA MODES					
			Horizontal	Vertical	VCLK
Mode	Resolution	Total	Nominal Frequency +/- 0.5KHz	Nominal Frequency +/- 1 Hz	Nominal Pixel Clock (MHz)
DOS	720*400@70Hz	900*449	31.469	70.087	28.322
VGA	640*480@60Hz	800*525	31.469	59.940	25.175
	640*480@72Hz	832*520	37.861	72.809	31.500
	640*480@75Hz	840*500	37.500	75.000	31.500
SVGA	800*600@56Hz	1024*625	35.156	56.250	36.000
	800*600@60Hz	1056*628	37.879	60.017	40.000
	800*600@72Hz	1040*666	48.077	72.188	50.000
	800*600@75Hz	1056*625	46.875	75.000	49.500
XGA	1024*768@60Hz	1344*804	48.363	60.004	65.000
	1024*768@70Hz	1328*806	56.476	70.069	75.000
	1024*768@75Hz	1312*800	60.023	75.029	78.750
IBM MODES					
DOS	720*400@70Hz	900*449	31.469	70.087	28.322
VGA	640*480@60Hz	800*525	31.469	59.940	25.175
MAC MODES					
VGA	640*480@60Hz	800*525	31.469	59.940	25.175
	640*480@75Hz	864*525	35.000	66.667	30.240
SVGA	832*624@75Hz	1152*667	49.725	74.551	57.283
XGA	1024*768@60Hz	1312*813	48.780	60.001	64.000
	1024*768@75Hz	1328*804	60.241	74.927	80.000