

3M™ Multi-Touch Projected Capacitive Touch (PCT) Chassis C3266PW, C4267PW, C4667PW, C5567PW, C6587PW Display User Guide

Please read, understand and follow all safety information contained in the Quick Start Guide found at www.3M.co.uk/TouchUserGuides prior to the use of this device. Retain the Quick Start Guide for future reference.



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Intended Use

The 3M™ Touch Displays are designed for touch input and tested to replace an existing display. These displays are intended for professional installation and use in an indoor, business environment. They are not designed or tested for use in hazardous locations. Use in any other application has not been evaluated by 3M and may lead to an unsafe condition. Not intended for household or personal use.

Important Notes

In extreme temperature and humidity situations, you may observe condensation between the sensor and the display. To minimize this condition, place the unit where it will be used and allow a 24-hour environmental stabilization period prior to powering on the display. Any noticeable condensation is temporary and will have no long term effect on the operation of the display.

You are cautioned that any change or modification to the equipment not expressly approved by the party responsible for compliance could void your warranty.

When unplugging the power supply cord, hold the plug, do not pull by the cord.

Do not connect or disconnect this product during a thunder storm or lightning.

Remember to take into account that the operating temperature of the installation may be greater than the room ambient, and consideration should be given to installing the unit in an environment compatible with the maximum rated operating temperature. Specifications can be found in the product data sheet on the 3M Touch Systems website at <http://www.3m.com/touch/>.

The 3M Multi-Touch Chassis Display may not function as expected at altitudes higher than 2000 meters.

3M Touch Systems recommends to vacuum or replace the fan filter at least every six months or if a noticeable rise in surface temperature occurs.

When installing the unit, ensure that it does not restrict the flow of air to any other equipment within the installation required for safe operation.

An inherent characteristic of the 3M Projected Capacitive Touch (PCT) sensor is a fine grid pattern that may be visible under certain lighting conditions.

Install the display in a well-ventilated area. Always maintain adequate ventilation to protect the display from overheating and to ensure reliable and continued operation.

Do not expose this display to direct sunlight or heat. Passive heat may cause damage to the housing and other parts.

Do not install this display in areas where extreme vibrations may be generated. For example, nearby manufacturing equipment may produce strong vibrations. The vibrations may cause the display to exhibit picture discoloration or poor video quality.

The 3M touch controllers mentioned in this document are USB compatible full speed devices.

3M does not warrant that we are USB compliant pursuant to USB specifications.

Cooling fan will cycle based on internal temperature. When the internal temperature grows higher than ambient, the fan will turn on.

System will shut down when internal temperature reached a critical level

Service and Repair Indicators

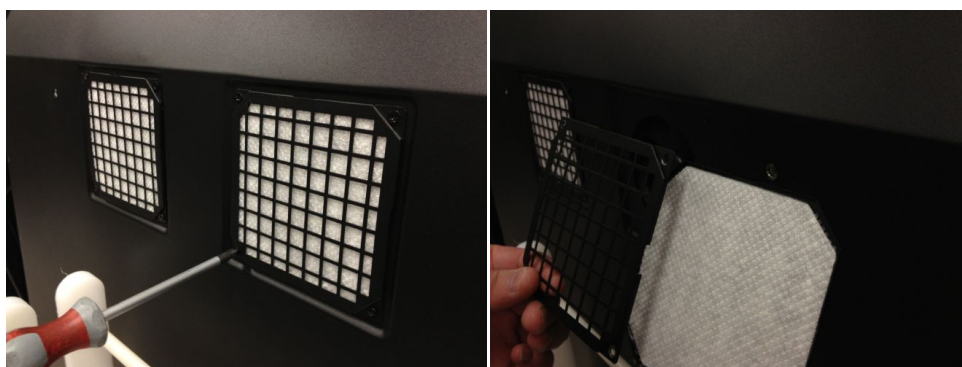
Do not attempt to service this unit yourself with the exception of Filter Replacement. Unplug the display and refer to an authorized service personnel in the event that:

- The product is exposed to liquid.
- The product does not operate properly when the operating instructions are followed.
- The product exhibits a distinct change in performance, indicating a need for service.
- The power cable or plug is damaged or frayed.

Filter Replacement Procedure

3M Touch Systems recommends to vacuum or replace the fan filter at least every six months or if a noticeable rise in surface temperature occurs.

- Remove screws from the filter cover
- Remove filter cover and filter
- Replace filter (Use 3M filter # 98-1100-0230-4)
- Re-install cover



Touch Sensor Care and Cleaning

Periodically clean the glass touch sensor surface. Turn off your display before cleaning. An isopropyl alcohol and water solution ratio of 50:50 is the best cleaning agent for your touch sensor.

- Apply the cleaner with a soft, lint-free cloth. Avoid using gritty cloths.
- Dampen the cloth and then clean the sensor. Spray the cleaner onto the cloth, not the sensor, so that drips do not seep inside the display or stain the bezel.

3M Touch Systems Support Services

Visit the 3M Touch Systems website at <http://www.3m.com/touch/> to download MT 7 software, drivers and obtain technical documentation.

Hot Line: 978-659-9200

Fax: 978-659-9400 where does this Fax go to

Toll Free: 1-866-407-6666 (Option 3)

Email: US-TS-techsupport@mmm.com Where does this email go to

Contact 3M Touch Systems

Contact information for all offices can be found at: <http://www.3m.com/touch/>.

Chapter 1

Setting Up Your 3M Multi-Touch Chassis Display

To setup your display you need to complete the following tasks:

Unpack the components

Connect the video cable, touch display cables, and power cable

Power on the display and test your setup

If your operating system does not support native touch, install 3M MicroTouch™ MT7 Software.

System Requirements

This display requires a personal computer (PC).

Your PC must have an available USB port or RS-232 serial communication port (C3266PW only).

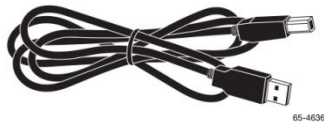
Connect the touch sensor cable to the communications port.

Your PC must have a video card and video driver already installed for the display.

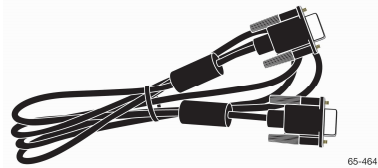
Note: Before setting up your 3M Multi-Touch Chassis Display, refer to the “Important Safety Information” section at the beginning of this document.

Unpacking Your Touch Display

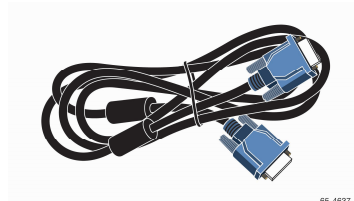
Carefully unpack the carton and inspect the contents. Your 3M Multi-Touch Chassis Display includes the following:



USB Cable



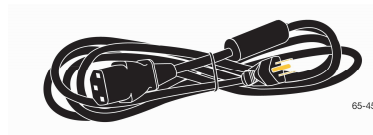
**9-pin RS-232 serial cable
(Qty 2 for C3266PW only)**



VGA Cable

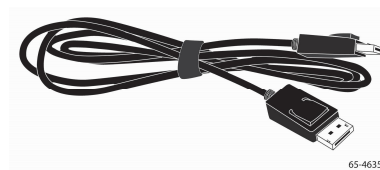


DVI Cable



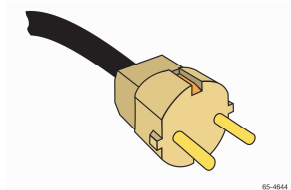
US Power Cable

65-46



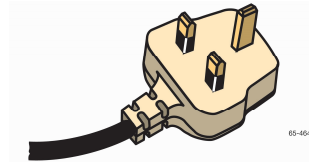
HDMI Cable

65-4635



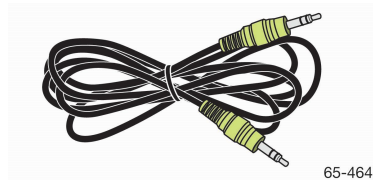
EU power cable (optional)

65-4644



UK power cable (Optional)

65-4643



Audio Cable

65-4641



DisplayPort Cable

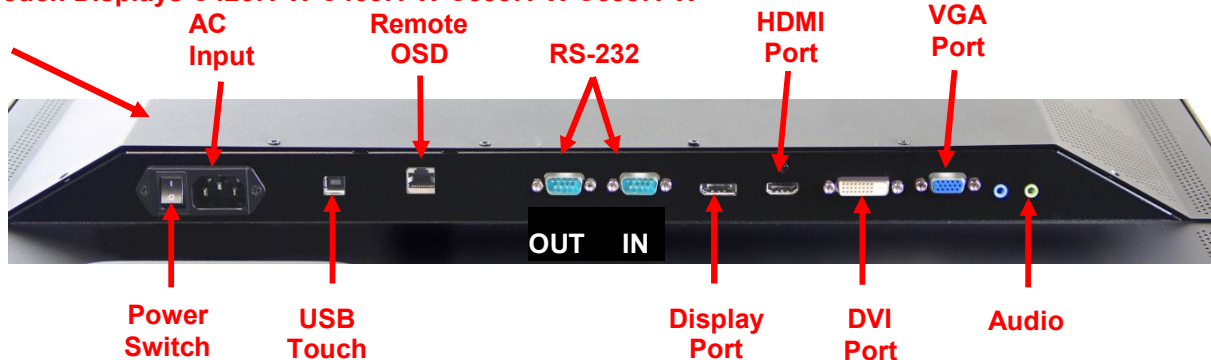
Connecting the Touch Display

Note: You are cautioned that any change or modification to the equipment not expressly approved by the party responsible for compliance could void your warranty.

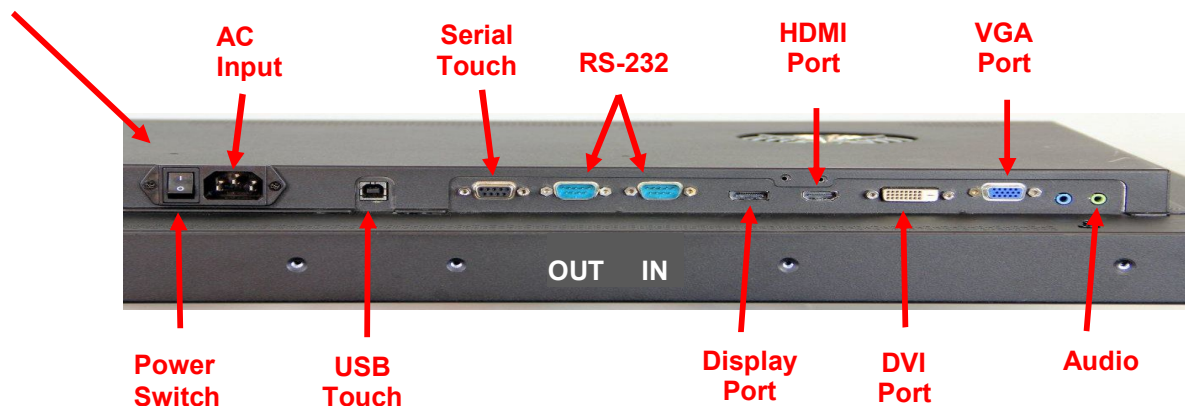
To connect the Multi-Touch Chassis Display:

1. Turn off the computer before connecting or disconnecting the touch display.

3M™ Multi-Touch Displays C4267PW C4667PW C5567PW C6587PW



3M™ Multi-Touch Display C3266PW



2. Select the appropriate video cable: Display Port, HDMI, DVI, or VGA. Connect one end of the video cable to the video connector on the display. Connect the other end to the video card in your computer.
3. Connect one end of the USB touch sensor cable to the LCD and the other end to an available port on your computer. For the C3266PW display you also have the option to connect the RS-232 Serial communications instead of USB.

Note: Do not connect both USB and Serial cables on the display. Choose one or the other.

4. Connect the power cable to an appropriate grounded power source.

Multimedia Features

The 3M Multi-Touch Chassis Display comes with built-in speakers and audio cables that may be connected to the PC.

Testing the Multi-Touch Chassis Display

Note: The 3M Multi-Touch Chassis Display has a power status light and video controls located on the side of the display.

Make sure all cables are connected properly. Be sure to tighten all cable screws. Turn on the power switch located on the back of the display.

To test the display:

1. Turn on your computer.
2. Make sure the video image is displayed. If not, check the LED to ensure that the display is not in power save mode (amber).
3. Confirm the video image is centered within the viewing area. Use the display controls to adjust, if necessary.

You can adjust the video controls to better suit your personal preference. For additional details, refer to the Adjusting the Video Display later in this chapter.

VESA Mounting Option

3M™ Touch Display Model	VESA mounting dimensions (MM)	Screw size & Max Length (MM)	Weight	Hardware Accessory Kit
C3266PW	200 X 200	M4 X 8	15 kg (33 lbs)	X
C4267PW	400 X 400	M6 X 16	23 kg (50.7 lbs)	
C4667PW	400 X 400	M6 X 16	26 kg (57.3 lbs)	
C5567PW	400 X 400	M6 X 16	40 kg (88.2 lbs)	
C6587PW	400 X 400	M8 X 20	64 kg (141.1 lbs)	

Access to the Video Controls

The 3M Multi-Touch Chassis Display has seven buttons located on the side of the display for the on-screen menu and adjusting the video display. Make sure you will be able to access the video controls once the 3M Multi-Touch Chassis Display is installed.

If space is tight and access is important, an on screen display remote control (Part No. 98-1100-0330-2) is an option (C4267PW, C4667PW, C5567PW, C6587PW only).



Clearance and Ventilation

Leave at least two inches of clearance space behind the 3M Multi-Touch Chassis Display for proper ventilation. Units have vent holes at the top and bottom on the back of the chassis -- ensure these holes are not blocked during installation. Always maintain adequate ventilation to protect the display from overheating and to ensure reliable and continued operation.

Note: Be sure to leave at least 2 inches clearance around fan inputs.

Refer to the published specifications for the maximum and minimum operating temperature and humidity conditions. Refer to the product data sheet on the 3M Touch Systems website at <http://www.3m.com/touch/>.

Video Card Requirements

Confirm your computer has a video card that supports the native video resolution of 1920 x 1080 for the 3M Multi-Touch Chassis Display. Mention something about the C65 being 4K and that you will need to be able to drive higher resolution

Using the Standard Controls for the Video Card

In addition to the standard controls on the display, each video card has several controls that let you adjust the display settings. The software and driver for each video card is unique. In most cases, you adjust these settings by using a program or utility provided by the manufacturer of the video card.

Supported Video Display Modes and Refresh Rates

Your video card should support one of the display modes specified below. If you select an unsupported mode, the display may stop working or display an unsatisfactory image.

Display Mode	Refresh Rate (Hz)
640 x 480	60
800 x 600	60
1024 x 768	60
1152 x 864	70
1280 x 720	60
1280 x 768	60
1280 x 960	60
1280 x 1024	60
1360 x 768	60
1366 x 768	60
1600 x 1200	60
1680 x 1050	60
1920 x 1080	60
3840 x 2160	60 (C6587PW only)

Configuring the Display Settings

After you connect your 3M Multi-Touch Display and turn on your computer, you may need to configure the display settings. The ideal setting for the 3M Multi-Touch Chassis Display is as follows: (Except for the C65 – See table above for values)

- Display mode (video resolution) 1920 x 1080
- Refresh rate (vertical sync) 60 Hz
- Color depth (number of colors) at least 16-bit (high color)

Adjusting the 3M Multi-Touch Chassis Video Display

The controls for adjusting the video display are located on the back of the 3M Multi-Touch Chassis Display. These buttons let you display the on-screen menu to adjust the video image. Before you make any adjustments:

- Adjust the controls in your normal lighting conditions.
- Display a test image or pattern whenever you adjust the video.

On Screen Display

Your 3M Multi-Touch Chassis Display has seven controls for adjusting the video display.



Power -- Turns the display on and off.

Source -- Selects the applicable input source: VGA, HDMI, Display port, or DVI. Settings are saved automatically.

Up -- Press to move among the menus and from the menu selection to specific choices.

Down -- Press to move among the menus and from the menu selection to specific choices.

+ (plus sign) -- Press to increase the volume.

- (minus sign) -- Press to decrease the volume.

Menu -- Shows or hides the onscreen display menu and acts as the Select key when scrolling through menu options. Refer to Menu Navigation below for additional information.

If you do not press any buttons, the display adjustment program times out (adjustable up to 30 seconds) and hides the menu options. Press the Menu button at any time to display the options again.

Pressing Menu will pull up the On Screen Display (OSD) menus to control the Picture, Color, Display, OSD Settings, and Setup, as shown below.

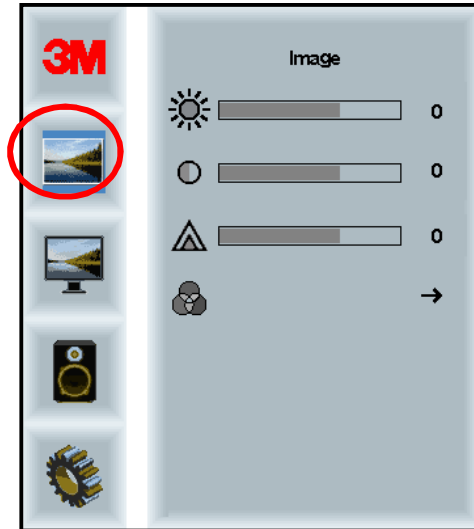
Menu Navigation

To adjust the On-Screen Display:

1. Select the Menu button to bring up the on-screen display (OSD)
2. Use the Up and Down buttons to scroll through the various Menu choices:
 - Image Menu
 - Display Menu
 - Audio Menu
 - Setup Menu
3. Once the Menu you want is highlighted, hit the Menu button again to select that Menu.
4. Use the Up and Down buttons to scroll through the various Menu options. For example, once you have chosen the Picture Menu, use the Up/Down buttons to select either Brightness, Contrast, or Sharpness.
5. Once the option you want is highlighted, hit the Menu button again to select that option.
6. Use the Up and Down buttons to increase or decrease the value of the option.
7. Your selection will be automatically saved.

Image Menu

Includes choices for Brightness, Contrast, and Sharpness.



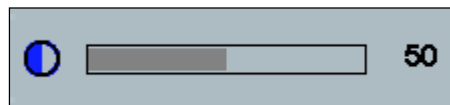
Brightness

Selecting the Brightness option will allow you to adjust the luminescence of the display.



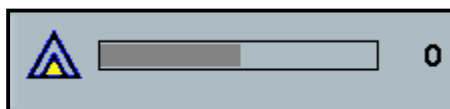
Contrast

Selecting the Contrast option increases or decreases the strength (lightness or dimness) of the image.



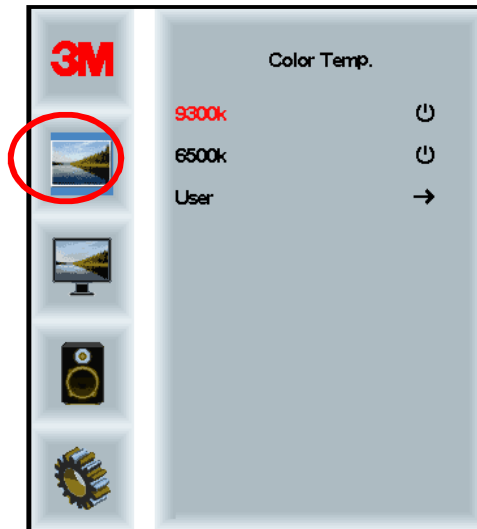
Sharpness

Adjusts the video quality to be sharp or blurry (special for text mode).



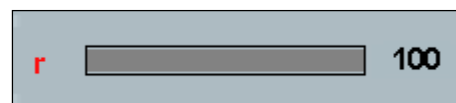
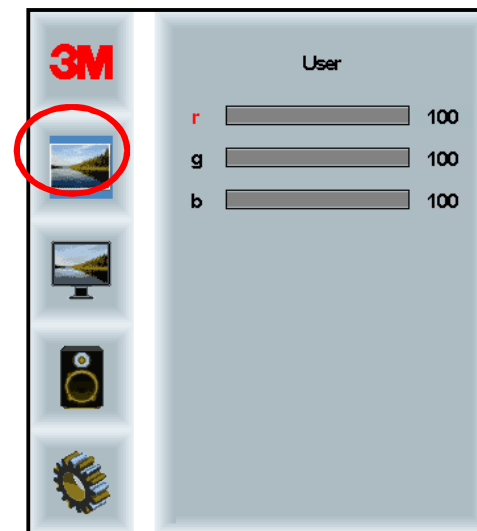
Color Settings

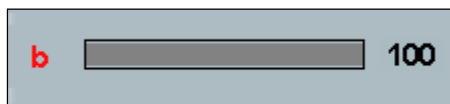
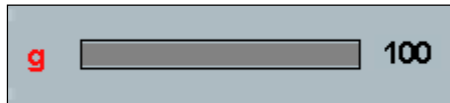
Includes choices for 9300k, 6500k, and User Defined Color.



User Defined Settings

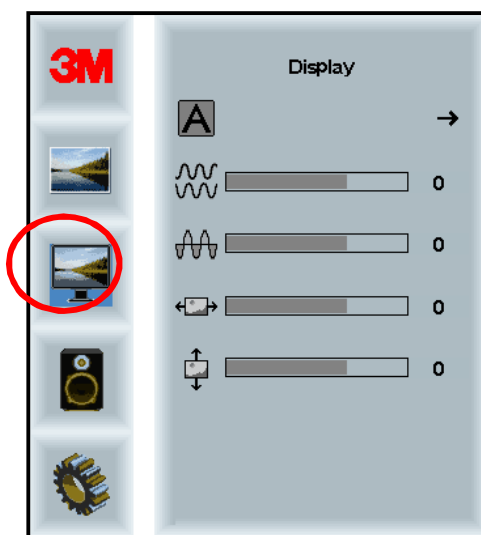
Adjust the Red, Green and Blue channels to your preference.





Display Menu

Includes choices for Auto Configure, Horizontal Position, Vertical Position, Clock and Phase.



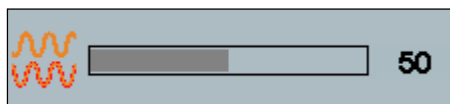
Auto Configure

Performs automatic configuration of the Clock, Phase, Vertical and Horizontal positions. If you do an Auto Configure, the display will try to find the best setting. If you are not satisfied with the auto adjustment, fine-tune the settings manually as described below.



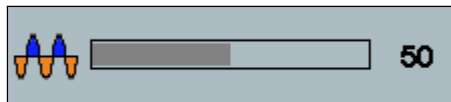
Phase

Adjust this setting so that either the vertical bars of video noise are replaced by an even amount of noise across the whole screen, or the noise disappears completely.



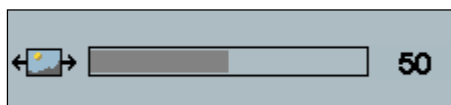
Clock

If the clock setting is not fine-tuned, you may observe periodic vertical bars of video noise on your image. These bars of noise are usually adjusted out when an Auto Adjust is performed. If the bars of noise are still present, this setting can be adjusted manually.



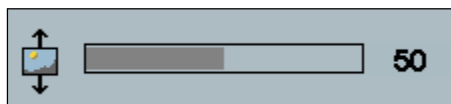
H Position (Horizontal Position)

Moves image horizontally on screen either left or right.



V Position (Vertical Position)

Moves images vertically on screen either up or down.



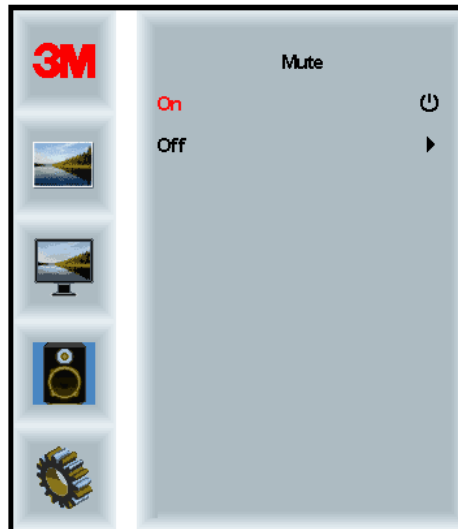
Audio Menu



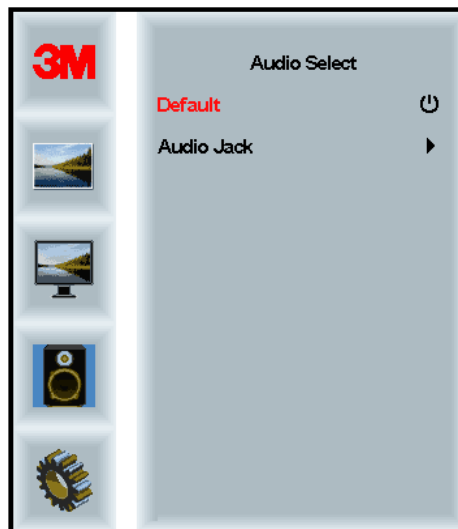
Volume



Mute



Audio Select



Digital video signal inputs, HDMI and Display Port, provide audio inputs. They will be a priority unless external audio input is selected.

System Menu

Includes choices for Input Source, Menu Settings, Languages, Aspect Ratio, Dynamic Contrast Ratio, Factory Reset, and Monitor ID.



Source

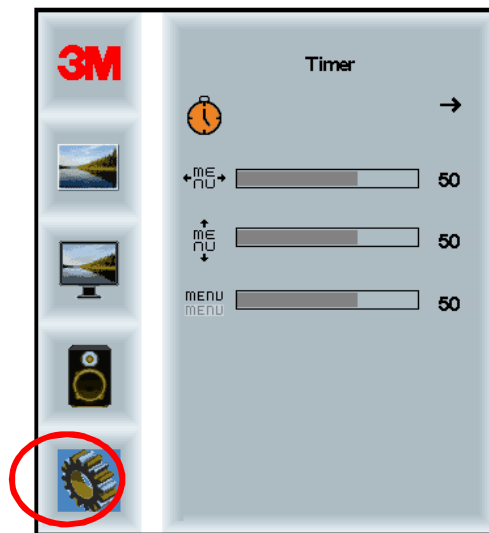
Source sets the input mode for the display either VGA, DVI, HDMI, or DP.



Menu Settings

Screen shots may vary depending on the display model, main content will remain the same.

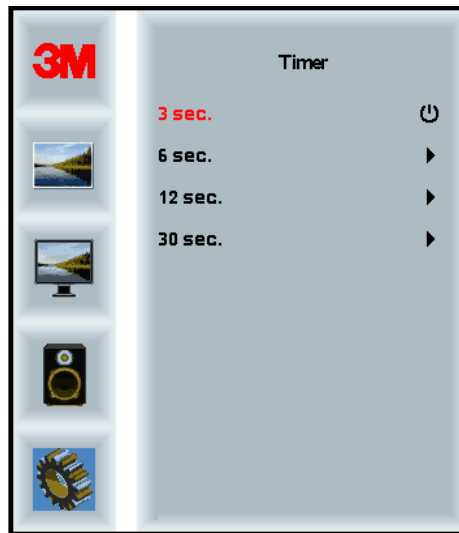
Includes choices for OSD Timer, OSD Horizontal position, OSD Vertical Position, and OSD Transparency.



OSD Timer

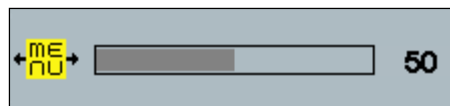
Adjust how long the menu remains on the screen.





OSD H Position

Adjusts the horizontal placement of the OSD display on your screen.



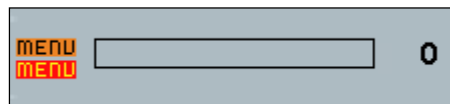
OSD V Position

Adjusts the vertical placement of the OSD display on your screen.



Transparency

Adjusts the transparency of the OSD screen on your display.



Language

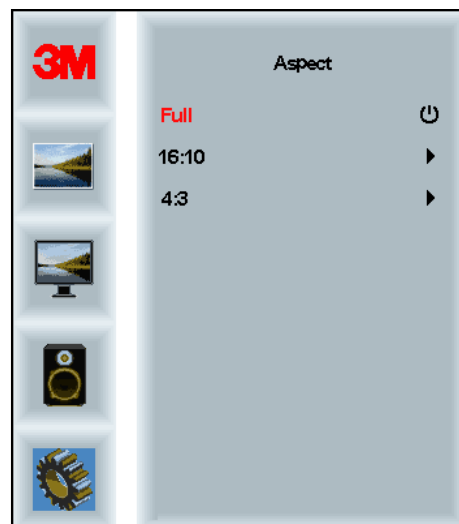
Sets the language for the OSD -- the choices are English, French, German, Italian, Spanish, Japanese and Chinese.





Aspect Ratio

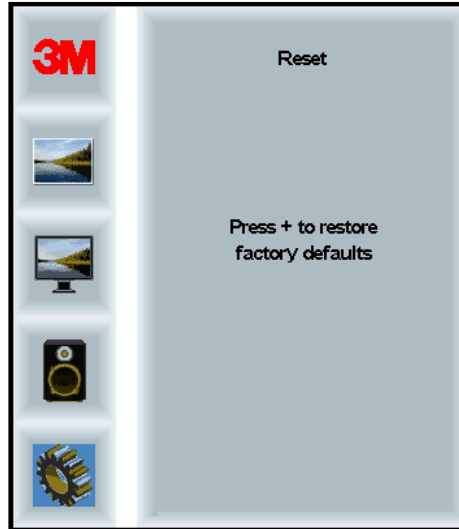
Set the preferred aspect ratio for your display -- either Full, 16:10, or 4:3



Factory Reset

Resets the control functions back to the original factory preset values.





Chapter 2

Enabling Your 3M Multi-Touch Chassis Display

Windows® 7 or Higher

The 3M Multi-Touch Chassis Display is compatible with Windows® 7 or higher with no additional software. Refer to Microsoft's Windows documentation for additional information.

All Other Platforms (All OS versions prior to Windows® 7)

When using a Windows® 7 serial connection or for Windows® XP, Vista or Linux operating systems (either USB or serial) or an operating system that does not support native touch, 3M provides 3M MicroTouch™ MT 7 Software for multi-touch drivers. For information on writing your own drivers to interface with the 3M Multi-Touch Technology, refer to the PCT Controller Reference Guide.

Multi-Touch Application Support

Remember not all applications are multi-touch ready – Multi-touch behavior is a function of YOUR application. Check with your application vendor to determine if your software has multi-touch capability.

Installing 3M™ MicroTouch™ Software

Remember that Windows® 7 or higher does not require any additional software to enable multi-touch functionality.

However, for Windows® XP, Vista or Linux® operating systems, 3M™ MicroTouch™ Software enables your 3M Multi-Touch Chassis Display to work with your computer. 3M™ MicroTouch™ Software includes a control panel for setting your touch sensor preferences and a diagnostic utility. If you are experiencing problems with the touch sensor, you can use the diagnostic utilities provided to test the system.

For additional information on 3M MicroTouch Software, please refer to the MT7 User's Guide.

Chapter 3

Troubleshooting & Maintenance

If you have a problem setting up or using your display, you may be able to solve it yourself. Before calling 3M Touch Systems, review the suggested actions that are appropriate to the problem(s) you are experiencing with the display. You may also want to consult your video card user's manual for additional troubleshooting advice.

Display Installation Problems

Common Display Installation Issues

Issue	Solution
No image displayed (blank screen)	Is the display receiving power? <ul style="list-style-type: none">• Check that the display's power cable is connected properly and securely into a grounded electrical outlet.• Check that the AC input jack is firmly plugged into the display.• Check that the display's power cable is connected properly and securely to an electrical outlet.• Try a different power cable.• Try a different electrical outlet.

Issue	Solution
No image displayed (blank screen)	<p>Is the display receiving a valid video signal from the PC?</p> <ul style="list-style-type: none"> • Check that the computer is powered on. • Check that the video cable is connected properly and securely to the display and the computer. • Check that the LED on the rear of the display is green. • Check that no pins are bent in the video cable connector, (both ends). • Check that the video card is firmly seated in the card slot in your computer.
	<ul style="list-style-type: none"> • Check that the video input from the video card falls within the refresh rate of the display. Refer to <i>Supported Video Display Modes and Refresh Rates</i> in Chapter 1. • Check that your computer is using a supported display mode. Refer to <i>Supported Video Display Modes and Refresh Rates</i> in Chapter 1.
No image displayed (blank screen)	<p>Is the display in Power Management mode?</p> <ul style="list-style-type: none"> • If the LED on the rear of the display is flashing amber, touch the screen, press any key on the keyboard, or move the mouse to restore operation. • Verify video source selection is correct (OSD)
No image displayed (blank screen)	<p>Are the brightness and contrast settings too low?</p> <ul style="list-style-type: none"> • Use the display controls to adjust these values.
Abnormal image	<ul style="list-style-type: none"> • Check that the video input from the video card falls within the refresh rate of the display. Refer to <i>Supported Video Display Modes and Refresh Rates</i> in Chapter 1. • Check that the video cable is connected properly and securely to the display and the computer.
Colors of image are abnormal	<ul style="list-style-type: none"> • Check that the video cable is connected properly and securely to the display and the computer. • Check that no pins are bent in the video cable connector, (both ends).
Disturbances on the screen	<ul style="list-style-type: none"> • The video display adjustments are incorrect. Refer to Chapter 1 for adjusting procedures.

Troubleshooting the Touch Sensor

If you are experiencing problems with the touch sensor, check the following list of common installation errors.

Common Touch Sensor Installation Issues

Common Installation Issues	Possible Solutions
Touch sensor does not respond to touch	<ul style="list-style-type: none"> • Review the installation procedures. Are all cables connected properly? • After you installed Touch Software, did you restart your PC to activate the touch sensor driver? • Remove the touch sensor communications cable and plug it back in. • Disconnect the power cable and plug it back in.
Touch sensor is not accurate	<ul style="list-style-type: none"> • Calibrate the touch sensor for the current video resolution and operating system. Refer to Chapter 2 in document 25695 for additional information.
Cursor does not follow finger movement or does not reach the edges of the sensor	<ul style="list-style-type: none"> • Calibrate the touch sensor for the current video resolution and operating system. Refer to Chapter 2 in document 25695 for additional information.
Cursor is not located directly underneath your finger	<ul style="list-style-type: none"> • Open the touch sensor control panel and make sure all cursor offsets (vertical, edge/horizontal) are turned off. • Calibrate the touch sensor for the current video resolution and operating system.

Power Management

The 3M Multi-Touch Chassis Display conforms to the Video Electronics Standards Association (VESA) Display Power Management Signaling (DPMS) standard. To benefit from power management, the display must be used in conjunction with a computer and video card that implements the VESA DPMS standard.

The PC automatically invokes the power management feature if you do not use the touch sensor, mouse, or keyboard for a user-defined period. To restore the video image, simply touch the sensor, press a key, or move the mouse. To set the period of time after which the PC will invoke the power management feature, refer to the user manual that came with your PC. The touch sensor will remain on throughout this sequence.

Chapter 4

Regulatory Information

Regulatory Agency Approvals

Your product complies with the following regulatory standards:

- FCC-B
- CE
- RCM (Australia/New Zealand)
- ICES Class B (Canada)

Your 3M Multi-Touch Chassis Display may comply with additional regulatory standards. Please contact 3M Touch Systems Customer Service or your Field Application Engineer if you have questions pertaining to a certification not listed above.

This equipment has been tested and found to comply within limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in residential installations. This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television equipment reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Move the equipment away from the receiver.
- Consult the dealer or an experienced radio/television technician for additional suggestions.

Note: You are cautioned that any change or modification to the equipment not expressly approved by the party responsible for compliance could void your warranty.

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

This device complies with Part 15 of the FCC rules: Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Warning

To assure continued FCC compliance, the user must use the supplied grounded power supply cord and the provided shielded video interface cable with bonded ferrite cores. Also, any unauthorized changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this device.

3M Touch Systems is not responsible for any radio or television interference caused by using other than recommended cables and connectors or by unauthorized changes or modifications to this equipment.

CE Conformity for Europe

The device complies with the requirements of the EU RoHS Directive 2011/65/EU, the EMC Directive 2014/30/EU with regard to "Electromagnetic compatibility" and EU Low Voltage Directive 2014/35/EU with regard to "Safety".