# 3M Touch Systems Inc M1866PW Multi Touch Desktop Display User Guide



Contents



## 3M Touch Systems Inc M1866PW Multi Touch Desktop Display


## Product Information

The 3MTM Multi-Touch Desktop Display is a touch input display designed to replace an existing display. It is intended for professional installation and indoor use. The product line includes the following models: M1866PW, M2167PW, M2467PW, and M2767PW. The display is not designed or tested for use in hazardous locations

## Product Important Notes

- In extreme temperature and humidity situations, condensation may occur between the touch screen and the display. To minimize this, it is recommended to place the unit in the desired location and allow a 24-hour environmental stabilization period before powering on the display. Any condensation observed is temporary and will not affect the long-term operation of the display.
- When unplugging the power supply cord, hold the plug and avoid pulling it by the cord. Do not connect or disconnect the product during an electrical storm.
- The display should be installed in a well-ventilated area to prevent overheating and ensure reliable operation. Direct sunlight or heat exposure should be avoided as it may cause damage to the housing and other parts.
- The PCT sensor used in the display may exhibit a fine grid pattern under certain lighting conditions, which is an inherent characteristic of the sensor.
- Avoid installing the display in areas with strong vibrations, as it may lead to picture discoloration or poor video quality.
- The 3M touch controllers mentioned in this document are USB compatible full-speed devices. Please note that 3M does not warrant USB compliance according to USB specifications.

**Usage Instructions:** Prior to using the 3MTM Multi-Touch Desktop Display, it is important to read and understand all safety information contained in the Quick Start Guide, which can be found at **www.3M.co.uk/TouchUserGuides**. Retain the Quick Start Guide for future reference.

**Maintaining Your Touch Display:**
To ensure the optimal performance and longevity of your touch display, follow these maintenance guidelines:

- Keep the display in a well-ventilated area to prevent overheating.
- Avoid exposing the display to direct sunlight or excessive heat.
- Do not install the display in hazardous locations.
- Avoid extreme temperature and humidity conditions to minimize condensation between the touch screen and the display.
- When unplugging the power supply cord, hold the plug and avoid pulling it by the cord.
- Avoid connecting or disconnecting the product during an electrical storm.
- Avoid installing the display in areas with strong vibrations that may affect picture quality.

## Intended Use

The 3M™ Touch Systems 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 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.

## Important Notes

- In extreme temperature and humidity situations, you may observe condensation between the touch screen 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 affect on the operation of the display.
- When unplugging power supply cord, hold the plug, do not pull by the cord.
- Do not connect or disconnect this product during an electrical storm.
- 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.
- An inherent characteristic of the PCT sensor is a fine grid pattern that may be visible under certain lighting conditions.
- 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.
- Maintaining Your Touch Display

**To maintain your display and keep your display operating at peak performance:**

- Keep your display and touch sensor clean.
- Adjust the display video controls.
- Do not install the display in a place where ventilation may be hindered. Always maintain adequate ventilation to

protect the display from overheating and to promote reliable and continued operation.

**Touch Sensor Care and Cleaning**
Periodically clean the glass touch sensor surface, turn off your display before cleaning. 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
- **Toll Free:** 1-866-407-6666 (Option 3)
- **Email:** **US-TS-techsupport@mmm.com**.

**Contact 3M Touch Systems**

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

**Chapter 1**
Setting up Your Multi-Touch Desktop Display

## System Requirements

The Multi-Touch Desktop Display requires a personal computer (PC).

- Your PC must have an available USB port to connect the touch sensor cable.
- Your PC must have a video card and video driver already installed for the display.

When choosing your workspace, select a sturdy, level surface. Also, make sure you can easily access the back of the touch display and the computer. Easy access helps ensure a smooth setup of the touch display.
**Note:** Before setting up your Multi-Touch Display, follow all safety information contained in the quick start guide found on **www.3M.co.uk/TouchUserGuides**.

## Touch Display

**Unpacking Your Touch Display**

Your Multi-Touch Desktop Display includes:

- USB communication cable
- DVI and VGA video cables and an HDMI to DVI converter.
- Audio cable

- US power cable and brick
- Software CD and documentation

Cables Included with Your Multi-Touch Desktop Display


USB cable


Audio cable


VGA cable


DVI cable


US Power cable


DVI to HDMI converter

**Connecting the Touch Display**
To connect the Multi-Touch Desktop Display:

1. Turn off the computer before connecting or disconnecting the touch display.
2. Select either the DVI/HDMI or VGA cable. 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 touch sensor USB cable to the LCD and the other end to an available port on your computer.
4. Plug the AC power cord into the display.
5. Connect the power cable to an appropriate power source.

**Testing the Multi-Touch Desktop Display**
**Note:** The Desktop Display has a power status light located on the front of the bezel. After connection, turn on the power switch located at the bottom of the front bezel. Make sure all cables are connected properly. Be sure to tighten all cable screws.
**To test display:**

1. Turn on your computer. Do not touch the screen during the startup sequence so you do not interrupt the initialization sequence which affects touch positioning.
2. Make sure the video image is displayed. Check the LED to ensure that the display is not in power save mode (orange).
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.

**VESA Mounting Option**
If you do not want to utilize the stand, you may remove it and use an alternative VESA mount. The unit has a VESA mounting pattern on the back to allow for arm mount capability. Refer to the table below for specifics on your display.

| Model | VESA Pattern |
|---|---|
| M1866PW | 100 x 100 |
| M2167PW | 100 x 100 |
| M2467PW | 200 x 100 |
| M2767PW | 200 x 100 |

Use M4 x 8 mm screws to secure the VESA mount stand. Follow the manufacturer's instructions included with the mounting device to properly attach your display.
**Note:** Do not use longer screws as they could potentially damage the electronics inside the display.

**Video Card Requirements**
Confirm your computer has a video card installed that supports the native video resolution of your Multi-Touch Desktop Display. The native resolution for the 18.5 is 1366 x 768 and for the 21.5, 24, and 27 is 1920 x 1080.
**Supported Video Display Modes and Refresh Rates**
Your video card should support one of the display modes specified in Table 1.
**Table 1.** Applicable Display Modes and Refresh Rates

| Display Mode | Refresh Rate (Hz) |
|---|---|
| 640 x 350 | 70 |
| 640 x 480 | 60, 72, and 75 |
| 720 x 400 | 70 |
| 800 x 600 | 56, 60, 72, and 75 |
| 1024 x 768 | 60, 70, and 75 |
| 1280 x 1024 | 60 and 75 |
| 1360 x 768 | 60 |
| 1680 x 1050 | 60 |
| 1920 x 1080 | 60 |

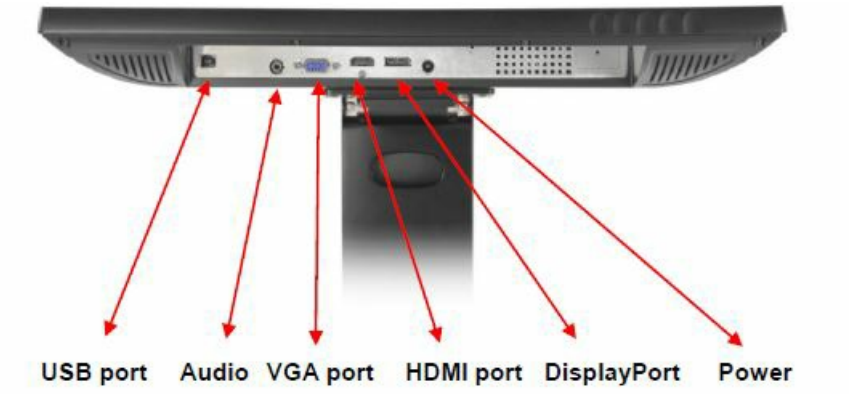
**Configuring the Display Settings**
After you connect your Multi-Touch Desktop Display and turn on your computer, you may need to configure the

display settings. The ideal setting for the Multi-Touch Desktop Display is as follows:

- Display mode (Video resolution) 1366 x 768 or 1920 x 1080
- Refresh rate (Vertical sync) 60 Hz
- Color depth (Number of colors) at least 16-bit (high color)

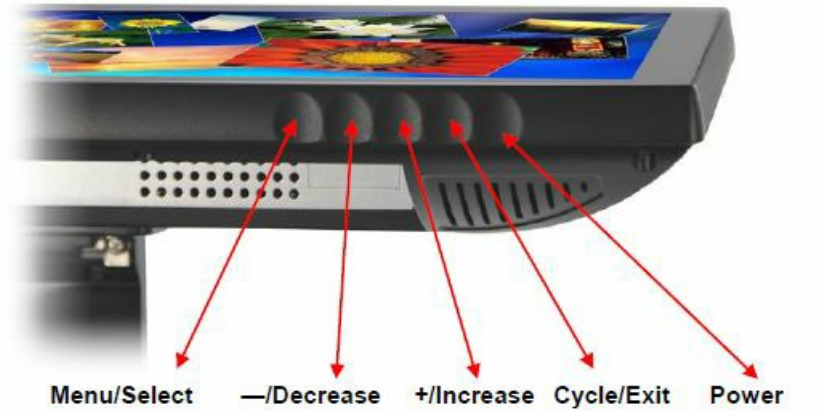
### Multimedia Features

The Multi-Touch Desktop Display comes with speakers built into the back of the display housing and includes audio cables. These cables can be connected underneath the display.




**Access to the Video Controls**
The controls for adjusting the video display are located on the bottom right of the Multi-Touch Desktop Display. These capacitive touch buttons let you display the on-screen menu to adjust the video image.

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



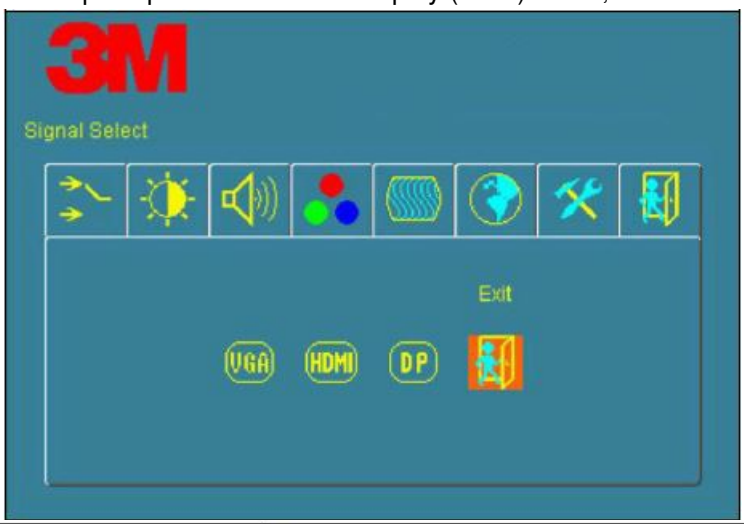

**Note:** The OSD provides a quick guide to these buttons as shown below. When the OSD is activated, the image will appear over the buttons for easy reference.

**Adjusting the Desktop Video Display**
Your Multi-Touch Desktop Display has four controls to adjust the video display.

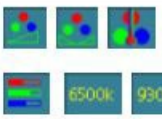
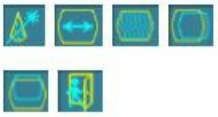
-  Menu/Select – Shows or hides the on screen display menu. Select highlights the current menu option or saves the current setting. Press — (Decrease) or + (Increase) to change the value.

- — (Decrease) — Scroll backward through items on the menu — decrease the value of selected option or move to the previous menu item.
- \+ (Increase) — Scroll forward through items on the menu — increase the value of selected option or move to the next menu item.
- If you do not press the Menu/ Select, or — (Decrease) or + (Increase) buttons within 30 seconds, the display adjustment program times out and hides the menu options. Press the Menu button once to display the menu below for quick adjustments.


Pressing Menu button again will pull up the On Screen Display (OSD) menu, as shown below.




| OSD | Choices | Description |
|---|---|---|
| | VGA HDMI DP | **SIGNAL SELECT**<br>**Choices are VGA, HDMI, DP, or Exit**<br>Selects the applicable input source |
| | | **VIDEO**<br>**Choices are Brightness, Contrast, or Exit**<br>**BRIGHTNESS** |

| OSD | Choices | Description |
|---|---|---|
| | | Adjust the brightness using the + or - buttons and press SELECT to confirm the new setting.<br>**CONTRAST**<br>Adjust the contrast using the + or - buttons and press SELECT to confirm the new setting. |
|  |  | **AUDIO**<br>Adjust the volume of the speakers using the + or – buttons |
|  |  | **COLOR**<br>**Choices are User Defined Color, Preset Color Temperature, or Exit**<br>**USER DEFINED COLOR**<br>Adjust the Red, Green and Blue channels to your preference.<br>**COLOR TEMPERATURE**<br>Adjusts color temperature to PRESET 1 (6500 color temperature) or PRESET 2 (9300 color temperature). |
|  |  | **IMAGE**<br>**Choices are Auto Tune, Clock, Phase, H. Position, V. Position, or Exit**<br>**AUTO TUNE**<br>Performs automatic configuration of the Clock, Phase, Vertical and Horizontal positions.<br>**CLOCK and PHASE**<br>If bars or noise are present, this setting can be adjusted manually.<br>Adjust this setting so that either the vertical bars of noise are replaced by an even amount of noise across the whole screen, or the noise disappears completely.<br>**H POSITION (Horizontal Position)**<br>Moves image horizontally on screen either left or right.<br>**V POSITION (Vertical position)**<br>Moves images vertically on screen either up or down |
|  |  | **LANGUAGE**<br>Sets the language for the OSD -- the choices are English, French, German, Italian, and Chinese |

| OSD | Choices | Description |
|---|---|---|
|  |  | **TOOLS**<br>**Choices are OSD Timing, OSD Horizontal, OSD Vertical**<br>**OSD TIMING**<br>Adjust how long the menu remains on the screen. Submenu choices are: **Recall, Sharpness, or Exit**<br>**OSD HORIZONTAL and VERTICAL**<br>Adjusts the position of the OSD on your screen<br>**RECALL**<br>Resets the control functions back to the original factory values.<br>**SHARPNESS**<br>Adjusts the video quality to be sharp or blurry (useful for text mode).<br>**KEY LOCK**<br>Use this to lock the display – the key to unlocking the display is *Menu>up>down>up>down>menu* sequence. |
|  |  | **EXIT**<br>Exits the OSD menu. |

**Chapter 2:** Enabling Your Multi-Touch Desktop Display

**Windows® 7 USB Compatibility**

The Multi-Touch Desktop Display is compatible with Windows 7 with no additional software. Refer to Microsoft's Windows 7 documentation for additional information.

**All Other Platforms**

When using Windows XP, Vista or Linux operating systems, 3M provides 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 PCT Controller Reference Guide (TS 40847). For non-Windows 7 operating system users this document provides the communication protocol necessary to talk directly with the electronics. This enables software developers using other operating systems such as Microsoft Windows® Vista or Linux® to write their own drivers and achieve the same multi-touch results.

**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. For additional information on 3M Micro Touch Software refer to: MT7 Users Guide (25695).

## Installing

### Installing 3M™ MicroTouch™ Software

- Remember that Windows® 7 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 Multi-Touch Desktop 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 more information on installing this software and using the control panel, refer to the 3M™ MicroTouch™ Software User Guide on the accompanying CD or on the corporate website at **www.3m.com/touch**.

## Troubleshooting & Maintenance

**Chapter 3:** Troubleshooting & Maintenance

**Display Installation Problems**
**Table 21.** Common Display Installation Issues

| Issue | Solution |
| --- | --- |
| No image displayed (blank screen) | **Is the display receiving power?**<br>· Check that the display's power cable is connected properly and securely in to a grounded electrical outlet.<br>· Check that the AC input jack is firmly plugged into the display.<br>· Check that the display's power cable is connected properly and securely t o an electrical outlet.<br>· Try a different power cable.<br>· Try a different electrical outlet. |
| No image displayed (blank screen) | **Is the display receiving a valid video signal from the PC?**<br>· Check that the computer is powered on.<br>· Check that the video cable is connected properly and securely to the displ ay and the computer.<br>· Check that the LED on the rear of the display is green.<br>· Check that no pins are bent in the video cable connector (both ends).<br>· Check that the video card is firmly seated in the card slot in your computer. |
|  | · Check that the video input from the video card falls within the refresh rate o f the display. Refer to *Supported Video Display Modes and Refresh Rates* in Cha pter 1.<br>· Check that your computer is using a supported display mode. Refer to<br>*Supported Video Display Modes and Refresh Rates* in Chapter 1. |

| Issue | Solution |
|---|---|
| No image displayed (blank screen) | **Is the display in Power Management mode?**<br>· 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.<br>· Verify video selection is correct (OSD). |
| No image displayed (blank screen) | **Are the brightness and contrast settings too low?**<br>· Use the display controls to adjust these values. |
| Abnormal image | · Check that the video input from the video card falls within the refresh rate of the display. Refer to *Supported Video Display Modes and Refresh Rates* in Chapter 1.<br>· Check that the video cable is connected properly and securely to the display and the computer. |
| Colors of image are abnormal | · Check that the video cable is connected properly and securely to the display and the computer.<br>· Check that no pins are bent in the video cable connector (both ends). |
| Disturbances on the screen | · 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.
**Table 22.** Common Touch Sensor Installation Issues

| Common Installation Issues | Possible Solutions |
|---|---|
| Touch sensor does not respond to touch | · Review the installation procedures. Are all cables connected properly?<br>· After you installed Touch Software, did you restart your PC to activate the touch sensor driver?<br>· Remove the sensor communications cable and plug it back in.<br>· Disconnect the power cable and plug it back in. |
| Touch sensor is not accurate | · 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 | · Calibrate the touch sensor for the current video resolution and operating system. Refer to Chapter 2 in document 25695 for additional information. |

| Common Installation Issues | Possible Solutions |
| --- | --- |
| Cursor is not located directly underneath your finger | · Open the touch sensor control panel and make sure all cursor offsets (vertical, edge/horizontal) are turned off.<br>· Calibrate the touch sensor for the current video resolution and operating system. |

## Regulatory Information

**Chapter 4:** Regulatory Information

**Regulatory Agency Approvals**
Your product complies with the following regulatory standards:

- FCC-B
- CE
- TUV

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.

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations. This device complies with Part 15 of the

## FCC

**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 a grounded power supply cord and the provided shielded video interface cable with bonded ferrite cores. If a BNC cable is going to be used, use only a shielded BNC(5) cable. 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 ECC directive 2004/108/EC with regard to "Electromagnetic compatibility" and 2006/95/EC with regard to "Safety".

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**NOTICE:** Given the variety of factors that can affect the use and performance of a 3M Touch Systems, Inc. Product (the "Product"), including that solid state equipment has operation characteristics different from electromechanical equipment, some of which factors are uniquely within User's knowledge and control, it is essential that User evaluate the 3M Touch Systems, Inc. Product and software to determine whether it is suitable for User's particular purpose and suitable for User's method of application. 3M Touch Systems, Inc. statements, engineering/technical information, and recommendations are provided for User's convenience, but their accuracy or completeness is not warranted. 3M Touch Systems, Inc. products and software are not specifically designed for use in medical devices as defined by United States federal law. 3M Touch Systems, Inc. products and software should not be used in such applications without 3M Touch Systems, Inc. express written consent. User should contact its sales representative if User's opportunity involves a medical device application.

**IMPORTANT NOTICE TO PURCHASER:** Specifications are subject to change without notice. These 3M Touch Systems, Inc. Products and software are warranted to meet their published specifications from the date of shipment and for the period stated in the specification. 3M Touch Systems, Inc. makes no additional warranties, express or implied, including but not limited to any implied warranties of merchantability or fitness for a particular purpose. User is responsible for determining whether the 3M Touch Systems, Inc. Products and software are fit for User's particular purpose and suitable for its method of production, including intellectual property liability for User's application. If the Product, software or software media is proven not to have met 3M Touch Systems, Inc. warranty, then 3M Touch Systems, Inc. sole obligation and User's and Purchaser's exclusive remedy, will be, at 3M Touch Systems, Inc. option, to repair or replace that Product quantity or software media or to refund its purchase price. 3M Touch Systems, Inc. has no obligation under 3M Touch Systems, Inc. warranty for any Product, software or software media that has been modified or damaged through misuse, accident, neglect, or subsequent manufacturing operations or assemblies by anyone other than 3M Touch Systems, Inc. 3M Touch Systems, Inc. shall not be liable in any action against it in any way related to the Products or software for any loss or damages, whether non-specified direct, indirect, special, incidental or consequential (including downtime, loss of profits or goodwill) regardless of the legal theory asserted.


- **Document Title:** 3M™ Multi-Touch Desktop Display
- **User Guide Document Number:** TSD-40532, Revision F

3M Touch Systems, Inc. Proprietary Information https://manual-hub.com/.
**For the Multi-Touch Desktop Product Line:** M1866PW, M2167PW, M2467PW, and M2767PW 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. 3M™ Multi-Touch Desktop Display User Guide

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## Documents / Resources

| | |
|---|---|
|  | 3M Touch Systems Inc M1866PW Multi Touch Desktop Display [pdf] User Guide<br>M1866PW, M2167PW, M2467PW, M1866PW Multi Touch Desktop Display, Multi Touch Desktop Display, Touch Desktop Display, Desktop Display, M2767PW |

## References

- 3M 3M Touch Systems Warranty Statement
- 3M 3M Touch Systems Warranty Statement
- 3M Touch Systems Warranty Statement
- 3M Touch Systems Warranty Statement
- MH Search - Manual-Hub.com