

# 3M™ Multi-Touch Display M2256PW

## High-Definition Display for Next-Generation Multi-Touch Applications

The 22-inch 3M™ Multi-Touch Display M2256PW combines a projected capacitive matrix touchscreen offering ultra-fast, accurate, and precise 20-plus finger touch response, with a high-definition, wide viewing angle LCD to create a multi-touch display that meets or exceeds the most demanding interactive applications. The M2256PW display has a solid base and a highly-durable glass front surface with anti-stiction properties that maximizes the user experience for simple or advanced gestures. The M2256PW display works with thin gloves, responds to very light touch, and is fully compatible with Windows 7.

### 3M Projected Capacitive Technology

Leveraging more than 25 years of capacitive sensing expertise, 3M innovation has developed 3M Projected Capacitive Technology (3M PCT) with "full multi-touch" capabilities. Designed to push touch performance beyond traditional zoom, pinch, expand and rotate capabilities, this technology offers developers an interactive tool of 20 resolvable touches at less than 6 millisecond (ms) point speed.

**Responsiveness.** Ultra-fast multi-touch capabilities developed by 3M can help overcome latency issues associated with software filtering factors and/or slow touch response rate which can negatively impact the user experience. In addition, 3M PCT technology is more natural, intuitive, and responsive compared to optically-based two touch systems.

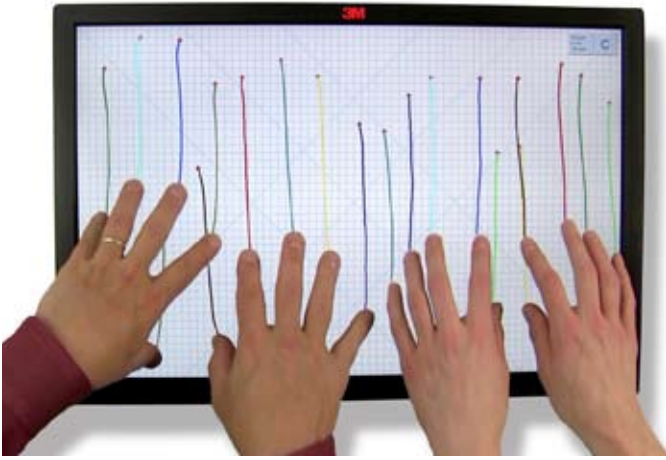


### Recommended Multi-Touch Applications

- Computer Aided Design
- Digital Signage
- Security Monitoring Systems
- Geographic Information Systems
- Audio Visual
- Software Development
- Education and Training
- Telepresence
- Health Information Systems
- Media and Broadcast
- Home Automation
- Industrial

Feature	Benefit
Full Multi-Touch Capabilities	<ul style="list-style-type: none"><li>• 20 finger input with fast 6 millisecond touch response</li><li>• Enables the next-generation of interactive software applications well beyond two touch expectations</li><li>• Robust hardware platform that can help "future proof" software development</li><li>• Compatible with Windows 7</li></ul>
Designed for Multi-Touch Applications	<ul style="list-style-type: none"><li>• 1680x1050 high definition resolution</li><li>• Wide horizontal/vertical viewing angle allows outstanding off-axis viewing</li><li>• Excellent image contrast provides sharp brilliant image quality</li><li>• Stable base designed for multi-touch and multiple users</li><li>• Anti-stiction surface enhances the user experience for simple and advanced gestures</li></ul>
Projected Capacitive Matrix Sensing	<ul style="list-style-type: none"><li>• Over 3300 touch sensing points deliver optimal precision and accuracy</li><li>• Glass front surface for high durability</li><li>• Works with light touch and with nitrile, latex and vinyl gloves</li><li>• Ultra-fast response time</li></ul>





**Functionality.** The highly-sophisticated 3M touch electronics in the M2256PW multi-touch display have been Windows Touch AQ qualified for 20 simultaneous touches, but are actually capable of delivering significantly more than 20 touches to accommodate multiple users or advanced multi-finger applications. These electronics also include palm accommodation so the system will not miss or drop touches due to inadvertent or overwhelming touch events that affect the touch performance of optical-based two touch systems.

These next-generation electronics provide peace of mind for software developers and customers because their 3M PCT hardware far exceeds the capabilities of current two touch technology, which may in turn lower total capital investment and cost-of-ownership.

For applications that require a gloved hand, 3M PCT technology works with multiple layers of thin nitrile, latex and vinyl gloves.



3M PCT's full multi-touch technology works natively with the Windows 7 operating system and supports intuitive gestures and enabled advance gestures. 3M PCT is Windows Touch AQ (additional qualification) certified at more than 20 simultaneous touches. 3M also offers Windows 7/Vista/XP, and Linux drivers.

**Accuracy.** The design of the projected capacitive matrix sensor has more than 3300 touch sensing points in close proximity, making it inherently linear, precise, and extremely accurate across the entire touchscreen.



Corner and edge performance exceeds 99% accuracy, so whether drawing or activating a corner located button, the 3M PCT system will deliver the performance expected by the user.

**Second Surface Durability.** The 3M PCT's durable glass touch-screen surface has an anti-glare coating that allows these multi-touch displays to be placed in a wide range of lighting conditions without the noticeable reflection or "mirror look" of competitive touch screen displays.

**Anti-Stiction Surface Feel.** The M2256PW multi-touch display contains a novel low surface energy coating that greatly reduces surface friction and allows user's fingers to effortlessly glide across the display for easy gesture functions.

## A Display Designed for Multi-touch

With more than 10 years experience in industrial design and LCD selection for touch displays, 3M has designed the **3M Multi-touch Display M2256PW** with multi-touch interactivity in mind. From its high-definition/high-contrast, wide viewing angle LCD for multi-user and table top functionality, to its solid metal base with 0-to-90 degree tilt, this display offers a robust and reliable LCD display to meet the most demanding multi-touch applications.

**Viewing Angle.** The M2256PW display delivers brilliant images from nearly every angle with its ultra-wide viewing angle P-MVA display. This LCD display has full 178 degree viewing in both vertical and horizontal directions, while many commonly-used LCD's only deliver a 120 degree viewing angle that can result in faded and washed out images. Having an ultra-wide viewing angle is an essential feature to help create an immersive user experience, regardless of how the display or where the user is positioned. As multiple users interact with the multi-touch display, especially in a horizontal or table top position, the ultra-wide viewing angle will help ensure that all users experience the same brilliant content.



**High Definition.** The M2256PW display provides impressive picture quality with high-definition (HD) 1680 x 1050 resolution to help ensure vibrant, true-to-life graphics, dynamic HD video content, crisp and clear images, and sharp text.

**1680 x 1050**

The display's 16:10 wide-format aspect ratio provides spacious screen real estate to maximize application usability. The DVI video input with HDCP (high-bandwidth digital content protection) delivers a high quality image and compatibility with copyright-protected high definition content.

**Contrast and Definition.** The high contrast difference between light and dark colors helps make a display look superb in almost any en-



environment, and the larger the difference the better. With a contrast ratio of 1000:1 (static), the M2256PW makes on-screen images appear more vibrant and impactful while the 8ms video response time delivers virtually uninterrupted, undistorted presentation of full-motion video.

**Full Multi-Touch**  
**Full Multi-Touch**

**Solid Stable Base.** The M2256PW display has a heavy metal base and a purpose-built locking hinge that delivers solid support when touching the display with the weight of multiple hands and or under rapidly repeating or heavy touches. This sturdy base is solid to the touch at tilt angles ranging from 0 to 90 degrees.



The stand contains a cable management system that elegantly routes and hides the video, power, and communication cables within the vertical portion of the base resulting in a clutter-free look on your desktop.



**Connectors.** The M2256PW display offers the wide array of connections needed by customers to accommodate a variety of applications and operating environments. The M2256PW display offers an internal 110/220V power source with U.S. and European power plugs. Plug a USB or RS232 serial connection into the auto-detecting touch controller and the display switches to the correct protocol. The display offers both VGA and DVI connectors to help meet varying CPU configurations. The 3.5mm audio jack powers two 3-watt internal speakers.

**Mountable.** For multi-touch applications that require wall mounting, arm mounting or embedding in a vertical or horizontal surface, the M2256PW display has a 100mm VESA pattern to securely attach it to commercially available arms and brackets (arm or brackets not included).



**Easy Access OSD.** For ease of use, the M2256PW display offers an easy-to-read front panel OSD guide with easy-to-access controls along the bottom edge of the display.

# 3M™ Multi-Touch Display M2256PW Specifications

## Functional Specifications

### Display Details

LCD Technology	P-MVA (wide angle viewing technology)
Display Colors	16.7 million
Pixel Pitch	.282 x .282mm
Brightness	300 cd/m <sup>2</sup> (nit) typical
with touch sensor (max.) <sup>1</sup>	270 cd/m <sup>2</sup> (nit) typical
Contrast Ratio	1000:1 typical
Viewing Angle <sup>2</sup>	Horizontal/Vertical: 178 degrees typical
Video Response Time <sup>3</sup>	8 ms typical
Control Type	OSD
Native Resolution	1680x1050

### Touch Details

Touch Point Speed	Less than 6ms for 20-point multi-touch response
Input Type	Finger, thin glove
Touch Communication	Auto detecting, USB and RS232 (Serial)
Operating System Support	Windows 7/Vista/XP, Linux, Mac OS
Microsoft® certifications	Windows 7 AQ

(1) Brightness measured on a display with 3M™ Projected Capacitive sensor.

(2) Measured at a contrast ratio of 10.

(3) Gray to Gray



## Physical Specifications

### Product Details

Operating Environment	0 to +40 degrees C Relative Humidity, non-condensing 90%
Storage Environment	-10 to +60 degrees C
Video Input	DVI (HDCP) and VGA
Multimedia	Audio input, 3 watt audio output
VESA Pattern	100mm x 100mm
Power Supply	Internal 110/220 VAC Power Supply
Power Consumption	70 watts maximum
RoHS Compliant	Yes
Agency Approvals	FCC-B, CE, TUV
Warranty	1 Year

### Dimensions and Weight

Physical (WxHxD)	513.2 x 337.8 x 60.2 mm 20.2 x 13.3 x 2.4 inches
Display Area (WxH) (viewing area)	473.8 x 296.1 mm 18.7 x 11.7 inches
Packaging (WxHxD)	635.0 x 508.0 x 273.05 mm 25.0 x 20.0 x 10.75 inches
Display weight	8.4 kg / 18.5 lb
Packaging/Display weight	11.0 kg / 24.25 lb

Part Number 98-0003-3512-9

### 3M Touch Systems

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