# 3M<sup>™</sup> Multi-Touch System PCT2420PX

## Uncompromised Performance for Interactive Digital Signage

With more than 30 years of capacitive touch sensing expertise, 3M has developed a scalable multi-touch system for digital signage applications that demand high-performance multi-touch functionality with sophisticated bezel-free designs delivering a truly unique touch experience. The **3M**<sup>---</sup> **Multi-Touch System PCT2420PX** portfolio provides customers with a leading-edge solution that resolves up to 60 simultaneous touches (with palm rejection) at an ultra-fast 12ms response time for digital signage from 37 to 47 inches. This multi-touch solution enables display designers to develop cuting-edge interactive signage solutions that create collaborative spaces for multiple users or an engaging experiences for single users.

The PCT2420PX multi-touch system exemplifies 3M's strong system solution focus by combining 3M proprietary touchscreen manufacturing technology with the patented 3M<sup>\*\*</sup> Multi-Touch Controller PX400 to overcome existing design challenges in scaling projected capacitive technology (PCAP) solutions beyond common portable device sizes (3.5 to 11.6 inches). This system has been designed and engineered specifically for 37- to 47-inch displays so OEM's and integrators can use its unique feature set without settling for scaled-up versions of mobile handheld electronics and manufacturing processes. With the PCT2420PX multi-touch system, 3M now offers a wide range of multi-touch system products that use advanced sensing techniques to address the unique needs of digital signage applications.

The PCT2420PX system's non-active, chemically-strengthened cover glass offers a durable surface that protects the underlying conductive elements while allowing the touchscreen to remain functional with even the most severe surface scratches. This same cover glass goes through an anti-glare treatment process that helps provide an enhanced user experience by limiting the effects of both touch friction and ambient light pollution on the sensor. The PCT construction also enables modern industrial design techniques, such as flat front surfaces, that



eliminate the need for bulky bezels required by other touch technologies to protect any active surface touch components. In addition to adding sophisticated industrial design, the flat front surface solution eliminates dust and debris build-up at the edges of the display and also helps increase overall system reliability by not having critical components on the touchscreen surface that can be damaged or obstructed.

#### **Recommended Applications**

- Gaming and Amusement
- Exhibits
- Point of Information
- Self Service
- Interactive Tabletops
- Health CareRetail Product Selectors
- Digital Signage
- Retail Brand Experience
- Industrial

| Feature                                | Benefit   |
|--|---|
| Patented 3M Electronics                | <ul> <li>Reports up to 60 simultaneous multi-touch events while supporting palm rejection at speeds of &lt;12ms</li> <li>High signal-to-noise ratio provides input flexibility including thin gloves and fingertips.</li> <li>Ultra-high definition touch for smooth draw capability and ability to distinguish multiple fingers in close proximity</li> <li>Custom ASIC design offers a standard protocol for any size between 15 and 47 inches and facilitates seamless application development</li> </ul>  |
| 3M PCT with Engineered<br>Cover Glass  | <ul> <li>Enables leading edge industrial design solutions with a uniform narrow black border graphics design</li> <li>No surface components or bezel requirement limits debris build up which results in increased reliability</li> <li>Easy-to-clean, no wear surface provides operation unaffected by surface scratches</li> <li>Smooth edge finish for improved durability and handling safety</li> <li>Anti-stiction surface allows for "easy drag feel" for smooth touch performance.</li> <li>Anti-glare for table-top applications or strong ambient lighting environments.</li> </ul> |
| High Performance<br>up to 47" Diagonal | <ul> <li>Maintains high performance multi-touch scalable up to 47" displays</li> <li>Large format multi-touch enables innovative collaborative multi-user interactions</li> </ul>   |

### 3M<sup>™</sup> Multi-Touch System PCT2420PX Specifications

#### System Performance

| Touch Inputs       | 60 touches with palm rejection                  |
|--------------------|---|
|                    | 60 touches with palm rejection                  |
| Input Method       | Finger, thin gloves                             |
| Accuracy           | >99% of true position                           |
| Resolution         | 4K x 4K   |
| Linearization      | Inherently Linear (only video alignment needed) |
| Tail Connection    | Solder-less design                              |
| Light Transmission | > 87%   |

#### Electronics (3M Multi-Touch Controller PX)

| Communication      | USB HID Digitizer   |
|--------------------|---|
| Dimensions:        | PX4611 Controller: 9.90" x 2.50"<br>PRX4401 Satellite Controller: 4.33" x 2.17" |
| Power Connection   | Self-powered 5V @ 2 A max   |
| Connectors         | ZIF (touchscreen side)<br>Molex (USB/Serial COM side)                           |
| Touch Refresh Rate | <12ms for up to 20 simultaneous finger inputs                                   |

#### Ordering Information

| Diagonal | Format | Part Number    |
|----------|--------|----------------|
| 37"      | 16:9   | 98-0003-4205-9 |
| 39"      | 16:9   | 98-1100-0258-5 |
| 40"      | 16:9   | 98-0003-4164-8 |
| 42"      | 16:9   | 98-0003-4161-4 |
| 46"      | 16:9   | 98-0003-4159-8 |
| 47"      | 16:9   | 98-0003-4203-4 |
|          |        |                |

#### Reliability

| Surface Obstruction      | Withstands most surface contaminants   |
|--------------------------|--|
| Chemical Resistance      | ASTM-D-1308 and ASTM-F-1598-95   |
| Operating<br>Temperature | 0°C to +50°C (up to 90% RH from 0°C to +35°C (above +35°C, see specification))     |
| Storage<br>Temperature   | -10°C to +70°C (up to 90% RH from 0°C to +35°C (above +35°C, see specification))   |
| Humidity                 | Up to 90% RH from 0°C to +35°C, non-condensing<br>(above +35°C, see specification) |

#### Mechanical

| Total Thickness                  | 2.4mm  |
|----------------------------------|--|
| Cover Glass Thickness            | 1.9mm  |
| Graphics                         | Black border (standard design)                             |
| Display Size                     | Supported 37" to 47" (standard sizes available)            |
| Durability                       | Non-active cover glass, no wear mechanism                  |
| Sealing                          | NEMA 4X/IP66, complete water-resistant seal compatible     |
| Cleaning                         | Water, isopropyl alcohol, or similar non-abrasive cleaners |
| Regulatory<br>(Agency Approvals) | FCC-B, CE, IEC 60950                                       |
| RoHS Compliant                   | Yes  |

#### System Warranty

One year on touch system

#### Operating Systems Supported

Windows 8, 7, Vista, XP (32- and 64-bit) Windows CE 3.0, 3.2, 4.0, 5.0, 6.0 Linux Kernel 2.6, Kernel 2.4 (serial only) Mac OS (Intel)\*\*

\*\*Third party driver

#### **3M Touch Systems**

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