Selecting a High Performance Multi-Touch Display

June 5, 2012
Today’s Agenda

• Applications and Drivers for Multi-touch Display
• Unique Requirements of Multitouch Displays
  • Touchscreen Characteristics
  • Display Features
  • Industrial Design
Multi-touch Display Applications and Drivers

• Single Touch Technologies – Transactional Efficiency
  • Retail Point-of-Sale
  • Ticketing
  • Digital Signage

• Multi-touch Displays – Unique Experiences
  • Interactive Point of Purchase
  • Assisted Selling
  • Consumer Brand Experience
  • Customer Service
  • Interactive Signage
  • Exhibits
  • Gaming
Key Drivers for Today’s Multi-Touch Displays

- Brilliant High Definition Display
- Effortless Multi-touch Touch Performance
- Sophisticated Design

Immersive User Experience Device
Key Touch Performance Characteristics

• # of Touches
  • 1 Touch – Button based interface for efficiency
  • 2 Touch – Gesture Based interface
  • 3+ Touches – Intuitive Natural User Interface & Collaboration

• Touch Response
  • Total Touch Response should be <20ms
    • Touchscreen Response
    • Operating System Delay
    • SW Rendering Time
    • Graphics Card Delay
3M Touch Systems

Touch Technology Options

• Optical Technology
  • Common in Consumer All-In-One Displays
  • # of Touches: 2 to 6 touches
  • Typical Response Time: 12-20ms
  • Bezel Required
  • Scalable to over 100” displays

• Infrared Technology
  • Common in larger format displays
  • # of Touches: 2 to 32 touches
  • Typical Response Time: 12-20ms
  • Bezel Required
  • Scalable to over 100” displays

• Projected Capacitive Technology
  • Common in Consumer Handheld Devices
  • # of Touches: 2 to unlimited
  • Typical Response Time: 6 to 15ms
  • NO Bezel Required (Can achieve Flat Front Surface Design)
  • Scalable to at least 82” displays
Key Display Features

Multi-touch content typically features high resolution images and HD video. The quality of the display itself is critical to ensure a positive interactive experience.

**Display Resolution**
- Full HD ensures images and text are sharp
- Critical for touch applications when users interact close to display (18”)
- Creates a larger canvas for digital content; 97% more pixels than 720p.

**Fast Refresh Rate**
- 120Hz refresh rate provides crisp content even while in motion
- 2x faster than 60Hz industry standard
- Critical for smooth motion transitions while zooming and interacting with display

**Ultra-Wide Viewing Angle**
- Delivers brilliant content at nearly any angle
- Essential for multi-user applications and up-close interactions on a large-format display

**LED Backlight**
- Allows for landscape, portrait, horizontal or vertical integration orientations without non-uniformity concerns that CCFL systems can exhibit
- Reduced environmental impact by eliminating mercury used in CCFL backlights
- Generally 20-30% less power consumption than CCFL backlights
Key Industrial Design Characteristics

Industrial Design impacts the overall look and feel of the environment as well as the usability of the multi-touch interaction

• Flat Front Surface
  • Modern Sophisticated Look
  • Easy to Clean Surface
  • Full access to edges and corners of touchscreen

• Stable Adjustable Base
  • Stability even more critical with multi-user and multi-touch interactions
  • Adjustability important for ergonomic and usability concerns
  • Cable management for clean look

• Installation Flexibility
  • Lightweight, thin displays with multiple mounting methods are critical
  • Orientation free installation (Portrait/Landscape & Vertical/Horizontal)
  • Thermal Management system to support all installation orientations

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Key Drivers for Today’s Multi-Touch Displays

- **Effortless Multi-touch Touch Performance**
- **3M PCT**
  - 20-40 Touches
  - 6ms response time

Brilliant High Definition Display

- High End Display
  - Wide Viewing Angle
  - HD resolution
  - LED Backlight

Sophisticated Design

- Industrial Design
  - Flat Front Surface
  - Stable Base
  - Thermal Mgmt

Immersive User Experience Device
3M™ Multi-Touch Displays

Desktop (18.5” – 27”)
M1866PW  M2167PW  M2467PW  M2767PW

Chassis (22” – 32”)
C2256PW  C3266PW

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