

A decorative graphic featuring two hands, one on the left and one on the right, reaching towards the center. The hands are positioned as if interacting with a screen. Surrounding the hands are various colorful shapes, including circles and squares in shades of blue, purple, and pink, some overlapping each other. The background is a light gray gradient.

Optical Touch Screens

SID 2009
Exhibitors Forum
6/2/09

Agenda

- ❑ **About NextWindow**
- ❑ **How optical touch works**
- ❑ **Why optical is the best choice for Windows-7**
- ❑ **Issues in Windows-7 touch**



About NextWindow

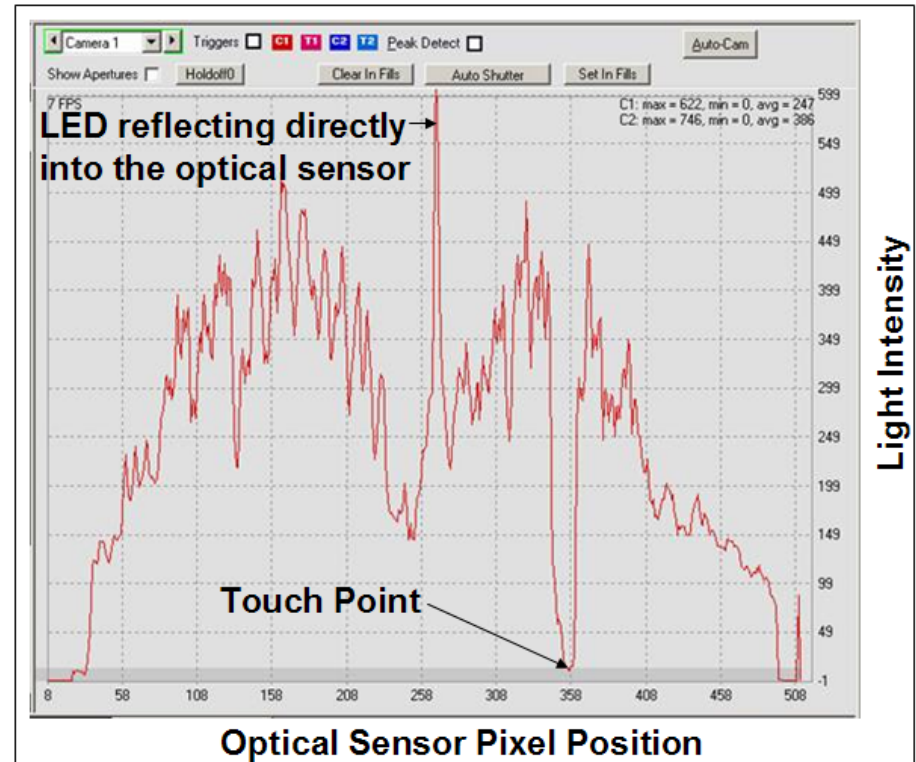
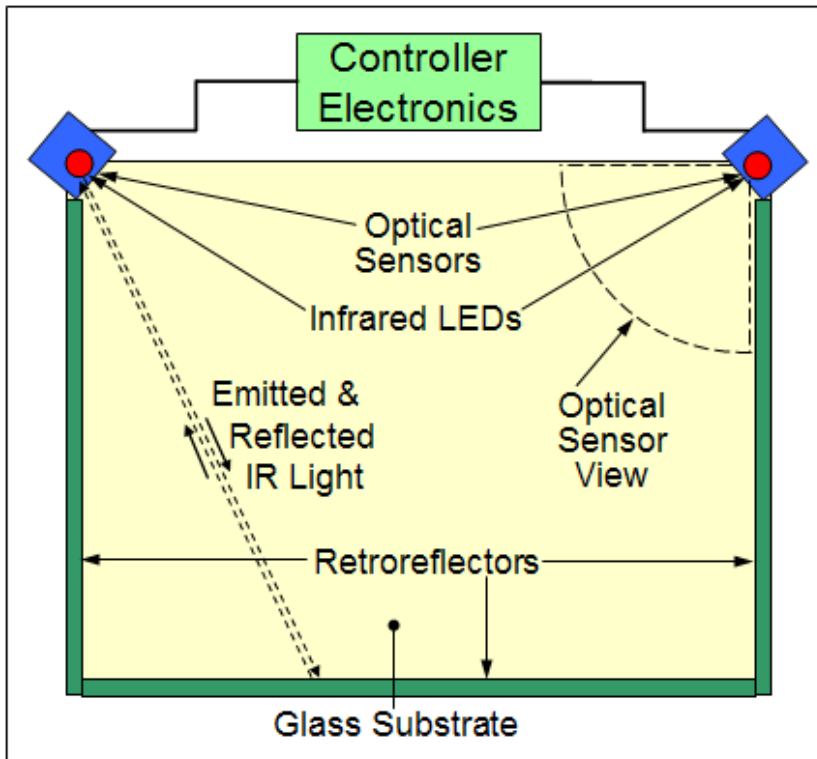


□ NextWindow, Ltd.

- ◆ Founded in 2001 by CTO and private investors
- ◆ 65 employees, ~50% in engineering
- ◆ Brief history
 - ✓ 2003: First product to market (optical touch for large displays)
 - ✓ 2005: Entered USA market
 - ✓ 2006: First major volume contract signed (HP TouchSmart AiO)
 - ✓ 2008: Entered Taiwan market with ODM focus
- ◆ Global presence
 - ✓ HQ in New Zealand; offices in USA, Taiwan & Singapore
 - ✓ Manufacturing in China, Thailand & Malaysia
- ◆ Currently focused on two touch-screen markets
 - ✓ Windows-7 consumer monitors & all-in-one computers
 - ✓ Professional audio-visual, including interactive digital signage



How Optical Touch Works



Touch Technology Requirements for Windows-7 AiOs & Monitors...1



❑ Size range 15"-25"

- ◆ Digital Resistive & Waveguide IR

 - ✓ **Disqualified:** Too small

- ◆ Bending Wave (DST)

 - ✓ **Disqualified:** Too big

❑ Multi-touch

- ◆ Analog Resistive, Surface Capacitive, Force-Sensing, Acoustic Pulse Recognition (APR) & DST

 - ✓ **Disqualified:** No multi-touch

❑ Touch-and-hold

- ◆ APR & DST

 - ✓ **Disqualified:** No touch-and-hold



Touch Technology Requirements for Windows-7 AiOs & Monitors...2



❑ Low profile

◆ Vision-Based Optical

✓ **Disqualified:** Too thick (rear-projection only)

❑ Shipping in high volume (> 500K)

◆ Waveguide Infrared, Force-Sensing, LCD In-Cell

✓ **Disqualified:** Not in volume production

❑ What's left?

◆ Camera-Based Optical (CBO)

◆ Projected Capacitive (Pro-Cap)

◆ Traditional Infrared (IR)

◆ Surface Acoustic Wave (SAW)

Why Optical Is The Best Choice For Windows-7



Requirement	CBO	Pro-Cap	IR	SAW
Size range 17" - 25"				
Multi-touch				
Low profile (flush surface)				
Shipping in high volume				
Touch with any object				
Light touch				
Fast response & drag				
High durability				
High optical performance				
Narrow border width				
Easy integration				
Low cost				
Windows 7 Logo				

	Best
	OK
	Worst

NextWindow Status



❑ Shipping in HP TouchSmart (2nd-generation) and Dell Studio One all-in-ones

- ◆ More than a half-million touch-screens shipped so far
- ◆ Less than 0.01% field failure rate

❑ More design wins in the pipeline

- ◆ Stay tuned!



Issues In Windows-7 Touch...1



❑ Multi-touch

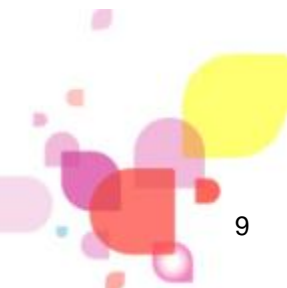
- ◆ How many touches?
 - ✓ Driven by research, Microsoft, multi-person gaming, screen sizes, pro-cap & other “unlimited multi-touch” technologies

❑ Ergonomics

- ◆ Gorilla arm?
 - ✓ Monitors & AiOs that recline

❑ Applications

- ◆ Are applications coming that will drive demand for touch in the consumer market?
 - ✓ Everyone’s counting on the ISVs!



Issues In Windows-7 Touch...2



❑ Too many technologies

- ◆ Which of the 12+ touch technologies will dominate in Windows-7?
 - ✓ Monitors & AiOs: Camera-based optical
 - ✓ Netbooks & notebooks: Projected capacitance

❑ LCD in-cell touch

- ◆ Will LCD in-cell touch dominate in Windows-7?
 - ✓ It will probably take some share in specific high-volume applications
 - ✓ BUT, it's not the holy grail!

There is no perfect touch technology!



Thank You!



Geoff Walker
Product Marketing Manager
NextWindow, Ltd.
7020 Koll Center Parkway, Suite 138
Pleasanton, CA 94566
1-925-272-4529
gwalker@nextwindow.com