

INDUSTRIAL SOLUTIONS

RUGGED. RELIABLE. RESPONSIVE.

Delivering rugged reliability, Touch International's industrial display solutions improve communication and efficiency while withstanding vibrations, on-screen contaminants, temperature extremes, heavy use and more. Whether the application requires glove input capabilities, water resistance, EMI suppression or an increased temperature tolerance, Touch International is committed to building quality touch screens that ensure product success.

APPLICATION REQUIREMENTS

By integrating display enhancements and other value-added solutions, Touch International is able to conquer environmental challenges and improve display functionality and performance.



Clean Room Processing



- NEMA Sealable
- EMI Shielding
- Glove or Pen Input
- High Optics
- Immune to Chemicals
- Anti-Microbial Coatings



Factory Automation

- Sunlight Readable
- Shock Resistant
- Reduced RF Noise
- Shatterproof
- Glove Activated
- NEMA Sealable



Industrial Manufacturing



- Scratch Resistant
- RF Noise Suppression
- Glove Activated
- Immune to Vibration
- Sunlight Readable
- Works with On-Screen Contaminants



Outdoor Displays

- Sunlight Readable
- Shock Resistant
- Glove Input
- High-Bright Display
- Scratch Resistance
- Heat Reduced or Created



Contact a sales representative at Touch International today for additional information about our Industrial Display Products and Solutions.

Industrial Controls ODM

INDUSTRIAL TOUCH SCREEN DISPLAY CONTROL UNIT. SUNLIGHT READABILITY AND PCAP MULTI-TOUCH



Background:

The device was a ruggedized tablet that used resistive technology and a standard display for various industrial control applications. The customer wanted to use PCAP with multi-touch and sunlight readability to expand the device's capabilities, but was concerned about potential cost impacts and compatibility issues.

Challenges

The current display was not a good candidate for sunlight readability and was approaching the end of life cycle. New displays were available, but some didn't have LVDS connectivity and would require redesigning the device's motherboard. For PCAP, the new screen had to mechanically match the current resistive sensor and any new display selected. The device would be used with medium duty gloves, often in bright sunlight.

Summary of issues to consider

1. Touch sensing with light gloves.
2. Use in a wide operating temperature range.
3. Use in bright sunlight.
4. Somewhat ruggedized for a multitude of industrial considerations (dirt, oil, shock, vibration, industrial cleaners, etc.).
5. Multi-touch with gestures.
6. Final solution cost.

Solution

After considering the customer's requirements, our engineering team tackled both tasks in tandem. The display team found a lower cost display that worked mechanically,

but required a custom LVDS board and cable. The team designed and produced a combination that the customer was able to easily integrate into their existing housing, saving them from unnecessary NRE. A custom super bright LED rail and driver was developed in combination with a select mix of optical films to get the LCD over 1200 nits of brightness for clear sunlight readability. The display that was selected featured extended temperature operation, so extended time in the sun would not be a problem. Meanwhile, the touch screen team designed a new projected capacitive touch sensor featuring TI's new S-Series capabilities that was mechanically identical to their existing resistive part. The sensor was laminated to a chemically strengthened cover glass for maximum durability.

TI solution key feature overview

1. Multi-touch with pinch/zoom/flick/rotate.
2. Wide temperature, sunlight readability.
3. Ruggedized solution for lasting performance.
4. Able to withstand industrial elements such as dirt, grease, and harsh cleaners.

To finalize the solution, the touch screen was optically bonded to the display to maximize picture quality, sunlight readability, and ruggedization. The final cost of the new solution was within 10% of the previous solution total cost.

By offering a carefully engineered, fully customized solution and utilizing our mature supply chain, we were able to provide the customer with a durable solution that dramatically increased their products' value without a substantial cost increase.