# What it Takes to Incorporate Touch Screen Technology into Your Product Design…The Basics

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### *PUSH, SWIPE, PRESS, TOUCH, PINCH*

I awoke this morning to my phone playing my favorite "wake up" music and asking me whether I wanted to start my day or take a 10 minute snooze.   If the truth be told, I opted for the latter and pushed the green icon on my glowing screen.  After a very short respite I began my day by swiping my unlock feature on my phone to check a few e-mails prior to even getting out of bed.   My guess is that I am not alone in this daily ritual.   In just the very first few minutes of my day, I had found myself engaging with the touch screen on my Iphone™ no less than 20 times.
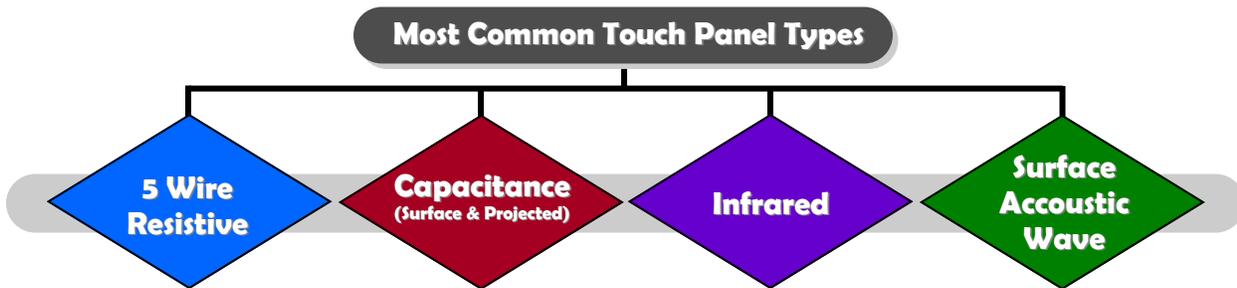
The prominence of touch screens in personal electronics has led product designers in nearly all fields to consider whether it is practical to incorporate these flexible interface devices into their products.  As recently as just 5 years ago, these devices were typically produced in large volume and/or for high-value product offerings.    The evolution of this technology has led to fairly significant reduction in manufacturing costs.   Moreover, more and more manufacturers are now willing to produce custom touch screens in volumes of well less than 1000 pieces.  These two facts have led to a broader range of products that can now incorporate this new technology.

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While touch screens may be simple to use, this technology requires a fairly complex collaboration of several components working in harmony to provide this seamless interface.   While many think of the LCD or TFT screen as the predominant part of this device, each of these products relies heavily on a touch sensor layer above the display as well as a controller that houses the necessary software that makes this input mechanism functional.

**Display** — **Software** — **Controller** — **Touch Panel**

In order for a electronic circuit designer to properly determine whether or not to integrate a touch screen interface, it is critical that they have a good understanding of the different styles of touch panels as they all possess unique advantages and disadvantages.



Most Common Touch Panel Types

5 Wire Resistive — Capacitance (Surface & Projected) — Infrared — Surface Accoustic Wave

Recent advances in touch technologies have helped improve the functionality of several of the touch panel types.   For example, the once biggest disadvantage of capacitance touch was it's inability to sense gloved fingers and certain styluses.   Significant improvements in the software have been made now allowing capacitance to be an effective alternative for users using rubber and cotton gloves.   Similarly, many improvements have been made in the software's ability to distinguish between intended and unintended pushes.

It is clear that product designers will begin utilizing this technology in a broader range of industries. While it's currently commonplace to see touch screens on cell phones, kiosks and a host of other consumer electronics; we are seeing a significant trend in the medical and lab industries to more aggressively adopt this input method.   We expect that industrial equipment will likely be the next significant embracer of touch screen technology.  As more and more users get comfortable with how to engage with touch screens, the opportunities to integrate this exciting technology seem nearly endless.

 For technical help on how you can best incorporate touch screens into your product design, **DOWNLOAD** our **Touch Screen Design Guide  at:** http://www.ssi-electronics.com/design-guide-intro



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