

Graphical Devices (2)

Touch screen technology

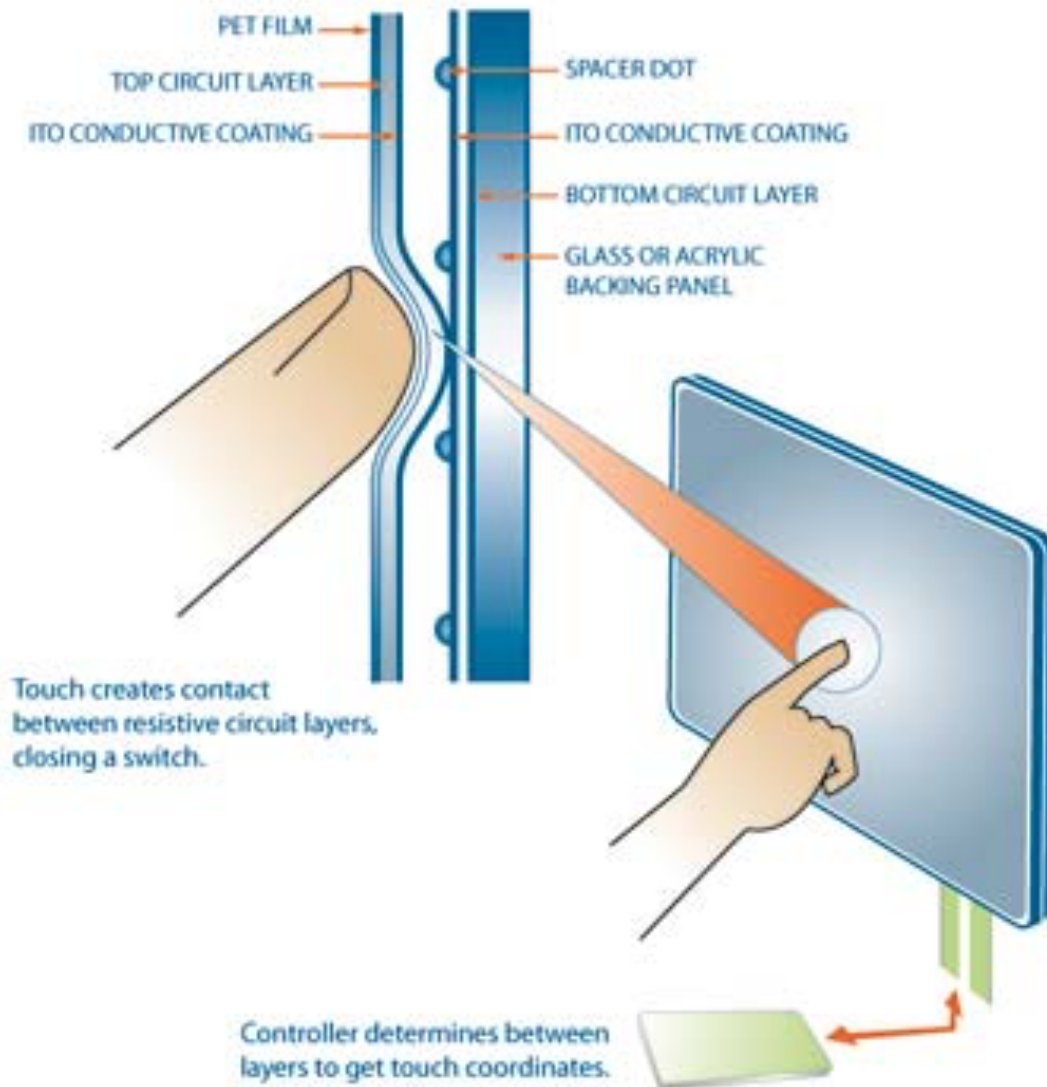
- There are four main touchscreen technologies:
 1. Resistive
 2. Capacitive
 3. Surface Acoustic Wave
 4. Infrared

References

1. Multi-touch Screen Technology, EnginnersGarage,
<http://www.engineersgarage.com/articles/touchscreen-technology-workinghnology>
2. Bhalla M.R, Bhalla A.V., Comparative Study of Various Touchscreen Technologies, International Journal of Computer Applications (0975 – 8887) Volume 6– No.8, September 2010

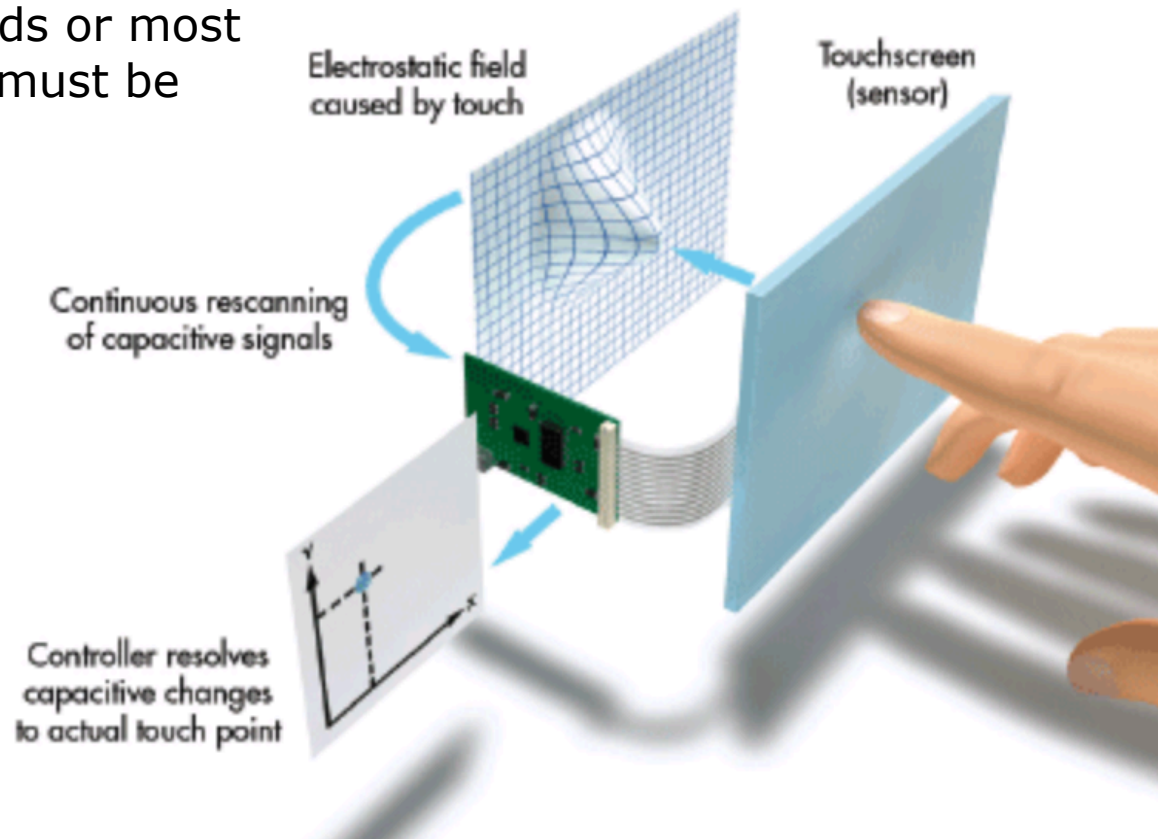
Resistive Touchscreen Technology

Resistive touchscreens are pressure sensitive, so they can be operated with any input device, including a gloved hand or stylus.

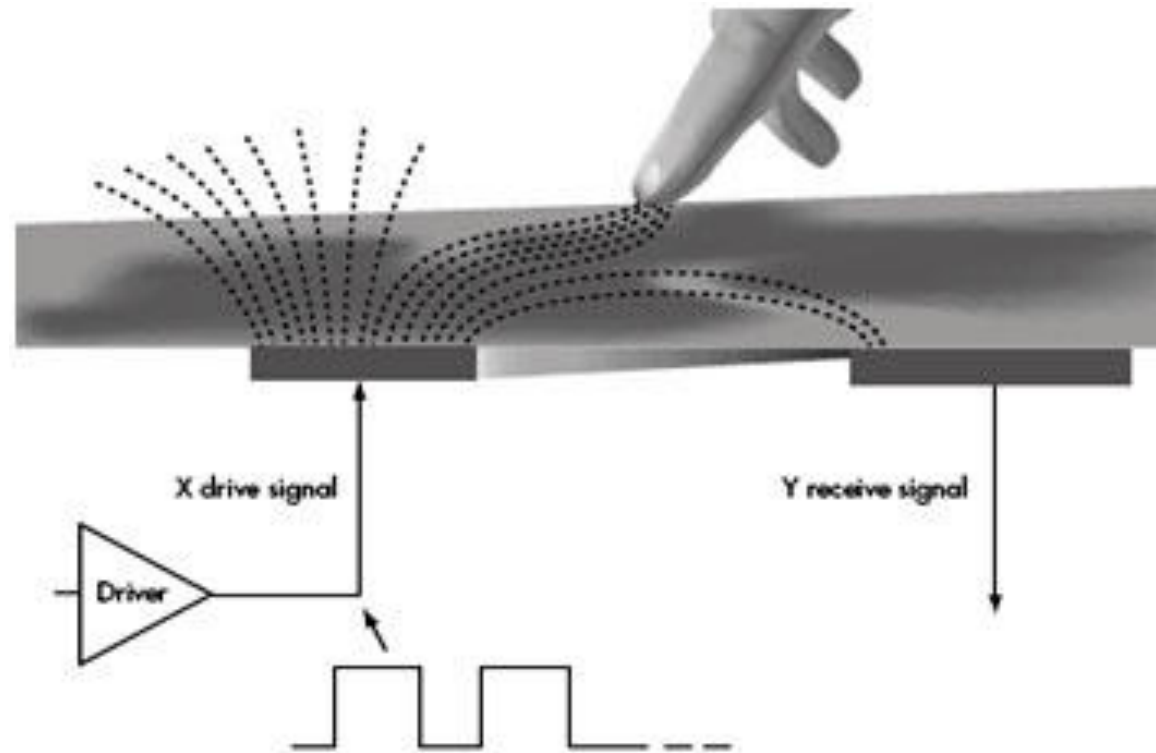


Capacitive Touchscreen Technology

Capacitive touchscreens offer higher clarity and are more durable, but they do not respond to gloved hands or most styluses (the pointing device must be grounded).

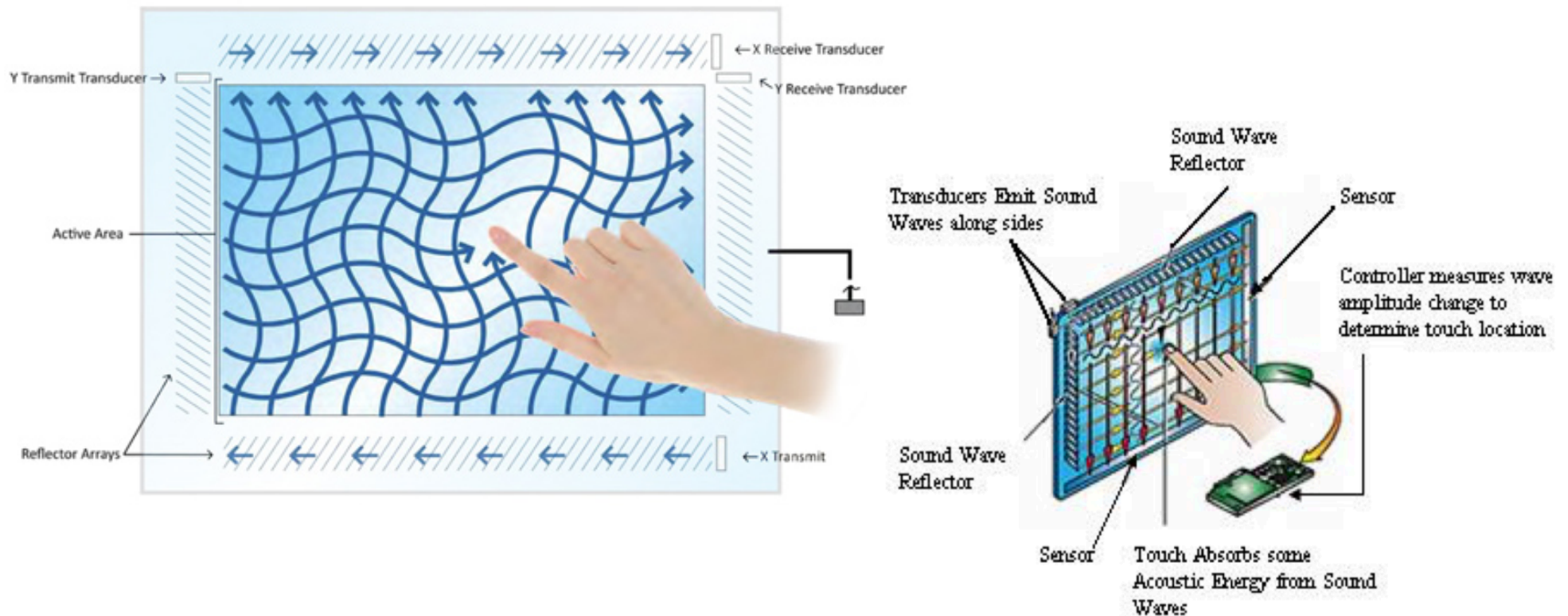


Capacitive Touchscreen Technology



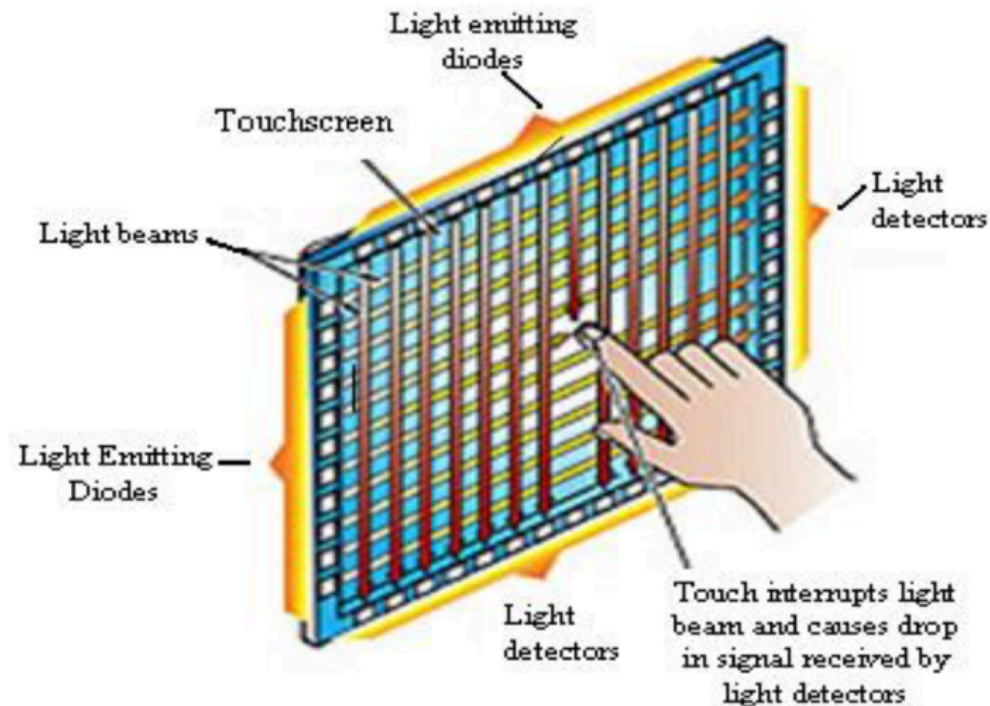
Surface Acoustic Wave Touchscreen

- ❑ Surface Acoustic Wave (SAW) is a newer technology that uses ultrasonic waves that pass over the screen.
- ❑ When the panel is touched, there is a change in the frequency of ultrasonic wave and the receiver at end of the panel register this change.



Infrared Touchscreen Technology

- ❑ Infrared touch screens are based on light-beam interruption technology.
- ❑ The frame has light sources, or Light Emitting Diodes (LEDs) on one side and light detectors on the opposite side, creating an optical grid across the screen.
- ❑ When an object touches the screen, the invisible light beam is interrupted, causing a drop in the signal received by the photo sensors.



Conclusions

- + Direct pointing to the object
- + Fast
- + Finger or pen is usable. No cable required
- + No keyboard required
- + Suited to novices, application for information retrieval, etc.
- Low precision by using finger
- User has to sit or stand closer to the screen
- The screen may be covered more by using hand
- No direct activation to the selected function

Plural Touch Technology

- ❑ Multi touch Applications technology are found in smart phones like iPhone, Samsung, Nokia, Nexus, Microsoft Touchtable, Apple's iPad and many more.