

Advantages of PanJit's Cobra Controller Guaranteed One-Time-Calibration 8 Wire Interface

The 8 Wire Resistive Touch Screen is the preferred solution for applications where accuracy is crucial and recalibration is unacceptable.

It is designed based on the 4-wire resistive technology with each edge providing one more sensing line as a stable voltage gradient for the touch screen controller. The functionality of additional 4 lines is to obtain the actual voltage generated by the drive voltage, so the touch screen controller can automatically correct the drift issue resulted from the harsh environment exposure or long time usage.

Illustration: 4 Wire Touch Screen

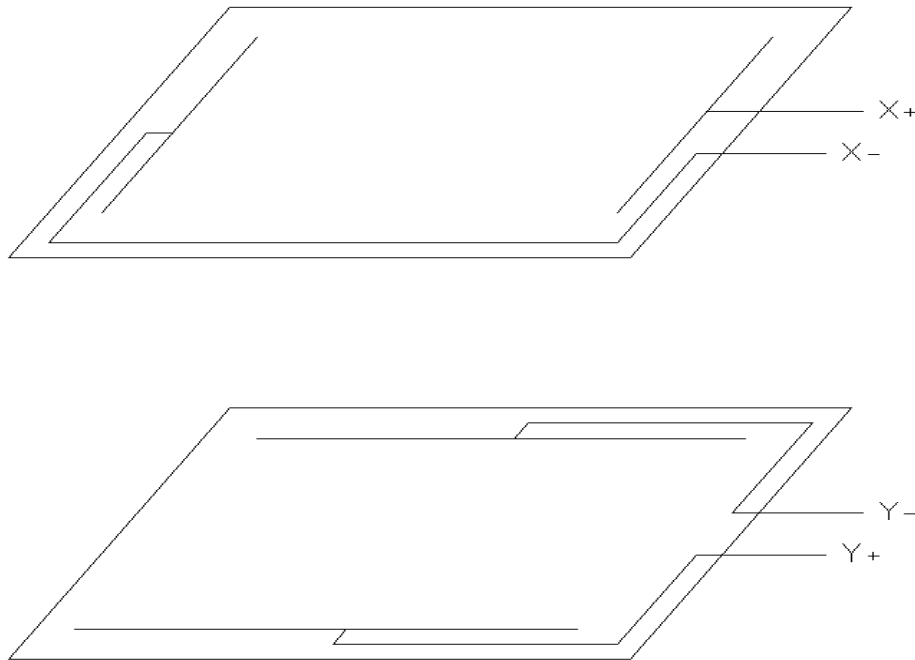


Figure 1 (a): 4 Wire Touch Screen



Figure1 (b): Equivalent Circuit of 4-wire Touch Screen

Illustration: 8 Wire Touch Screen

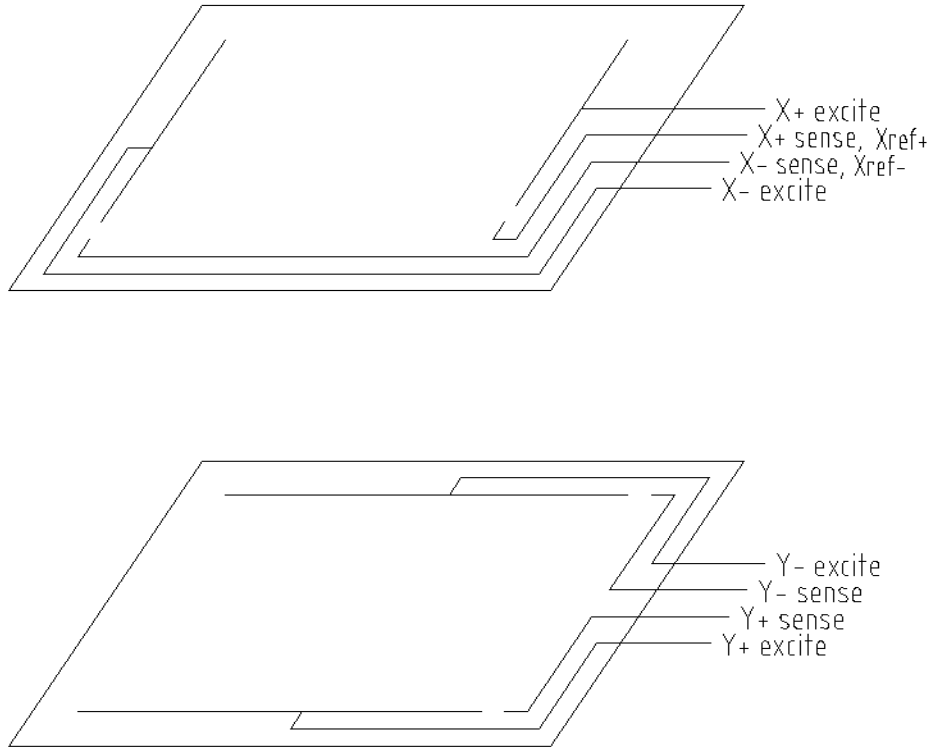


Figure2 (a): 8-wire Touch Screen

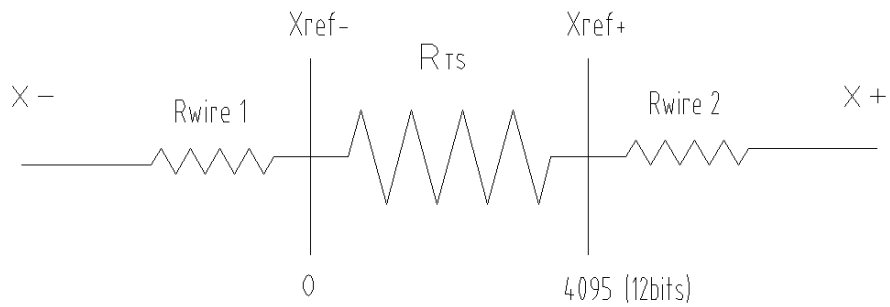


Figure2 (b): Equivalent Circuit of 8 Wire Touch Screen

Generally, touch screens have an equivalent circuit as the illustration as shown in Figure 1. When DC voltage is applied to both terminals ends of the touch screen, the total voltage drop across the circuit is equal to the sum of the voltage drops of an active area (Touch Screen) and both wiring sections. Each voltage drop will vary when any resistance varies. It means that a position shift on the monitor will occur even on the same point to be pressed if any resistance changes.

On the contrary, the combination of our Cobra Controller and a 8 Wire Touch Screen has an auto-calibration function which eliminates the resistance of both wiring sections by reading reference voltage, such as X_{ref-} , X_{ref+} as shown in Figure 2. Those reference data are detected when the touch screen is activated.

After those processes, our controller generates data, of which are adjusted from 0 to 4095 (12bits) over the active area (Touch Screen).

Therefore, we can guarantee the accuracy and stability in various environmental conditions i.e., high humidity and extended temperatures when utilizing our Cobra Controller in the 8 Wire interface mode.