

Fig. 1



Fig. 2



Fig. 3

# Cutting and preparing LCD Film.

## Tools Required:

- Rotatrim Cutter
- Straight metal ruler
- Scissors (optional)
- Sharp blade / Scalpel
- Marker pen
- Insulation tape
- IPA (cleaning alcohol) / soft wipes
- Lint free cloths / gloves
- Bus-bar knife
- Latex gloves
- Squeegee

Take a wholesale sheet of LCD Film and measure the size of panel required. We recommend that you use masking tape to mark out the cutting area. Please make sure that you start with a square edge. The LCD Film can be cut using a laser cutter, cutting bar or rota trim (Fig. 1). Make sure you always cut on a hard surface and use a sharp blade or the PET layers may de laminate on the edge. Please ensure that the cutting surface is completely clean and covered with a soft fabric or paper to avoid any surface scratching of the LCD Film.

Choose the side where the Bus Bar will be located (short side). Measure the centre point and mark using a marker pen (Fig. 2). Mark a point 15mm either side of centre, then measure 8 – 10mm up and create a rectangular box. (see above)

Place the LCD Film on a hard surface and using a sharp knife / scapula cut out the rectangular box being careful that the PET layers don't de-laminate (Fig. 3).

This is the process used to separate the positive and negative connection and create an electrical circuit. Some customers create the cut out using scissors.

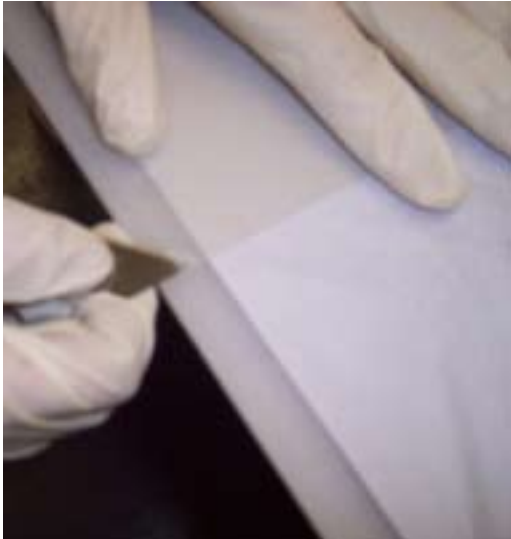


Fig. 4

Using a sharp blade gently separate the two layers of PET on one corner, no more than 3mm and be careful the two layers do not separate too much (Fig. 4). This will allow you to place the bus-bar knife between the two layers for cutting.



Fig. 5

Place the edge of the LCD Film against the cutting table edge. (table edge must be straight). Gently place the bus-bar knife between the two layers of PET (Fig. 5). Ensure the blade is between the two layers before starting to cut.



Fig. 6

Run the handle of the blade along the edge of the cutting table and cut away the top layer of PET (Fig. 6). Please ensure that you keep your knife straight and in line with the table edge.

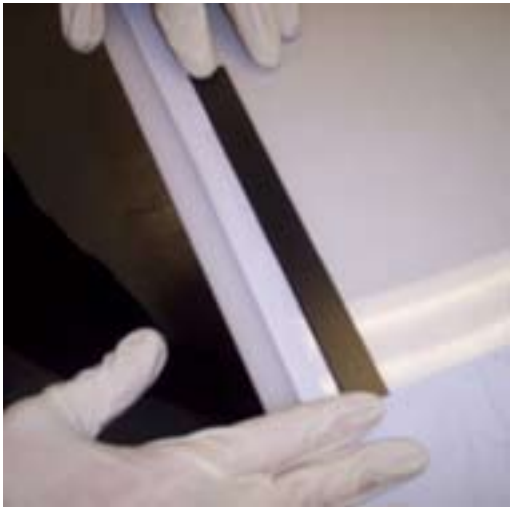


Fig. 7

Run a neat line of insulation tape 1mm inside the cut edge of the top surface of LCD Film (Fig. 7). This should leave around 5mm of the polymer liquid crystal exposed. Gentle press down the insulation tape to seal the edge and allow you to clean away the exposed polymer liquid crystal.



Fig. 8

Using IPA (mild cleaning alcohol) and a soft wipe, gently clean away the top layer of polymer liquid crystal until the surface becomes transparent (Fig. 8). Do not rub the surface or apply too much pressure, just wipe the surface gently in one direction. Then turn the LCD Film over and repeat the same exercise on the opposite side of the rectangular cut out.



Fig. 9

Using a rubber/plastic squeegee dab the silver conductive paste along the length of the cleaned surface (Fig. 9).



Fig. 10

Spread a thin layer of the conductive silver paste along the length of the surface (Fig. 10).



Fig. 11

Place a metal ruler over the LCD Film in line with the edge of the insulation tape to protect the film from any heat and prevent damage. We also recommend that you place a clear tape (sellotape) over the copper strip to offer extra protection. Using a hair dryer or hot air gun (warm setting only) gently dry the silver paste (Fig. 11). Do not heat too close to the surface (Approx 15 – 20cm away).

The paste will appear a chalky colour when dry.

Repeat the same process on the opposite side

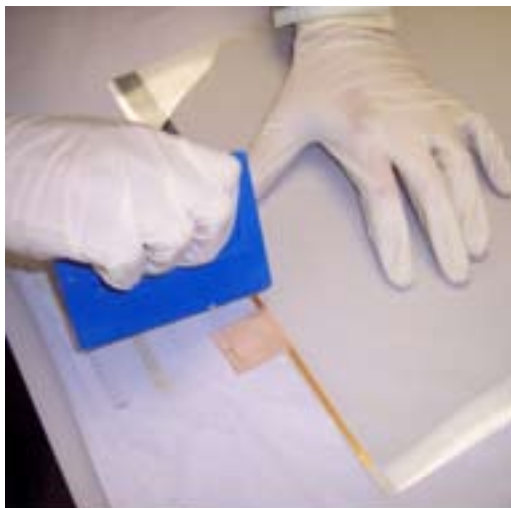


Fig. 12

Peel the backing off the copper strip and place down neatly on the silver conductive paste. Using a hard plastic squeegee press down the self adhesive strip until it is firmly attached. ( please be careful not to scratch or damage the surface (Fig. 12).

Repeat the same process on the opposite side.



Fig. 13

Using the IPA (cleaning alcohol) and a soft cloth clean down the surface of the LCD Film on both sides (Fig. 13). Please ensure to remove any traces of silver paste. The LCD Film is now ready to test.



Fig. 14

Test the LCD Film by using a manual switch with croc clips and a 10v transformer (Fig. 14). Attach one clip onto the mesh tag on one side of the cut out and attach the other clip to a mesh tag on the opposite side of the central cut out.



Fig. 15

Switch the power (110V) to turn the LCD Film clear / transparent (Fig. 15).