

January 6, 2016

Tricor 3.2" memory LCD module statement of work

Summary -

The goal of this project is to create a front light/zoned touchscreen assembly for the Sharp LS021B7DD01 memory LCD display.

Specifications (structure from display to cover glass) -

Edge lit front light guide featuring between 2-4 high efficiency LEDs (based on design needs) Tail for LEDs to driver board

ITO film laser etched zone capacitive touch sensor

Passive tail routing touch sensor to controller card

Screen printing containing frame and customer logo if necessary

.7mm Asahi chemically strengthened cover glass sized to fit opening in customer housing

Project Plan -

Light guide and ITO sensor paths proceed in parallel, lamination and assembly with cover glass occur after both ITO sensor and light guide are completed.

Light guide -

- Identify requirements for brightness and uniformity (2 weeks)
- Preliminary design of light guide (\$3,500 4 weeks)
- Prototype production of front light guide 10 pieces (\$2,000 2 weeks)
- Testing and evaluation of front light guide performance (customer driven)
- Tooling for production (depends on volume to tool for needs discussion)
- First article acceptance
- Production of front light guide (12 weeks standard lead-time)

ITO Sensor -

- Identify active areas and tail location (2 weeks)
- Design passive flex tail (4 weeks \$3,500)
- Fabricate 10 pieces of prototype touchscreens for software development (2 weeks)

Integration -

• Build 50 pieces of the light guide ITO sensor and cover glass assembly (6 weeks after completion of ITO and light guide - ~\$5,000 depends on final design specification)

Program Costs and Notes -

Total costs for this program are \$14,000 USD. Deliveries of the first 10 pieces of touchscreens are March 1st or earlier Deliveries of the first 50 pieces of complete assembly are April 8th or earlier

Caveats -

- We are dependent upon Sharp to supply the 3.2" memory LCD
- The \$100 each pricing for the completed assemblies is a budgetary pricing
- Tooling for volume light guide production is not included in this pricing

Shipments are FOB Rochester, NY. Payment terms are 50% upfront and 50% upon receipt of prototypes. If you have any questions or concerns please let us know.

Sincerely,

Eric Snavely President Touchstone Technology Inc.