Flat Panel Display Enhancement Capabilities

IEE’s expanded display enhancement program increases our capabilities and reduces cost and lead-time for our customers. IEE provides fully integrated LCD flat panel display solutions from concept to production. Our capabilities include a variety of display enhancements to improve contrast ratio and increase the programmable brightness from NVIS, through low ambient light, up to full sunlight readable. Our design team ensures that the display product will reliably achieve the stated performance requirements through the wide environmental extremes experienced in outdoor, industrial, aerospace and defense applications.

IEE Display Enhancement Services:

- Extensive LCD selection and application experience
- Active enhancement techniques
  - High bright LED backlight
  - NVIS compatible backlight
  - Multi-mode backlight
  - Multi-color backlight
- Passive contrast enhancement techniques
  - Optical bonding of substrates
  - Application of coatings AR, AG, oleophobic
  - Optical filters and polarizers
- EMI/EMC filters and shielding
- Lamination and dry bonding
- Automatic brightness control
- Multiple interfaces
  - Video - VGA, LVDS, DVI
  - Serial - Ethernet, USB
  - Power - AC and/or DC power inputs
- On-screen display controls (OSD)
- Touch screen integration
- Integrated single board computer (SBC)
- Custom housings
- Custom bezels with integrated switches

Ruggedization:

- Environmentally sealed enclosures
- Custom bezels with IP/NEMA sealing
- Extended operating temperature range
- Shock and vibration enhancement
- Protective vandal-proof face plates

IEE provides fully integrated LCD flat panel display solutions from concept to production.
Flat Panel Display Enhancement Capabilities, continued

IEE’s In-house Capabilities Include:

- DuPont™ Vertak® optical bonding of substrates to flat panel displays
  - Touch screens
  - Filters
  - Protective windows
  - Anti-reflective, anti-glare, anti-smudge and contrast enhancement windows
- 1,000 square foot Class 10,000 clean room
  - Laminar flow benches = Class 100
- Hot roller lamination and autoclave
  - EMI filters: ITO, wire-mesh, micro-mesh
- Laser cutter
  - Finish cut all display filter material
- Robotic dispenser
- Plasma surface cleaner
- UV curing system
- Radiometer
- Darkroom for display performance measurements

Advantages of Working With IEE:

- Long history of innovation and performance
- Rugged industrial and military display specialists
- U.S. based engineering and manufacturing (Van Nuys, California)
- Over 65,000 sq. ft. modern manufacturing facility
- Rapid prototype, low, medium and high-volume capability
- ISO 9001:2008 certified

Note: IEE is registered with the US DOS and as such we adhere to all ITAR regulations as it pertains to ‘defense articles’.