



Custom LCD Displays and Touchscreen Solutions



A Reliable Display & Integration Partner

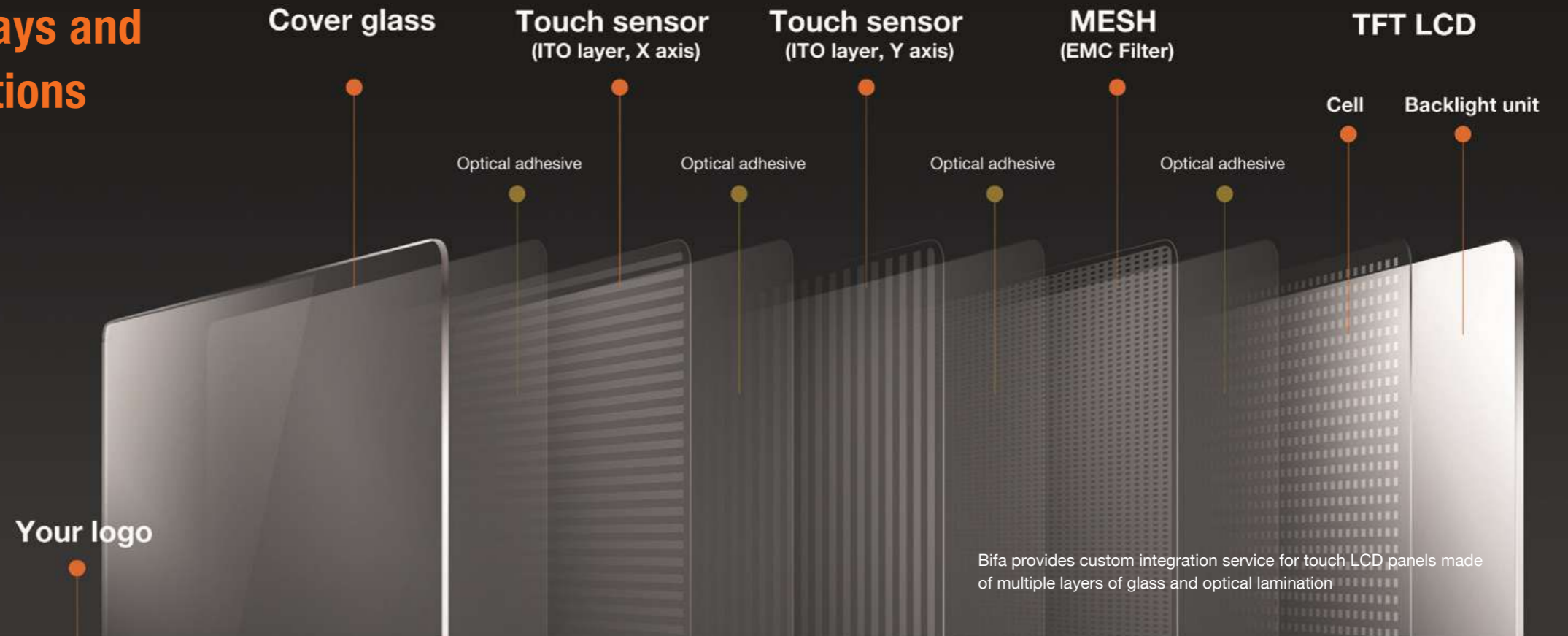
Bifa provides a full range of custom service for LCD displays and touchscreen systems that require high-brightness, high-contrast LCD visibility, and accurate touch performance. Being a reliable solution partner, Bifa listens to customers closely and provide fast and flexible touch panel designs, integration and manufacturing services accordingly. Leverage our engineering technology and service, you can build up highly qualified display solution exactly tailored to your requirements faster time to market.



Custom LCD Displays and Touchscreen Solutions

The touchscreen is already the primary user-interface for industrial applications that require easy, fast and accurate operations. To help develop optimized user experiences, Bifa provides a variety of custom touch technologies and integration services to meet your specific machine and application needs.

Our custom service ranges from custom TFT LCDs, touch sensor, cover glass, bonding assembly and display enhancement in accordance with your application demands. Bifa team assures quality output through stringent process control at all stages of service and production. We help identify the right display components during the specification stage, and integrate the required display module into your product for rapid prototyping and time-to-market.



Expert Applications

Medical and Healthcare

The touch LCDs are ideal for medical and healthcare applications due to the nature of no radiation, easy operation and quick responsive display. Bifa fulfills medical and patient-care applications with a wide selection of high performance cover glass, coating and display enhancement technologies to enable fine color/grey scale performance, infection prevention and fully operational displays.

Aviation and Military

The LCD display could be one of the most important instruments for pilots to receive instant inflight safety and weather information for proper reaction during a flight ride. Bifa is familiar with specific displays that fulfill good visibility, high contrast ratio and wide viewing angle in extreme cockpit conditions.

Air Flight Navigation

Bifa is also experienced with air traffic control applications with navigation LCD solutions. Our engineering team provides excellent bonding skills to eliminate screen reflection and glare, and also enhance clarity and contrast to increase visibility in either bright or dark ambient light conditions.

Transportation

Facing constantly changing light conditions, in-car LCDs must be bright enough to match the cockpit illumination all the way during a train ride or a bus ride. Bifa provides advanced anti-reflective technology that enhances the monitor readability and reduces glare to maintain stable visibility in both low and bright light conditions.

Point of Information/KIOSK

To increase durability and reliability for public point of information KIOSKS, Bifa is adept at adding various coating and surface treatment to enable comfortable user experiences and also better scratch and chemical resistance to improve the monitor's durability and lifespan.

Custom Cover Glass

Adding extra layers on top of the touch screen can enhance the monitor durability, but also affect light reflections and transmittance, and touch performance. Bifa's custom cover glass service provides enhanced display clarity, touch responsiveness and surface protection against chemical or scratch damage. Our team also helps customers implement the following requirements:

- Specify glass dimensions, thickness and shape, including rounded corners.
- Add holes and cutouts for I/O interfaces
- Print logo and icons
- Use acrylic/polycarbonate film instead of glass
- A wide variety of glass and coating options

Cover Glass and Coating Options

The anti-bacterial glass can kill 99.99% common disease-causing bacteria and molds to prevent infection spreading through the touch operation.

Both anti-glare (AG) and anti-reflection (AR) coating are ideal for mobile and outdoor applications by filtering out reflection and cutting down glare when light bounce off the surface.

The antibacterial anti-reflective glass is perfect for medical applications with germ-free & anti-reflective features.

The AG touchpad glass features silky surface and the most nature back and forth touch motion for ultimate user experience.

Corning antimicrobial gorilla glass can eliminate bacteria to ensure the best safety for medical and patient care applications. The thin and tough glass also reduces screen parallax and improves touch control accuracy for better visual quality.



Custom Touch Sensor

Touchscreen is not only a part of the display system but also the primary input device too. Bifa provides various capacitive and resistive technologies to formulate different types of touch panels as needed.

Resistive Touchscreen

A resistive touchscreen comprises two layers of conductive ITO (indium tin oxide) film and ITO glass separated by transparent dot spacers. The resistive touch panel features thin, light, and lower power consumption. Also, it is pressure sensitive to have highly accurate and quick response to any input device, including finger, glove, stylus or pen. The resistive touchscreen constructs reliable and affordable solutions for restaurants, factories and hospitals due to high resistance to dust, oil, liquids and contaminants.

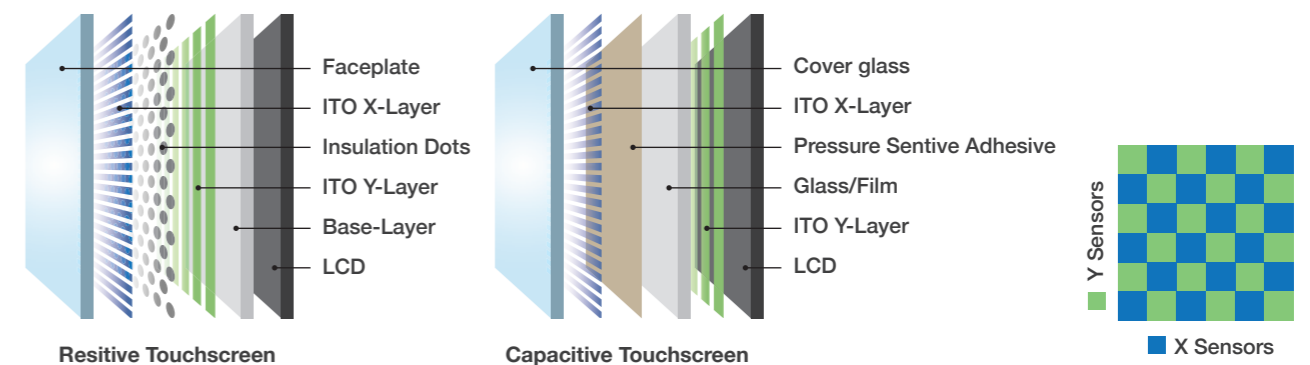
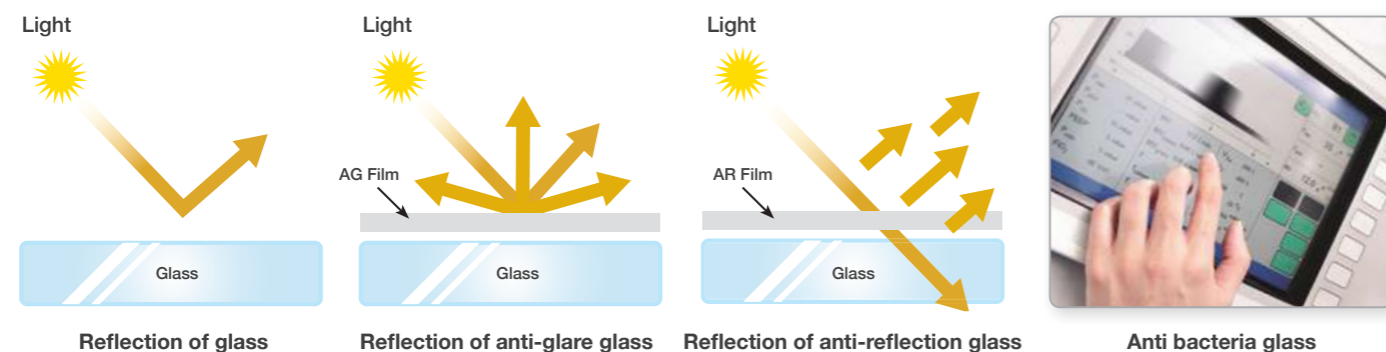
Capacitive Touchscreen

A capacitive type touchscreen consists of one layer of insulation glass, coated with transparent and conductive indium tin oxide (ITO) on both surfaces. Unlike a resistive touchscreen, the capacitive touch displays rely on the electrical change caused by a light touch of a finger, capacitive stylus, or electric conductive glove.

The capacitive screens feature more sensitive and accurate touch performance as glass technology advances. The advancement also leads to sharper and brighter display performance for the capacitive screens.

Projected Capacitive Touchscreen

Projected Capacitive Touchscreens (PCT) deliver highly accurate and multi-touch functionality with a matrix of conductive wires. The PCTs are widely installed in the most demanding devices like medical machines, smartphones, and tablet computers with pinpoint accuracy in tracking the motion of a finger over the screen.

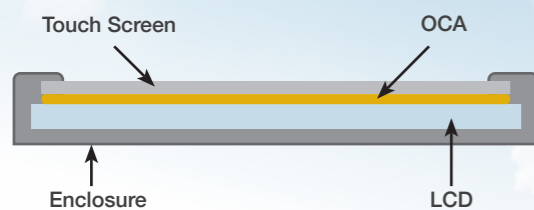


Bonding and Integration

Bonding technology is a key factor that affects LCD display performance, durability and total cost of ownership. Bifa helps evaluate the suitability of various technologies to meet your project requirements.

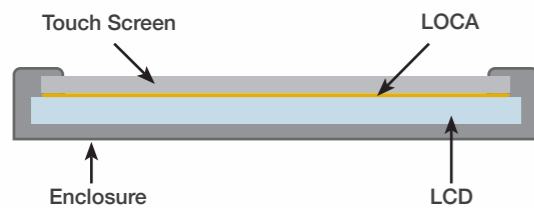
Optically Clear Adhesive (OCA)

OCA is used to add film-type of optically clear adhesive between the cover glass and LCD display for display panel assembly. Such an optical bonding is especially significant in sunlight conditions. OCA offers superior clarity and excellent adhesion to eliminate surface-to-surface air gap and reflections from the viewing area to achieve better clarity, color contrast and wider viewing angles.



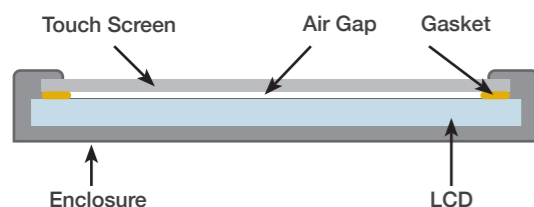
Liquid Optical Clear Adhesive (LOCA)

LOCA is one of optical binding technologies widely used for smartphones and tablet devices. The liquid type bonding adhesive is re-workable and suitable for use on curve or uneven surfaces. The technology allows thinner and lighter panel construction required for futuristic display designs.



Air Gap Bonding

Air gap bonding provides the most economic method for touch panel attachment with a yield rate up to 98%. The adhesive is applied to the inactive border around the viewing area between the display and touch panel. In the result it lacks support between the screen and LCD, which is prone to breakage and moisture. The internal reflecting between layers can lead to poor optical performance.



Custom Touch Controller

The touch controller is usually a micro-processor IC used to send touch signals from the touch sensor to the embedded system or computer. The IC-based controller can be set on a controller board inside the system, alternatively it can be located on a flexible printed circuit (FPC) affixed to the glass touch sensor.

Anti-interference

Electrical noise can cause system shutdowns relating to signal transmission problems for medical applications. To reinforce your operational reliability and security, Bifa provides touch controllers well integrated with noise resistance technology to protect your display panels against noise interference generated by electrical devices, peripherals, and the environment.

Glove Touch

Glove touch is a great benefit for medical and patient-care applications. Bifa provides superior high Signal and Noise Ratio (SNR) solution that detects touch signal through glove for your best convenience and operational efficiency.



TFT LCD

Bifa establishes close partnership with leading TFT LCD manufacturers providing all your needs for various display applications. Specific features can be ordered to produce, including high brightness, high contrast ratio, wide viewing angle, wide temperature operation, longer lamp life, and lower power consumption. We also adopt advanced technologies such as free-form, curved, and transparent LCD, to fulfill any of your display ideas.

SHARP

 **AUO** **NEC**

 **MITSUBISHI ELECTRIC** **INNOLUX**

Military Cables

Bifa provides a wide variety of military cable assemblies and wiring harnesses. The military cable assemblies consist of flat ribbon cables, RF coaxial, smart cables, data com, hybrid communication cables, over-molded military cables or ruggedized military cable assemblies.

We also offer service to integrate custom military cable assemblies and wiring harnesses into enclosures, boxes or chassis as needed. Custom service for enclosure modification is available upon request.

