Dignity Electronics was founded in 1994 as an HMI and touch solutions supplier, and for nearly twenty-five years has been focused on researching, designing and manufacturing interface solutions (primarily membrane switches, touch screens, capacitive sensors and display assemblies) for consumer and commercial applications. Dignity provides standard and custom-designed touch products to companies worldwide, and have the needed technical know-how and capabilities to build the right solution for the customer’s needs.

Dignity currently manages two facilities with a total area of more than 25,000 square meters, including a class 1000 clean room production area of more than 3500 square meters and multiple touch screen integration production cells rated to class 100 and above. With more than 450 workers, Dignity currently produces millions of components per year, including hundreds of thousands of touch screens.

With our new integrated facility in place, we have multiple automated and semi-automated production lines, as well as the manufacturing and design capabilities necessary to serve our customers for both low-volume, highly-customized projects as well as high-volume, standardized production runs.

In 2019, we established a subsidiary, Dignity Europe, in Valencia (Spain) to better serve our valued European customers.

Touch Panels & Modules
• Custom & Standard Products
• Projected Capacitive
• Resistive
• Optical Bonding
• Touch Display Modules

Other Touch Solutions
• Capacitive Switching
• Capacitive Switch Modules
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Why Work With Us

Why work with Dignity? Dignity provides touch solutions for a large range of companies, from SMEs to Fortune 500s. We’re their partner of choice for several key reasons:

**Focused** - Reduced lead times and communication cost due to dedicated project teams.

**Experienced** - With nearly twenty five years of designing and providing high quality HMI solutions to all levels of customers, from customized low volume solutions to millions of components a year, we have the experience, knowledge and management systems in place to deliver a quality product on time, every time.

**Capable** - We’ve been certified and recognized by more than ISO - we work with some of the biggest names and most demanding partners worldwide in appliances, interface systems and consumer electronics (Hisense, Whirlpool, LG, Midea, Galanz, Haier).

**Turnkey Solutions** - Dignity has three touch screen production lines, including one dedicated to large formal PCAP products, and multiple integration production cells. With in-house touch sensor production, CNC milling, laser etching, silk screening, optical bonding and other capabilities, Dignity is a Turkey manufacturer for a range of touch solutions.

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**New Subsidiary in Europe**
We established a subsidiary, Dignity Europe, in Valencia (Spain) to better serve our valued European customers.

**New Touch Panel Facility**
Production is moved to a purpose-built, company owned facility with more than 15,000 square meters of production, warehousing, offices, etc.

**Resistive Screens**
Company begins production of resistive panels for consumer electrics and cell phones

**Industry Leading**
By this point, we had already become the largest domestic supplier to the growing home appliance industry.

**2019**
**2018**
**2016**
**2010**
**2007**
**2006**
**1994**

---

**New Large Format PCAP Line**
By Q3 2018 a new specialized, custom engineered and built large format PCAP production line to be fully ramped up and operational. Production of product up to 85+.

**PCAP Screens**
Began R&D into PCAP panels; by the end of 2010 begin full scale production of PCAP touch screens. Also launched production of OGS and GF product lines.

**Touch Panel Division Founded**
Touch panel division is founded as a wholly owned subsidiary; company moves into Shunde High Tech Industrial Park.

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With an initial investment of $4 million USD, the latest equipment and technology was imported from Europe in order to set up a membrane switch production line.
DIGNITY ELECTRONICS

Turnkey Solutions

Extensive Category Experience
We have nearly 25 years in the field of HMI solutions and more than 10 years of touch panel design, production and engineering experience.

First Class Production Capabilities
A modern, flexible and fully equipped production facility allows us to meet the capacity and quality demands of any customer.

Superior Quality Control
We have a rigorous and time tested quality system and structure that has allowed us to work hand in hand with some of the largest and most demanding multinationals.

Superior Service
We have a fully capable engineering, design, project management, logistics and operational team to provide complete service to our customers.

Lead Time Reduction
Our average lead time is less than 20 days for repeat orders and we can provide a design solution for most customers within 3-4 days.

Product Life Extension
We typically offer a year warranty as standard on most products, more than five years of product line availability and free software update services in perpetuity.

www.dignity-eu.com
Projected Capacitive Touch

Product Overview
Dignity offers a wide range of Projected Capacitive (PCAP) touch screens (also known as PCT), with a variety of enhancements, sizes and others options. We offer in-house design, engineering services, firmware tuning and other options to optimize the final touch solution for your end use.

Features
- Variety of product constructions and sizes available, with both custom and standard product ranges.
- Supports up to 6mm cover lens for the most rugged touch applications.
- Customizable silk screening, logos, cut outs and colored glass options.
- Provides support for a range of touch performance enhancements, from 10-50 touch points, water resistance, gloved touch and stylus usage.
- Variety of optical and performance enhancements and filters to customize products for final application.

Product Size Range
Standard / Custom: 4.3” - 86”

Customization Options
Full range of cover lens, touch sensor and electronics options

Product Support
Firmware tuning and software support provided
DIGNITY ELECTRONICS

Product Customization

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screen Size (Diagonal inches)</td>
<td>Standard: 4.3” – 86”</td>
</tr>
<tr>
<td>Integrated LCD</td>
<td>Yes / No</td>
</tr>
<tr>
<td>Product Construction</td>
<td>GG / G1F / GFF / PG</td>
</tr>
<tr>
<td>Integration</td>
<td>Tape Bonding / Optical Bonding (OCA &amp; LOCA)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cover Lens</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cover Lens Thickness</td>
<td>0.55mm – 6mm</td>
</tr>
<tr>
<td>Cover Lens Material</td>
<td>CS Glass, Gorilla Glass, Heat Tempered, Plastic, etc.</td>
</tr>
<tr>
<td>Additional Options</td>
<td>Silk screening, logos, cut outs, colored glass, etc.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Touch Controller &amp; Interface</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Controller Location</td>
<td>COB / COF</td>
</tr>
<tr>
<td>Controller Type</td>
<td>Silicon Works / EETI / Customer Supplied / As Specified</td>
</tr>
<tr>
<td>Interface</td>
<td>I2C, USB, RS232</td>
</tr>
<tr>
<td>Operating System</td>
<td>Windows XP, 7-10, Linux, iOS, Android</td>
</tr>
<tr>
<td>Performance Options</td>
<td>2-50 touch points, palm rejection, water rejection, gloved use, gestural controls, active stylus, etc.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Product Enhancements</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optical</td>
<td>Anti-Glare / Anti-Reflection / Mirror Finish / Dead Front</td>
</tr>
<tr>
<td>Others</td>
<td>Anti-Fingerprint / Anti-Shatter Film / Hard Coat</td>
</tr>
<tr>
<td>EMI Resistance</td>
<td>Metal Mesh / Firmware Tuning / EMI Filters</td>
</tr>
</tbody>
</table>

Projected capacitive touch screens offer superior touch performance, optical quality, lifespan, resistance to damage and other considerations. They can support multiple gestures and up to 50 simultaneous touch points.

Product Applications

Office Automation          Gaming          Retail & POS      Industrial & Instrumentation      Medical Equipment      Kiosk & POI

www.dignity-eu.com
Touch Display Module

Product Overview
Dignity offers a wide range of both standard and custom developed Projected Capacitive (PCAP) touch liquid crystal display modules, with both commercial and consumer displays available. Combining our high performance PCAP multitouch technology with a range of LCD displays to offer customers a turnkey solution that reduces development cost and lead time while offering superior design flexibility and customizability.

Features
- Supports up to 6mm cover lens for the most rugged touch applications.
- Highly customizable cover lens - silk screening, cut outs, enhancements, etc.
- Water rejection and gloved touch supported (nitrile, latex, vinyl, cotton, etc.)
- Optical bonding available for enhanced module performance and lifespan.
- Designed for highly customizable touch interactions and UI.

Product Applications
**Product Customization**

<table>
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<tr>
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<td>GG / Q1F / QFF / PG</td>
</tr>
<tr>
<td>Integration</td>
<td>Tape Bonding / Optical Bonding (OCA, OCF &amp; LOCA)</td>
</tr>
<tr>
<td>Cover Lens</td>
<td></td>
</tr>
<tr>
<td>Cover Lens Thickness</td>
<td>0.5mm – 6mm</td>
</tr>
<tr>
<td>Cover Lens Material</td>
<td>CS Glass, Gorilla Glass, Heat Tempered, Plastic, etc.</td>
</tr>
<tr>
<td>Additional Options</td>
<td>Silk screening, logos, cut outs, colored glass, etc.</td>
</tr>
<tr>
<td>Touch Controller &amp; Interface</td>
<td></td>
</tr>
<tr>
<td>Controller Location</td>
<td>COB / COF</td>
</tr>
<tr>
<td>Controller Type</td>
<td>Silicon Works / EETI / Customer Supplied / As Specified</td>
</tr>
<tr>
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<td>10-50 touch points, palm rejection, water rejection, gloved use, gestural controls, active stylus, etc.</td>
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<td>EMI Resistance</td>
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</tr>
<tr>
<td>LCD Options</td>
<td></td>
</tr>
<tr>
<td>LCD Type</td>
<td>IPS / VA / Translective / etc.</td>
</tr>
<tr>
<td>Standard LCD Suppliers</td>
<td>Tianma / BOE / AUO / Innolux</td>
</tr>
<tr>
<td>Lifespan</td>
<td>30k / 50k / 100k</td>
</tr>
<tr>
<td>Brightness</td>
<td>200 – 1000 nits</td>
</tr>
</tbody>
</table>

**LCM Modules**

In addition to our touch screen product line, we also offer touch screen integration services to our customers. Touch screen integration bonds the touch panel and sensor to the selected display. There are multiple varieties of bonding available based on cost and performance considerations:

**Liquid Optical Bonding (LOCA/OCR)**

Liquid Optical Bonding (LOCA/OCR) - this uses a liquid clear adhesive cured by UV light to fill the gap between screen and display. LOCA provides the greatest improvement in display performance, though it adds significant cost.

**Tape Bonding**

Tape Bonding - using double sided adhesives, we attach the display directly to the touch panel. A low cost, efficient solution that provides some ruggedization and improves product lifespan.

**Dry Optical Bonding (OCA)**

Dry Optical Bonding (OCA) - this process uses sheets of clear, pressure-sensitive sheet adhesive to bond the display and touch screen. A good mix of improved performance and cost competitiveness.

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**Display Integration Methods**

<table>
<thead>
<tr>
<th>Display Integration Methods</th>
<th>Display Services</th>
<th>Design Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Optical Bonding (OCA)</td>
<td>LCD Display Sourcing</td>
<td>Solution Engineering</td>
</tr>
<tr>
<td>Optical Bonding (OCR)</td>
<td>LCD Purchasing</td>
<td>Product Engineering</td>
</tr>
<tr>
<td>Tape Bonding</td>
<td>LCD Integration</td>
<td>Enclosure Design Consulting</td>
</tr>
<tr>
<td></td>
<td>LED Display Sourcing</td>
<td>Extensive Design Database</td>
</tr>
</tbody>
</table>

*Note: Additional enhancements and product options are available upon request.*
Capacitive Touch Switch

Product Overview
Dignity manufactures a range of capacitive touch sensors (or switches) that provide the attractive modern look and feel, as well as the flexible UI of a touchscreen at a portion of the cost of a custom LCD touch module. Fully sealed behind a glass or plastic cover lens, with no moving components, and waterproofing, hard coating and other options available, capacitive touch sensors offer a reliable, durable, flexible and responsive alternative to traditional push button or membrane switches. Due to its resistance to scratching, chemicals, impacts and dust/debris, and its modern aesthetic, capacitive switching is achieving widespread use in industrial, medical, automotive and other industries.

Features
- Unparalleled UI flexibility - the sensor can be adhered to 3D/curved glass or plastic control panels, and use a variety of touch layouts and methods, various cover lens materials and enhancements, etc.
- Significant cost advantages to PCAP touch screens and ITO film.
- Easy integration of back lighting and a high level of flexibility in backlighting design.
- A variety of input and interface methods: buttons, touch pads, sliders and wheels.
- A range of non-conductive overlay materials can be used (glass, acrylic, plastics) up to and exceeding a thickness of 6mm.
- Can be combined with touch screens, LCDs, LEDs and OLEDs for a variety of display / touch module layouts.

Product Applications
Product Customization

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<tr>
<th>Parameter</th>
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<td>Screen Size (Diagonal inches)</td>
<td>As per Specification*</td>
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<tr>
<td>Integration</td>
<td>Optical Bonding</td>
</tr>
<tr>
<td>Cover Lens</td>
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<td>Cover Lens Thickness</td>
<td>0.55mm – 6mm</td>
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<tr>
<td>Cover Lens Material</td>
<td>CS Glass, Polyester, Polycarbonate, Acrylic, etc.</td>
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<td>Additional Options</td>
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<tr>
<td>Controller Type</td>
<td>Hetai / Cypress / As Specified</td>
</tr>
<tr>
<td>Interface</td>
<td>I2C, USB, RS232, UART</td>
</tr>
<tr>
<td>Operating System</td>
<td>Windows XP, 7-10, Linux, iOS, Android</td>
</tr>
<tr>
<td>Performance Options</td>
<td>Touch “panel”, touch buttons, touch “slide”, touch “wheel” and other options</td>
</tr>
</tbody>
</table>

Product Enhancements

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Product Form Factors

**Touch Sensor**
The base sensor layer that detects a user’s touches; created by a printed electronic production process.

**Touch Sensor w/IC**
The sensor foil with a touch IC attached via one of two methods.

**Touch Sensor w/Lens**
The sensor foil is bonded to a cover lens of plastic or glass material. Can come with IC embedded.

**Capacitive Sensor Module**
A full display assembly ready for direction installation; LCD/ LED/OLED or other display option optically bonded to the cover lens and touch sensor.

**Touch Input Methods**
- Touch Button
- Touch "Panel"
- Sliders
- Wheels

**Cover Material**
- Chemically Strengthened Glass
- IMD Panels
- PMMA
- ABS
- PET

**Display Choices**
- OLED Display
- VFD Display
- LED Display
- LCD Display

**Value Added**
- EL Backlighting
- LED Backlighting
- COF / COB
- Modular IC
- Firmware Design
- Touch IC Tuning

*Note: Additional enhancements and product options are available upon request.*
Product Application

Dignity’s provides touch solutions for a varied range of end applications as diverse as digital whiteboards for education, testing equipment for the telecommunications industry, mobile POS units for retail and food service to industrial panel PCs for factory automation. Our width and breadth of experience means that we can meet any customer requirement and fulfill the toughest testing regime. Our team will translate your end product requirements into detailed touch and display specifications to make sure the quality of your touch solution.

- Gaming
- Industrial
- Education
- Medical
- Home & Office
- Automation
- Digital Signage
- Appliances
- Marine & In-Vehicle
- POS
Dignity Electronics ships HMI components and touch solutions to a range of partners worldwide, including some of the largest appliance, POS and consumer electric manufacturers in the world. We also cooperate with many of the most advanced Chinese and international display companies in the Pearl River Delta region to provide complete display and touch solutions to our customers.
Full Solution Engineering

Working from either your specifications or designing a custom solution for your needs based on our experience and extensive design library, we can quickly develop fully customized products that integrate seamlessly into your end application. Our engineering and sales teams oversee the project from prototyping through production.

Touch Sensors
- We provide both resistive and projected capacitive touch technology.
- A range of sensor structures and sizes available (4.3”-86”).
- Custom sensor pattern and trace designs available.
- Customized touch performance design and tuning provided in-house.

Cover Lens
- Highly customized cover lens design available.
- Silk screening, cutouts, custom bezel design.
- Supports up to 8mm thick cover lens for demanding applications.
- Chemically strengthened, heat tempered and other glass varieties available.

Display Integration
- Air bonding integration available for cost-effective display integration.
- Dry and liquid optical bonding available for more demanding applications.
- Improved optical performance, environmental resistance and ruggedness.

Display Enhancements
- Variety of enhancements available.
- Range of Optical enhancements.
- Mirror coating and Deadfront effects available.
- Multiple EMI shielding options.

LCD Touch Modules
- Custom and standard touch display modules available.
- Sizes from 4.3” to 86” available.
- Cooperation with most major LCD factories.

Capacitive Switching
- Variety of form factors available up to full touch display module.
- Can be combined with touch panel assemblies.
- Multiple touch input methods.
- Range of cover lens and performance options.