

The Tianma Group introduces new tactile touch technology to provide texture and click feedback

Chino, CA, May 9, 2018 – [The Tianma Group](#) has developed a new tactile touch technology with two different stimulus sources, allowing for both friction and click sensations to be felt by the user. Tianma will demonstrate a prototype 10.4" size LCD module utilizing the technology at [Display Week 2018](#).

With this prototype, when users trace an image shown on the display (a button, e.g.), their fingers will sense a rough "texture" feeling. And when users press an image area, they will sense a "click" feeling as if they are pressing a mechanical button. This will allow users to perform a series of operations such as locating and pressing an on-screen button, and then determining an operation without needing to look directly at the display.

Tactile Touch Technology

The display is arranged with multiple electrodes horizontally (X) and vertically (Y) on the glass panel and applies voltage with different frequencies to each X and Y electrode located on the image area. Electrostatic force, corresponding to the difference in the frequencies, occurs at the electrodes' cross point. When a user traces on the surface, friction variation, modulated by the electrostatic force, occurs. The display uses this friction variation to provide the texture sensation. Furthermore, by mechanically vibrating the display surface in conjunction with a pressing motion, it gives the sense of a clicking feeling as if pressing a mechanical push-button or switch. With this new multimodal tactile touch technology that combines these different touch feedback effects, Tianma offers a user interface with a higher level of functionality and a more realistic sensation than what is available in current touch systems.

The Tianma Group's new tactile display technology is an ideal solution to facilitate more intuitive and easily operable in-vehicle displays and industrial devices. As an example, this technology enables a standard display to be used comfortably by the visually impaired.

The new tactile touch technology, along with The Tianma Group's expansive family of displays and technologies, will be showcased at [Display Week 2018](#), May 22 to 24 in Los Angeles, California, USA, in Booth 1005. The prototype has also been nominated for Best in Show at Display Week, and The Tianma Group will present a lecture on the technology that allows the texture feeling to be generated on capacitive touchscreens (thesis number 83.3).

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About Tianma America, Inc.

Tianma America (TMA) is the leading provider of small- to medium-size display solutions to the Americas market utilizing advanced technologies and manufacturing resources of the Tianma Group Companies, which includes Tianma Micro-electronics (Shenzhen and Shanghai) and Tianma Japan, Ltd. (formerly known as NLT Technologies Ltd.), as well as manufacturing locations in Chengdu, Wuhan, Xiamen, Shenzhen and Shanghai China. Tianma America technologies can be found in smartphones, tablet PCs, industrial and medical instrumentation, wearables, home automation, household appliances, office equipment, and automotive and rear seat entertainment devices. Additional applications include test and measurement systems, instrumentation equipment, point-of-sale and ATM systems, gaming systems, global positioning systems, radio-frequency identification devices and barcode scanners.

Tianma America's technology portfolio comprises TFT, LTPS, Oxide-TFT, AM-OLED, flexible, transparent, 3D, PCAP and In-cell/On-cell integrated touch. With a network of best-in-class distributors and value-added partners, Tianma America provides complete display module solutions for a broad base of customers and applications.

The content in this press release, including, but not limited to, product prices and specifications, is based on the information as of the date indicated on the document, but may be subject to change without prior notice.

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