

3M™ Dispersive Signal Technology Enables Innovative Table Gaming Products

The Application

Game developers are constantly seeking new gaming concepts for their gaming and amusement customers that can provide increased ROI for casino operators or arcade owners. One innovative game developer wanted to encourage increased multi-player use with a table gaming solution. They envisioned the system to include a large-format, touch-enabled LCD display with an expandable library of card, skill, and trivia games, plus web-based applications, such as surfing, e-mailing, and map viewing, to keep players at the table longer. This innovative design also need to adjust for standing or seating heights to match the operator's environment (see Figure 1).

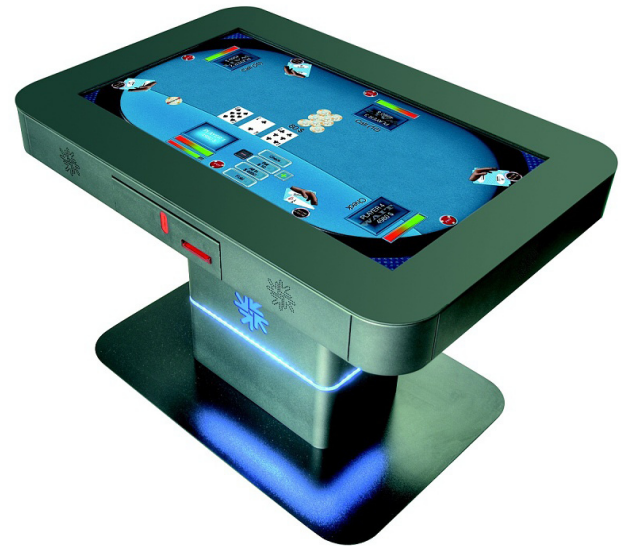


Figure 1: Example table game application using 3M DST Touch Technology. (Fun4Four image courtesy of TAB-Austria GmbH. Visit www.tab.at for details.)

The Problem

In a large-display table game application, multiple users can simultaneously play the game from all sides of the table. With most large-display touch technologies, such as infrared (IR), surface acoustic wave (SAW) or optical (camera) that determine their touch response based on the interruption of the transmitted beams, waves or an optical field, the play of multiple users may disrupt the surface signals to create false or inadvertent touches and disrupt the intended game (see Figures 2-4). This makes it very difficult to design a multi-user table game since most available touch technologies lend themselves to one player using the table at a time. Also, some users may place cups, keys, or different personal items on the table while playing, which can impede touch performance and affect the overall user experience and game playability.

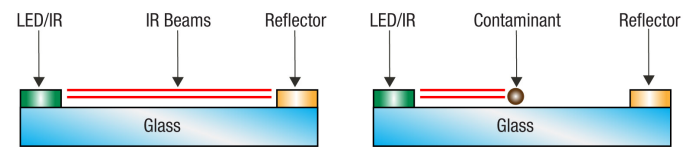


Figure 2: Infrared (IR) Beam. Objects may block IR light.

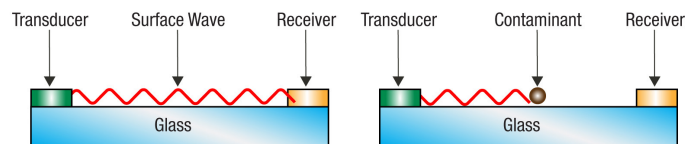


Figure 3: Surface Acoustic Wave (SAW). Objects may absorb sound wave.

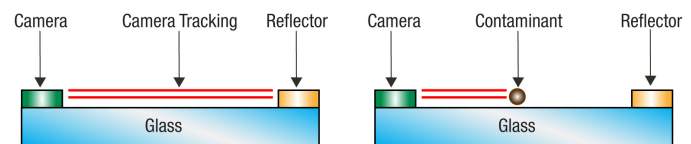


Figure 4: Optical. Objects may block camera tracking.

The Solution

3M's large display touch solution, the 3M™ MicroTouch™ System DST2270DX (based on 3M Dispersive Signal Technology) has been specifically designed to meet the needs of large interactive displays and has an operational methodology that makes it an ideal candidate for this application. With virtually any type of pointer (finger, fingernail, gloved finger, or stylus), the user can generate a bending wave "within" the glass substrate. The bending wave is unaffected by any static objects on the glass surface, such as a soda can or bar drink, another player's arm and personal items, or any on-screen contaminants, such

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as dirt, dust or grime (see Figure 5), which is a "dynamic touch" feature unique to this technology. The dynamic touch capability allows for an enhanced, multi-player experience while simplifying the mechanical design of the game.

The Result

As part of their touch technology qualification process, this game developer tested all the available large display solutions. And, due to its unique characteristics, they conclusively determined that 3M Dispersive Signal Technology was the solution that best met their requirements. The product was successfully launched and well received in the market place, offering a unique gaming experience in a state-of-the-art design.

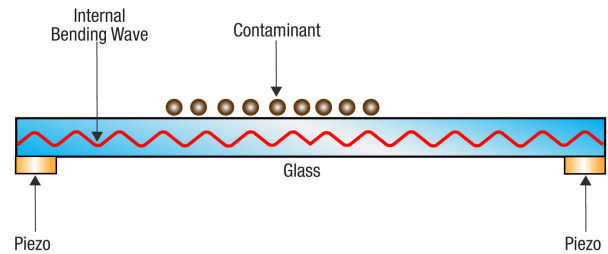


Figure 5: Dispersive Signal Technology (DST).
Waves travelling through the median of the glass are unaffected by objects on the surface.

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