

F-35 TOUCHSCREEN IMPROVEMENTS



CHALLENGE:

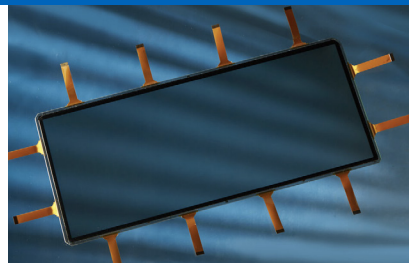
US Air Force Research Laboratory (AFRL) awarded TPI a SBIR project to improve the performance of F-35 8x20 MFD, Touch Display.

SOLUTION:

TPI, in partnership with a major avionic display assembly manufacturer, proposed and developed a solution which greatly enhanced the touch and display performance of the F-35 Panoramic display. Optically enhanced resistive touchscreen was developed specifically to address the human factor demands within the cockpit. This type touchscreen requires a purposeful touch to activate, thereby eliminating accidental activation. Touchscreen optical performance was enhanced by utilizing various optical films and coated glass layers. The touchscreen was ruggedized to withstand mechanical and environmental rigors of a fighter jet cockpit. Resistive touchscreens are not based on light interruption, and therefore will be compatible with advanced imaging system technologies that detect light beyond the NIR band. They will further enable touch input redundancy if necessary.

RESULTS:

An improved LCD and a backlight system was designed and sourced. A custom ruggedized and optically enhanced resistive touchscreen was developed and manufactured. These two units were combined into a display head assembly and were delivered to AFRL. TPI and its partner are continuing their efforts to further refine and improve this solution.



BENEFITS:

Once this solution is implemented it will provide a significantly improved display and user interface experience for the pilot.