

Case Study

Self Service Kiosks: Configuring the Right I/O & Reliability Features in a Compact Embedded Computer

IBM Corporation required a reliable embedded computer solution for an airline self service kiosk. With a minimum of 5 years product lifespan, a long lifecycle support for the system components was needed. Other key features required were ease-of-service, an off-the-shelf system, a large amount of I/O options, and a Small Form Factor (SFF). Further, the system needed to have certifications for UL/FCC/CE, etc, and customized BIOS support.



Figure 1: Example of SFF embedded computer configurations from DFI Tech



Plenty of I/O

One challenge with the IBM kiosk system was finding the I/O combination required. The system needed at least 8 USB ports (10 were preferred) and dual video outputs (one analog, one digital). DFI Tech offers a wide selection of Mini-ITX and other standard, compact motherboards. The company was able to provide a standard board with 10 USB ports, a DVI and a VGA graphics port, as well as multiple LAN, COM, and Digital I/O ports.

From the board framework, DFI Tech utilized its ST101 SFF enclosure. The 220mm x 68mm x 223mm enclosure accepts Mini-ITX motherboards and is easily serviceable with a simple 1-screw case opening. The chassis offers various generation Core i7/i5/i3 processor options with dual system fans and a CPU fan.



Figure 2: ST101 embedded computer with ease of serviceability and high reliability

Customization

As with most applications, once a suitable embedded computer or PanelPC is identified, there is some customization required. IBM needed to have a securing tab for the DC-power connector. This eliminated a potential point-of-failure. Also, an additional software-based product identifier was added to enable easier tracking and identification on the customer's internal service network.

Additional Support

With an embedded computer solution that was easily serviceable, compact, offered plenty of I/O, and offered long lifecycle support, the ST101 was a great fit for the application. DFI Tech also offered additional support in the form of an extended warranty and pre-shipping replacements to minimize downtime for service and repair.

With DFI Tech's versatile board and embedded system offering, we were able to find an optimized solution for the airline self service kiosk application.

Do you have an embedded computing design problem that needs to be solved? Call DFI Tech now to speak to a sales engineer! Our experts will help you find the solution that best fits your application and your budget.

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