

K1117: Wipeable Medical PanelPC

Compact, high performance touch-screen PC for use in medical equipment. COTS components support high-powered video analytics software. Durable bezel protects the internal components during typical medical wipedown procedure.

Performance Characteristics

10.4" touch screen display: design options include either projected capacitive or resistive touch, with screen brightness from 300 to 1500 nit. Intel® processor. Built-in motherboard uses QM67/QM77 chipset running low power mobile CPU.

Ergonomics:

Product is made for medical wipe-down, and complies with 60601 EMC and 1PX1 standards for dripping water. Overall dimensions: 10.6" (269mm) W x 3.16" (80mm) D x 9.04" (230mm) H. Chassis-mounted switch can be used to power up multiple electrical systems.

Lifecycle:

Seven-year availability.

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EmbedTek designs, invents, and manufactures computers, software, sensors, cameras, and displays for original equipment manufacturers. Our systems improve the quality of imaging in healthcare, simulation programs in the military, video analytics in security, and much more. Throw any challenge at us, from demanding environment and ergonomic requirements to High Level Assembly and nonstandard I/O. We'll evaluate it, carefully attack it, and solve it.

Product Realization: K1117



A manufacturer of diagnostic imaging equipment used the Kopis 1117 to control a cart-based system and process video data. The system established a new product configuration, with a strategic upgrade path to assure marketplace success for years to come.

Overall challenge:

Combine both control and video processing functions in an all-in-one PC that was at home in a medical environment and also fit into an existing aesthetic for the customer's family of products.

Design:

We engaged quite early in the process, at the time that the customer was just beginning project definition. The initial requirement was to replace an older video processing system, using a conventional interface, with a touch-screen system that occupied a smaller footprint. Other requirements included the ability to turn the whole system on and off through a software control in the PC. Over the course of the project, we were able to suggest changes to the program requirements that significantly improved both cost and reliability.

We knew from the beginning that ergonomics and usability were going to be critical for a device that used a touch-screen interface to control a complex medical device. Design of the plastic tracked closely to the design of the different electronic components. We were able to create a custom bezel that provided an aesthetic connection to the existing product line and would, at the same time, protect the system from medical wipedown.

Prototypes & Validation:

As the electronics of the system evolved, we maintained a SolidWorks drawing of the bezel that matched attachment points and provided clearance and cooling. 3D digital prototyping was used to prove fit and trim, and to demonstrate a working model so the customer could obtain needed certifications.

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