EMBEDTEK

Burke 1040:
Real-time Capture Image Generator

This flexible system accommodates high performance processors as well as legacy cards and application-specific I/O devices. It is designed for medical, scientific and other imaging applications and is ideal for any device built around real-time motion capture with image analysis.

Performance Characteristics:
Support for the latest Tenth Generation Intel® processors. Designed with room for multiple internal drives and one or two double-wide GPUs.

Multiple on-board I/O slots accommodate a variety of different COTS card types, including native support for up to two legacy PCI boards (without the need to transition through PCI-E). 10 USB ports, (6x 3.0v, 4x 2.0v).

Ergonomics:
Aluminum construction makes the system lighter than other workstation systems. Overall dimensions: 6.7"(170mm) W x 17" (432mm) H x 18.3" (465mm) D; weight: 22 lbs (9.9kg).

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:
Burke 1040

A leader in the field of medical/surgical simulation systems shared an ongoing challenge: frequent changes to the configuration of the systems they were getting from another supplier. These component changes interrupted their production and required costly revalidation. We designed an all-new platform that met all their current requirements and allowed for upgrades – on their schedule.

Overall challenge:
Simultaneously manage system design to meet demanding performance requirements, while also managing supply chain design to align component availability with the customer's scheduled program upgrades.

Design:
System design required a high-performance Intel® Core™ i7 Processor as well as a proprietary I/O card. Mechanical design required physical space and support for up to two high-end video cards. Since some configurations of the customer's product had the system concealed within a portable cart, thermal management was a major concern. We designed a custom chassis with the desired airflow and form factor. This all-aluminum chassis made the finished system significantly lighter than earlier systems and provided a better fit into the final product.

Prototypes & Validation:
By applying custom design tools to COTS components, we were able to get prototype systems to the customer within four weeks from program commencement. Launch: Program milestones were aligned with a main program update, including a new GPU and revised software. Since the previous system was already End-of-Life, it was absolutely critical to make our Launch Date. We delivered exactly as promised.

Production, End-of-Life:
We managed the supply chain of all components, including the customer-specified I/O card. As a result, they had to keep track of just one SKU, instead of several. We communicated component availability with the customer in real time, and proactively let them know when we need to do End-of-Life buys. Any future system upgrades will be at scheduled program upgrades, not "emergencies" based on surprise component changes.

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