

BG456: Mobile Simulation Image Generator

This image generation platform supports COTS motherboards and high-performance GPUs without a riser, for inherent protection against heavy shock and vibration. This system is ideal for military simulation applications and other situations where a high performance computer must stand up to tough treatment in transport and during operation.

Performance Characteristics

The platform offers a mix of CPU and GPU options supporting Intel® processors and high performance video adapters.

Ergonomics:

The 3U high, limited-width chassis allows full height GPUs to be integrated without the use of a riser, improving the durability of the platform. Overall dimensions: 12 ½" (317mm) W x 5" (127mm) H x 14 ¾" (375mm) D.

Regulatory/Environmental:

The system is validated to operating temperatures up to 40°C and meets ASTM D4169 vibration testing.

Lifecycle:

Seven-year availability.



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:

BG456



The IG generates a simulated audio and video stream of 24-bit color and 1280 x 1024 resolution at 30 frames per second, creating a realistic simulated environment for military training.

Design:

Small form factor supports “double-wide” COTS GPU in chassis, allowing either horizontal or vertical orientation. Ruggedized design to pass harsh shock and vibration profile, targeted to military trailers and portable crates in transport. Design objectives included footprint size and reduced component count.

Prototypes & Validation:

Early prototypes produced to balance price and performance, and to ensure compatibility with customer’s software. Simultaneous physical validation against MIL-STD shock and vibration profiles.

Launch:

The customer’s software image had been an obstacle to previous suppliers. EmbedTek was able to load the image early in the launch process, which allowed transition to a lower-cost embedded operating system. Additionally, detailed customer labeling and device history requirements were incorporated into the integration process.

Production, End-of-Life:

Product is produced to order, seven year availability. Lifecycle Planning is critical, based on the nature of the application, and the use of commercial “gaming” video cards. Next Generation platform was designed in parallel and began shipping alongside First Gen orders. Both versions are revision controlled, enforcing BOM integrity from throughout the production run.

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