

## Product showcase

### Helmet-mounted display

**Vision Systems International's** helmet-mounted display system (HMDS) provides critical flight information to pilots throughout the course of a mission. The system recently flew for the first time on an F-35 Joint Strike Fighter aircraft. In addition to the standard helmet-mounted display capabilities, such as extreme off-axis targeting and cueing, this system uses the advanced avionics architecture of the F-35. It provides the pilot video with imagery in day or night conditions combined with precision symbology to provide a high level of situational awareness and tactical capability. Its head-tracking capability and low-latency graphics processing enable it to provide the pilot with a virtual heads-up display. The HMDS has completed all required safety-of-flight tests, allowing in-flight seat ejections up to 450 KEAS (knots equivalent air speed) and has demonstrated structural integrity to 600 KEAS as a critical risk-mitigation step towards full flight certification.



### Thick-film resistors

**TT Electronics' IRC Advanced Film Division** has qualified its thick-film resistors to R level military requirements after more than 9 million device hours of testing. These TMC Series military chip resistors conform to MIL-PRF-55342 standards. They experience a failure rate of 0.01% or less. The units are ideal for high-reliability applications including military and aerospace systems, weapon systems, aircraft, and communication equipment. They are available in 1206 Mil/7, 2010 Mil/8, and 2512 Mil/9 package sizes. Resistance ranges from 5.62-1 Mohm for the 1206 chip and 5.62-15 Mohm for the 2010 and 2512 packages.



### Infrared video camera

The SU640KTSX-1.7RT camera from **SUI** offers the highest sensitivity available in the 0.9 to 1.7  $\mu\text{m}$  spectrum with a 640 x 512 pixel format on a 25  $\mu\text{m}$  pitch, making it suited for use with passive surveillance and imaging lasers. The lightweight shortwave infrared video camera delivers clear, real-time video imaging in lighting conditions ranging from starlight to direct sunlight. The indium gallium arsenide KTSX contains a small OEM module



(<4 in<sup>3</sup> and <90 g) for integration into larger systems. The solid-state imager features room-temperature operation with on-board automatic gain control, image enhancement, and built-in non-uniformity corrections. Applications include covert surveillance with passive 24/7 operation, imaging of laser range-finders and target designators, and imaging spectroscopy. The device can be integrated into systems such as unmanned ground or aerial vehicles and other handheld or robotic systems.

### Lead-acid battery

The Hawker 43Ah steel case, sealed lead-acid battery from **Securaplane Technologies** was developed as a fit, form, and functional replacement for existing **Saft** 40678-4 and 40678-7 on Boeing 747 (-100/-200/-300/SP) aircraft. The battery features 99.99% pure lead construction for enhanced life and performance, a 30-month full replacement warranty after installation and 24-months storage prior to installation, shipment fully charged and ready to install, no maintenance, hot and cold performance exceeding other aviation batteries, and high cranking power. The battery monobloc can be replaced at significantly less than the list price of a new battery. It is certified as nonspillable and may be shipped as nonhazardous material via ground or air.



### Single-board computer

**Aitech Defense Systems' C903 CompactPCI** low-power, high-performance single-board computer is available in both rugged air- or conduction-cooled versions. Powered by a 750FL PowerPC operating at 600 MHz, the unit provides high MIPS-per-Watt performance in comparison to other higher-power PowerPC processors. It self-monitors temperature and power dissipation through integral temperature sensors that provide performance monitoring and increased mean-time-before-failure reliability in the harshest environments. The large onboard memory arrays provide extensive volatile, nonvolatile, and mass memory resources. The system controller features two separate and independent PCI-X bus interfaces and dual Gigabit Ethernet interfaces to function as a cPCI system controller or as a peripheral board. Applications for the device include low-power process controllers, actuator/axis control, communication bridges and protocol converters, antenna position controllers, remotely piloted ground and airborne vehicles, and mission-control subsystems.





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