

Product showcase

Data flight recording

The ALERTS (Aircraft Logging and Event Recording for Training and Safety) system from **Appareo Systems** and **Bristow Group** is a low-cost, self-contained aircraft inertial measurement and flight data recording system. Designed for permanent installation in light aircraft, including **Bell 206** and **407** helicopters, the system uses micro-electromechanical systems sensor technology, crash-hardened memory, and advanced 3-D computer-generated graphics to provide flight analysis tools for light aircraft. It provides flight data generation, recording, and playback to allow small operators to improve flight safety and pilot performance.



Smart window shades

Electronic dimmable window shade systems from **Raytheon** permit passengers and flight crew to control the darkness of cabin windows by varying the tint dynamically. The system reduces noise; protects passengers from sunlight, glare, and UV radiation; and protects cabin interiors from excessive solar heat. It uses a suspended particle device light-control film developed and licensed by **Research Frontiers**. It has a longer life than standard shades and is designed to be more reliable with lower maintenance requirements.



Electronic intelligence tool

A signal analysis tool/graphical user interface from **Rockwell Collins**, which is used with electronic intelligence (ELINT) systems, will simplify the ELINT operator's tasks and enable them to perform missions in less time and with less effort. The software features a customizable and flexible user interface that allows database windows to be repositioned and resized during run-time. Manual and automatic modes of operation are supported by the tool.



Fuel-contamination detection

The ACM20 particle counter from the **Racor** division of **Parker Hannifin** is a portable, accurate contamination-detection system that can be used anywhere hydrocarbon fuel is used. The 2-min test allows checking of contamination lev-



els, trends, and integrity. The unit is suited for monitoring fuel in refineries, fuel pipelines, storage tanks, airports, and at the pump. It is compatible with mineral oil, diesel, gasoline, jet, kerosene, heating oil, biodiesel, and aviation turbine fuels.

Die presses

S Series die presses from **Schuler** are designed with standardized modules. A link drive offered for all transfer presses allows a lower drawing speed in the working range for parts that require complex forming. An eccentric drive is present in all progressive die presses to yield higher output rates. Air tanks and power units are mounted onto the press body, leaving the pit free for scrap conveyor positioning. The presses are heat-treated to relieve welding stress and provide higher structural stability, higher dimensional precision, and longer equipment life.



Targeted surface prep

Micro-abrasive blasters from **Comco** are used to texture composites, load cells, and strain gages to improve bond adhesion. The process offers the accuracy and control required to work effectively on small target areas. It uses micro-sized particles of high-grade abrasives propelled from a small nozzle tip at high velocity to clean, cut, deburr, and texture various surfaces. Other applications include cleaning orifices of turbine blades, removing magnesium oxide insulator from thermocouple harnesses, selectively removing corrosion on airframe and engine components, and engraving optical lenses and instrumentation.



FPGA modules

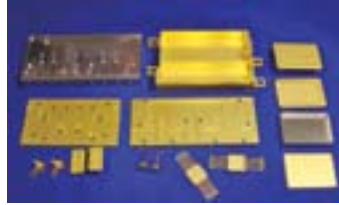
Acromag's PMC-CX series of user-configurable field-programmable gate array (FPGA) modules features conduction cooling and differential digital I/O. The four modules feature Xilinx Virtex-II FPGAs with either 11 or 24 k logic cells and a choice of 32 differential RS422/485 lines or 24 RS422/485 lines with 16 complementary metal oxide semiconductor I/O channels. Enhanced memory gives users the flexibility to embed their code into the FPGA or to modify signal processing operations on the fly by loading new code into flash memory as requirements change.



Product showcase

Airtight packages

Hermetic microelectronic packages from CPS are made from materials including Kovar, aluminum, and steel, and enable successful communication for military, electronics, satellite, and aerospace markets. The firm's facility is certified to ISO:9001:2000, and quality assurance testing is performed to MIL-STD- 883 and MIL-STD- 202. Test and plating capabilities include electrolytic nickel per QQ-N-290 and ASTM-B-689, electroless nickel per MIL-C-26074E and ASTM B-733, and gold per ASTM B-488 and MIL-G-45205C.



Reliable switching

Schottky rectifiers from International Rectifier target high-reliability applications in switching power supplies, satellite power distribution systems, resonant power converters, and low-voltage motor



control. QPL certification ensures repeatable performance regardless of device lot or maturity and eliminates the need for customers to generate their own source control drawings. The rectifiers feature a 45 to 100 V reverse-voltage range, 0.69 to 1.3 V forward-voltage range, and 10 to 35 A rating.

Optical transceiver

The HTP-TR4 Quad Port Hybrid transceiver from Stratos Optical Technologies is a ruggedized, miniature, component-level unit for 1-2.5 Gbps multimode optical data link applications. The device combines three critical design attributes for avionics equipment applications—a 1-in² footprint that fits within a maximum height of 0.235 in, compliance with 1x/2x FiberChannel standards, and ruggedness that withstands avionics vibration and shock requirements. The unit can be insertion-mounted with 15 lb of force to a surface-mount BGA socket soldered to the application card. The socket includes an integrated retaining clip for high-vibration environments.



Fiber-optic cable

Meggitt Defense Systems' Tufflink fiber-optic cable resists handling and clamping loads and has the same form and feel as 24-gage wire. It will not shrink, bulge, or warp with thermal or mechanical cycling. It also provides optical characteristics with virtually no loss at a 3-mm radius of curvature. The cable is designed to eliminate broken fibers and relaxes design constraints on harnesses while reducing both weight and volume by a factor of 3x. Its stress-relieved structure isolates the optical fiber inside from the outside environment.



Tech-lit file

Receive **FREE literature** from featured suppliers. Go to www.aero-online.org, click on **GET PRODUCT INFO** in the left menu bar, and enter the circle number listed. To advertise your company's literature, call 888-875-3976 or 1-724-772-4086.

Webinar – Realistic Simulation of Laminated Composites



Validate composite structure performance while reducing physical prototyping. Abaqus FEA software from SIMULIA provides advanced capabilities that enable you to evolve your composites analysis methods. Simulate dynamic load cases such as cracking, delamination, or impact to gain a deeper understanding of realistic behavior and improve the application of composite materials. Download the Webinar on demand at: www.simulia.com/webinars

aero.hotims.com/13686-32X

Signal processing tool

A firmware development kit from Acqiris simplifies application development on the embedded field programmable gate array of the company's SC240/210 streamer analyzers and AC240/210 signal analyzers. The kit expands the capabilities of the streamer analyzers and signal analyzer cards, which are targeted for real-time signal acquisition and processing applications such as radar, electronic warfare, LIDAR, industrial process control, radio astronomy, and physic beam control.



Turn to the **SAE Store**

for a wealth of technical information



\$89.95

Care and Repair of Advanced Composites

Second Edition

By Keith B. Armstrong, Graham Bevan, William Cole

This second edition has been extensively updated to keep pace with the growing use of composite materials in commercial aviation.

Topics new to this edition include:

- nondestructive inspection (NDI) methods
- fasteners for composite materials
- a method for the surface preparation of metals prior to adhesive bonding, repair design

ISBN-10: 0-7680-1062-4, 664 pp., Casebound 2005.

ISBN-13: 978-0-7680-1062-6

SAE Member Price \$71.96

Product Code: R-336



\$49.95

Lost Fighters: A History of U.S. Jet Fighter Programs That Didn't Make It

By William Holder

This book, by Bill Holder, discusses the "Lost Fighter" turbojet and turboprop propulsion systems of the exciting jet fighter era in the United States since the mid-1940s. Until now, very little has been published about these fascinating fighter activities that, for a variety of reasons, did not reach fruition. Covering fighters that did not reach beyond an artist's concept stage, to those that were cancelled after an evaluation of flight capabilities, to others that were cast aside after losing a fly-off competition, this book makes use of previously unpublished, primary-source material. It provides a coherent picture of U.S. jet fighter development and evolution. This book also includes hundreds of photos, drawings, and illustrations of the many "Lost Fighters."

ISBN-10: 0-7680-1712-2, 216 pp., Paperbound 2006.

ISBN-13: 978-0-7680-1712-0

SAE Member Price \$39.96

Product Code: R-374



\$199.00

Aircraft Maintenance

the Art and Science of Keeping Aircraft Safe

By Bruce R. Aubin

This comprehensive executive-summary-style report written for business professionals, engineers, mechanics, technicians, educators, and students. Author Bruce R. Aubin examines and explains each component of aircraft maintenance in this easy-to-read guide that covers everything from history, evolution, and organization to engineering, evaluation, and the future.

ISBN-10: 0-7680-1242-2, 166 pp., Paperbound 2004.

ISBN-13: 978-0-7680-1242-2

SAE Member Price: \$159.20

Product Code: T-115

2007 Aerospace Standards Index

Lists all Aerospace Standards (AS), Aerospace Recommended Practices (ARP), Aerospace Information Reports (AIR), and Aerospace Resource Documents (ARD) published by SAE. Each listing includes title, subject, document number, key words, new and revised documents, and DODISS-adopted documents. Quality discounts are available. Standing orders are accepted.

List Price: \$72.00/SAE Member Price: \$57.60

Product Code: ASIN2007

January 2007 AMS Index

This Index is the most current listing of Aerospace Material Specifications, enabling you to locate each document quickly and easily. Documents are indexed by subject and number, with the subject index organized into seven special interest areas including: Aircraft Maintenance Chemicals and Materials; Tolerances; Quality Control; Processes; Non-Metallic Materials and Processes; Metals; and Parts. In addition, a "Similar Specifications Index" is included, allowing you to easily find the AMS specifications that are similar to ASTM, AWS, Defense, Federal, or Military specifications. Published in January and July.

List Price \$82.00/SAE Member Price \$65.60

Product Code: AMSJAN-2007

For complete listing of products visit
store.sae.org

SAE International™

Order today!

Online: store.sae.org

E-mail: CustomerService@sae.org

Phone: 1-877-606-7323 (U.S. & Canada) or 1-724-776-4970

Note: prices subject to change. Actual shipping charges will be added.