COTS Avionics and Cockpit Upgrades

A cohesive bundled hardware and software capability providing a commercial-off-the-shelf (COTS) VME module and chassis-based subsystem has been introduced by DY 4 Systems. The ATR system chassis is designed for avionics mission computers and cockpit display upgrades.

The subsystem mission processor element consists of DY 4's newest 80 and 100 MHz PowerPC 603e-based single-board computers. The DMV-176/177 offers up to 12 MB of SRAM or 64 MB of error detected and corrected EDAC DRAM with ethernet, SCSI 2,4 synchronous/asynchronous serial ports and MIL-STD-1553B I/O. Offering over 120 SPECint92 of RISC processor performance, the MIL-SPEC PowerPC 603e sets the standard for high reliability, next-generation avionics processing requirements.

"The new ultra lightweight DMV-965 3/4 ATR system chassis houses a full-featured, 120 SPECint PowerPC 603e processor, high I/O density modules and a dual display high-resolution cockpit graphics controller, making the package an ideal hardware foundation platform for open architecture, P31 technology insertion and COTS upgrade programs," said Chris Ciufo, product marketing manager at DY 4. "The modules may be purchased

individually or as a standalone building-block system."

High-Resolution Graphics

The cockpit display engine is based upon DY 4's leading-edge technology DMV-783 multi-media graphics controller supporting two independent, high resolution (up to 1600X1200) CRT glass or LCD displays. With on-board programmable video and I/O inputs, the DMV-783 supports RGB and B&W frame grabbing capability to support direct-to-sensor video processing of FLIR or application-specific data through a user-programmable FPGA interface. Using the Texas Instruments MVP quad DSP TMS320C80, the DMV-783 can support simultaneous real-time, full motion video, including rotating maps at fighter jet speeds.

Space-Saving Chassis Subsystem

Packaging for the DMV-965 3/4 ATR (short) chassis is ARINC-404A compliant DMV-965 and offers 8 VMEbus slots, over 350 I/O lines and dissipates up to 170W at 50,000 feet altitude with 20°C inlet air. Choice of power supply inputs include 115V 3 phase AC, 28VDC (optional 270VDC) in accordance with MIL-STD-704D. Compliance to RTCA/DO-160C/D and MIL-STD-461 C is ensured through the use of integral power input filters and environmental and EMI/EMC seals on all mating surfaces. A full complement of front panel connectors is provided. The removable front panel accommodates the addition of application-specific MIL-C-38999 connectors as needed. Five open, spare slots provide additional flexibility and promote tailoring of the subsystem to meet varied applications.

Powerful Software and Graphics Support

The cohesive system software includes on-card firmware facilitating intercard communications, sealed-chassis mission-specific ROMreprogramming, and debug capability. A powerful suite of board-level diagnostic routines ranging from power-on (PBIT), continuous (CBIT) and application-initiated Built In Test (IBIT) are provided in firmware. This self-test firmware, along with the available System Level Diagnostics (SLD), ensures a fully operational subsystem providing high degrees of confidence for mission critical applications.

A choice of COTS operating systems includes VxWorks, LynxOS, VADSworks for Ada, and comprehensive inter-card communication drivers and a flexible, multi-mode MIL-STD-1553 communications suite. To support graphics draw capabilities, the user can select highest performance RTGS and COTS application libraries including Virtual Prototypes VAPS drag-and-drop GUI for avionics cockpit displays. Rotating map and US DoD Mapping Agency standards are supported by RTGS primitives and API extensions.

DY 4 is on the World Wide Web at: www.dy4.com

Software Package Is Awarded Best New Product at National Industrial Automation Show

VMIC was awarded the best new product at the National Industrial Automation Show, part of National Manufacturing Week, held on March 10 through 14, 1997 in Chicago, Illinois. VMIC's new product, IOWorks™ Component Software, is a family of Soft Logic software components that enables users to build a comprehensive development and control environment based upon open standards such as IEC-1131-3, OLE, OPC, ODBC, and DDE.

IOWorks is IEC-1131-3 compliant, open architecture, Soft Logic component software for real-time, deterministic, distributed control. It is hardware independent and runs on any PC-based platform including Industrial PCs, standard PCs, VME systems, or Compact PCI systems running Windows NT OS.

VMIC is on the World Wide Web at: www.vmic.com