

Innovative Control Systems, Stock Flight Systems and Wetzel Technology Announce Availability of ARINC 825 Test, Simulation, and Data Acquisition Hardware and Software

Munich, 31 Dec 2009 - Innovative Control Systems of Phoenix, Arizona together with Stock Flight Systems and Wetzel Technology of Germany have announced the immediate availability of the companies PMC825 reference system for ARINC 825 (CAN) and CANaerospace networks.

The transatlantic consortium of three companies, (two of them members of the ARINC CAN Technical Working Group) has turned the original hardware/software system which was used to ensure the consistency and integrity of the ARINC specification 825 during the standardization process, into a set of products suitable for ARINC 825 system designers, equipment vendors, aircraft OEMs and airlines. The original equipment was developed 2 years ago to support the ARINC 825 specification development activities and the reference systems have been shipping to customers since November 2009.



The PMC825 system includes a PMC format module supporting 4 fully independent, optically-isolated ARINC 825 channels or 8 fully independent non-isolated ARINC 825 channels. Each module also contains a 10/100/1000 BaseT Ethernet interface and a Bus Mastering PCI interface operating at up to 64 bits and 66 MHz for data exchange to the host platform.

The PMC825 modules can work as either standalone systems linked to host computers via Ethernet/UPD/IP or as plug-in boards for computer hosts offering PMC, PCI, Compact-PCI, PCI-X, PCI-Express or VME interfaces. The PMC825 PCI interface fully supports 3.3V or 5V signaling up to 66 MHz. The PMC825 is supplied with an Application Programming Interface (API) for Ethernet/UDP/IP, and VxWorks, Linux and Windows XP/7 Drivers. Additionally, it is fully integrated into the TechSAT ADS2 System Integration Bench (SIB) and ADS3 New Generation Test System (NGTS). TechSAT is a leading supplier of Test & Integration Systems for the aerospace industry and a strategic partner of the PMC825 consortium.

The PMC825 hardware uses a Xilinx Virtex-4 FPGA with dual embedded PowerPC 405 processors running at 200 MHz each. The CAN 2.0B interfaces are implemented with licensed Bosch CAN controller IP cores to ensure compatibility with the CAN standard and to allow precise hardware timing and control over the transmission and reception of ARINC 825 messages. The Xilinx FPGAs provide local buffering and 30ns time stamp resolution for all CAN messages. The PMC825 also supports listen only and loopback modes. An onboard MicroSD interface is included on each module

for data acquisition storage and for module configuration information.

A standalone enclosure is optionally available for the PMC825 module. The standalone option (PowerNECS) integrates the PMC825 module into a rugged aluminum box that can be powered from 9-36 VDC allowing it to run from standard 14V or 28V DC aircraft power buses and may be used for flight test applications.

The PMC825 is delivered together with the eXtended CAN Tool (XCT) software, a powerful window-oriented ARINC 825 network toolbox for Linux and Windows XP/7. Among other features, XCT contains an ARINC 825 Communication Profile reader and editor, graphical data representation, network traffic/error statistics and an interface for ARINC 825 Periodic Health Status Messages and Node Services. XCT is compliant with the original ARINC specification 825 as well as supplement 1 which will be released January, 2010. In addition, it provides full support for the CANaerospace protocol and the ARINC specifications 812 and 826 which are both based on ARINC 825.

According to Michael Stock, principal of Stock Flight Systems, "the PMC825 is the ultimate product to implement, test and verify ARINC 825 designs and to ensure that products or entire ARINC 825 networks are compliant with the ARINC specification 825. The reason for this is simple: Experience. We have spent over 4 years helping define every detail about ARINC 825 Network Layers, Communication Profiles, Node Services and the other specific features because we belong to the Technical Working Group that developed the ARINC 825 standard."

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