



REPORT FROM THE EXECUTIVE DIRECTOR

On May 23, Eric Anderson and James Snider visited the Federal Communications Commission (FCC) in Washington D.C. with Robert Schwartz, a consumer rights attorney hired by the 1394TA. We gave detailed examples of how consumers can benefit from existing 1394 standards to achieve a significantly better digital TV experience, as we felt had been envisioned by the FCC in its past rulings and actions. But we explained that many set-top boxes presently deployed to consumers did not take full advantage of 1394, and in some cases locked out 1394 completely. We offered to work with both the FCC and the cable industry to unlock 1394's full potential, and this message was received very positively.

We met with Commissioner Adelstein, Jordan Goldstein in Commissioner Copp's Office, Rick Chessen Head of DTV Task Force as well as The Office of Engineering and Technology and The Media Bureau. We have scheduled a follow up meeting with Chairman Martin's office following the 1394TA Quarterly Meeting in Troy.

In the meantime, your Executive Director is visiting one-on-one with major cable providers in the US market: Cablevision, Comcast, Cox, and Time-Warner. Our goal is to make them aware of the tremendous competitive advantage 1394 gives them for offering compelling, exciting, and desirable new services. More on that in the next newsletter.

— James Snider

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Smiths Aerospace Implements 1394 Technology on Next Generation Unmanned Military Vehicles

Smiths Aerospace a leading transatlantic aerospace equipment and system company was recently selected by Northrop Grumman Integrated Systems to supply triple-redundant engine interface units (EIU) and engine throttle actuators (ETAs) for the X-47B Joint Unmanned Combat Air Systems (J-UCAS). The development and production phases could potentially be worth nearly \$15 million should the demonstration program enter production. The ETA is supplied in partnership with Eaton Aerospace. Ship set deliveries will commence in the fourth quarter in 2005 from Smiths' facility in Michigan.

Commenting on the company's J-UCAS involvement, Dr. John Ferrie, President, Smiths Aerospace said, "This win marks the next step in Smiths' actuation control from our new Vehicle Management System. We look forward to continuing a long and successful relationship with Northrop Grumman."

In addition to this win, Smiths has recently delivered the program's first electronics including vehicle management computers (VMCs) and remote input / output units, plus mission computers for the surrogate air vehicle. The vehicle management computers are the heart of aircraft avionics, acting like the vehicle's central nervous system. The triple-redundant J-UCAS VMCs are the backbone of the air vehicle's computers, networks, and interfacing electronics, and together with the Smiths-supplied redundant mission computers, will host all of the airplane's avionics, flight controls and utilities functions. The system will replace dozens of traditional, standalone computers and data busses fitted to present day aircraft.

About the mission computers

Just as an aircrew shares the burden of flying the vehicle and operating the sensors, the mission computers and VMCs are integrated to execute combat missions. The dual mission management computers (MMC) that Smiths is

supplying are the same design as the VMC; but extended with solid state mass memory. The system interface is a general-purpose design that implements the subsystem interface for both the VMC and the MMC.

About remote input / output units

The remote input/output (RIO-1394) product is a part of Smiths RIU product family which has been used on several military programs. The RIO was recently fielded to support the F-35 and is a major contributor to saving weight in the aircraft by eliminating the need to install several hundred feet of analog discrete signal wires to the VMC from remote locations.

The RIO-1394 provides digitization of analog, discrete, and fuel probe signals from the vehicle and provides an output via IEEE-1394 interface to Smiths' VMC for further processing. The RIO also converts the commands received from the VMC to analog and discrete outputs for controlling various functions in the aircraft. A total of nine units will be utilized per aircraft.

About the vehicle management system

Smiths is supplying the vehicle management computers (VMC) for the X-47B, which Northrop-Grumman is developing for DARPA's Joint Unmanned Combat Air Systems (J-UCAS). In addition to Guidance, Navigation, and Flight Control, the VMC automates the other system functions that an aircrew performs on a manned vehicle. The triple-redundant VMCs exchange system state and control information to detect faults by means of approximate consensus; and manage the redundant components to provide fail-operational service.

The system is easily scaled to a quad configuration, and in 2003, Smiths demonstrated an innovative approach to start, vote, synchronize, and restart a quad modular system. The open hardware and software architecture is easily adapted or extended to different vehicles and changing applications. The distributed system architecture is built on IEEE 1394 communication network technology, which has emerged as the standard for next-generation manned and uninhabited vehicles.

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About electrical power generation & distribution

Each electrical power generation system (EPGS) produces 80kW @ 270Vdc. Each generator is a totally integrated, modified version of the F/A-18E/F VSCF; that is, the EPGS package includes all control & conversion electronics integrally-mounted in a single unit along with three (3) independent, isolated, regulated PMG-based 28Vdc Converter/Regulator outputs (powering Smiths' VMC, Mission Computers). Smiths' growing family of integrated EPGS offers the highest power density by weight / volume of any generator system available. Smiths' approach to integration offers aircraft designers the utmost in air vehicle layout flexibility.

The High Voltage Distribution Units (HVDUs) being supplied are for distribution of current-protected 270 Vdc power on the air vehicle. These units provide the interface between Ground Power, Emergency Generator, Smiths-produced Main Generator and the 270 Vdc loads on the air vehicle. This award augments our selection on other Northrop Grumman UAV programs, and solidifies Smiths as the leading supplier in HALE / MALE UAV Electrical Power Systems.

About fuel measurement & management

The team of Argo-Tech and Smiths Aerospace will provide the system engineering analysis, components, integration and support for the J-UCAS air vehicle fuel system. The fuel measurement and management software will execute as hosted applications in the Vehicle Management Computer.



Smiths Aerospace's RIO-1394 product is part of the RIU product family which is used on several military projects. The RIO-1394 provides digitization of analog, discrete, and fuel probe signals from an unmanned drone and provides an output via IEEE 1394 interface to Smith's VMC for processing.

UP COMING EVENTS:

JULY

Q3 Meeting

July 18-21
Embassy Suites Hotel
Troy, Michigan
www.1394ta.org/events/index.asp

SEPTEMBER

CEDIA EXPO 2005

September 7-11
Indianapolis, Indiana
www.CEDIA.net

OCTOBER

Connected@Home Conference

October 3-5, 2005
Mandalay Bay Hotel
Las Vegas, Nevada
www.caba.org/connectedathome/

Q4 Meeting

October 2-5, 2005
Mandalay Bay Hotel
Las Vegas, Nevada
www.1394ta.org/events/index.asp

NOVEMBER

Electronic House Expo (EHX) Fall 2005

November 7-11
Anaheim Convention Center & Marriott Hotel
Anaheim, California
www.ehxweb.com