

# New Avionics

## Thirty Companies Reveal Their Latest Magic

BY GARY PICOU

Every year, general aviation avionics manufacturers and installers meet at the Aircraft Electronics Association's Annual Convention and Trade Show to trade ideas and show off the new stuff.

At the most recent convention, many manufacturers introduced extra slick advanced avionics that will soon be the hottest things on the market. Others introduced new services they offer. Here are their stories ...

We split this into three sub-groups. There is general aviation avionics, the sort of products that live in owner flown piston singles and light twins, and then there's the corporate world of gold lav fixtures and pressed white shirts with Ray-Bans dangling from the epaulettes. Lastly, we'll let you know what new services some are offering.

### GENERAL AVIATION

#### Avidyne

As a pioneer in cockpit display technology, it is no surprise that Avidyne announced the certification of the first Integrated Flight Deck in a light aircraft. The Entegra suite is now FAA-approved in the Cirrus SR22, and will be offered in Lancair Columbia 350 and Diamond DA-

40 aircraft. The Entegra's integrated Air Data and Attitude Heading Reference System (ADAHARS) means that big-iron capability is compacted to fit in a general aviation panel.

Avidyne also introduced the FlightMax EX500. This multi-function display (MFD) has the datalink radio built right into it, so external receiver units (other than an antenna) are not required. Integrating the datalink means the interoperability is optimized, while installation wiring is simplified, and reliability improved. It also means that the pilots can see integration of the features provided by datalink, such as graphical and text weather, and popup TFR displays. The EX500 has a list price of \$8,995, including the data radio, or \$9,995 if there is a radar interface desired. Avidyne's MFDs can use a variety of radar "sensors" (the bits in the nose of

the airplane that wobble around) and integrate the radar display for a comprehensive situational display. In fact, Avidyne claims that the FlightMax 550 "FlightMax displays all your safety-related flight data for optimum situational awareness."

This includes weather (radar and Stormscope), traffic and terrain. All of the "gotcha" in aviation.

The datalink offered by Avidyne is called Narrowcast, and according to Avidyne, it "provides the weather you want, when you want it, where you want it."

This is because the Intelligent Datalink System knows your current position, has stored your flight plan, and weather preferences. With Narrowcast, the latest weather is sent as soon as it is updated.

Another new product used for the datalink is the DC50 antenna coupler. This device allows your FlightMax to share a VHF comm antenna, and thus saving the additional airframe appendage. This unit costs \$495, with the purchase of the EX500; but has the potential to save more money in the installation.

[www.avidyne.com](http://www.avidyne.com)



Avidyne EX500

## Avionics Innovations

Want to get some serious tunes aloft? Well, Sirius anyway, as in the Satellite Radio service provider. Avionics Innovations introduced the AI-SSR, which is a panel mounted Sirius Radio receiver. One-hundred digital-quality commercial-free Sirius stations signals are available coast to coast for a \$12.95 monthly subscription fee. List price on the AI-SSR is \$2,995.



Avionics Innovations AI-SSR

Avionics Innovations has also added a moving map to their product offerings. The Flight View can accept RS-232 or ARINC 429 position information from the GPS and present the aircraft position on a moving map. This system will be available in the summer of 2003. [www.avionicsinnovations.com](http://www.avionicsinnovations.com)

## Bendix/King

On the Bendix/King side of Honeywell is a very intriguing product. Called the KI825, this is a direct replacement for the KI525 HSI which has been fairly standard in high-class airplanes



Bendix/King KMD250

for 25 years. This unit sports a 3-inch format, color, active-matrix LCD display. Besides the KG102 and KSG105 gyros, it interfaces with the WX-500 to present weather on the display. Bendix/King offers a trade-in program for the KI525, so when you are ready to move from steam gages to electronic, give 'em a call!

To enable pilots to use the latest Traffic Information Systems (TIS), Honeywell offers the Bendix/King KT73 Mode S transponder. This unit interfaces with the Bendix/King MFDs to provide situational awareness of other close aircraft in the ATC systems.

Also new for 2003 in the panel mounted suite is the KMD250, a high resolution, super sharp multifunction display that can include an optional built-in GPS, with their new AutoNav feature. This system is datalink and traffic ready, displaying detailed topography. This system also is enabled to interface via QuickTune to channel KX 155A/165A navcoms. [www.bendixking.com](http://www.bendixking.com)

## Comant

Can there really be something new and better in the world of aircraft antennas? You bet! Comant has created a new line they dubbed Comdat. These are VHF comm antennas that include either a GPS antenna, or a GPS notch filter that is needed to prevent the VHF communications from interfering with GPS. This will allow for GPS and com antennas to be mounted closer together, or in the case of the Comdat CI2480, in one antenna!



CI 248 and CI2480 Series Comdat Combination Antenna

Combination antennas mean installations require less labor hours. Installing more avionics is easier, because antennas can be closer together, and in many cases, without new airframe holes. No holes means no new structural work, which in turn means easier FAA installation approval.

Currently, there are 16 models in the COMDAT line ... all FAA TSO approved. [www.comant.com](http://www.comant.com)

## Garmin

From the G-IV to gee-whiz, this convention covers the whole breadth of the industry. Garmin introduced arguably the most comprehensive portable navigation system to date, the GPS196. This unit will cover air, land and sea navigation, includes extended runway centerlines for



Garmin GPS196

Continued on following page...

## NEW AVIONICS

Continued from page 2

easy approaches, and a virtual instrument panel page.

Garmin also introduced the availability of a terrain upgrade for the 400 and 500 series navigators. This is a \$500 upgrade that contains a worldwide terrain data and obstacles over 100 feet tall. In GNS530 and GPS500 this can become a Class B TAWS (Terrain Avoidance Warning System), with the appropriate audio call outs. This is a factory only upgrade, with a price of \$6495. Either terrain, or TAWS-B can save your life.

[www.garmin.com](http://www.garmin.com)

### Mid-Continent Instruments

Sometimes the simplest instruments are taken for granted. Thankfully, our industry has folks like Mid-Continent Instruments who revisit their core business to look for improvements.

Take the turn coordinator for instance. Mid-Continent has a direct replacement for the omnipresent Electric Gyro Corp 1394T100-7Z. The 1394T100-7A boasts twice the MTBF, and a warning flag that actually monitors rotor speed. Until now, most gyros pulled that tiny little red flag when power was applied, even if the gyroscope was not



Mid-Continent Instruments 1394T100-10RA

ready to help fly the airplane.

The 1394T100-10RA is a direct replacement for the gyro (Cessna PN S3291-1) used by Cessna with the Bendix/King KAP140 in the late model singles.

How did Mid-Continent improve this gyro? Experience—experience they have gathered in the last 23 years in instrumentation. Experience that tells them to use stainless steel gimbal supports, new technology surface mount circuit board, and a ceramic inclinometer ball. These gyros use single piece HEA glass with field replaceable lighting.

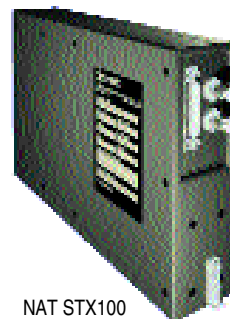
[www.mcico.com](http://www.mcico.com)

### Northern Airborne Technology

Northern Airborne Technology, a company affectionately known as NAT, is a Canadian division of Chelton. In 2003, they introduced a \$15,000 Satcom system, called STX100. This is a Globalstar (48 LEO satellites) based system supporting both voice and data. The STX100 includes a remote mount transceiver, cockpit mounted dialer, and Comant antenna. Installation certification is under Transport Canada STC, there is an FAA STC pending. There are optional handsets available to meet the cabin installation requirements.

The optional LMC01 Latitude Mobile Controller module is available to provide Mobile Dispatch, Tracking, Data Delivery, Position and status reports.

To complement the STX100, NAT introduced a Globalstar antenna (made by the Comant Chelton division), and the PTA12 telephone dialer. This Dzus-rail unit allows flight crew access to Satcom through the aircraft audio system, using a two wire inter-



NAT STX100

face. The features include, Hook, Hold, Last Number Redial, Flash and Volume controls. The PTS12 is configurable with other manufacturers' Satcom products as well.

Northern Airborne Technology has been a long time leader in special mission and helicopter audio systems, and this year they introduced a stereo entry-level stereo audio control panel that offers 3-com, PA, 3 Nav audio selection, plus intercom volume control, VOX/Live/ICS PTT modes, music volume control, and music muting during radio and ICS activity. The AA12S offers 100mW/channel of headset audio power.

NAT also introduced expandable versions of their AMS50-series audio panel. These use intercom tie line to interface with their AA38 series and A82 series 6 stereo intercom systems.

[www.northernairborne.com](http://www.northernairborne.com)

### PS Engineering

The intercom company that has evolved into an avionics manufacturer has continued evolving their product lines, and



PS Engineering PAV80



2003 is no exception. This year they unveiled two new products, a DVD entertainment system, and a high-powered intercom.

The PAV80 is a multifaceted in-flight entertainment system, in fact the company calls it multi-tasking. The panel unit supports DVD video through up to four monitors, and has the capability to split the output to provide AM/FM to the pilot at the same time the passengers are listening to a movie (or vice versa). The unit also plays conventional CD, and, with MP3 technology, can play 20 hours of music on a single disc. The list price for the system is \$2,995, including one 5-inch LCD monitor, and deliveries are expected this summer following an STC program already underway.

The second new product is the PM1200, billed as the world's most powerful intercom. This unit, with a list price of \$499, was designed specifically for the loudest cockpits, such as warbirds, and aerobatic aircraft. Equipped with IntelliVOX, and Active Microphone Processing, the audio is specifically filtered to enhance voices while reducing noise.

[www.ps-engineering.com](http://www.ps-engineering.com)

### UPS Aviation Technologies

Some of the biggest buzz this year has been the new navigation systems from UPS Aviation Technologies. This company introduced the CNX80, which is a Wide Area Augmentation-enabled (WAAS TSO C146a) navigator. This unit is capable of stand-alone precision GPS approaches, a feature that will open up hundreds of airports for bad weather use. This is possible, because the position is



UPS Aviation Technologies CNX80

updated five times faster than non-WAAS systems.

The CNX80 incorporates on-screen control for comm/VOR/ILS/GS and even includes transponder (with UPSAT avionics suite). The company claims that the CNX80 is the "Most Advanced Navigation and Communication Tool Ever Developed for General Aviation," and many folks we spoke with tend to agree.

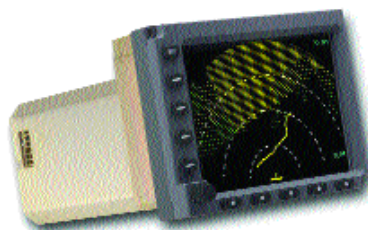
The CNX80 offers weather display, via WSI interface, and supports a split/screen vertical terrain profile on the MX20 MFD.

[www.upsat.com](http://www.upsat.com)

### CORPORATE AVIATION

#### ACSS

ACSS is a joint venture company between L-3 Communications and Thales company. This year they introduced a new family of cockpit displays, the PVI Series, which is due to hit the ramp by late 2003. These are 6.5-inch Multi-Function Displays designed to present TCAS/TAWS/radar and moving map information.



ACSS PVI display

The PVI displays were designed for the company's T<sup>2</sup>AS, which was introduced last year as a one-box combined TCAS and TAWS, optional GPS and Windshear.

[www.l-3com.com/acss](http://www.l-3com.com/acss)

### Aerospace Communications Systems



With all of these telecommunication systems being installed, like Globalstar, AirCell, Iridium and Inmarsat, is anybody thinking about the inside distribution for corporate jets? Aerospace Communications Systems (ACS) was formed to do just that.

Their new product is the APX160 Private Base Exchange (PBX) system for aircraft. This unit will take one line, and provide six stations for voice, fax and data, including multiple intercom loops. Calls can be transferred around the aircraft, but the access can be restricted as needed.

The APX160 will accommodate three conversations at once. Installation is easy, because it doesn't require complex programming, a master station handles these chores. List price is \$5,995.

[www.aerocommsys.com](http://www.aerocommsys.com)

#### AirCell

The terrestrial AirCell system now covers 96 percent of the continental United States from FL 180. In the last 18 months the company has added over 120 site upgrades with new antennas

Continued on following page...

## NEW AVIONICS

Continued from page 4

for improved coverage and quality.

After establishing their in-flight legal aviation network across the United States, the company is now reaching for the stars with Iridium satellite products. The new AST 3500 Global Telecommunication System is a dual channel system that supports data and voice through up to three handsets, plus the audio panel. This is an easy upgrade from the existing remote-mounted AirCell installations. The ST 3100 Global Telecommunication System is a single-channel satellite system. Both systems can be installed outside the pressure vessel in high-performance aircraft.



AirCell AST 3500

AirCell offers services through MedAir, as well as data with AirShow, UniLink (Universal) and Jeppesen. Telecom billing service is also offered through Satcom Direct.

[www.aircell.com](http://www.aircell.com)

## Blue Sky Network

Blue Sky Network is an Iridium SatCom provider, and the company introduced their C-1000 and C-1000A systems at the convention. The C-1000, which has



Blue Sky Network C-1000

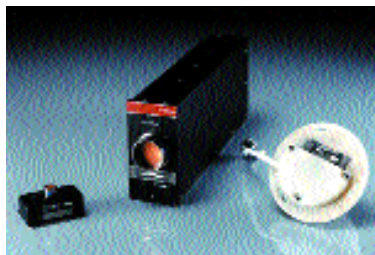
been out since 2002, uses a digital Motorola telephone system. This has been STC'd and PMA approved for aviation use.

Blue Sky's latest offering, the C-1000A is a data unit that supports flight following and 2-way messaging datalink. It connects to the Blue Sky Network Communications Hub for message routing and other functionality. Target retail price is \$5,000.  
[www.blueskynetwork.com](http://www.blueskynetwork.com)

## Collins

Possibly the oldest avionics manufacturer represented (unless we consider Honeywell as Sperry), Collins, is nonetheless introducing products that represent the newest in technology. This year Collins presented three new systems, the AHC-1000 Attitude Heading Reference System, FSU File Server Unit, and HST-900 High Speed Data Satcom Transceiver.

The new solid state AHC-1000 is based on proven MEMS technology and the AHC-3000 System. This high reliability sen-



Collins AHC-1000

sor package (10,000 hour MTBF) solution is certified for 11 OEM aircraft, and another 10 retrofit aircraft. These systems can handle the 200mS power interrupt testing and 200 v/meter HIRF requirements, which is not easy with this complicated of a system.

The File Server Unit (FSU) is an airborne system that acts like your companies file server. It handles and distributes the data received and stored to the appropriate users. This includes weather (turbulence, precip, tops, etc.), traffic and flight data (such as electronic charts) needed by the crew.

[www.flycollins.com](http://www.flycollins.com)

## EMS Technologies

EMS Technologies introduced the Storm 4, as well as upgrades to the HS128.

If you want portable Inmarsat capability, the Storm M-4 is a transportable terminal that supports up to 64Kbits of data and voice. The EMS Storm operates over the Inmarsat Global Area Network, and as such can be used anywhere in the world, in any terrain and in virtually any weather conditions. Along with low- or high-speed voice communications, the lightweight ruggedized EMS STORM terminal allows users to send and receive e-mail,



EMS Storm M-4

access the Internet, and transmit audio or video files at 64k or 128k speeds. The device supports a range of interfaces and can run on heavy-duty camcorder batteries.

EMS also announced an optional service bulletin under which EMS would add enhanced data connectivity for the HSD-128 High-Speed Data Terminal. This optional upgrade eliminates the need for an external ISDN terminal adapter, and provides a direct connection to the Swift64 ISDN, and in the near future to packet data services. The Ethernet connectivity is in addition to the standard ISDN interface that will continue to be supported.

EMS Technologies has partnered with some of the most respected names in avionics to facilitate STCs, including Pentastar (for the G-IV), Duncan Aviation (Lincoln and Teterboro), Savannah Air Center, Jet Aviation-Basel, Switzerland, Bombardier Montreal, L-3 Communications in Greenville, Texas, Northrop and ProStar Aviation in New Hampshire, to name a few. More installers are always welcome.

[www.ems-t.com](http://www.ems-t.com)

### Emteq

On a lighter note ... literally ... Emteq introduced a new series of solid state (LED) lighting systems including upwash, downwash and reading light systems. Instead of the T1 standard, these are using a cluster of surface mounted LEDs which have a 50 percent smaller cross section, 40 percent less weight, and 15 percent lower power consumption. I guess you could call these "lite lights?"



EMTEQ miniwash

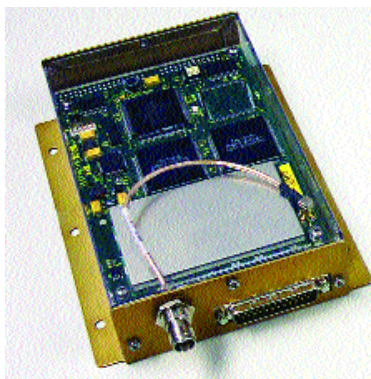
Seriously, these solid state lights offer a huge improvement in reliability, power consumption, and just plain appearance over the old dim bulbs.

[www.emteq.com](http://www.emteq.com)

### FreeFlight Systems

In case you missed the hoopla, the young company known as FreeFlight Systems is fundamentally the aviation core of Trimble. The helicopter, business and commercial avionics products manufactured by Trimble were acquired by FreeFlight Systems July 2001.

FreeFlight is recognized worldwide for leading achievements in GPS technology, and their business has increased 40 percent and continues to grow. This year, you could ask, "Waas up?" And you are right. FreeFlight announced the certification of a WAAS sensor, the 1201. This is a 10 Channel assigned to track



FreeFlight WAAS Sensor

GPS at 50 bits-per-second, with the remaining two channels to track WAAS.

FreeFlight is also working with Pentar Avionics to integrate the JetLAN, a file server in the sky designed to interface with onboard computer systems to provide both passenger data, for business, and electronics flight bag data for the business of flying.

[www.freeflightsystems.com](http://www.freeflightsystems.com)

### Heads-Up Technology

Last year, Heads-Up Technology introduced the XM radio to aviation, and this year they introduced a new service, Weather Works data using XM as a distribution medium.

The service includes; METARS, NEXRAD, TAFS, Lighting Strikes, Winds Aloft, Tops and SCITS (Storm Cell Identification and Tracking). The radar images are on the air 45 seconds after the sweep. Subscription cost is \$49.99 per month, and the Heads-Up hardware is available from DAC International.

[www.heads-up.com](http://www.heads-up.com)

### Honeywell

Honeywell Business, Regional and General Aviation introduced the new acquisition of Baker Avionics to form the Cabin Management, Systems and Services division. This group is bringing systems such as XM Radio into the cabin management arena, as well as the JetMap Cabin Briefing and information system, and the HB3000 display. This is the largest flat panel LCD available to the business jet market today, with a 30

**Continued on following page...**



## NEW AVIONICS

Continued from page 6



Honeywell HF-1050

inch diagonal viewing area, and 16:9 aspect ratio. It is capable of displaying VGA, NTSC, PAL, SECAM and MESECAM video formats (in other words, about anything known to mankind).

Some good news for the Cessna Citation operators faced with meeting Reduced Vertical Separation Minima (RVSM). Honeywell has a solution for serial numbers 001 to 274, with their AM-250 Barometric Altimeter, KFC325 autopilot, and EFIS 50. Not only will this retrofit allow flights internationally where RVSM is required, but you get state-of-the-art avionics to boot! The AM-250 Barometric Altimeter contains a state-of-the-art LCD display, with solid-state pressure transducer (no moving parts).

Honeywell also unveiled a new HF radio, the HF-1050. This is a 200+ watt system that is 20 percent lighter than competitive systems. For many remote operations HF remains a very good way to receive voice and datalink transmissions, and the HF-1050 is upgradeable to ARINC HF datalink capability.

Honeywell is also on the data bandwagon, and introduced the High-Speed Data HS-700 and HS-702 data units. The 7000 is single channel, and 702 dual channel, using Swift64 protocol for file transfer.

For Iridium, Honeywell now offers the AirSat Audio Integration Unit (AIU), which includes multiple handset support and audio system interface through the dialer unit.

Under the heading of "I bet you didn't know, but somebody may want one" are the Mark II Observer Mapping and Task Management System that is specifically for corporate, special mission and paramilitary use. This provides detailed mapping to street level, offers, multiple display outputs for FLIR, pilot MFD, DF and data link interfaces.

On the horizon, artificial, virtual or otherwise, is a new Apex system from Honeywell, the Apex/R. The "stroke Romeo" is specifically for retrofit operation, and this suite is designed for such airframes as the Beech King Air 200, Cessna Conquest I, Conquest II and Citation 501/I and Citation II. APEX/R includes super high resolution XGA displays for primary attitude, heading and air data, an all new digital Nav, Comm and datalink weather and traffic, dual GPS with WAAS capability, dual channel solid-state ADAHRS, and three-axis digital autopilot.

[www.bendixking.com](http://www.bendixking.com)

### Icarus Instruments

Icarus has a new line of products called Sky Connect. The Iridium-based telecom systems include the EXECUTIVESA, which features a cordless handset and has been certified on Cessna CitationJet. The EXECUTIVE operates with up to four handsets, one or two phone lines, and supports both internal conferencing and intercom between cabin and cockpit.

Charging cradles come in flush-mount and drink-rail mounting styles, and a choice of colors.

For the front of the airplane, Icarus offers the FLIGHTDECK unit, suited for one- and two-pilot flight crews. This is a Dzus Rail mount dial pad that is manufactured by NAT, and interfaces with aircraft audio panel. The FLIGHTDECK permits full duplex calls with pilots' headsets, and has a privacy feature in two-pilot system.

One variation on the Iridium is the Sky Connect TRACKER, a system that permits real-time tracking via secure internet feed. When used with FLIGHT EXPLORER, the user can get Pole-to-Pole coverage with available data including position, (altitude ground speed, heading, GPS flight plan, departure point, planned destination, ETE/ETA aircraft/engine events and warnings, emergency and pilot-activated SOS notification. This system integrates with Sky Connect voice systems, and offers either internal or external GPS receiver.

[www.icarusinstruments.com](http://www.icarusinstruments.com)

### Shadin

What would you think of a product that could easily solve an RVSM dilemma for more than



Shadin Co. ADC-6000

1,500 airplanes? A solution that is almost a drop-in and fly away? Shadin, along with Aeromech, has such a solution. Their ADC-6000 RVSM system replaces the existing air data computer, pin for pin, and adds a redundant system with many more features. These include fuel management function (Fuel Used, Fuel Remaining, Endurance, Reserve Fuel At Destination, Fuel To Destination), enabling the GPS with TAS to enable calculation of real-time wind in flight.

The ADC-6000 supports True Air Temperature Calculations using the existing OAT probe, sending magnetic heading to the GPS to enable the wind calculation, and barometric corrected altitude for the VNAV functions. The Shadin solution also provides the new MODE-S transponders with RVSM corrected altitude on the serial data buss and the grey code, among others. It has an ARINC format output compatible with all Class A TAWS systems. This in turn supports upgrades to EFIS systems, enabling them to show all air data parameters, including the IAS, BALT, IVS, TAS, TAT, SAT and wind.

The dual system monitors the difference between the two systems, and annunciates any difference exceeding 200 feet.

Since it's Shadin, you can bet that the RVSM system aids in trending by reading the engine N1, N2, ITT, Fuel Flow, and automatically recording the required data to satisfy the engine trending data requirement.

**www.shadin.com**



Meggitt Avionics/S-TEC conquest panel

### Meggitt Avionics/ S-Tec

The synergy between flight control maker S-Tec, and EFIS company Meggitt continues apace since their merger. This year, their product introduction revealed that certification was nearly complete for avionics suite upgrades in all Twin Commander aircraft, including MAGIC EFIS with Air Data Attitude Heading Reference System (ADAHRS) and MAGIC 2100 DFCS Digital Flight Control System.

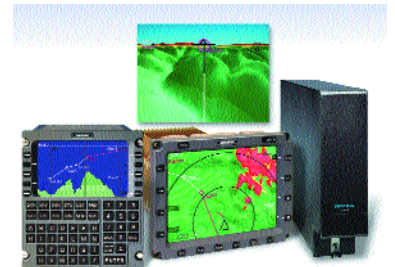
The program has finished Cessna 441, and the data is in to the FAA for the King Air C90, while Cessna 425 (Conquest I) and Cheyenne II is in flight test. The model list is growing, but the company wants avionics shops to further identify candidates among aging heavy twins that have good airframes, but antiquated avionics (and there are quite a few).

**www.s-tec.com**

### Universal Avionics

Universal presented three new products, a TAWS "B" system, UniLink Comm Management System, and an upgrade service bulletin to upgrade the electronic flight instruments with full screen blue over brown on synthetic vision presentations.

The Class B Terrain Awareness Warning System (TAWS) introduced meets the required TSO C151A class B functions Modes 1, 3 and 6, (5 with ILS & RA) The displayed terrain capability is their Class A TAWS. This system offers "Look ahead" capability, and is



Universal Avionics TAWS

upgradeable to Class A. Since it is Class B, it is compatible with 2000 foot radio altimeters, and has premature descent alert. This system carries a list price of about \$20,000.

The new UniLink UL700/701 Communications Management Unit (CMU) is a datalink management system that provides: Up-linked weather graphics and text weather, digital ATIS, as well as text messaging, ACARS and CPDL. The datalink box can support an optional built in 20 watt

**Continued on following page...**



## NEW AVIONICS

Continued from page 8

VHF radio (or is compatible with AirCell and Iridium), in a light-weight 1 MCU package. The new box is backward pin compatible with UL-600/601. The list price is between \$20,000 and \$28,000 depending on options.



Advance Data Research FG 5000

For Universal EFI customers, there is a service bulletin available that adds full screen blue/brown background for Vision-1 System. To refresh your memory, Vision-1 provides terrain combined with the flight plan and projected flight path of the aircraft. The bulletin provides an added option for airspeed advisory.

[www.universalavionics.com](http://www.universalavionics.com)

## SERVICES

### Advanced Data Research

Advanced Data Research is a manufacturer of Electronic Flight Bags, essentially a dedicated PC that contains everything a pilot might tote around in his beat-up leather case.

This year, they presented the FG-5000 Cockpit Display and FG-8000 Remote Display. The FG-8000 has a 12-foot VGA connector, so the display can be mounted more or less permanently, but the computer remains easily upgradeable. Both are

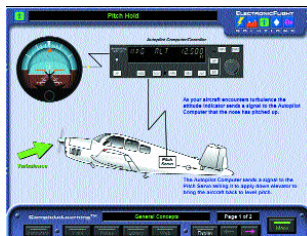
Fujitsu based platform, Windows 2000 systems. Cockpit lighting requires that these have a 500 nit screen with viewing enhancement that will dim down to 1 nit, while maintaining decent contrast, antiglare and viewing angle. The hard drive is capable of withstanding higher altitudes, and holds 40 gig.

[www.adrsoft.com](http://www.adrsoft.com)

### ElectronicFlight Solutions

All of this magic will be fairly useless if no one can use it. One company that understands this situation very well is ElectronicFlight Solutions. Their goal is to educate the pilot population to get the best (and safest) use from their expensive avionics. They have training programs that emphasize concept learning, not just memorization.

The latest offering is an Interactive Trainer FAA-Accepted CompleteLearning program for the Garmin GNS 530/430.



ElectronicFlight Solutions' CompleteLearning Autopilot Module.

Their CompleteLearning Autopilot Module covers the Bendix/King KAP-140 Bendix/King KFC-225 and S-TEC 55(X) and teaches not only how to operate typical flight control systems, but how the system really works. This leads invariably to better use, and safer operation of the systems.

[www.ElectronicFlight.com](http://www.ElectronicFlight.com)

## WSI

You may not immediately recognize WSI, but they have over 25 years of weather experience. WSI is a leading supplier to the media, energy, marine and aviation industries, and you certainly have seen one of their partners, such as The Weather Channel, weather.com and Intellicast. WSI announced their FAA certification on the AV200 to the gathered avionics magicians.

Now, the same custom weather briefing can follow the pilot from preflight planning, WSI Pilotbrief Online, the airport in WSI Pilotbrief, and now the cockpit aloft with the AV200 and WSI InFlight.



WSI InFlight

WSI InFlight provides continuously delivered aviation weather, with complete continental U.S. coverage at any altitude, on the flight deck. And WSI now includes High-resolution forecast winds aloft and temperatures, which are delivered at nine levels all the way up to FL390. Although updated by the weather guessers every hour they are sent every five minutes, so they are always available.

TFRs are also included in the latest system, and, since they are so dynamic, they are delivered continuously to the aircraft in both graphic and text formats.

[www.wsi.com](http://www.wsi.com)

## **FINAL THOUGHTS**

As usual, the new products introduced this year had something for everybody; portable gear, educational materials, in-flight entertainment, test equipment, and glass cockpit do-it-all avionics packages. If there was a central theme, it was safety. Safety enhancements through weather service products, and terrain avoidance systems. Even the test equipment is being enhanced to include TCAS and ADS-B capability. Training programs are part of the safety picture, too.

Over the years it has been said that, "Safety doesn't sell." True or not, these products are packaged in such a way that the sexy displays and added aircraft utility and performance will naturally pull the safety aspects into the cockpit. When the flying public can see all of the hazards in geography, traffic and weather laid out like a map through a mine field, the advantages will be unarguable. Safety will be served.

Finally, these companies have one thing in common. They have invested in the future of avionics and general aviation. They are betting that we will be around for a long time, and that the AEA members will be able to sell, install and service this new gear, for everybody's benefit. Thanks for listening. ■