JULY 1, 2015 | VOLUME 8, ISSUE 3

THE UNIVERSAL® FLYER

Special Incentive Programs – Time is Running Out!

Be sure to take advantage of the multiple special incentive programs that we currently have in place for the SBAS–Flight Management System (FMS) and UniLink® UL-800/801 Communications Management Unit (CMU).

ADS–B Out Incentive Program

Automatic Dependent Surveillance–Broadcast (ADS–B) Out mandates are being planned and implemented around the world, affecting thousands of aircraft and operators. Universal Avionics SBAS–FMS qualifies as an approved ARINC 743A position source required for ADS–B Out compliance. As the foundation of the ADS–B solution, it interfaces with most ADS–B transponders including the commonly used Rockwell Collins TDR-94(D).

Operators considering updating their aircraft to meet ADS–B Out mandates can now combine the TDR-94(D) Mode S Transponder with Universal Avionics SBAS–FMS with a new incentive program. This offer is valid for new orders placed through June 1, 2016. Beat the rush and equip for ADS–B Out today! Check out www.uasc.com/ads-b for more information.

Take advantage of this limited-time special incentive program to meet these mandates while simultaneously adding value to your aircraft through additional capability and improved safety.

SBAS–FMS Trade-In Incentive Program

As an additional offer, non-Universal Avionics operators may also trade in their legacy FMS or GPS system for a credit toward a new, SBAS-capable FMS. This offer is valid for new orders placed through December 31, 2015. Visit www.uasc.com/trade-in/fms to learn more.

Continued on Page 4

Product News and Company Highlights

Matching Advanced Avionics to Customer Needs

NextGen Solutions

We believe every operator should have the benefit of advanced technologies in their aircraft, for the freedom to fly in airspace around the world efficiently and safely. Our NextGen solutions equip aircraft for compliance with industry mandates while serving as a platform for emerging technologies. What's even more exciting about today's flight deck technologies is the benefits you experience by securing them long before the next mandate. The 'best equipped, best served' philosophy of Air Traffic Management (ATM) is happening all over the world – you will receive preferential treatment when equipped for NextGen and SESAR. And who doesn't like preferential treatment (especially when it's saving fuel and time)?

ADS–B Out is only a small fragment of the NextGen plan. Operators that do not upgrade their FMS and opt for stand-alone solutions may face other areas of NextGen that they will not be compliant with, such as Required Navigation Performance (RNP)-5, RNP-1, Area Navigation (RNAV) SIDs, Precision-RNAV (P-RNAV)and FANS 1/A. The following Universal Avionics NextGen retrofits are available or currently under development:

- 1125 Westwind Astra, Astra SPX
- Boeing B767-200
- BombardierChallengerCL-600, CL-601, CL-601 3A/R, CL-604 and Learjet 45
- Falcon 50, 50EX, 900, 900EX, 2000/2000EX
- Gulfstream G100, G200, GII, GIIB, GIII, GIV, GIVSP, GV, GVSP
- Hawker 4000

InSight First in BizAv Market to Utilize AMDB Data

Universal Avionics InSight Integrated Flight Deck is the first in the Business Aviation market to utilize the Jeppesen Airport Mapping Database (AMDB). Through reliable access to worldwide airport information that is accurate, timely and high-quality, InSight operators are ensured increased operational efficiency and safety through improved situational awareness.

InSight's Synthetic Vision System (SVS) uses AMDB data to render accurate, high-resolution airport diagrams. Runways with actual markings, taxiways, parking areas, buildings and other obstructions, surface roads and construction areas are all shown.

Some of the busiest airports are continuously faced with increased congestion, even while taxiing. This technology aids in improving the operator's situational awareness and complements surface navigation. The realistic display of the airport environment is unparalleled.

To learn more about InSight , contact your Regional Sales Manager or visit: www.uasc.com/InSight.

JULY 1, 2015 | VOLUME 8, ISSUE 3

THE UNIVERSAL® FLYER

Customer Spotlight: Advanced Aerospace Solutions

Advanced Aerospace Solutions (AdvAero) is a joint venture between three companies which was established in 2009 to conduct advanced aerospace research and development (R&D). The company joined the General Dynamics IT team as the flight test lead for their successful bid on the Federal Aviation Administration's (FAA) SE2020 (NextGen) program, and General Dynamics introduced them to the National Aeronautics and Space Administration (NASA). AdvAero bid successfully on the NASA Traffic Aware Strategic Aircrew Requests (TASAR) program as a subcontractor to Engility Corporation.

Today, they use highly specialized platforms (an aircraft and simulator), and a team of domain experts, to reduce the risk and vastly increase the speed of high-tech aerospace R&D programs. TASAR is one such program.

Piaggio Avanti 1

To learn more, visit: www.nasa.gov/aero/cockpit_software_help_pilots.html.

A Universal Avionics Customer

AdvAero operates a highly-modified Piaggio Avanti 1 research aircraft which incorporates a concept the company developed, called "come as you are flight testing." Their main navigation system is the Universal Avionics UNS-1Ew Satellite-Based Augmentation System–Flight Management System (SBAS–FMS) with the LP/LPV Monitor. Their NextGen and NASA R&D, and certification projects require full Wide Area Augmentation System (WAAS) Required Navigation Performance (RNP) and Localizer Performance with Vertical Guidance (LPV) approach capabilities.

The Universal Avionics system is integral to the advanced work that they are doing for NASA.

"After careful evaluation of the available systems, I selected the Universal Avionics UNS-1Ew SBAS–FMS with an LP/LPV Monitor because of the system's combination of powerful integrated features, ease of use and the extraordinary support provided by the company," said John Maris, CEO of AdvAero.

"Universal Avionics' superb after-sales and technical support has been essential for many of our past program successes, and consequently, those of its very demanding customers," he added.

The company has been operating Universal Avionics equipment for over nine years.

Current Projects

Continuing to work on TASAR, they are excited to be conducting the second set of TASAR flight trials this summer. "I believe TASAR technology will achieve widespread adoption, and I expect to see TASAR offshoots embedded in systems like the UNS-1Ew SBAS–FMS before long," said John Maris. "We also have some other interesting products incorporated in our aircraft, such as our Dynamic Non-Linear Display (DNLD) technology, which has worldwide patents."

Recent Achievements

This past March, they were awarded NASA's prestigious 2014 Small Business Subcontractor of the Year Award in recognition of its outstanding contribution to NASA in 2014.

Above & Beyond

"I just wanted to let you know that Bob Bruce was superb in getting our new FMS Trainer set up. He ran a fabulous introductory course for our instructors, all of whom are very excited about this product… Although it's only been half a day, I am already receiving rave reviews from both the candidates and instructors. We are very happy to be the first customer to emulate your Tucson and Wichita facilities, and I am confident that many other operators will want a similar setup." – Tom Castaldo, Flight Training Program Manager – DH8/Q400, Jazz Aviation LP – Flight Operations

Bob Bruce, Pilot Instructor

We love to hear stories about our employees going above and beyond for you. Please share your stories with universalflyer@uasc.com to be featured in this special section.

About

The Universal Flyer is a quarterly publication produced by Universal Avionics Systems Corporation. This newsletter provides information about Universal Avionics as a company, its products and services as well as regulatory and educational information relevant to the owners and operators of business, regional and air transport aircraft.

Feedback

Your feedback is appreciated. Email your comments to: universalflyer@uasc.com.

Update

Receive *The Universal Flyer* by mail or email. Email universalflyer@uasc.com or call the Marketing department at (800) 321-5253 or (520) 295-2300 to update your profile.

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From the Flight Deck

Discussing Advanced Approaches with Universal Avionics Pilot Instructor – Customer Training

For this issue of *The Universal Flyer*, we asked Mike Michalski, Pilot Instructor – Customer Training, to discuss FMS Advanced Approaches. Mike explained that this is a subject that is often misunderstood. Here's more of what Mike had to say:

Mike Michalski, Pilot Instructor – Customer Training

You have just been cleared for the Area Navigation (RNAV) (GPS) RWY 22L approach (the only approach to that runway) at Chicago Midway International Airport. The weather is 1,200' overcast with 1.5 miles visibility, surface winds 200/15. When loading the approach, you notice the letter "A" to the left of the approach on the ARRIVAL page. No problem, you are not concerned with Localizer Performance (LP) level of service (which is not authorized in the FMS anyway), and this is not an RNAV Required Navigation Performance (RNP) for which you are also not certified.

However, curiously, you notice there is no indication on the NAV page that you have loaded an enabled approach. Surely, this approach can be executed by the FMS, so you continue inbound. As you get closer, you begin to wonder why you cannot ARM or ACTIVATE the approach; what is going wrong?

Universal Avionics encodes those approaches that have more than a 6 degree heading change in the final segment as "Advanced" and displays the "A" alongside the approach as shown.

For those aircraft whose Flight Guidance Systems use Roll Steering on the final approach segment, this presents no problem for completion of the approach. However, for those aircraft where the steering is L/R Deviation, this approach will be disabled and cannot be accepted by the crew. The difference is that the Roll steered aircraft will anticipate the turn at KEEEL to smoothly join the inbound course, but a DEV steered aircraft will not take any action to fly inbound until perceiving an "off course" deviation west of KEEEL. The resultant "S" turning is considered unsafe at this critical portion of the approach. To determine how your aircraft is steered, press the following sequence of keys: DATA-MAINT-CONFIG-FMS CONFIG-APPR. On the right side of the APPR OPT page at Line Select Key (LSK) 4 will be the LAT STEER type, either ROLL or DEV.

For more information or to schedule a training class, please contact Katie Striegel at: (316) 524-9500 • (800) 255-0282 or kstriegel@uasc.com. Look for Mike to provide more tips and tricks in future issues of *The Universal Flyer*.

ARRIVAL Page on FMS

Recent Service Bulletins and Letters

Visit UniNet today at www.uasc.com/UniNet to download any of our Service Bulletins (SB) or Service Letters (SL), including the recently released ones listed to the right, from the Tech Pubs tab.

Service Bulletins are released for a number of reasons including software changes, modification status changes (hardware or software), and introduction of new products and software. Service Bulletins may also be used to alert the field of anything that Universal Avionics Engineering deems urgent through an Alert Service Bulletin.

Service Letters provide information discussing field issues, highlight information already or scheduled to be incorporated in existing documentation, notify operators of available or forthcoming vendor modifications, changes in material finishes, and more.

Be sure to check back in future issues of *The Universal Flyer* for new SB and SL releases.

SB / SL No.	Release Date	Title
SB3631	6/1/15	Announcement of the Availability of Vision-1® Terrain Database 1401
SL2852	5/18/15	SBAS Flight Management Systems (FMSs) Compliance with EASA AMC 20-28
SB3630	5/5/15	Announcement of the Availability of TAWS Terrain Database 1401
SB3618	3/10/15	Release of World Magnetic Model (WMM) 2015 Update Kit, Mod 23 for FMS SCN 801.X/901.X and 802.X/902.X
SB3523	3/4/15	Announcement of the Availability of Vision-1 ® Terrain Database 1202
SB3626	3/2/15	Installation of SCN 1011.5.3 and Mod 16 in the MFD-640

JULY 1, 2015 | VOLUME 8, ISSUE 3

THE UNIVERSAL® FLYER

2015 Special Incentive Programs (continued)

UniLink CMU Trade-In Incentive Program

Make 2015 the year for Future Air Navigation System (FANS) and Controller-Pilot Data Link Communications (CPDLC) upgrades. Operators of legacy Universal Avionics and non-Universal Avionics equipment may trade in their existing data link system for a credit toward the popular UniLink UL-800 or UL-801 CMU. This offer is valid for new orders placed through December 31, 2015. For more information, visit www.uasc.com/trade-in/unilink.

Additional Benefits

With our special incentive pricing, operators can have their aircraft modified to include all of the latest mandates, and simultaneously add greater capabilities, safety and fuel economy.

Operators that equip their aircraft with SBAS–FMS experience the benefits of Performance Based Navigation (PBN), a Localizer Performance with Vertical Guidance (LPV) approach option, and a data link option when the UniLink UL-800/801 CMU is installed.

Likewise, operators of the UniLink UL-800/801 CMU also gain embedded Automatic Dependent Surveillance–Contract (ADS–C) capability, ACARS/CMU functionality, uplink forecast winds, Flight Information Services and more.

More Information

To learn more about our special incentive programs, please contact your Regional Sales Manager. To find a representative near you, visit: www.uasc.com/sales/reps.aspx.

Inside This Issue

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