

CABIN ELECTRONICS

BRIEFLY NOTED

With ever-higher customer entertainment expectations has also come the desire for better cabin sound, and **Alto Aviation** offers customized equipment it claims rivals top-end home speaker systems. Alto president Don Hamilton told **AIN** that each system is custom-matched to its cabin environment, optimizing sound quality against specific cabin layouts, background noise and cabin carpeting, seats and sidewall materials. One of Alto's newest speaker upgrades is for the Global XRS and 5000 equipped with the Rockwell Collins cabin electronics system. The upgrade replaces the original PSU panel speakers with Alto ASP-437 speaker enclosures. New Alto digital amplifiers with custom EQ settings customized for the specific aircraft mount on the same amplifier shelf, and new Alto subwoofers can replace the existing under-seat units. According to Alto, "The subwoofer in the forward bulkhead is relocated under the corresponding forward seat, providing the principal and every passenger in the cabin with the most powerful and outstanding listening experience."

Astronics AeroSat and in-flight entertainment and connectivity service provider **Panasonic Avionics** are working together to provide business jet broadband Internet services, four channels of global television services and regional DBS-TV programming, all from a single antenna. The partnership offers tiered connectivity packages based around AeroSat's FliteStream T-series tail-mounted satcom antennas. Each level of the connectivity plan will provide a guaranteed data rate, ranging from 1.5 to 4 Mbps.

Astronics subsidiary **PGA Avionics** manufactures IFE and CMS products, and these are being installed on an ACJ330 being completed by Comlux America. The system includes HD displays, touchscreen controls, audio/video sources with digital rights management and PSUs.

Affordable voice and data services are available on the

Avionica ① satLink Max Iridium satcom. The satLink Max provides four channels of voice and data communications, and it can be used as the messaging platform for Fans 1/A operations.



Blue Sky Network's ② HawkEye 7200A Iridium satcom is available for installation in a variety of business airplanes and helicopters under an FAA approved model list STC, and it also meets performance criteria of the ICAO-recommended Global Aeronautical Distress Safety System. The 7200A can also be used for voice calling.

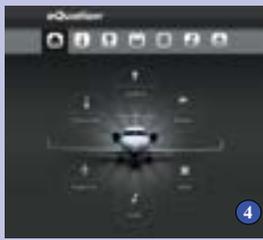
Lightweight and high-performance Inmarsat SwiftBroadband satcoms are a specialty of Cobham Satcom. **Cobham's Aviator** ③ starts with the 200 series, which offers high-speed data and up to three voice



calls and includes built-in Wi-Fi for interfacing with mobile devices. Cobham's 300, 350 and 700D add increasing capability, with the 700D capable of Fans 1/A and CPDLC datalink and voice safety services using the system's cockpit data and H-voice channels. The 700D provides up to six channels of voice and data, allowing Internet browsing and video streaming by multiple users.

Custom Control Concepts recently completed a \$1.6 million expansion to its Seattle production facility. The expansion adds 26,000 sq ft to CCC's factory floor, nearly doubling the company's manufacturing footprint.

For control of lighting, window shades and in-flight entertainment products, **Emtec** ④ offers the eConnect cabin control system, which is controlled by passengers' mobile devices running Apple iOS, Android or BlackBerry operating systems. Also available is eConnect wireless streaming



to mobile devices or cabin monitors, from 1080p HD to 4K Ultra HD.

Flight Display Systems will soon release an updated version of its 3D aircraft Worldwide Moving Map. The current 2D moving map is included in the FDS do Capsule, the company's wireless streaming platform, which streams entertainment content and the moving map to passengers' personal electronic devices and bulkhead monitors such as FDS's Edge 4K and HD displays.

Flyht ⑤ has certified its AFIRS 228 Iridium Global Communications System on the Hawker 750 through 900 and Embraer Legacy 600 as well as a variety of commercial aircraft. In addition to global voice services for up to two wired or eight cordless handsets, the AFIRS 228 sends AFIRS and EFB data via short-burst data messaging, and it can also act as a quick access recorder. AFIRS 228 data services include out, off, on, in times, flight following, engine

trending, FOQA exceedance monitoring and fuel management.

Early next year, business aircraft operators will be able to begin installing **Gogo Business Aviation's** Gogo Biz 4G air-to-ground connectivity system. Compared to the current Gogo Biz 3G service at up to 3.1 Mbps, the 4G service will deliver data speeds of up to 9.8 Mbps. Passengers can use Gogo Biz 4G to stream movies and audio from Hulu, Netflix, YouTube, Pandora, Spotify and so on, as well as



email with attachments, web browsing, voice calls and VPN access. Gogo's Text & Talk service will also work on the 4G system. The Gogo air-to-ground service area covers the continental U.S. and parts of Alaska and Canada. Gogo has also expanded its Gogo Cloud wireless content delivery network into Europe.

Heads Up Technologies and L2 Aviation have completed STC approval for the installation of Heads Up's Lumin Wireless Digital Media Server on the Cessna Citation 500, 550, S550, 552, 560 and 560XL. The media server is part of the Lumin CMS offering fiber optic or wireless interconnectivity that can be scaled to suit any size aircraft.

Innovative Advantage offers the AVDS ring-architecture fiber-optic backbone, which routes signals throughout the distributed network topology at their full uncompressed bandwidth, according to the company. The distributed network lowers installed weight and it isn't affected by EMI noise induction or ground loops. Any cabin management system can be used to control the AVDS network, and installation of a wireless access point allows control of audio-visual functions via mobile devices.

Rosen Aviation has been selected by Gulfstream to provide high-definition displays and cabin control equipment for the new G500 and G600. The 1080p HD displays include 24-inch bulkhead and crew rest displays, and 26- and 32-inch credenza flip-up displays, as well as 10.1-inch personal displays, galley and vestibule touchscreen controllers to control the cabin environment.

Following acquisition by Honeywell last year, **Satcom 1** provides in-flight airtime, satellite communications services, and software for private business aircraft, as well as to government and head-of-state airplanes and helicopters. The company distributes Honeywell's JetWave terminals and Inmarsat's Ka-band GX Aviation satcom to offer real-time, reliable Internet and Wi-Fi cockpit communications for pilots and passengers.

The trend in video monitors is moving toward 4K ultra-HD resolution, and **Sky Definition Aero Systems** has developed a range of products from 24 inches through 65 inches, all featuring 3840 x 2160 resolution.

SkyFlix has delivered nearly two dozen 2TB media streaming servers, each offering storage for as many as 400 full high-definition movies that may be streamed to passenger mobile devices or any of

eight included iPad Pros. The system also features an 802.11ac router offering Wi-Fi streaming.

SkyTheater offers luxury in-flight entertainment multimedia for the upper end of the corporate aviation marketplace. CEO Gregg Launer noted that real estate mogul and current presidential candidate Donald Trump chose the system for CMS, video conferencing and inflight entertainment—including a customized 16,000-Watt sound system—on his Boeing 757. The company has also received interest from two aircraft OEMs on an upcoming "new technology that will shutter the [IFE] industry and see the end of subscription-based systems."

SmartSky Networks' new air-to-ground 4G LTE airborne connectivity is scheduled to go live in the fourth quarter, although full continental U.S. 4G coverage is not expected until the middle of next year. The first SmartSky STC is expected in the fourth quarter, and multiple partners are developing installations for a variety of aircraft.



Full U.S. coverage in 2017 will be provided by 250 ground stations, and the company plans to expand coverage into other parts of the world.

The **TrueNorth Avionics** "connected.aero" system uses both onboard cabin equipment and a dedicated Amazon web services cloud platform to offer a "hybrid cloud" optimizing the integrity of the available data "pipe" to an aircraft. "We block the traffic you don't want to see, so the bandwidth you're paying for is what you're using," explained chief commercial officer Steve Newell.

Satellite provider **ViaSat** ⑥ hopes to launch its ViaSat-2 communications satellite early next year, bringing upgraded high-speed connectivity to customers throughout North and Central America and the Caribbean. The satellite will offer double the 140-gigabyte capacity of the existing ViaSat-1 that provides Ka-band connectivity across North America for airline passengers. Down the line, the ViaSat-3 constellation of three satellites will offer a full terabyte of capacity in a network that will span the globe. ■



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