



REPRINTED FROM MAY 2, 2007

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Ensemble Makes Airborne ENG Easy

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SEATTLE

About three years ago, Glenn Andrews, a systems software engineer/system designer for Geneva Aviation Inc., and I were asked to design and deploy a hybrid video system for electronic news-gathering aircraft that included all the bells and whistles of our standard analog platform.

The requirement was to be able to send HD, SDI (4:3 or 16:9 aspect ratios) and/or analog video to the television station, as well as providing perfect video and audio sync in the process. The system also needed to work with every type of camera, tape deck, file server, moving map, and of course, the optional kitchen sync.

FINE ON GROUND

Equipment for this is easily available in 19-inch rackmounted designs, but space is something we just don't have in the back of a helicopter. None of the small and light 16x16 HD routers available had built-in synchronization, and at HD data rates, a few feet difference in signal path length could cause unacceptable glitches on switching. Many of those must-have devices didn't even have genlock inputs, so we were looking at two full racks of equipment to be squeezed into six cubic feet of space.

As we started the project, a survey of available video format converters indicated that most of what was out there couldn't meet our specifications, which includ-

ed 12-bit accuracy, operational between minus 20 and plus 50 degrees Celsius, a small profile, mountable and able to withstand severe and constant vibration.

Most of our phone calls of inquiry were

converted talent camera. Ensemble's BE-30 analog-to-AES converter worked great, but there was a slight problem. We needed to delay the audio to match latency through the HD conversion process.



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met with silence on the other end. Finally, we made a call to Ensemble Designs. From that moment on, our lives became much easier, due to the agile architecture within their product line. They had devices for almost all our applications: analog-to-SDI conversion with synchronization; SDI-to-SDI reclocking; a multiple format signal generator, along with colorbars and title, for synching those decoders.

With the gear's single-axis connector arrangement and an easily mountable footprint, we were able to install them in our existing FAA-approved modular equipment rack.

FAST AUDIO CHANGES

The last hurdle to completing our design was an audio delay for matching the HD-

We contacted Ensemble, and within two weeks we received a BE-30D, the first to be constructed with built-in audio delay. This was a level of service and support we've never seen anywhere else! Ensemble's BrightEye PC software made synchronizing audio and video child's play, and their hardware has been running trouble-free for thousands of flight hours in Los Angeles and New York.

Glitch-free switching in multiple formats from an airborne platform is now made easy with Ensemble Designs' BrightEye series of products. Geneva Aviation Inc. has a 20-year reputation for designing cutting edge serial-controlled audio and video systems for news, law enforcement and homeland defense aircraft and we can accept no less than 100 percent from the products we work with. Ensemble Designs products can be trusted for any critical application 100 percent.

Steve Cudnofskey is a systems designer/quality control manager and FAA representative for Geneva Aviation Inc., and has designed more than 10 major platform variants during the past decade. The opinions expressed are those of the author alone. He may be contacted at steve@genevaaviation.com.

For additional information, contact Ensemble Designs at 530-478-1830 or visit www.ensembledesigns.com.