

Celebrating Avidyne's



15th Anniversary

A Look at the Past, Present and Future of an Innovative Avionics Company


STORY BY DALE SMITH

If necessity is the mother of invention, then timing must be the father. Whether it's spotting a cheaper, better, faster, safer or easier way to do something, finding the right opportunity at the right time has been the foundation of many a success story. It certainly played a role in helping Avidyne Corp. get off to a fast start.

"I started the company back in 1995," said Dan Schwinn, president and CEO of Avidyne Corp., headquartered in Lincoln, Mass. "I was a part-time pilot, flying 50 to 100 hours a year in a Mooney, and I was just trying to figure out what could be done to make flying as safe and easy as possible.

"Everything (in the cockpit) was mechanical at that time, but I knew enough about the air transports and business jets to know they had these full electronic cockpits," he said. "To some extent, since I had been in the electronics manufacturing business, the more I studied the high-end glass avionics, the more I realized that it was very unlikely the glass panels for light planes would be reduced-size versions of the high-end glass. It was going to have to be created completely from scratch. That was the genesis of Avidyne."

Having the right technology was just part of Schwinn's equation. He knew general aviation aircraft



With more than 4,000 Entegra-equipped aircraft currently in service, the Cirrus SR20 and SR22 were the first Avidyne targeted for retrofit of its new Entegra Release 9 system.

Continued on following page

AVIDYNE'S 15TH ANNIVERSARY

Continued from page 35

manufacturers historically were conservative with regards to adopting new equipment.

"They don't want to put anything in until it is proven in the market," he said. "That's the reason Avidyne started as a retrofit product company. There are customers who want to buy something new and there are dealers out there willing to work with leading-edge technologies, so that is the natural point of entry into the market."

The Right Product at the Right Time

Schwinn said a set of circumstances occurred in the late 1990s that were unique in aviation.

"In the late '90s, we had a whole bunch of startup airplane companies come along at one time," he said.

just what the new generation of aircraft manufacturers were looking for.

"We ended up signing up virtually all of them for our MFD product. We even got a few established OEMs — Piper in particular," he said. "That was what allowed us, in 2003, to launch our integrated flight deck into the general aviation market. Cirrus, in particular, just went crazy with this new technology and made its capabilities a core selling proposition.

"I think Alan Klapmeier (co-founder of Cirrus) would tell you it was a major contributor to their success over that period."

Schwinn said the excitement caused by these new glass panels made it a "competitive imperative" for the aircraft OEMs to have glass cockpits, and it's been the case ever since.

"There's been a lot of back and forth in the market, but basically the thing that's happened over the past two or three years has been the OEM side of the busi-

Timing in Today's Market

With new aircraft sales in a sharp decline and new aircraft development practically at a standstill, Avidyne's introduction of its Entegra Release 9 aftermarket upgrade in early 2009 couldn't have come at a better time. Avidyne introduced a significant upgrade option just when upgrades were becoming the only game in town for the company and its dealers.

"Avidyne has done a good job of weathering this economic downturn," said Tom Harper, director of marketing for Avidyne. "(The fourth quarter of) 2009 was the best quarter of the year, and we surpassed that in Q1 of 2010; so, we are definitely seeing the market trending in the right direction.

"(Release 9) is doing amazingly well," he said. "We booked more than 100 ship sets right in the middle of the economic downturn, and now we're adding the Piper PA-32 and PA-46 certifications, which will continue to grow our total available market for R9 upgrades."

Speaking of retrofit opportunities, Schwinn said there are between 4,000 and 5,000 Avidyne-equipped airplanes currently flying that will be targets for current and future FAA supplemental type certificate efforts.

"We're seeing a good number of dealers who have made a pretty good business out of doing R9 upgrades," Schwinn said. "I think the opportunity is there now for shops who have a good Cirrus, Piper and, eventually, Columbia customer base."

There also are hundreds of additional STC opportunities available to the company.

"You will see more and more (Release 9) configurations and STCs, and those STCs will cover airplanes where there was not a glass cockpit in there to start with," Schwinn said. "My encouragement for the dealers is to have the right kind of in-house capabilities and right kind of customer population who would like to do this kind of thing and you can build a very good business around these upgrades."

Schwinn said Avidyne not only is ex-



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DAN SCHWINN, *president and CEO of Avidyne Corp.*

"What was really interesting was they wanted new technology badly enough that they were not hung up on the fact that we were new," Schwinn said. "Of course, it also helped that the established avionics companies didn't really want to deal with these new (airplane) guys because they had been burned by countless airplane startups over the years. And the established avionics companies weren't as aggressive with introducing new technology."

Schwinn said Avidyne had been developing its multi-function display as part of NASA's Advanced General Aviation Transport Experiment program, and the advanced technology turned out to be

ness has really been negatively impacted by the downturn," Schwinn said. "So, we've gone from being 100 percent aftermarket in the beginning to probably a height of 70 or 80 percent OEM, to back to probably 70 percent retrofit. It's been quite a ride."

While Avidyne is finding its niche back in the aftermarket business, Schwinn is confident the pendulum will swing back again to more OEM offerings.

"The OEMs are in a tough way right now compared to what we saw in 2003, but they are very interested in what we are doing," he said. "We're feeling very good about our (Release 9) product as both a retrofit and as an OEM product."

ploring a wider array of aircraft STC opportunities, but it also is offering the Release 9 upgrade in a variety of lower-cost configurations to help dealers take advantage of opportunities with cash-conscious customers.

"We originally came out with an R9 configuration that was really full-featured, the Platinum version. Now, we have additional configurations that are a little bit to quite-a-bit less expensive," he said. "I think these will offer retrofit opportunities into more aircraft types."

Business Ups and Downs

While Avidyne has seen its share of business ups and downs, Schwinn and his engineering team have stuck to his early goal of making flying simpler and safer for the average general aviation pilot.

"We feel really good where we are at

this time at a technical level," Schwinn said. "I think when you go back to the early units, like the (Bendix/King) KLN 90 or Garmin GPS 155 — those early area navigators — they had way more functionality than most of their users could really use. You had this early competitive market where it was defined by who could have the most features.

"Quite frankly, we've 'glassified' all the functionality in the cockpit at this point, and while I believe there are a lot of interesting features yet to be done, I don't believe that features are the competitive playground any longer," he said. "I think it's shifted to ease of use and ease of training."

Schwinn said from the onset, Avidyne intended to make products easier to use.

"When we were designing R9 and the new EX600 MFD, we wanted to have most of the features, but the standard we used

was we want 80 percent of the people to be able to use 80 percent of those features rather than 20 percent of people being able to use 80 percent of the features," Schwinn said. "I think to this point, Avidyne has been pretty well recognized for our progress in the ease-of-use side of things, and we're not going to slow down."

Avidyne's New Product Offerings

While the popular Release 9 upgrade program has received considerable acclaim from the aviation press, as well as Avidyne dealers and customers, it's far from the only new product offering from Avidyne.

The recently FAA-certified EX600 MFD takes Avidyne back to its early, and very successful, roots.

Continued on following page



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AVIDYNE'S 15TH ANNIVERSARY

Continued from page 37

"We're on our third generation of MFDs. We had the first FSD (flight situation display), then the EX500/5000, and now, the new EX600," Schwinn said. "People asked if MFDs weren't kind of passé at this point? Maybe from a new airplane perspective, but this product has gotten tremendous response from dealers and from owners with prior-generation MFDs or radar displays in their airplanes.

"The new EX600 is not only bigger than the EX500, but it also has a couple of new features, including QuickPan," he said. "QuickPan is an ease-of-use capability — people absolutely love it."

Avidyne's panning feature enables users to quickly scroll to virtually any point on the map to view weather, airspace restrictions or other points of interest. With a touch of the QuickPan toggle, pilots can switch back and forth quickly between their panned-to position and their original point on the display. Pilots also can zoom in and out of the display easily.

"Our new EX600 is really gaining traction in the market," Harper said. "Map panning was the No. 1 most requested feature from our current EX500 customers. Pilots are finding our innovative new QuickPan feature really useful."

Schwinn said many operators and dealers were surprised Avidyne would invest in

an upgrade to a stand-alone MFD product when the world seems to be going toward fully integrated cockpits.

"In terms of really important functionality, the MFD is where it is at," Schwinn said. "It's where you get your data-link weather, charts, traffic, radar and map feature. In terms of things that really drive safety and ease of flying, the biggest bang for the buck is still the MFD."

Another exciting new product offering from Avidyne is its new DFC90 and DFC100 attitude-based digital autopilots. Like the other products in its portfolio, Avidyne's new autopilots have been designed to bring simpler and safer operation to general aviation pilots. At the forefront of these capabilities is the innovative "flight envelope protection capability," which, according to the company, is a safety-enhancing feature that prohibits inadvertent autopilot-induced stall and overspeed situations.

The DFC90 and DFC100 also include a "Straight & Level" button, which overrides all autopilot modes and levels the aircraft in both pitch and roll for an added measure of safety in the event of an unusual attitude or other emergency situation.

Customers aren't the only ones who will benefit from the introduction of these two new autopilots.

"The R9 upgrade provides dealers with a higher-time installation opportunity, while the DFC90 upgrade is more of a high-vol-

ume, low-impact retrofit that is easy to sell and will help dealers generate great revenue," Harper said. "If you are not selling a DFC90 upgrade to every Cirrus on your airport, you are missing a terrific business opportunity to give them a much better performing autopilot — and also to engage in a conversation about the full R9 upgrade."

Avidyne's New Attitude

While Avidyne has continually met his goals for improved ease-of-use and safety, Schwinn said the company's product support had fallen short.

"Initially, we got rightfully dinged for support issues," he said. "We make easy-to-use products, but Avidyne had not really been easy to use as a company. We've changed all that. It's been a really long haul to get here, but I can say now that I feel we provide excellent support for our dealers and customers. It's an end-customer thing and a dealer thing — probably even more for the dealers since they have to do all the work.

"It's easy for us as a product innovator to forget about the support stuff, but honestly, the whole experience has to be good for the customer," Schwinn said. "They want products to work, and if there are any issues, they want to be treated unbelievably well. And based on the positive feedback we are getting from dealers and end-customers, I think we're starting to achieve that now." □



List of Firsts

- First integrated flight deck for light GA aircraft
- First integrated flight deck for a two-seat trainer aircraft
- First integrated flight deck for a single-engine turbine aircraft
- First active traffic system under \$10,000
- First integrated, data-link-capable MFD
- First multi-channel data-link communications for MFDs
- First to certify XM and Sirius satellite weather interface for GA aircraft
- First large-format MFD to display airborne weather radar and Nexrad weather
- First to develop and demonstrate VHF digital-link Mode 3 (VDL-3) avionics for GA