

Factors Affecting Your Avionics Buying Decisions

BY DALE SMITH

Practically everything you've ever wanted to know about how to make the right choices when upgrading your panel, but didn't know who to ask.

Pick up any aviation magazine—including this very *Pilot's Guide*—and you're going to see all kinds of ads for all kinds of really cool new avionics units. Radios, GPSs, TCAS, TAWS, datalinked systems, MFDs, radar—the list goes on and on. And isn't window-shopping for your dream panel part of the fun of owning your own airplane? You bet!

The problem is, like anyone standing in a buffet line, when it comes time to make your choice, you have to make sure that you don't get 'filled up' on bread before you get a chance at the stuff you really want.

Start at the beginning

Unfortunately, when it does come time to actually buy your new avionics, way too many owners fall in love with a specific box, buy it, and then attempt to figure out if it will really work for them after it is installed in their airplane. The right way is to put together a list of questions for yourself long before you even begin to seriously shop for product.

What kind of questions? The very basic kind: What type of flying do you do most of the time? Are your current avionics compatible with the latest digital

boxes? How long are you going to keep the airplane? Are your upgrades intended to make you a better pilot or increase the resale value of the airplane? Which of your current boxes are you willing to get rid of? How much time can you commit to training on your new equipment? How much money do you have to spend?

To help get you started in the right direction, we've selected a few of these questions and put them to leading avionics shops to get their answers. Of course, your specific situation will vary, but at least you'll have a good foundation to start from.

What kind of flying do you do?

"Knowing your typical mission profile is a big help," explained Eric Stuck, avionics manager, Banyan Air Service. "Do you only fly VFR on Sunday or do you fly in a lot of IFR conditions? If a pilot flies in the southeast in thunderstorm season, he's going to want a damn good radar. If he's flying on nice days, he may just want to put in really good COMM/NAV radios."

"But even a pilot who flies VFR may want to install some level of IFR avionics," added John Dendekker, avionics installation sales manager for JA Air

Center. "They may want to add their IFR rating or should they want to sell the airplane later on, it will be more saleable."

But just because you only fly VFR—and realistically, the majority of us do just that—doesn't mean you've limited your choices for new systems. VFR pilots can benefit greatly from the new "IFR" avionics. Especially, if you add capabilities like uplinked weather or traffic displays. Knowing more will make you a safer pilot in any weather. Especially if you frequently fly with your family.

And speaking of flying with friends and family, you might also look closely at adding a new in-flight entertainment system in your panel. The ability to listen to music or watch a DVD movie will make everyone a much happier flier.

Are your current avionics compatible with the new boxes?

Honestly, unless you're a trained avionics technician, you can't hope to answer that question. But you need to be aware of the problems that non-compatibility can cause. "It can certainly be an issue—especially if you have the older Cessna radios," Dendekker said. "But it's not always easy to tell—the best thing to do is to create a detailed list of what is in your panel now and take it to your avionics shop."

"The shop needs to know this to help the owner identify any possible conflicts, but also it is important so that the customer will know up-front if they need to add any 'hidden' black boxes to make the new unit do what it is supposed to do," cautioned Bill Augustine, technical supervisor for Banyan Air Services. "A customer reads an ad for a product

and wants all those capabilities in his airplane—well, if you have a panel full of old boxes, it can cost a lot of extra money to make the new unit work as 'advertised.'

"Take a new MFD for example, a customer sees it and thinks, 'Oh boy, I can get winds aloft and all kinds of stuff...,' well, to do that they need another box to give their GPS something to go by," he added. "There can be huge hidden costs if the shop doesn't know what they have to work with. That's why a list of what the aircraft has installed and photos are great tools to have right from the beginning."

"You can actually double the price of some of these new high-end GPS units when you enable every 'bell and whistle' in an airplane that doesn't have the equipment capable of supporting the functions," Stuck said.

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"You not only have to buy all the 'happy boxes' but you increase downtime and really bump up the installation time."

Another thing to consider when you are upgrading your avionics is what's going on behind the panel itself. If you have a mass of original wiring, chances are much of it will have to be replaced to handle the digital boxes—and that's not cheap. "You may have improved the quality of the radios, but if you still have the old wiring, you are very likely to be adding problems," Dendekker said. "So take a look at your entire system

instead of focusing on a single thing—it will save you problems in the long run."

How long are you going to keep your airplane?

Now that's an open-ended question. But since most people keep their airplane for five- to seven-years, you do have a pretty good idea of what the immediate future is for this particular airplane. If you know you're going to keep her for a while, then you'll probably get great value out of anything you install. But, if you're planning on selling her soon, then you might take a different approach to selecting systems.

While any kind of upgrade is probably good for the resale value, experts do caution against installing any avionics that could possibly "devalue" the aircraft.

"If an owner tries to save money and puts in a box that isn't made for a particular aircraft type, isn't upgradable or has serious service issues, he can devalue his airplane," explained Dan Frahm, director of business development for Elliott Aviation. "You see it a lot where an owner of a turbo-prop or light jet like a Citation installs piston-engine panel type avionics. And since much of that equipment is limited to Part 23 and under airplanes, it can't do RVSM and that will decrease the usefulness and value of that airplane.

Continued on following page...

AVIONICS BUYING DECISIONS

Continued from page 55

“There are a lot of price-points in avionics today,” he continued, “and you need to know and understand the differences so you can identify the best value for your upgrade while still getting the job accomplished.”

What are you willing to toss-out of your current panel?

Because older-generation avionics, especially stand-alone NAV/COMMs and GPSs don't have much value on the open market today, many pilots are tempted to keep them in their panel as “spares.” More times than not, that's a big mistake. “When you try to mix old and new avionics the wiring can be a nightmare,” Augustine said. “But, there's also the panel layout to consider. Too many owners don't realize this until the installation is done. They don't like the looks of the panel so they want us to take the old radios out—that's more time and money.

“When we see a situation like this, we try very early on to work with the owner to explain why it is much better to remove the old system in the beginning,” he added. “It really will save them money in the long run.”

“Another problem we see is people who expect to see a bright, colorful multi-function display picture on an older radar system,” Stuck said. “Pilots buy a new Enhanced Ground Proximity system and expect to see the nice sharp, bright picture they see in the ad on their radar display—it's just too old to do it. It may be color, but it can't support the new digital serial data streams. So the customer has to buy a new, dedicated display and that's a lot more money.

“It all goes back to planning,” he continued. “If the customer and shop work closely together from the beginning, it will save both a lot of unnecessary work and cost further on into the project.”

How much do you want to spend?

We've saved the best for next-to-last. The truth is you will never stop paying for your new avionics system. Most of today's systems offer loads of upgrade capabilities. Wide Area Augmentation Systems (WAAS), datalinked weather and traffic, and who knows what else will be on your “must have” list in coming years.

But how much will you have to spend today to get there? Only you and your avionics shop of choice can answer that one. But you don't have to feel that you have to mortgage the farm to get where you want to go. In fact, more times than not, customers spend a lot more money than they need to.

“People tend to overload themselves by trying to do much more than they need,” Augustine said. “Is the new unit really a benefit or will it end up being just another blinking light in the panel? If an owner isn't careful they can easily end up buying something that's not a benefit, while a less expensive unit would have given them a lot more bang for their buck.”

On the flip side, buying some ‘off brand’ boxes can save some money up front but cost more in the long run. “The service side of what you are buying is another thing most customers don't consider,” Frahm added. “They look at the price and features, but they don't look at long-term support. If a unit has limited upgradeability or the company can't provide

loaners or spares, then the final cost of a ‘cheap’ box will be higher than that of a well-known brand.”

How much time can you commit to training?

Even the best piece of avionics is nothing more than dead weight if you can't use it. And learning how to really use these new multi-function boxes can take a lot of time and effort. That's why it's a good idea to select a dealer that provides one-on-one training for the equipment they sell. That way there's someone on-hand that can answer your questions—and, don't fool yourself, you're going to have questions—lots of them.

“A lot of people just learn the basics,” explained Ron Shabbott, technical director, Eastern Avionics International. “I can't tell you how many people put in a \$15,000 GNS 530 and only know how to hit the ‘Direct To’ button.” And that's a huge waste of money, not to mention capabilities.

But, if your avionics shop doesn't have training, it's not the end of the world. All the manufacturers offer some type of training programs and where those leave off, there are third-party suppliers that offer all kinds of valuable training aids that will help take the mystery out of these new avionics systems.

So, whether you are selecting the avionics unit of your dreams or shopping for the best new training program, bringing your flying into the 21st century is a fun and exciting thing to do. All it takes is a bit of planning and the help and guidance of a qualified avionics shop—once you have that, “the sky's the limit...” ■