

Avionics with A Past – and a Future

Buying Used Equipment

BY JAMES WYNBRANDT

Pre-owned avionics and panelware can be an excellent value and help buyers significantly reduce equipment costs. They can also leave purchasers with a stack of defective or outdated merchandise that ends up costing them more in the long run than new equipment. Considering the potential risks and rewards, there are a few basics anyone considering tapping the pre-owned market needs to know.

Today's Market

Not long ago, pre-owned gear wasn't considered a very reputable commodity, and dealers got as much respect as a used car salesman. Sometimes for good reason.

"For years and years the avionics business had this 'take it or leave it' approach to used parts sales, kind of a flea market junkyard mentality," says Joe Braddock, director of sales and marketing at Southeast Aerospace Inc., in Melbourne, Fla., a dealer in new and used equipment.

That down and dirty approach was reflected in the difference in the warranties offered between new and used equipment, typically a year for the former, 90

days for the latter. But more reliable solid state equipment and the rapid evolution of avionics means lots of good equipment now shows up on the aftermarket as panels get upgraded.

Furthermore, some dealers now give warranties of six months to a year, and are quicker to send out loaners and provide other assistance than some OEMs in the event of a problem with a unit under warranty. That makes used equipment worth

parts, that are within manufacturers operational specs and can legally be installed in an aircraft for which they're certified. (We'll address "green tagged" merchandise, parts not considered airworthy, shortly.)

Adding to the confusion, the aforementioned terminology has no hard and fast definition. Anything labeled "remanufactured" has been returned to the factory for a teardown, parts replacement, and testing,

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considering.

"There's a lot of companies that are trying to make a difference when it comes to not burning people and having this flea market mentality," Braddock says. "It has changed over the last few years."

"Used" By Any Other Name

"Used" covers a wide range of quality. Pre-owned gear on the market comes tagged with nomenclature including remanufactured, overhauled, reconditioned and refurbished. And that's just the serviceable equipment, so called yellow-tagged

and been brought up to factory specs. But not all OEMs use this terminology. Garmin, for example, calls its remanufactured gear "reconditioned." King calls the used equipment it refurbishes at the factory "overhauled." "Overhauled" is also the term frequently used by shops to describe the parts they've restored.

Manufacturers' installation manuals have a section that outlines the specifications which a given piece of equipment must meet to qualify as overhauled or refurbished. However, many radios and avionics have no specs

for overhaul, but nonetheless are often offered on the used market as “overhauled.” Beyond that, even for equipment with OEM-set overhaul specs, not all shops have equal overhaul standards; some could take shortcuts, some could go above and beyond what’s required. Given the used parts market’s lack of standards, shoppers have to do their homework diligently. An avionics shop’s reputation and recommendations from people whose opinions you trust should be factors into your decision.

History Lesson

The more you know about the used unit under consideration, the more informed you are when making a purchase. The FAA’s increased emphasis on the traceability of parts makes it easier to know the history of many parts on the market. Experts recommend several ways to ascertain the quality of the part and the work done on it.

Origin: Find out how the unit wound up on the used market. A relatively new piece of equipment pulled from a panel undergoing an upgrade shouldn’t raise as many flags as an older piece of gear pulled from a salvaged airframe.

Serial number: Find out the serial number and use it to find out from the manufacturer when the unit was made. This will help establish the age of the part, as well as whether it’s been reported stolen.

Mod status: Avionics products are often improved during their production runs. Using the serial number, find out from the factory

what improvements have been made since the unit in question was made. Then ask the seller which of those mods have been incorporated into the unit for sale. Some shops simply repair the unit as is; others will incorporate new mods into overhauls.

Tear down report: Good shops have a tear down report for every overhauled piece of equipment, providing a good picture of what was done to the unit to bring it up to spec. This is more informative in instruments with specified overhaul procedures, where replacement of ball bearings and such can be recorded. In avionics that have no such established procedure, the report may list replacement of a face plate or other cosmetic work, but without moving parts, there’s not much that can be done except check for corrosion or other physical damage to the unit.

Pictures, please: Get pictures of the unit; while you can’t judge the innards by its cover, a beat-up exterior can be enough to tell you to look elsewhere. And while you’re getting an image of the gear, get a picture of the dealer, as well. Ask for copies of their license, and, if they overhauled the part, ask for a copy of the first page of the installation manual, which contains the overhaul specs; some overhauls are done by shops that don’t even have the appropriate manuals for the work, and if they can’t produce the documentation, the overhaul might not have been done without consulting factory specs.

If a shop is unwilling to provide this information, think about

going elsewhere. As Braddock says, “We’re in the information age. There’s no reason why a shop can’t give customers as much information as they want.”

Getting Fresh

Pay attention to when the overhaul was done. Some parts, particularly gyro instruments, can deteriorate if they sit on a shelf. Unless spun up every 90 days or so, gyro instruments develop dry areas on pivots and jewels, which can dramatically lower the life expectancy of the part. It may meet manufacturer’s specs for an overhaul, but it could fail after a few hours of use as a result of shelf time.

Also consider when you’re going to install the part. Used equipment warranties typically start from the time of sale, not from the time of installation. If you’re shopping around and gathering gear that will go in a refurbished panel you’re putting together, by the time you put it in the airplane and find out there’s a problem with it, the warranty period could already be over.

Installation

Since the point of buying used equipment is typically to save money, don’t forget to consider installation costs. Using one source for both buying and installing the equipment makes good sense for a couple of reasons. Manufacturers of some popular avionics require their dealers to install any of their equipment they sell—whether new or used. (Homebuilt aircraft aren’t subject to this require-

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ment, but some OEMs insist that dealers at least make the wiring harnesses for such installations.) This assures the units work as they're supposed to. On the flip side, some shops are reluctant to install equipment they don't sell; they don't want responsibility for a unit whose history they can't vouch for. Also, they depend on profits from the sales of what they install to stay in business, and to be frank, some don't want to deal with customers who are trying to nickel and dime them by finding a cheap component somewhere, and trying to get it installed on the cheap somewhere else.

Neil Nederfield, proprietor of C&W Aero Services, a Caldwell, N.J.-based shop that does lots of installations of both new and used equipment, tells potential customers who want to have gear they buy put in their aircraft, "I'll install the parts you bring into the shop when McDonalds and Burger King let me bring in my own hamburger meat to make a Big Mac or a Whopper."

Other shops may tack on a surcharge to install customer-supplied parts, similar to the corkage fee some restaurants charge when you bring your own wine.

The Green Market

In addition to yellow-tagged airworthy items, the used market is loaded with parts that require service or at least inspection before they can be installed in an aircraft. (In the world of avionics professionals, green-tagged items may be labeled "As Removed" if in working order, or "Repairable" if not.) Internet auction sites like eBay, for example,

have listings of lots of avionics and accessories. Many aircraft owners who upgrade their panels sell their replaced equipment on such sites. But for shoppers, this is the heart of "buyer beware" territory. Any part pulled from an aircraft, no matter its condition, legally has to be tested (and fixed if necessary) before it can go into another aircraft. (There are some exceptions to this rule for operators of aircraft fleets, but it doesn't apply to gear on the used market.) The unknown cost of getting a part up to airworthy condition can quickly negate any cost savings over a new, or higher quality used piece of equipment. All too often, buyers simply look at the price instead of considering the quality of the goods, experts say.

"You'll find things on auction sites, and to somebody who doesn't know, it looks like a pretty good deal. But it isn't a good deal if it doesn't have a rack or installation kit, or if something's wrong with it," says Jim Kantor, president of Eastern Avionics, based at Florida's Charlotte County Airport, which sells new and used parts in addition to handling installations. "A lot of these pilots focus on price when they need to focus on what they're getting."

Besides defective merchandise, stolen parts can find their way into this market. "I think there's a lot of hot stuff going through the internet," said John Dors, general manager at Instrument Overhaul Service in San Diego, Calif., "so the consumer has to be really careful what he's buying."

Merely checking serial numbers to see if the equipment has been reported as stolen isn't enough. In one noted scam,

thieves find two aircraft with identical avionics stacks. They take the equipment from the first aircraft and put it in the second, and sell the equipment from the second aircraft. The owner of the second aircraft doesn't notice anything amiss, because the avionics stack is still there, and thus the theft may not be discovered for awhile. But down the road this could create big headaches for the buyer of the stolen goods – not to mention the encouragement it provides to thieves.

The Last Word

Despite all the downsides, used equipment can indeed represent a real value in equipping your aircraft. But to come out ahead, what really needs to be used are your intelligence, diligence caution before you buy. ■