

November 2010
Volume XL
Number 11

The
consumer
resource for
pilots and
aircraft
owners

The Aviation Consumer®



Expedition E350

Bush performance in a refined package ... page 4



MVP-50 monitor ... page 11



Hold it right there ... page 17



V-tail Bonanza ... page 24

8 AIRCRAFT LOANS

*Interest rates are as low as
they've been in decades*

14 NAV DATA CRISIS

*Will emerging competition
bring prices down?*

20 GLASS FOR LSAs

*Yes, it's worth the additional
expense*

11 EI'S MVP-50

*It's like a mini glass cockpit
for your engine*

17 GPS MOUNT GADGETS

*RAM rules the world, but
AirGizmo is making inroads*

24 USED V-TAIL BONANZAS

*A classic high-performance
single that still sets the pace*

GPS Mounting Solutions: RAM Tops Our List

Cockpit-eating GPS displays like the iPad and GPSMAP 696 are nice to look at, but a pain to mount. Here's a look at some helpful products.

by Paul Bertorelli

The age of the Big GPS unearthed an annoying truth: They don't fit in the cockpit. Now that we've evolved to the Really Big GPS, things have only gotten worse, so any attempt to mount a portable navigator can only be called a varying degree of compromise.

But compromise we must, so we recently set out to review a range of gadgets designed to mount a portable navigator in the cockpit in such a way that makes it actually useful. Most of these are from RAM Mount Products, but there are others as well, including stock offerings from the GPS makers. For this article, we'll concentrate mostly on RAM's offerings.

THE YOKE PROBLEM

At the outset, we'll declare a bias from the start. We don't much care for yoke mounts, except for the smaller navigators, which doesn't describe many of them these days. The reason for this loathing is several fold. Large GPS units can obscure the primary instruments, or at least portions of them and this compromises a cockpit ergonomic climate that's not all that great to begin with.

The larger the GPS is, the more weight it represents on a control that was never designed or intended to have stuff clamped to it. Yes, we know, you get used to it, but a heavy GPS on the yoke changes the control feel and can cause interference at times, which is something we simply don't want.

Last, the wires, in all their stinking tangliness. This has improved with the advent of Bluetooth technology, but it's still a nuisance, in our view. For example, in Garmin's GPSMAP

RAM's Cessna seat rail mount, lower right, is a good if compromised solution for the iPad or GPSMAP 696. It mounts to the rail via a thumbscrew clamp, lower photo. When mounted horizontally, lower left, the iPad consumes the entire space between the yoke horns. Nonetheless, horizontal yoke mounting may be the best choice.

CHECKLIST

-  Reluctantly, we conclude that the yoke is the best place for a large GPS.
-  RAM's myriad choice of mounts, arms and brackets address yoke and other options.
-  As much as we love large GPS displays, they force the pilot to bend to the technology, not the other way around.

696, there's a fat power cable in and a skinnier XM antenna out. The good thing is that these wires are a little stiffer and fatter, so they're not as prone to tangling as they once were. The bad news is they're still there.

The only practical solution is to route and stow them semi-permanently out of way, using tie wraps, Velcro pads or commercially available wire ties and organizers. If you rent an airplane or otherwise remove the GPS frequently for dual duty, this adds to the nuisance factor. Some pilots buy an extra set of cables to address this, but the best solution remains use of Bluetooth where





RAM's suction cup mount, left and inset, is an option, although it might be iffy in turbulence.



The glareshield clamp, middle photo, positions the 696 nicely, but the Skylane glareshields lack the stiffness to hold it firmly.



Both the 696 and iPad cradles, lower photo, have offset mounting points to maximize positioning options.

applicable and tie off what cables remain so they're out of the way.

RAM Mounting Systems is well known for its extensive line of gadgets for mounting just about anything into anything. It has products to address a wide range of mounting challenges in aviation, marine, automotive, industrial and sporting applications.

Most of the products are based on a patented hard rubber ball-and-socket design originally called Round-A-Mount, from which RAM is derived. The core of each mount consists of a 1-inch hard rubber ball attached to a bracket of some kind, which is in turn attached to the object to be mounted.

Most RAM mounts consist of a custom plastic cradle that the device snaps into and to which the bracket and ball are screwed or clamped. From that point, the basic connection hardware is a spring-clamp arm equipped with a socket at each end into which the hard rubber balls fit. The arms are available in various lengths and styles to suit the user's whims.

OEM mounting hardware has generally been fair to middling, in our view, but it seems to have improved over the years, since buyers have complained about flimsy mounts for what they view as expensive navigators. Another reason is that RAM has supplied some companies with GPS mounts, including Garmin.

RAM mounts tend to be a notch

or two more rugged than the OEM offerings and they are hands down more flexible, so if you want to reduce the nuisance factor, RAM has the parts and pieces to do that.

IPAD

Our quest for the perfect mount started when we sought a means to mount an Apple iPad in the cockpit for aviation app testing. The iPad is so large that this is a significant problem. At 5.8 by 7.7 inches, the iPad obscures or interferes with something no matter where you put it.

First, the cradle. RAM used its standard solution for this: a plastic cradle with two tabs at the bottom and one at the top. The iPad simply snaps into this and you're done. (Retail: \$66.05.) Ours fit perfectly. The cradle even has the Apple cutout at the back, although we're not sure why.

From there, there are several choices. The iPad cradle's ball mount can be screwed to the lower center of the cradle or offset to one side, a real plus if you can't wrangle the flexibility you need out of the available range in the spring socket arms.

For yoke mounting, RAM provides a big honking C-clamp apparatus (\$42.65) with a ball into which the socket arm snaps. The arms are available in various lengths, with prices between \$15 and \$25. Put the parts together, tighten the knobs and you're good to go.

In the Cessna 182 we tried the mount in, the iPad fit fine between the yoke horns, but it filled up the entire space. It blocked a sight picture of the lower panel, but this wasn't an issue on either the pilot or co-pilot side. But that's not to say there were no issues.

With the iPad (and the GPSMAP 696) in yoke mounts, control move-



AC TV



For a video comparison of the GPSMAP 696 to Apple's iPad, log on to www.avweb.com and select the video index in the upper right corner of the homepage. Scroll down to the iPad vs. GPSMAP 696 video.

CONTACTS

AirGizmos LLC
www.airgizmos.com
 972-671-8001

National Products Inc.
 RAM Mounts
www.ram-mount.com
 206-763-8361

ment is noticeably heavy during take-off checks and depending on how they're mounted, they can bang into the knees, too. Knowing this ahead of time, you can get out of the way, but it's still an annoyance.

SEAT RAIL MOUNT

RAM also makes a unique seat-rail mount that clamps to the floor between the two seat rails. (Retail: \$120.32) It's intended for Cessnas, but it would fit any aircraft with similar seat rail design—basically a small steel I-beam shape with holes drilled for the seat locking pins. As shown in the photo, the clamp works by inserting a tab under the top lip of the I-beam which gains purchase against the rail with a thumbscrew.

A flexible stalk—fitted with a rubber ball at one end—then threads into the clamp. In the Skylane, this places the iPad just above the seat level of the co-pilot seat. The stalk has a bit of sway to it, but it's basically a solid mounting method.

Still, there are a couple of concerns. First, the co-pilot will have interference with it no matter how far aft the seat is kept. And there's no chance of the seat being slid fully forward. This argues for the seat rail solution being best for the solo pilot.

Having the iPad mounted that low is an acquired taste, in our view. It's certainly viewable, but some might not like looking that far down for long periods. Last, it has to be positioned carefully to avoid banging it during a control check. The flex stalk helps.

SUCTION, GLARESHIELD

RAM has a couple of other options for light GPS units, if not the iPad. One is a glareshield mount that consists of a steel channel that slides over the lip of the glareshield and tacks in place with a couple of thumbscrews. (Retail: \$35.84.) The socket arm then attaches to the rubber ball, thence to the GPS.

This is, in some ways, the ideal mount option, albeit one that can obscure the panel. However, the glareshield lip is too flexible to support much weight. It was just able to hold the weight of the iPad, but the 696 would be out the question. We're also not sure how secure this arrangement would be in turbulence. It would be better suited to a lighter GPS, in

AIRGIZMO'S PANEL DOCKS

The gold plate best solution to mount a portable GPS is to get it off the yoke and into the panel and that's what AirGizmo's well-designed panel docks do. A few years ago, these seemed like a novelty, but we're beginning to see more of them in both experimentals and in certified aircraft.

The basic idea is to carve a hole into the panel and insert the AirGizmo cradle, route the power and antenna wires in through the back and you're done—no wire tangle, no yoke interference and no giant invoice from the avionics shop.

Well, maybe. AirGizmo's Max Probasco told us that FSDOs have gotten more reasonable about approving the AirGizmo mounts, viewing them as a minor alteration not needing expensive DER work to approve. If the panel has open real estate for the cradle, it's trivial to install it. Most installations use the GPS's external antenna placed on the glareshield and power provided via the accessory plug, just to honor the spirit and letter of the "portable" concept.

The mounts are well made of UV-stabilized, durable polycarbonate plastic and some models can angle the display toward the pilot if the unit has to be placed on the far right of the cockpit.

Prices for the panel docks are a bargain, ranging from \$39.95 for an iPod dock to \$129.95 for the larger displays. And speaking of



large displays, there's no way you could ever find room for a GPSMAP 696 or iPad in a conventional panel, is there? Yes, there is, and AirGizmo already has a dock for the 696 and is working



on one for the iPad. We wondered how many owners can find the panel space for these large displays and the answer appears to be not a lot. Probasco told us the 696 dock is finding some traction, but by far the more popular seller is the GPSMAP 496, which offers a good combination of features in a smallish package. The panel dock for that device sells for \$99.95.

Probasco didn't provide details on the iPad mount, other than to say the company hopes to have it available later this year.

our opinion. Although supporting it with a supplemental bracket might be an option.

Another mount we tried was RAM's suction base, which sells for \$15.77. These consist of a suction cup with a mechanical cocking lever that pulls the cup firmly against a smooth surface, likely to be a windshield or window in the aircraft.

The suction is hell-for-strong and more than capable of supporting the iPad, although probably not the 696's 2.1 pounds. As with the glareshield mount, we're not sure how well it

would hold in turbulence. Positioning on the window or aft section of the windshield is good for viewability, but does produce a blindspot for traffic.

KNEEBOARDS

We're aware of two kneeboard type products for the iPad, which take an entirely different tack on where to put this useful but a bit overlarge device.

In our review of the iPad in the

continued on page 32

When this article was written it was not known to the author that RAM sells kneeboard mounts for the Apple iPad.



GPS Mounts

(continued from page 19)

July 2010 issue, we mentioned a metal kneeboard design from www.forpilotonly.com that resembles one of those aluminum folding clipboards flight schools sometimes use to keep track of aircraft hours. The iPad slips into the metal housing and a hinged cover folds open to allow access. To write on a pad, you close the cover to protect the iPad. We found it performed as advertised, but it doesn't help much with the annoyance of having a large thing in your lap during flight. In some aircraft, it may interfere slightly with lock-to-lock yoke movement.

As we go to press, the company has released a new and improved model called the iPro Aviator which works on the same design principle, but appears more refined and has a molded back to fit the leg. It sells for \$149.95.

Another solution for the kneepad arrangement is another new iPad product called the MyClip Thigh available from www.tietco.com. This one is the essence of simplicity. It's



MyClip Thing, left, clamps the iPad with an elastic strap and two soft clips.

just an elastic strap with two clips that fit to either side or the top and bottom edge of the iPad. As we go to press in early October, the device is just going into production. For \$39.95, we would deem it to be a good value if the kneeboard option appeals to you. (It doesn't to us.)

CONCLUSION

Coming full circle here, the iPad is simply too big for the small cockpit, but it's not too big to adapt to it. It simply requires some compromise and getting used to. Where to place it—or the GPSMAP 696—is a matter of personal taste and tolerance. Our preferences rank like this: RAM's yoke mount, the seat-rail mount, no mount at all and, last, the kneeboard option. There's nothing wrong with either of the kneeboard designs; we just don't like larding the cockpit up with gadgets to write on when a simple paper pad or Post-it note will do. Your tastes may dictate the opposite opinion.

Best of all worlds for either is Air-Gizmo's panel mount, but this will be a daunting challenge for either of these large-display products in a certified airplane. It may be impossible to find enough panel real estate without the ruinous effort of rearranging the primary stack. And after all, the iPad is supposed to be a sophisticated, low cost option, right?

FEEDBACK WANTED

CESSNA 340



For the February 2011 issue of *Aviation Consumer*, our Used Aircraft Guide will be on the Cessna 340. We want to know what it's like to own these practical cabin class twins, how much they cost to operate, maintain and insure and what they're like to fly. If you'd like your airplane to appear in the magazine, send us any photographs you'd care to share. We accept digital photos e-mailed to the address below. We welcome information on mods, support organizations or any other pertinent comments. Please send correspondence on the Cessna 340 by December 1, 2010, to:

Aviation Consumer
7820 Holiday Drive South
Suite 315
Sarasota, FL 34231
(preferred) e-mail at:
avconsumer@comcast.net

Letters

(continued from page 3)

and I think all the basic Cherokees use the 4509, but I'm not positive.

Sam Buchanan
Prescott, Arizona

The PA-28s do use the GE 4509. As we noted in the article, our view is that no STC or PMA is required and our advice is to simply buy the LED you like and install it. In any case, at press time, Whelen contacted us to report they have received STC approval for the Parmetheus lamp. It's available from Aircraft Spruce.

And by the way, our article offered two spellings of Whelen, but the one with two e's is the correct version. We apologize for the lapse.