

[G] = Gadgets

Glowing Gadgets *and* Gizmos

It's pretty obvious that I'm a big fan of today's mobile technology. With a personal inventory of two iPhones (one for work, one for personal use) and two iPads (Mini 3 — might be Mini 4 by the time you read this article — and Air 2) plus WiFi subscriptions in three locations (one of those being an unlimited airline WiFi plan), at least one connected device is always close at hand.

While I don't always take the full array of gadgets when I fly, I do make it a point to have at least a couple of devices capable of assisting with flight management tasks. These include pre-flight weather briefings, en route weather updates, route planning/route management, airport and communications info and, of course, the stunningly precise situational awareness provided by geo-referenced moving map GPS on VFR sectional charts, IFR en route charts, and (best of all) IFR approach plates. And don't even get me started on the recent addition of synthetic vision and AHRS display capability to tablet devices!

When flying a new glass cockpit airplane or one with some degree of glass panel retrofit, the addition of portable gadgets sends the geek factor into the stratosphere.

It's great — except when it's not.

In the Jan/Feb 2014 issue of this magazine, I wrote about the dangers of distraction in an article called *The Lost Art of Paying Attention* (www.faa.gov/news/safety_briefing/2014/media/JanFeb2014.pdf). The article explored how our technology can magnify mistakes, dominate rather than serve, and tempt us to step out of the situational awareness loop. From the remarkable volume of reader response to that piece, it's clear that I'm not alone in constantly battling the potentially fatal attraction to technological distraction. While I believe that everything I wrote then — including the tips for keeping the pretty toys in the proper context — still applies, there are some additional considerations for using them at night. Let's take a look.

Practice Glow Control

The combination of panel-mounted glass cockpit technology and portable big-screen smartphones and tablets can produce an enormous amount of light in an otherwise dark cockpit. You already know where I'm going with this one: beware its impact on your precious night vision! While it takes only a matter of seconds to brightly illuminate a panel or a tablet, it can take as long as 30 to 45 minutes for the photoreceptor rods in your eye to fully adapt to darkness. Even if you have traffic awareness/avoidance gear on board, you cannot afford to be "night blind" for such a long period of time. That's true for all phases of flight, but especially so for the critical takeoff and landing phases.

To mitigate the risk of night blindness from bright screens and tablets, make it a point to practice "glow control" right from the start. Dim all the displays before you turn them on — better to start with too dim and adjust upward rather than the opposite tactic. Many devices offer a "night" setting, so find it and activate it before you need to use it.

If your passengers have their own devices (likely) and/or you need them to hold and manage yours, please be sure to brief them fully on the importance of glow control.

It's bad enough if their loss of night vision leaves them unable to assist with traffic spotting, but it's even worse if their unknowing actions create that problem for you.

While we're on the subject of glow control, it's also a good idea to be sure your flashlights (yes, you still need those for night flying!) are functional, stocked with fresh batteries and, ideally, equipped with a red lens.

Master the Machine(s)

When operating at night and practicing "glow control," as you must, the reduced lighting conditions make mastery of the machine even more important than it is in daytime. You can't afford to be fumbling to find the functions you need for a given operation or ATC instruction.

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Photo by Susan Parson



Photo courtesy of Avidyne

Even with an autopilot engaged for basic aircraft control, that kind of heads-down time is dangerous because it takes you farther from the “howgozit” situational awareness loop. As I wrote in the 2014

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Even the slowest GA airplane can cover a significant amount of territory in the space of mere minutes, and moving maps aren't much help if you are, for example, trying to remember how to bring up some other function you needed five minutes ago. And, of course, if you don't have an autopilot, heads-down time in the night flying environment can quickly lead to spatial disorientation and loss of aircraft control.

The key, as always, involves disciplined preparation. Learn and practice all of the functions you'll need for the flight. Download all of the information

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you expect to use, and organize it in a logical way. To assist in this task, one popular app offers a “pack” function that downloads and sequences this kind of data. Even if you have some means of onboard WiFi, verify that you have successfully downloaded the big ticket

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items. You might find it helpful to use the venerable “chair flying” technique to be sure you've covered everything: with tablet in hand, make an accelerated mental pass through your flight plan. You might be surprised by how many “obvious” things you've forgotten to learn or do.

Ensure that your device has a fully charged battery, and make provisions for keeping it charged as long as you expect to need it — plus a reasonable reserve (yes, just like fuel planning). The ubiquitous 12-volt adapter is one option, but portable battery packs abound these days. Consider getting one specifically for your flight bag. As with any battery, regularly check the charging pack to ensure it has all the juice it's advertised to hold.

Remember the Basics

Never, ever forget that technology is merely a tool! Regardless of the time of day or weather conditions, don't let the technology take over or tempt you to trust it without constant and assiduous verification. Technology can help you, but it can never substitute for adherence to the Pilot's Prime Directive to aviate, navigate, and communicate.

A discussion of the basics is not complete without a final plea: don't let the glowing gadgets and gizmos distract you from enjoying the beauty, the serenity, and the simple joy that night flying can offer. ✈️

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