



Photos by Larry Anglisano

SPORTY'S PJ2 GPS

STORY BY LARRY ANGLISANO

No matter how far aircraft electronics advance, there will always be a place for the portable VHF comm radio, whether as a primary rig in planes with no electrical system or for backing up a full suite of panel gear. Build a reliable and easy-to-use portable radio, and pilots will buy it.

That's precisely what Sporty's customers have been doing for years, starting with the Model A300 in the late 1980s. Priced at \$399, the latest Sporty's PJ2 GPS model brings the good-selling and smart-featured PJ2+ (which will still live in the Sporty's radio lineup at \$249) to a higher level, with a basic get-me-home onboard GPS, built-in intercom, and Bluetooth connectivity.

More battery

Perhaps one of the most important considerations for a portable transceiver is the battery that powers it. For emergency backup, we stash these radios in flight bags, map pockets, and seat backs sometimes never seeing the

light of day for months at a time. But when we need it, it better be ready to go. That's why alkaline batteries are generally the better choice over rechargeables for long-term storage.

On the other hand, rechargeable battery technology has gotten pretty reliable, portable power supplies have gotten more compact with more output, and panel USB power for charging (or powering on the fly) is fairly common. That's why Sporty's includes two battery packs with the PJ2 GPS – a 7.4-volt DC lithium-ion rechargeable and a quick-release pack that houses six alkalines. It sure is nice to have options without having to buy them separately. During my evaluation, I used the rechargeable exclusively, and it worked well. My airplane has a USB charging port, so I

really didn't have the need for alkalines.

Better yet, charge the lithium-ion pack while it's on the radio through the USB-C port. You can keep the

**SPORTY'S
THIRD-GENERATION
PJ PORTABLE
RADIO STRIKES A
GOOD BALANCE OF
USEFUL TECH AND
SIMPLICITY.**

Continued on following page

SPORTY'S PJ2 GPS

Continued from page 47

radio on while it's charging, but the manual warns that it might not top off the battery with the load of radio on. Additionally, external power should be at least 2.7 amps if you want the radio to transmit. You'll know there isn't enough power input if the display flashes and a tone beeps when you key the transmitter. The lithium-ion is well served by an onboard battery indicator.

As for endurance, the specs say a fully charged lithium-ion will go roughly eight-to-10 hours, but you'll get less with Bluetooth connected and while transmitting. Sporty's suggests the Energizer brand alkalines, which might run six-to-eight hours while receiving and less while duty-cycling the transmitter. With the alkalines or rechargeable batteries powering the radio, transmit output power is 6 watts, and it's 5 watts when powered by external USB-C input power. The unit can be powered with or without the battery attached.

Feature set

The radio's "PJ" nomenclature comes from PJ-068 and PJ-055 audio jacks that are built into the top of unit. This means you plug a standard GA headset directly into the radio without needing an adapter – a feature that appealed to buyers on the first-gen PJ2 radio. Even better is that the radio can function as a basic intercom when two headsets are plugged in using a splitter. It's a hot mic instead of VOX, but in stark applications without panel radios, the PJ2 GPS has utility as both a comm radio and intercom. The radio also generates sidetone with adjustable volume.

The PJ2 GPS gets high marks for smart and simple ergos. On the unit's upper chassis, there's a rotary on/off/volume knob and a rotary squelch knob, and the headset jacks are accessed by flipping up a plastic protective cover. The flexible rubber duck antenna has a quick disconnect BNC. Like any portable with lower transmit power, use an external antenna for more range. To the left of the rotary knobs is the built-in GPS antenna. More on that in a minute.

The onboard color LCD display doesn't have touch operation, but the menu structure is shallow enough where it really isn't necessary, though in the age of touchscreen, there is a tendency to want to finger the display. In basic operation, the screen displays the current frequency and the last frequency tuned. The battery status is shown (color coded) in the upper right area of the display.

The left side of the chassis has a frequency flip-flop

The built-in intercom has adjustable sidetone volume.



button, push-to-talk button, and a button that activates the display and keypad backlighting. The right side of the chassis has 3.5 mm aux jack for plugging in earbuds or a basic headset, which disables the unit's speaker. Think walking around an air show, for example. And for doing so, there's an included spring-loaded removable belt clip, plus a wrist strap.

Below the audio jack is the external USB-C input jack, and Sporty's includes a wall plug for AC power input. And thankfully, a power input status annunciator lets you know the unit is receiving external power. I could never understand why some electronics don't have one.

Emergency GPS

The built-in WAAS GPS is utilitarian – no moving map and no navigation database. It does show useful data that might be helpful in an emergency, including GPS groundspeed, altitude, and track. Since it doesn't have a database of airport and navaids, it's up to the user to set a waypoint to navigate to in an emergency.

From the GPS menu, the receiver tells you the current position's lat/long coordinates, and you can set and name a waypoint for later navigation (100 programmable waypoints). Setting your "home" waypoint (name it whatever you wish using three alphanumeric characters) is where the radio will automatically navigate to in emergency mode.

The built-in Bluetooth makes the PJ2 GPS useful for maintenance ops because you can pair to earbuds instead of plugging in a full-sized headset.



To enter the mode, press and hold the Number 2 key on the keypad (which serves double duty as the 121.5 emergency key) for three seconds and the radio's screen displays Emergency Mode and tunes 121.5 to the active frequency. That also brings up the GPS data on the screen, which includes the lat/long plus the track, bearing, and distance to the previously stored Home waypoint. Simply steer the aircraft on course until the track and bearing match.

The WAAS engine in the PJ2 GPS locks on quickly, and you can check the satellite strength by scrolling through the menu, entering with the keypad's Menu key, of course. While the radio uses true north for calculating track and bearing, you can input magnetic variation from the Magnetic Vari menu.

I asked John Zimmerman how much utility there is in a non-database navigator, and he made logical sense of it, pointing out that the majority of pilots using the PJ2 GPS will also be using a tablet or smartphone (and maybe even an aviator watch with nav capability) for navigating.

"And that's why we killed the VOR function in our radios a few years ago. In this radio the GPS is meant to be a true emergency backup: Show me where I am, where I'm going, and what's the altitude," he pointed out. Zimmerman said that a surprising number of customers never wander more than 100 miles from their home base and actually requested this dummy-proof "go-home" mode.

For functionality as true emergency backup rig, you could build your own custom emergency database of waypoints you might want to navigate to on a specific trip should you have to divert because of an electrical failure. Think of the PJ2 GPS's navigator as a backup to the backup.

Bluetooth

There's a dedicated Bluetooth key on the radio's keypad, and pairing is simple and quick. To enter pairing mode, simply select Pairing Mode from the Bluetooth menu and the radio searches for devices. I connected the PJ2 GPS to current-gen Apple AirPods and a Bose A30 headset where it worked fine. You can name each device you pair the radio with using the Naming Device in the Bluetooth menu.

As for pairing with a headset, yes, it means you can listen and talk without plugging the headset directly into the radio. But Sporty's cautions that most headsets with Bluetooth have auto shutoff that can get in the way with pairing. On the Bose A30, you have to turn auto shutoff to the off position (using the dip switch in the battery compartment) and on the Lightspeed Zulu 4 you have to flip both the MIC BIAS dip switches up. When you do that, you can Bluetooth to the radio and transmit no problem. But the default settings on these switches means you'll hear the radio audio, but for transmit there's no modulation. The problem is that the headset, when it's unplugged from the panel, thinks it's out of the airplane and so the mic won't be active.

Good performer

Like the other PJ radios, the latest PJ2 GPS has Automatic Noise Limiting, which battles RF interference by attenuating the audio output signal at 6 dB. I found the receiver quality to be good, and others on the end of the transmitter said the modulation was crisp and accurate when I transmitted with a Bose A30. The speaker has plenty of volume and the squelch is easy to set.

Like earlier PJ radios, the PJ2 GPS is overall a good performer with enough useful features that make the \$399 price a good value. It probably has more features than some pilots will use, like the NOAA radio band, 100-channel visual memory storage, frequency search and scan, and perhaps even the GPS functions. But given the simple yet generous feature set, Sporty's latest radio should reliably serve a wide variety of missions – from a belt-and-suspender emergency backup to a primary comm/GPS.

Learn more at Sporty's, a longtime supporter of AEA events, at sportys.com. □