

## Cockpit Connectivity

Cockpit integration has come a long way in the last decade, with our navigation boxes not only talking to our glass displays but also to our engine monitors, transponders and CO<sub>2</sub> detectors. What we've been missing, however, has been integration with the personal smart devices we carry onto the aircraft and often do the majority of our flight planning on. Progress in this field has been shared between a number of companies. A few, like Rockwell Collins have been using wireless links to connect aircraft to a WiFi database loading system at the hangar. Others, like Guardian Avionics have developed Bluetooth solutions to bring wireless mobile devices into the Cockpit ecosystem. Their Bluetooth compatible CO<sub>2</sub> detector, for example, can link to iPads for monitoring cockpit data. In the world of General Aviation, Aspen Avionics has led the charge by with their "Connected Panel" strategy, linking iPads first to their own displays, and then to a Garmin GNS430/530. This allowed the upload of flight plans to Garmin navigators. However, without having access to Garmin's internal network, there were noticeable limitations. As of EAA Airventure 2014, Garmin has thrown their hat into the ring with their own "Connex" strategy. At Maxcraft, we believe this to be a very significant announcement, one that entails great benefits not only to private pilots but also to commercial operators filing frequent flight plans working pipeline patrols or similar contracts.



Connex allows pilots to not only plan flights at home using an iPad, but also to upload those plans wirelessly to the cockpit while receiving amendments on routes preferred by ATC. Any flight plan changes applied by the navigator box are seamlessly synchronized and transmitted back to the tablet, making a great backup should things go dark in the cockpit. The currently supported tablet of choice is an Apple iPad loaded with Garmin's Pilot app, but we hope to see other platforms added in the future.

Here are some additional advanced features currently supported:

- **Garmin "Flight Stream"**
  - *Bluetooth wireless gateway connected to the avionics and provides an internal AHRS for attitude information displayed on the tablet*
- **GPS location**
  - *Live streaming location on a moving map for passengers*
- **ADS-B In**
  - *Stream weather and traffic from the GDL88 transceiver to the iPad*
- **Backup display**
  - *iPad can now display back up instruments and gain a 3-D perspective*
- **XM Weather/Music**
  - *Stream from the GDL69 XM receiver to iPad. Allows users to control the audio and select channels*

- **D2 Watch**
  - *This GPS watch can receive flight plans from the Garmin Pilot app*
- **Virb Camera**
  - *Pilots can control the HD camera from the Pilot App, control recording options, and take photos while simultaneously viewing flight plans on both the tablet and the Garmin G500/600 primary flight display!*
- **Global Datalink**
  - *With the GSR56 Iridium based datalink, pilots and passengers can get worldwide weather, and have voice and text capability.*

At the end of the day this new connectivity allows the pilot a simple and error-free method of entering flight plans into the primary navigator and provides a very important backup on his or her tablet. The extra benefits of music selection from the rear seats, passenger moving maps, texting capability and camera control are all icing on the cake! We believe that this integration between the cockpit and the tablet to be just the beginning, and we fully expect many new features to be added as new technology comes available.