

NATIONAL TRANSPORTATION SAFETY BOARD
Vehicle Recorder Division
Washington, D.C. 20594

May 31, 2013

Electronic Device Factual Report

Specialist's Factual Report
by Bill Tuccio

A. EVENT

Location: Norfolk, Nebraska
Date: April 27, 2013
Aircraft: Piper PA-28R-180
Registration: N3970T
Operator: Private
NTSB Number: CEN13FA241

B. GROUP - No Group

C. SUMMARY

On April 27, 2013, about 1959 central daylight time, a Piper PA-28R-180 airplane, serial number 28R-30317, N3970T, was substantially damaged during a wire strike and subsequent ground impact near Norfolk, Nebraska. Both occupants, the private pilot and passenger, were fatally injured. The airplane was registered to Pro-Flite Incorporated and was operating under the provisions of 14 *Code of Federal Regulations* Part 91 as a personal flight. Visual meteorological conditions prevailed and a flight plan was not filed. The flight departed from Norfolk Regional Airport (OFK), Norfolk, Nebraska about 1957.

D. DETAILS OF INVESTIGATION

The NTSB Vehicle Recorder Laboratory received the following device:

GPS Manufacturer/Model:	Apple iPad Mini
Serial Number:	F4NK4M7HF193

Apple iPad Mini Device Description

The Apple iPad Mini is a tablet computer with a high-resolution color touch-screen interface. All iPad devices support WiFi and Bluetooth connectivity, and use either 16, 32, or 64 GB of non-volatile memory for storage (depending on model). Some devices also support data connectivity via existing cell-phone networks. The iPad

implements its functionality by running programs called “Apps” capable of supporting web-browsing, email, audio/video playback, contact and calendar management, and numerous other specialized functions. User-installed Apps can be used to support functionality for electronic flight bags, flight planning and filing, aviation weather depiction, and electronic flight charts. Application data is stored in non-volatile memory and may include image, video, and position location information. Specialized application data may be stored in a proprietary file structure using numerous proprietary file formats. The amount and type of data stored varies based on the software version and configuration of the specific device.

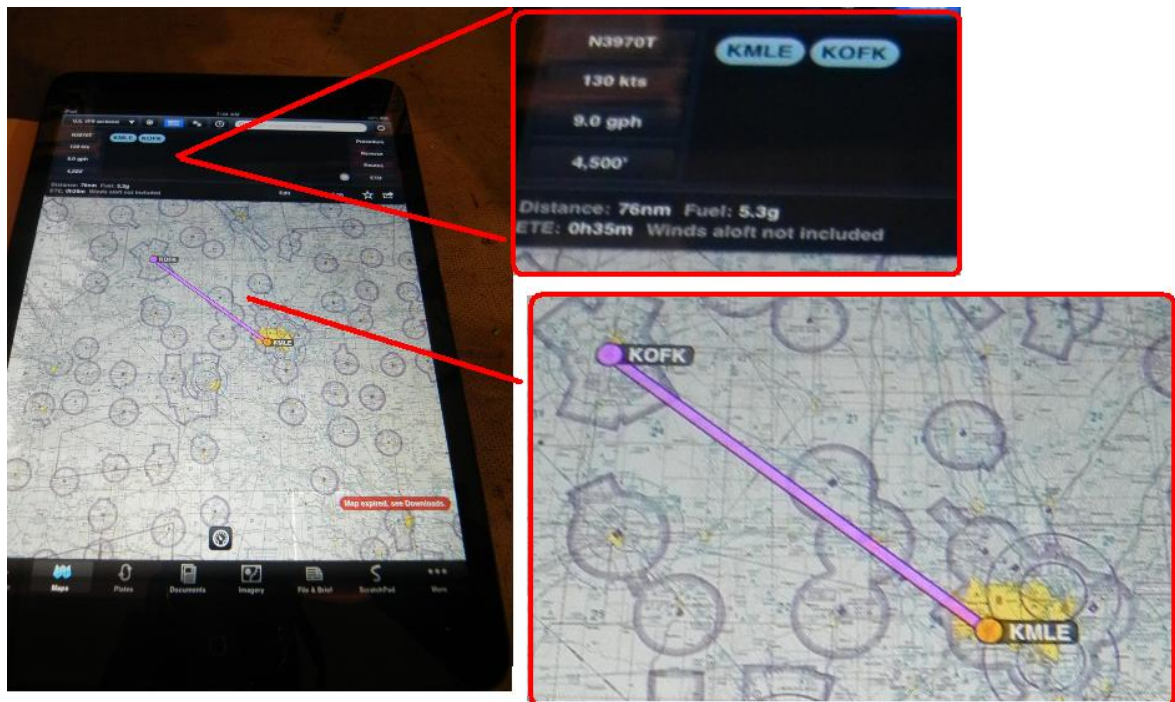
Apple iPad Mini Data Recovery

Upon arrival at the Vehicle Recorder Laboratory, the iPad Mini was contained in a protective Otter Box case. The case sustained minimal damage, the iPad Mini was undamaged. The unit was powered on normally and examined by browsing the user interface.

Apple iPad Mini Data Description

The unit contained a number of aviation applications installed, including ForeFlight with a subscription purchased on February 15, 2013 with an expiration date of February 16, 2014. When the ForeFlight app was started in the laboratory, the “maps” screen showed a flight plan from KMLE to KOFK in aircraft N3970T, as shown in Figure 1. ForeFlight has a “scratch pad” where the pilot can write information. The scratch pad had writing “330@10 OVC 2000,” though the time this was written was unknown.

Figure 1. ForeFlight maps screen.



The calendaring and email apps indicated the pilot had some involvement or interest with a "Flight Team." Emails suggest the flight team was some type of airborne competition. A recent email showed an April 25, 2013 RedBird simulator session scheduled with an instructor.

An installed app, "CloudAhoy," was capable of recording GPS coordinates to a server for post-flight review. The app was investigated, but there were no flights recorded on the server associated with the account configured on the iPad Mini.

Other aviation apps included a "Dual GPS" status tool (no logging), Sporty's E6B, Pilot FAR-AIM, MyRadar, and FlightAware. None of these apps or ForeFlight recorded a GPS track history.

Photos were reviewed, and none were pertinent to the investigation.