

NATIONAL TRANSPORTATION SAFETY BOARD

Vehicle Recorder Division
Washington, D.C. 20594

October 24, 2016

Personal Electronic Devices

Specialist's Factual Report
By Bill Tuccio, Ph.D.

1. EVENT SUMMARY

Location: North Little Rock, Arkansas
Date: May 5, 2016
Aircraft: Cessna 310F
Registration: N6770X
Operator: Lashbrook Inc.
NTSB Number: CEN16FA172

2. GROUP

A group was not convened.

3. DETAILS OF INVESTIGATION

The National Transportation Safety Board (NTSB) Vehicle Recorder Division received the following personal electronic devices (PEDs):

Device Manufacturer/Model #1: **Apple iPad 3**
Serial Number #1: **DMPHQDLHDVGJ**

Device Manufacturer/Model #2: **Apple iPad**
Serial Number #2: **GB026QV6ETV**

3.1. Device Description

The Apple iPad 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 memory¹ for storage (depending on model). Some devices also support data connectivity via existing cell-phone networks. Some iPad models include front and back cameras. 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

¹ Non-volatile memory is memory that does not require battery power to retain information.

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.

3.2. Device Conditions

Upon arrival at the Vehicle Recorder Laboratory, an examination revealed both units had sustained impact and heat damage. Figure 1 shows iPad #1 and figure 2 shows iPad #2. It was determined the damage to iPad #1 was too severe for any recovery. The internal component board of iPad #2 was intact, removed from the unit, installed in a surrogate unit, started, the password determined, and content downloaded using forensic software.



Figure 1. Photo of iPad #1.



Figure 2. Photo of iPad #2.

3.3. Data Description iPad #2

Recovered data was reviewed. Content on iPad #2 was consistent with the unit being owned by the pilot-examiner. There was no content pertinent to the accident flight or pilot-examiner recent flight history.