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

November 26, 2014

Personal Electronic Device

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

1. EVENT

Location:	Bahama, North Carolina
Date:	October 21, 2014
Aircraft:	Beech D95A
Registration:	N64GM
Operator:	Private
NTSB Number:	ERA15FA023

2. GROUP

No group was convened.

3. SUMMARY

On October 21, 2014, at 1044 eastern daylight time, a Beech D95A, N64GM, was substantially damaged when it impacted trees and terrain near Bahama, North Carolina. The flight instructor was fatally injured and the private pilot receiving instruction (student) was seriously injured. Visual meteorological conditions prevailed, and no flight plan was filed for the local flight, which originated from Lake Ridge Aero Park (8NC8), Durham, North Carolina, about 1040. The instructional flight was conducted under the provisions of 14 *Code of Federal Regulations* Part 91.

4. DETAILS OF INVESTIGATION

The National Transportation Safety Board (NTSB) Vehicle Recorder Division received the following device:

Device Manufacturer/Model:	Apple iPhone 4S
Serial Number:	Unknown

4.1. Apple iPhone 4S Device Description

The Apple iPhone is a touch-screen operated smartphone capable of voice calling, text messaging, email, photo/video recording, audio (music) playback, and numerous

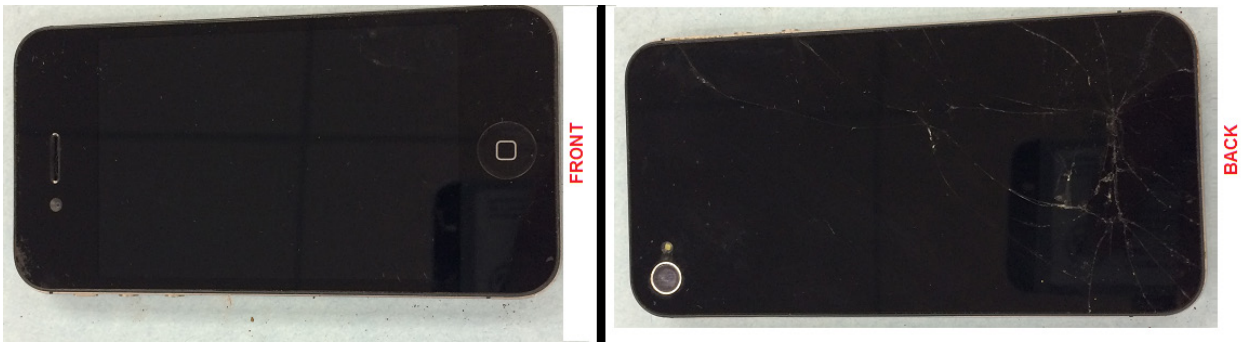
other specialized functions depending on configuration. The unit is capable of accessing wireless networks using the IEEE 801.11n protocol (wifi) and other wireless devices supporting Bluetooth[1]. Specialized functions are supported by additional user-installed program applications (Apps). Application data is stored in non-volatile memory[2] and may include call logs, text messaging logs, image, video, and position location information. In addition, specialized application data may be stored in a proprietary file structure using numerous file formats including: binary, ASCII, HTML, SQL, etc. The amount and type of data stored varies based on the software version and configuration of the specific device.

4.2. Apple iPhone 4S Data Recovery

Upon arrival at the Vehicle Recorder Laboratory, an exterior examination revealed the device had sustained minor structural damage, as shown in figure 1. The damage included cracks on the back of the unit and debris in connector cavities. The unit was cleaned and charged and then powered up normally; however, the unit was protected by a 4-digit passcode.

The Investigator-in-Charge (IIC) was not able to provide any passcodes. In agreement with the IIC, no further recovery attempts were made.

Figure 1. iPhone 4S as received.



4.3. Apple iPhone 4S Data Description

No data was recovered from the device.

[1] A short-range, low bandwidth wireless protocol used in consumer electronics used mostly for low-overhead functions.
[2] Non-volatile memory is semiconductor memory that does not require external power for data retention.