

NATIONAL TRANSPORTATION SAFETY BOARD

Vehicle Recorder Division

Washington, D.C. 20594

January 29, 2018

Multiple Electronic Devices

Specialist's Factual Report

By Sean Payne

1. EVENT SUMMARY

Location: Austin, Pennsylvania
Date: October 16, 2016
Aircraft: Piper PA-28-161
Registration: C-GYSN
Operator: Private
NTSB Number: ERA17FA017

2. GROUP

A group was not convened.

3. DETAILS OF INVESTIGATION

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

Device Manufacturer/Model:	Apple iPhone 5S
Serial Number:	352053061582428

Device Manufacturer/Model:	Lexar 64 GB SD¹ Card
Serial Number:	N/A

3.1. Device Description – iPhone 5S

PEDs are a category of devices comprised primarily of portable computing devices and mobile phones. Portable computing devices are typically capable of internet access, email, messaging services, and can run user-installed applications to perform specific tasks. Depending on the model, mobile phones can perform many of the same tasks as portable computing devices, plus have voice call and text messaging capabilities. PED user and system data is typically stored on non-volatile memory² and can be accessed through manufacturer-provided interfaces.

¹ SD – Secure Digital – A standardized physical format for a memory device.

² Non-volatile memory is semiconductor memory that does not require external power for data retention.

Device Description – Lexar SD Card

The card consists of specific physical format and contains NVM. The card is designed for use with a wide range of electronic devices.

3.2. Device Condition – iPhone5S

Upon arrival at the Vehicle Recorder Laboratory, an examination revealed the unit had not sustained any damage. The PED is shown below in figure 1.



Figure 1. Photo of PED.

Device Condition – Lexar SD Card

The device was undamaged and mounted normally in a Windows file system when connected to a PC.

3.3. Data Description – iPhone5S

The iPhone was functional but was passcode locked. A number of passcodes were provided by a family member, none of which unlocked the phone. No data was recovered from the iPhone.

Data Description – Lexar SD Card

The card contained a file structure consistent with having been used in a Nikon camera, however, no photos and videos were present within the file structure. A forensic examination of the card revealed that most hexadecimal data blocks were read as “00.” The only written data blocks indicated were a result of the folder structure present on the card. Because the card consisted of almost entirely “00” hex data blocks, the card likely had never been used to capture a photograph or video, or was forensically wiped by the owner prior to being inserted in the camera on the accident flight.