

NATIONAL TRANSPORTATION SAFETY BOARD

Vehicle Recorder Division

Washington, D.C. 20594

August 26, 2019

Personal Electronic Device

Specialist's Factual Report

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1. EVENT SUMMARY

Location: Zaleski, Ohio
Date: January 29, 2019
Aircraft: Bell 407
Registration: N191SF
Operator: Viking Aviation INC.
NTSB Number: CEN19FA072

On January 29, 2019, at 0650 Eastern standard time, a single-engine, turbine-powered, Bell 407 helicopter, N191SF, collided with forested, rising terrain about 4 miles northeast of Zaleski, Ohio. The helicopter was registered to and operated by Viking Aviation, LLC, doing business as Survival Flight, Inc., as a visual flight rules helicopter air ambulance flight under the provisions of 14 *Code of Federal Regulations Part 135* when the accident occurred. The certificated commercial pilot, flight nurse, and flight paramedic were fatally injured, and the helicopter was destroyed. Visual meteorological conditions existed at the departure location, and company flight following procedures were in effect. The flight departed Mt. Carmel Hospital, Grove City, Ohio at 0628, destined for Holzer Meigs Hospital, Pomeroy, Ohio, about 69 miles southeast.

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: Apple iPad Mini 2
Serial Number: F9FRXAWLFCM9

Device Manufacturer/Model: Apple iPad Mini 4
Serial Number: F9FW1HWGHMN

Device Manufacturer/Model: Apple iPad 6th Generation
Serial Number: GG7WJ6QYJFBD

Device Manufacturer/Model: Apple iPhone 8 Plus
Serial Number: 356716088669826

Device Manufacturer/Model: Kyocera E4610
IMEI Number: 990006153703920

3.1. Device Description

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 memory¹ and can be accessed through manufacturer-provided interfaces.

3.2. Data Recovery

3.2.1 Apple iPad Mini 2

Upon arrival at the Vehicle Recorder Division, an exterior examination revealed the device had severe impact damage, as shown in Figure 1. The device's main board was removed and installed in a surrogate device. The device functioned normally in the surrogate device. The device was connected to a PC and read using forensic evidence recovery software for PEDs.



Figure 1. Front and Back of Apple iPad Mini 2 as received

¹ Non-volatile memory is semiconductor memory that does not require external power for data retention.

3.2.1.1 Web Bookmarks²

#	Title	URL
1	Apple	https://www.apple.com/
2	AWC - HEMS Tool	https://www.aviationweather.gov/hemst
3	Bing	https://www.bing.com/
4	Fltplan.com	http://fltplan.com/
5	Google	https://www.google.com/?client=safari&channel=ipad_bm
6	NWS	http://www.weather.gov/
7	Yahoo	https://yahoo.com/

Figure 2. Bookmarked pages on iPad Mini 2

3.2.1.1 Web History

The device was logged in with a username belonging to Survival Flight Inc. There were 154 web browsing items from May 31, 2018 to June 11, 2018 in web history. The web history is provided in Microsoft Excel Worksheet format as Attachment 1 to this report.

3.2.1.2 Electronic Flight Bag (Foreflight)

The device contained the application “Foreflight” which is an electronic charting and navigation program for pilots. The Foreflight was logged in with an account belonging to Survival Flight Inc. The application showed one track log from January 7, 2019 on the account, however, the track log detail was not stored in the device.

3.2.2 Apple iPad Mini 4

Upon arrival at the Vehicle Recorder Division, an exterior examination revealed the device had minor impact damage, as shown in Figure 3. However, the device could not power on. The device’s main board was removed and installed in a surrogate device. The device functioned normally in the surrogate device. The device was connected to a PC and read using forensic evidence recovery software for PEDs.

² Web Bookmark – A URL that is stored for easy retrieval



Figure 3. Front and Back of Apple iPad Mini 4 as received

3.2.2.1 Web Bookmarks

#	Title	URL
1	Apple	https://www.apple.com/
2	AWC - HEMS Tool	https://www.aviationweather.gov/hemst
3	Bing	https://www.bing.com/
4	Fltplan.com	http://fltplan.com/
5	Google	https://www.google.com/?client=safari&channel=ipad_bm
6	NWS	http://www.weather.gov/
7	Yahoo	https://yahoo.com/

Figure 4. Bookmarked pages on iPad Mini 4

3.2.2.2 Notes

There are four notes on the device's Notes application. The last note created on 2:35:19 AM, January 24, 2019 (UTC) stated "*X-men chip light illuminated after starting the helicopter*".

3.2.2.3 Web History

The device was logged in with a username belonging to Survival Flight Inc., and this username was the same one used to log in iPad Mini 2 described above. There were 97 web browsing items and they were all dated on June 9, 2018 in web history. The web history is provided in Microsoft Excel Worksheet format as Attachment 2 to this report.

3.2.2.4 Electronic Flight Bag (Foreflight)

The device contained the application “Foreflight” which is an electronic charting and navigation program for pilots. The Foreflight was logged in with an account belonging to Survival Flight Inc., and this username was the same one used to log in iPad Mini 2 described above. The application showed one track log from January 7, 2019 on the account, however, the track log detail was not stored in the device.

3.2.3 Apple iPad 6th Generation

Upon arrival at the Vehicle Recorder Division, an exterior examination revealed the device had severe damage, as shown in Figure 5. The device’s main board was removed and installed in a surrogate device. The device functioned normally in the surrogate device. The device is password protected. Password was unable to be obtained. No data was recovered from the device.



Figure 5. Front and Back of Apple iPad 6th Generation as received

3.2.4 Apple iPhone 8 Plus

Upon arrival at the Vehicle Recorder Division, an exterior examination revealed the device had severe impact damage, as shown in Figure 6. The device’s main board was removed and installed in a surrogate device. The device could not power on in the surrogate device. The extent of the damage precluded normal recovery procedures and additional attempts were unsuccessful in yielding data.



Figure 6. Front and Back of Apple iPhone 8 Plus as received

3.2.5 Kyocera E4610

Upon arrival at the Vehicle Recorder Division, an exterior examination revealed the device had severe impact damage, as shown in Figure 7. The device's main board was removed and installed in a surrogate device. The device functioned normally in the surrogate device. The device was connected to a PC and read using forensic evidence recovery software for PEDs.



Figure 7. Front and Back of Kyocera E4610 as received

3.2.5.1 Call Log

There are 200 calls from July 11, 2018 to January 26, 2019 saved on the device. Figure 8 shows the last ten call activities.

#	Direction	Parties	Time	Duration (hh:mm:ss)
1	Incoming	From: non Contact List number	1/26/2019 10:19:13	00:00:54
2	Outgoing	To: non Contact List number	1/26/2019 10:02:09	00:00:35
3	Outgoing	To: non Contact List number	1/26/2019 10:00:47	00:01:04
4	Incoming	From: Sf Ops	1/26/2019 9:35:25	00:02:34
5	Incoming	From: Sf Ops	1/26/2019 7:45:44	00:00:00
6	Incoming	From: Sf Ops	1/26/2019 4:39:36	00:00:45
7	Incoming	From: non Contact List number	1/18/2019 5:56:01	00:00:11
8	Outgoing	To: Comm Center	1/18/2019 3:30:08	00:00:40
9	Incoming	From: Sf Ops	1/18/2019 3:21:10	00:00:44
10	Outgoing	To: non Contact List number	1/18/2019 3:20:34	00:02:00

Figure 8. Last ten call activities of Kyocera E4610

3.2.5.2 Text Messages

There are nine SMS messages from July 11, 2018 to November 1, 2018 saved on the device. Figure 9 shows the last four messages exchanging between the user and Pilot S F 14 (a pilot at Survival Flight Inc.).

Party	Time	Direction	Message
To: Pilot S F 14	11/1/2018 6:54:12 PM(UTC+0)	Outgoing	Thanks c you soon
From: Pilot S F 14	11/1/2018 6:51:47 PM(UTC+0)	Incoming	Ok
To: Pilot S F 14	11/1/2018 6:51:09 PM(UTC+0)	Outgoing	Not bad . Should leave soon
From: Pilot S F 14	11/1/2018 6:48:17 PM(UTC+0)	Incoming	How is it going over there?

Figure 9. Messages with Pilot S F 14 on Kyocera E4610