

National Transportation Safety Board

Office of Research and Engineering

Washington, DC 20594



CEN23FA139

ELECTRONIC FLIGHT INSTRUMENT SYSTEM (EFIS)

Specialist's Factual Report

August 3, 2023

A. ACCIDENT SUMMARY

Location: Lubbock, Texas
Date: March 17, 2023
Time: 1136 central daylight time (CDT)
Airplane: Beech BE-58P, N2061K

B. ELECTRONIC FLIGHT INSTRUMENT SYSTEM (EFIS) SPECIALIST

Specialist: W. Deven Chen
Electrical Engineer – Recorder Specialist
National Transportation Safety Board (NTSB)

C. DETAILS OF THE INVESTIGATION

A recorder group was not convened. The NTSB Vehicle Recorder Division received the following EFIS:

Manufacturer/Model:	Avidyne IFD 5XX series
Serial Number:	Unknown
Manufacturer/Model:	Avidyne IFD 440
Serial Number:	Unknown

1.0 Avidyne IFD 5XX Series Description

The Avidyne IFD 5XX series is a Flight Management System (FMS), GPS, and Navigator, with a 5.7-inch touchscreen. There are two main versions of the device, the 540 which is the base unit, and the 550, which is similar but has synthetic vision capabilities. It is capable of monitoring, displaying, and recording navigational information and records parameters including, but not limited to, heading, latitude, and longitude. Additionally, the IFD 5XX can be connected to external measurement devices to record other parameters such as attitude, attitude rates, body accelerations, pressure altitude, and airspeed. If configured properly, the IFD 5XX can also record engine parameters as provided to the unit by external engine monitors. The IFD 5XX stores its historical logs on an internal compact flash (CF) card.

1.1 Avidyne IFD 5XX Series Condition and Data Recovery

The Avidyne IFD 5XX had sustained severe fire damage, as shown in Figure 1. The compact flash card on which the flight data stored had also sustained severe fire damage, as shown in Figure 2. The extent of the damage precluded normal and advanced recovery procedures, and additional attempts were unsuccessful in yielding usable data. No data pertinent to the accident were recovered.

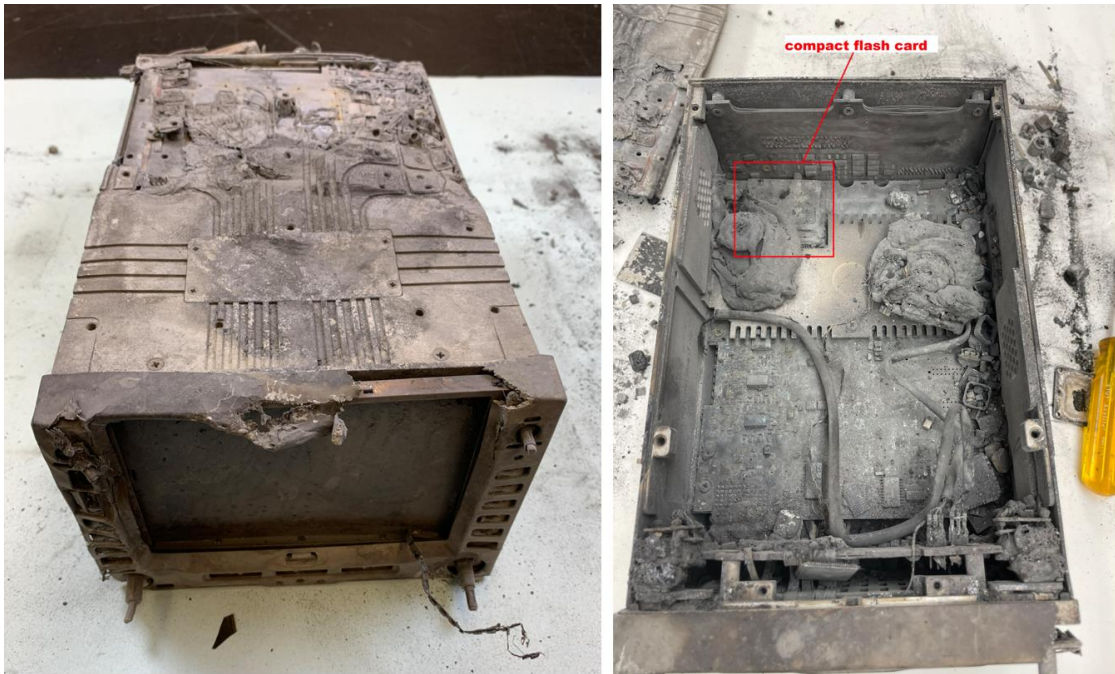


Figure 1. Outer and inside view of the Avidyne IFD 5XX series as received.

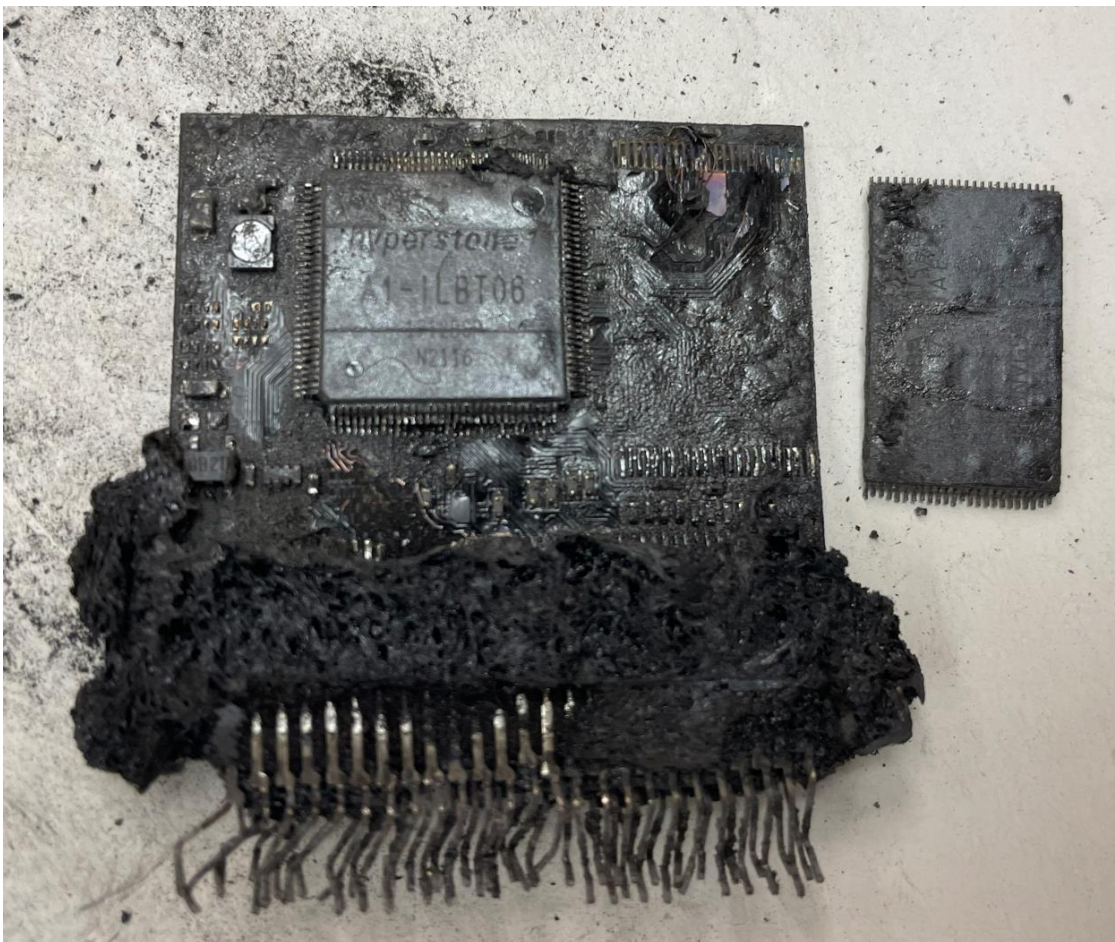


Figure 2. Internal of the Avidyne IFD 5XX series compact flash card.

2.0 Avidyne IFD 440 Description

The Avidyne IFD 440 is a Flight Management System (FMS), GPS, and Navigator, with a 4.8-inch diagonal touchscreen and VHF/NAV comm capabilities. It is capable of monitoring, displaying, and recording navigational information and records parameters including, but not limited to, heading, latitude, and longitude. Additionally, the IFD 440 can be connected to external measurement devices to record other parameters such as attitude, attitude rates, body accelerations, pressure altitude, and airspeed. If configured properly, the IFD 440 can also record engine parameters as provided to the unit by external engine monitors. The IFD 440 stores its historical logs on an internal compact flash card.

2.1 Avidyne IFD 440 Condition and Data Recovery

The Avidyne IFD 440 had sustained severe fire damage, as shown in Figure 3. The compact flash card on which the flight data is stored had also sustained severe fire damage, as shown in Figure 4. The extent of the damage precluded normal and advanced recovery procedures, and additional attempts were unsuccessful in yielding usable data. No data pertinent to the accident were recovered.

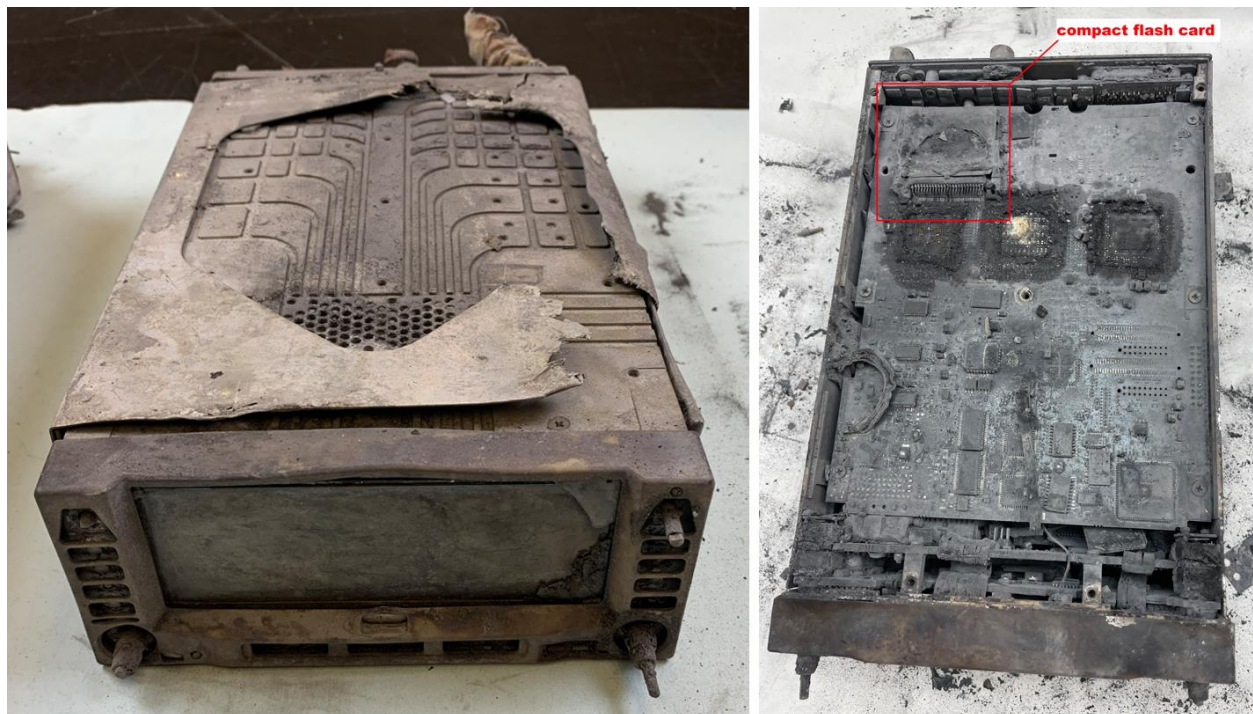


Figure 3. Outer and inside view of the Avidyne IFD 440 as received.



Figure 4. Internal of the Avidyne IFD 440 compact flash card.