

NATIONAL TRANSPORTATION SAFETY BOARD

Vehicle Recorder Division
Washington, D.C. 20594

August 24, 2017

Global Positioning System

Specialist's Factual Report By Joseph Gregor

1. EVENT SUMMARY

Location: Destin, Florida
Date: August 2, 2016
Aircraft: Cessna 414A
Registration: N2735A
Operator: Private
NTSB Number: ERA16FA279

On August 2, 2016, about 2025 central daylight time, a Cessna 414A, N2735A, descended into the Gulf of Mexico shortly after takeoff from Destin Executive Airport (DTS), Destin, Florida. Night visual meteorological conditions prevailed at the time, and an instrument flight rules (IFR) flight plan was filed and active for the flight. The flight originated about 1 minute earlier from DTS, and was destined for Abbeville Chris Crusta Memorial Airport (IYA), Abbeville, Louisiana.

2. DETAILS OF RECORDER INVESTIGATION

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

Recorder Manufacturer/Model: **Garmin 796**
Recorder Serial Number: **unk**

2.1. Garmin Aera 796 Device Description

The Garmin Aera 796 is a portable Global Positioning System (GPS) receiver and display unit designed for the aviation market. The Aera 796 is designed to fulfill the role of either a Class I or Class II electronic flight bag, and includes 3-D vision as well as internal terrain and obstacle databases to support terrain avoidance warning. The unit also supports the downloading and display of aeronautical chart data for navigation. The Aera 796 displays this data on a 7-inch sunlight viewable LCD screen.

2.1.1. Garmin Aera 796 Data Recovery

Upon arrival at the Vehicle Recorder Laboratory, an exterior examination revealed the unit had sustained catastrophic water damage (see figure 1). An internal inspection revealed that the internal circuitry was damaged beyond repair. The unit was cleaned using de-ionized

water and ethanol and dried in a vacuum oven. The integrated circuit FLASH memory device that stored track log data, a Samsung KLM8G2FE3B, was removed from the unit, reballed, and read out using a special-purpose SD-card-based FLASH reader and the data converted using NTSB-developed software.



Figure 1. Garmin Aera 796 GPS, with damaged display panel removed.

2.1.2. Garman Aera 796 Data Description

Forty one (41) track log sessions were recovered from the Garman Aera 796 covering events from April 2, 2016, to July 25, 2016. No flights were recovered dated on the day of the accident flight.