

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

May 2, 2022

## Handheld Global Positioning System (GPS)

Specialist's Factual Report  
By W. Deven Chen

### 1. EVENT SUMMARY

Location: Comstock, Texas  
Date: July 17, 2021  
Aircraft: Luscombe 8F  
Registration: N2054B  
Operator: Private  
NTSB Number: CEN21FA327

### 2. GROUP

A group was not convened.

### 3. DETAILS OF INVESTIGATION

On July 23, 2021, the National Transportation Safety Board (NTSB) Vehicle Recorder Division received the following handheld GPS:

Device Manufacturer/Model: **YAESU FTA-750**  
Serial Number: **7H530435**

#### 3.1. Device Description

The YAESU FTA-750 is a compact, solid hand-held transceiver providing communication (transmit and receive) capability on the International Aircraft Communication Band, and it provides VOR (very high frequency omni-directionally range) and ILS (Instrument Landing System) navigation features on the "NAV" band. In addition, the unit provides positioning and navigation features realized by the internal GPS unit. When the logger function is turned on, the device can log GPS data into its non-volatile memory<sup>1</sup>, and the data can be accessed through manufacturer-provided software.

#### 3.2. Data Recovery

Upon arrival at the Vehicle Recorder Division, an exterior examination revealed that the device had sustained severe impact damage, as shown in Figure 1. The circuit boards were removed from the device and found to have sustained minor damage. The circuit

---

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

boards were cleaned and placed into a surrogate device, but it did not power on. The device was then sent to the manufacturer for technical support. After further examination, the manufacturer stated that the device would require a memory module transplant for data recovery due to its damage; however, due to technical challenges, the manufacturer could not perform the procedure at its facility. The device was returned to the Vehicle Recorder Division where a memory module transplant was attempted by hand with hot-air and soldering tools. The device turned on normally after the procedure and was connected to the manufacturer's software. The device communicated normally with the software; however, it showed there were no data on the device to be downloaded, as shown in Figure 2. Thus, there were no data recovered from this device.



Figure 1. Front and back of the YAESU handheld GPS as received.

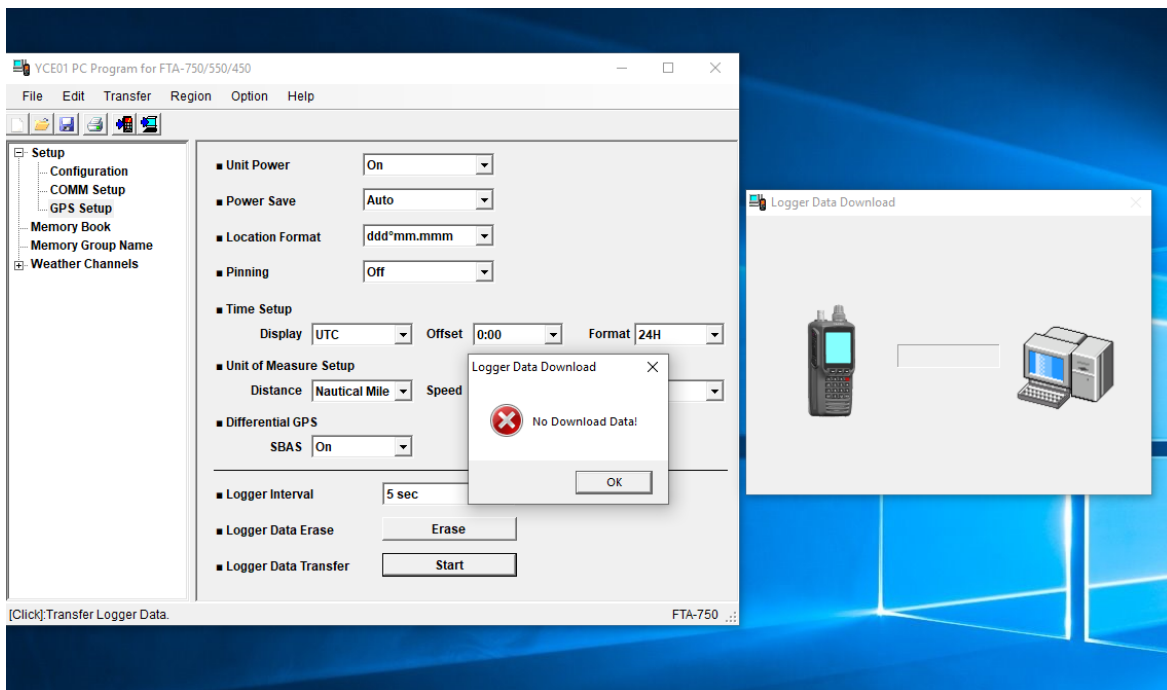


Figure 2. Manufacturer's software indicating no data on the device to be downloaded.