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

February 1, 2007

Multi-Function Display Memory Card

Specialist's Factual Report
By James Cash

A. EVENT

Location:	Manhattan New York
Date:	October 11, 2006, 2:42 Eastern Daylight Time (EDT)
Aircraft:	Cirrus SR20, N929CD
Operator:	private
NTSB Number:	DCA07MA003

B. GROUP N/A

C. SUMMARY

On October 11, 2006, about 2:42 PM eastern daylight time, a Cirrus SR-20, N929CD, crashed into an apartment building in New York City. Both people on board the airplane were killed and the airplane was destroyed by impact forces and post crash fire. No fatalities occurred on the ground. Substantial damage occurred to several of the residences in the building. The pilot and owner was New York Yankee player Cory Lidle, and a California based flight instructor was with him. The flight was operating under the provisions of 14 Code of Federal Regulations Part 91. The flight had taken off from Teterboro Airport in New Jersey and appeared to be sightseeing around Manhattan. The memory card recovered from the aircraft's multi-function display was sent to the National Transportation Safety Board's Vehicle Recorder Laboratory for readout.

D. DETAILS OF INVESTIGATION

On October 13, 2006, the Safety Board's Vehicle Recorder Division received the following :

Recorder Manufacturer/Model: **Compact Flash (CF) card from cockpit display unit**
Recorder Serial Number: **N/A**

Recording Description

The Cirrus SR-20 aircraft was equipped with a cockpit mounted Avidyne model EX5000 multi-function display (MFD). This unit is able to display the pilot checklist, terrain/map information, approach chart information and other aircraft/operational information depending on the specific configuration and options that are installed. One of the options available is a display of comprehensive engine monitoring and performance data. According to the information received from the aircraft manufacturer this option was not installed on N929CD.

Each MFD contains a compact flash memory card located in a slot on the side of the unit. This memory card contains all of the software that the MFD needs to operate. Additionally this card also contains all of the checklist, approach charts, and map information that the unit uses to generate the various cockpit displays.

During operation, the MFD display receives information from several other units that are installed on the aircraft. Specifically the MFD receives global positioning system (GPS) positional, time and track data from the aircraft's GPS receiver. The MFD also receives information from the aircraft concerning the altitude and electrical systems of the airplane. This data is also stored on the unit's compact flash memory card.

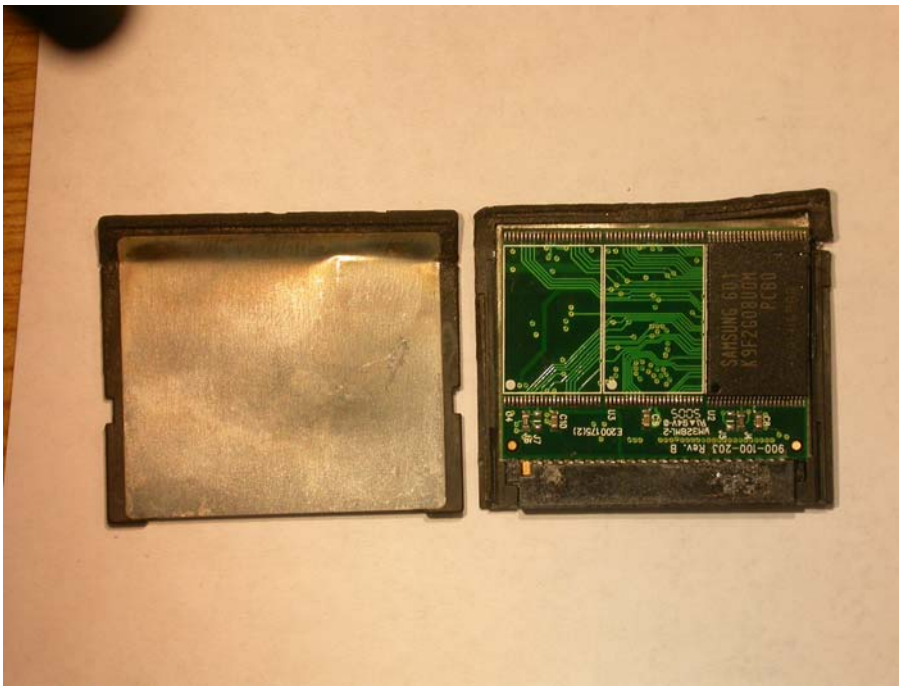
Compact Flash Card Condition

The compact flash memory card that was installed in the accident aircraft's MFD display was removed at the accident scene and shipped to the Vehicle Recorder Laboratory. The card appeared to be generally in good shape with what seemed to be only minor physical damage to the plastic case that holds the memory circuit board. (See photograph 1)

Photograph 1

The plastic case was removed to expose the interior components of the CF memory card. (See photograph 2 bottom of card)

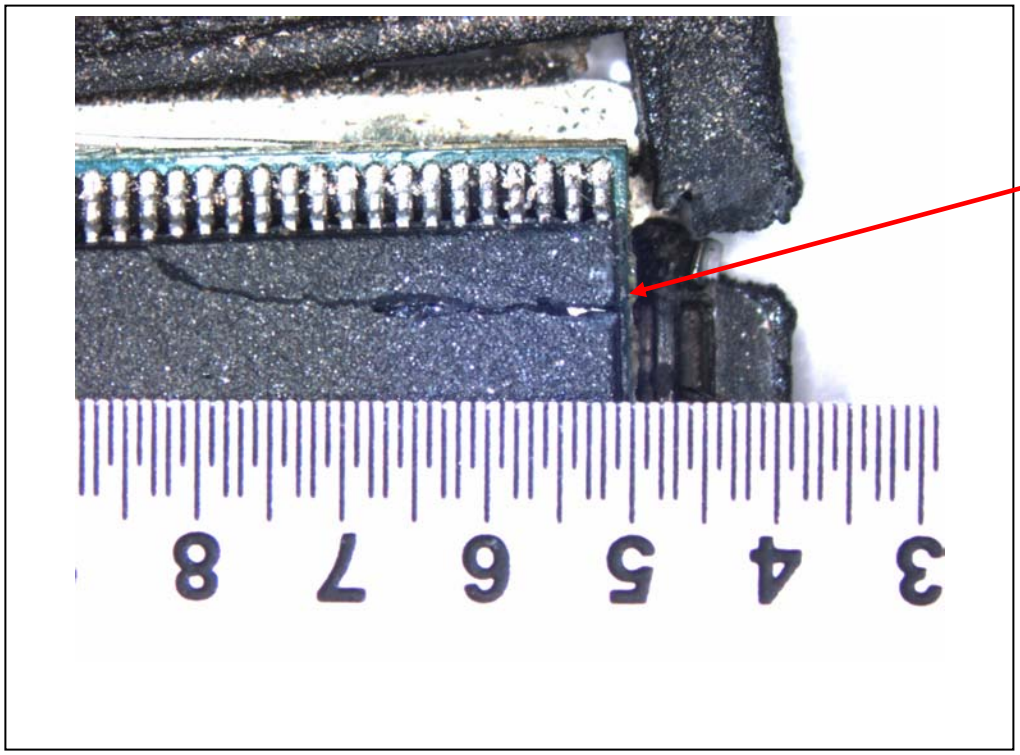
Photograph 2 bottom of card



The components that make up this particular model of compact flash card are as follows: On the top side of the circuit board there is a rectangular integrated circuit device. This device contains all of the programming that manages the storage and the retrieval of the information from the actual memory devices. This device also manages the data flow to and from the CF card. Also located on the top of the circuit card is one of the 2 flash memory devices. Located on the bottom the circuit card is the second of 2 flash memory devices. This model CF card had additional circuit board space for 2 additional flash memory devices on the bottom side of the card. These additional spaces were not populated with memory devices on this card.

It can be seen in photograph 3 that the memory chip installed on the bottom of the circuit card showed signs of physical damage at one corner of the chip. This damaged had fractured the epoxy from pin 25 (end pin) thru pin 41 of the chip. (displayed scale is in tenths of an inch)

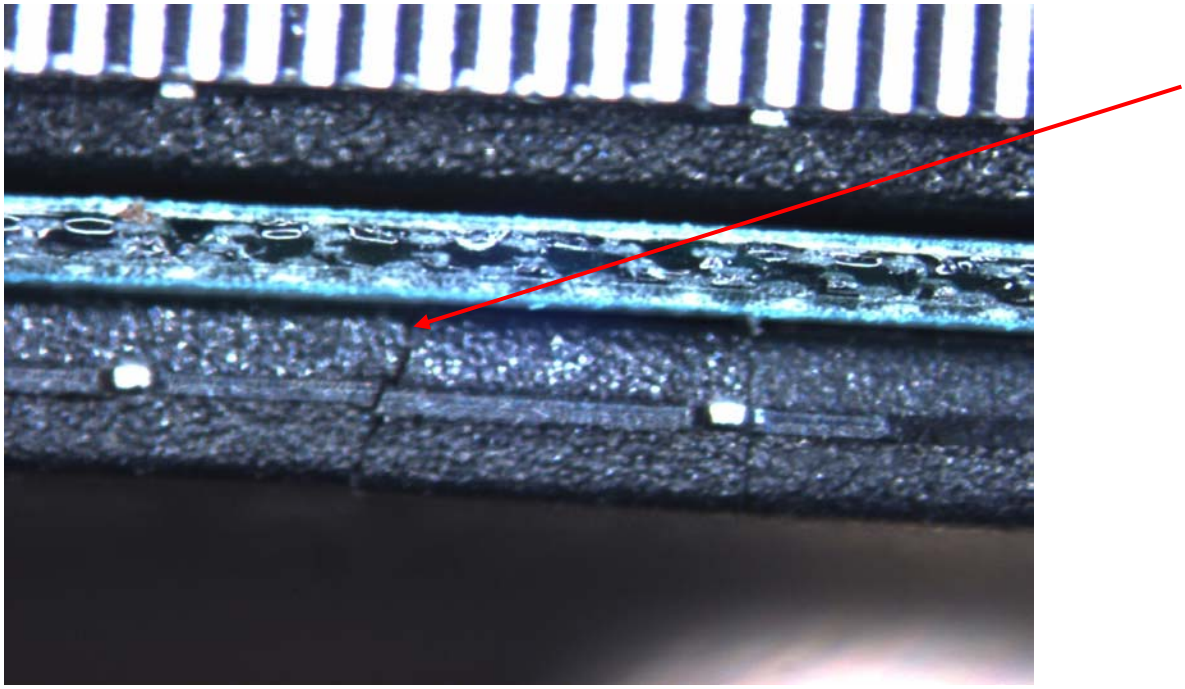
Photograph 3



The chip was de-soldered from the memory card during the recovery process. The fractured corner of the chip detached completely from the remainder of the memory device. All of the pins (25 thru 41) no longer made electrical contact with the memory device. This electrical discontinuity rendered the chip unreadable and the data was not recovered.

The other memory device that was located on the top of the CF card appeared to have a very small hairline fracture that extended thru the device at approximately the half-way point. This fracture was severe enough to prevent the memory device from responding to attempts to read its information. (See photograph 4)

Photograph 4



No useable information was recovered from either of the two flash memory devices that were installed on the CF card.

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