

Joshua Lindberg

From: Sean Payne
Sent: Wednesday, November 15, 2023 1:56 PM
To: Joshua Lindberg
Subject: CEN23LA064 (Patterson, Louisiana) Appareo Vision 1000 - Email Report
Attachments: Appareo2.jpg; Appareo1.jpg

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Email Report Instructions

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Email Report

The Vehicle Recorder Division received an Appareo Vision 1000 device. The device is pictured in Appareo1.jpg. The device was subject to damp environmental conditions and was subject to corrosion before recovery from the accident site. The device exhibited moisture and corrosion throughout.

The device was absent of a removable memory device. Appareo2.jpg shows the memory device slot empty, as received.

The device mirrors recorded data to an internally mounted chipset. The chipset consists of two 48 pin Thin Outline Package (TSOP) non-volatile memory devices. These two chips were removed from the unit, cleaned and dried. The two chips were read in the appropriate style memory adapter via a PC.

The chip reads produced the following results:

Chip 1:

- This chip contained audio files and parametric data files.
- The portion of the chip read containing audio files had bit errors, but were able to be converted to playable files.
- The audio files were consistent with a cockpit area mic (CAM) style recording. The bit errors produced some anomalies in these playable files
- The portion of the chip containing the parametric data files contained bit errors. These bit errors were not corrected and no parametric data were converted.

Chip 2:

- This chip contained mostly image files.
- This entire chip read contained bit errors throughout and image files were not able to be converted to a usable format.
- These bit errors were not corrected and no image data was converted.
- No image data was recovered

Bit Errors

Both chips contained bit errors. This bit errors could have been a result of the read/write wear on the memory chip, damage to the chip, or a misread of chip reading software. Multiple re-reads were conducted of the accident chips which resulted in similar bit errors. An exemplar chip was read using the same process and contained very few bit errors, potentially ruling out a chip misread, or software issue with the reader as a cause.

As it relates to read/write wear/degradation on the chips, the number of hours of operation on the Appareo unit could have contributed to its inability to produce a successful read.

Though the chips were inspected and appeared in readable condition, undiscovered damage could have contributed to the production of bit errors during the read attempts.

The chip reads did produce usable checksum data after each subsequent data block. The manufacturer, Appareo, was unable to provide software to convert these checksum data to be used to correct the bit errors. A custom solution was not pursued and a full dataset was not recovered from the device.

Prepared by

Sean Payne

Branch Chief // Vehicle Recorders Laboratory (Blue)

NTSB Vehicle Recorder Division



