

National Transportation Safety Board

Office of Research and Engineering

Washington, DC 20594



DCA23LA462

COCKPIT VOICE RECORDER

Specialist's Factual Report

April 17, 2024

A. ACCIDENT

Location: Over the Caribbean Sea
Date: September 25, 2023
Time: 03:50 eastern standard time (EST)
Airplane: Airbus A320-232, JetBlue Airways, N569JB

B. COCKPIT VOICE RECORDER SPECIALIST

Specialist Kyle Garner
Sr. Aerospace Engineer – Recorder Specialist
National Transportation Safety Board (NTSB)

C. FEDERAL CARRIAGE REQUIREMENTS

The aircraft was operating a flight under the provisions of Title 14 *Code of Federal Regulations* (CFR) Part 121, and it was required to be equipped with a cockpit voice recorder (CVR) that records a minimum of the last 2 hours of aircraft operation.

D. DETAILS OF THE INVESTIGATION

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

Recorder Manufacturer/Model: Honeywell 6022 CVR
Part Number: 980-6022-001
Recorder Serial Number: CVR120-06875

1.0 Recorder Description

The Honeywell 6022 is a solid-state CVR that records 120 minutes of digital audio. Specifically, it contains a two-channel recording of the last 120 minutes of operation and separately contains a four-channel recording of the last 30 minutes of operation. The 120-minute portion of the recording is comprised of one channel that combines three audio panel sources and a second channel that contains the cockpit area microphone (CAM) source. The 30-minute portion of the recording contains four channels of audio information: one channel for each flight crew, one channel for a cockpit observer, and one channel for the CAM.

1.1 Recorder Damage

Upon arrival at the laboratory, it was evident that the CVR had not sustained any heat or structural damage and the audio information was extracted from the recorder normally, without difficulty.

1.2 Audio Recording Description

Each channel's audio quality is indicated in Table 1.¹

Table 1. Audio quality.

Channel Number	Content/Source	Quality	Duration
1	Unknown	N/A	00:30:27
2	Unknown	N/A	
3	Unknown	N/A	
4	CAM	Good	02:01:06
5	MIX 1/2/3	Good	02:05:18

The recording consisted of five channels of audio information, however, none of the audio was pertinent to the accident investigation. The audio was consistent with the CVR being overwritten on the ground after the accident.

Submitted by:

Kyle Garner
Sr. Aerospace Engineer - Recorder Specialist

¹ Appendix A comprises the CVR Quality Rating Scale.

APPENDIX A. CVR QUALITY RATING SCALE

The levels of recording quality are characterized by the following traits of the cockpit voice recorder information:

Excellent Quality Virtually all of the crew conversations could be accurately and easily understood. The transcript that was developed may indicate only one or two words that were not intelligible. Any loss in the transcript is usually attributed to simultaneous cockpit/radio transmissions that obscure each other.

Good Quality Most of the crew conversations could be accurately and easily understood. The transcript that was developed may indicate several words or phrases that were not intelligible. Any loss in the transcript can be attributed to minor technical deficiencies or momentary dropouts in the recording system or to a large number of simultaneous cockpit/radio transmissions that obscure each other.

Fair Quality The majority of the crew conversations were intelligible. The transcript that was developed may indicate passages where conversations were unintelligible or fragmented. This type of recording is usually caused by cockpit noise that obscures portions of the voice signals or by a minor electrical or mechanical failure of the CVR system that distorts or obscures the audio information.

Poor Quality Extraordinary means had to be used to make some of the crew conversations intelligible. The transcript that was developed may indicate fragmented phrases and conversations and may indicate extensive passages where conversations were missing or unintelligible. This type of recording is usually caused by a combination of a high cockpit noise level with a low voice signal (poor signal-to-noise ratio) or by a mechanical or electrical failure of the CVR system that severely distorts or obscures the audio information.

Unusable Crew conversations may be discerned, but neither ordinary nor extraordinary means made it possible to develop a meaningful transcript of the conversations. This type of recording is usually caused by an almost total mechanical or electrical failure of the CVR system.