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53rd IAA HISTORY OF ASTRONAUTICS SYMPOSIUM (E4)
"Can you believe they put a man on the moon?" The Apollo Program. (3)

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ARIA - NASA'S APOLLO AIRBORNE FIRE BRIGADE

Abstract

March 14, 1970, 3:20 AM, Patrick AFB, FL. In nearby Indian Harbour Beach a telephone rings, "Major, this is Stan. There's been an explosion on the spacecraft." "I'll be right there. Get a message to the aircraft, STAND DOWN. DO NOT TAKE OFF." 4:00 AM, "ARIA CONTROL, NETWORK", "Roger, Network." "Where can you get the planes?", "How long have we got?", "Four days." "Anywhere in the world you want them." "Thanks ARIA, we'll get back to you." Thus, began the response of the eight US Air Force Apollo Range Instrumentation Aircraft to the explosion on Apollo 13." - NASA's Manned Space Flight Network's "Fire Brigade".

As the NCO-In-Charge of ARIA Control, 1968-71, I will share my experience of the little-known history of the United States Air Forces' fleet of eight Apollo Range Instrumentation Aircraft (ARIA – a-RYE-a) that supported Project Apollo missions 4 through Apollo 17 and more than 50 other military, commercial and scientific space projects for some 33 years. Supplemented by a PowerPoint presentation, at the conclusion, participants should be able to articulate the history, purpose, function, operations and control of the ARIA fleet.

The need for a fleet of high-speed instrumentation aircraft to record telemetry and relay astronaut voice communications to augment NASA ground stations and instrumentation ships around the globe supporting Project Apollo was identified in 1963 and formalized in 1964. In 1966-67 NASA contracted for the conversion of eight USAF KC-135 (Boeing 707) aircraft. Turned over to the Air Force in late 1967, the ARIA, operated by Air Force technicians, deployed to military and civilian airports around the world to cover mission events pre-selected by NASA. Most of these events took place over many hundreds of miles of trackless ocean beyond the range of NASA's Manned Space Flight Network ground stations and instrumentation ships. In case of an unplanned mission event, such as Apollo 13, the aircraft could be redeployed with little or short notice to provide telemetry recording and astronaut voice relay as necessary. ARIA were routinely used for orbital, pre- and post-Trans-Lunar Injection, and reentry telemetry and voice relay coverage over remote ocean locations. The story of how the ARIA provided initial voice contact following reentry blackout between the astronauts and Houston for Apollo 7 through 17, is part of space program history, now largely lost, that I will share in this presentation.