

# **ARD-17 Operation on Apollo 5 and Apollo 10**

By Denny Holt

In January 1968, Bill Middleton and I deployed to Kindley USAF Base, Bermuda for Apollo 5, the first unmanned Lunar Module test flight. The objective was to track the LM S-band beacon using the ARD-17\* tracker installed in the C-130's operated by the USAF Aerospace Rescue and Recovery Service. We got the word that Apollo 5 had launched but didn't acquire the S-band signal with the ARD-17 at the published acquisition time a few orbits later. Of course we didn't have any idea why it wasn't on time since 1960's communications in the middle of the Atlantic were spotty at best. Unbeknownst to us, the first planned 39 second descent engine burn was aborted by the onboard guidance computer after only 4 seconds and none of the mission events occurred as planned. Finally, Bill told the USAF radio operator to switch to the VHF mode and within minutes we acquired a very strong signal. Switching to S-band showed a much weaker signal but Bill knew it was from the LM.

Apollo 10 on May 18, 1969, was deja vu. I was on an ARRS C-130 out of the godforsaken Azores and Apollo 10 was way late because two Saturn 5 engines had shutdown (unbeknownst to us, of course). I didn't waste any time switching the ARD-17 to VHF and within minutes the big VHF signal jumped out of the noise. When we switched to S-band there was the same signature I had seen with Bill on Apollo 5. Sure glad I was paying attention back then. What I didn't know was that "everybody" really wanted the ARD-17 paper tape to give to MPAD for their trajectory analysis. Luckily, I didn't lose it during my 10-day trip back through Lisbon, Munich, London and Lawrenceburg, Tennessee. Never heard any results either.

The old "space biz" was a lot more fun than the current "Space Business". For sure.

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\*The ARD-17 Direction Finder Set was installed in ARRS HC-130 aircraft to provide reception of the Command Module (CM) S-band signal during the entry phase of the mission, and provide reception of the CM recovery beacon for location of the CM during the main parachute/postlanding phase of the mission. (Reference: MSC-01856 Rev. C, "Apollo Recovery Operational Procedures Manual", dated June 21, 1971, para 3.2.1.1 CM Location)