

LINE OF SIGHT

A Message from the Editor

In this issue of **CQ VHF** we feature two different, but similar airborne amateur radio applications—the use of amateur radio to fly a model airplane across the Atlantic Ocean, and the introduction of Phase 2 of amateur radio operations on board the International Space Station. In “A 6-Meter Rig Flies the Atlantic” Maynard Hill, W3FQF, tells of his lifetime dream of flying a model airplane across the Atlantic Ocean, a feat that he accomplished last August. It’s a fascinating story of how one man took his interest in flying model airplanes from balsa models driven by rubber-banded propellers to an electronically controlled model flown more than 1800 miles over a body of water.

In “Amateur Radio on the International Space Station: Phase 2, Hardware Systems” Frank Bauer, KA3HDO, et al., describe the technical side of the next phase of amateur radio operation on board the ISS. For the past three years we hams have enjoyed the opportunity to contact the ham radio licensed crews on board the ISS, albeit within the confines of the limits that Phase 1 presented. Now, after extensive testing of the equipment and its eventual certification, Phase 2 is beginning to roll out, and Bauer, et al., describe what has been involved in making it happen.

Where Does Ham Radio Go Next?

In mid-January President Bush was anticipated to make a major policy announcement related to space exploration. Speculation in the run up to his announcement involved a debate as to whether to complete the construction of the ISS, abandon the ISS in favor of a permanent base on the Moon as a jumping off point for a trip to Mars, or attempt a direct shot to Mars. Whatever the plan turns out to be, amateur radio will be there. Long ago, thanks to the pioneering work of people such as the late Roy Neal, K6DUE, NASA realized the importance of the role that amateur radio can play in the space program, both from a health-and-welfare perspective and as a public-relations tool for NASA, and even as a last resort redundancy link of communications for the space crews.

It is fascinating to speculate what it would be like to have a permanent base on the Moon. Now, thanks to Joe Taylor, K1JT, and his WSJT software development, even a modestly equipped ham radio station can be used for EME communications. With the establishing of a ham radio station on the Moon, communications with hams at that base would be even easier, considering the signals would be making only the one-way trip to the Moon. While NASA anticipates a possible permanent return to the Moon in 2018, it is also possible that private groups such as Artemis Society International (see <<http://www.asi.org/>>) could be on the Moon much sooner. No doubt, even with these private concerns, amateur radio will play a role in these exploration adventures.

Lest We Forget

As we learned last year, space exploration is not risk free. It was about a year ago when a hugely successful space shuttle mission came to a tragic end over the skies of Texas. Looking up into the morning sky on February 1, 2003, “Antennas” columnist Kent Britain, WA5VJB, observed the following and reported it in his Spring 2003 column:

I knew that a landing was planned for the morning, and I had hoped to watch it go by. Normally it’s just a distant fuzzy dot in daylight, although the pre-dawn passes can be spectacular as it passes over North Texas, headed for Florida. This time I saw a contrail.

“How odd,” I thought. “The shuttle usually doesn’t leave a contrail.” It was quite a show, however! I thought it was interesting that they were not headed toward Florida. They were approximately ten degrees too far south, and some of that apparent angle was amplified by the unusually steep decent angle. Twenty seconds later I



A plaque commemorating the astronauts who died in the tragic Space Shuttle Columbia accident is mounted on the back of the Mars Exploration Rover Spirit’s high-gain antenna. Mars Exploration Rover engineers designed the plaque. The astronauts are also honored by the new name of the rover landing site, the Columbia Memorial Station. This image was taken on Mars by Spirit’s navigation camera. (Top photo via NASA; bottom photo via NASA/JPL)



saw a bright dot separate away. Strange, as I didn’t know of anything they could jettison.

Then they passed below the buildings in downtown Dallas. Minutes later I heard that NASA had lost contact, and I had witnessed the breakup of **Columbia**.

I realized immediately that the angle and speed meant they had lost control of **Columbia** well before I saw the first streak of that contrail. Only then would they have plunged that steeply into the atmosphere. The debris trail passed about 50 miles south of my QTH.

Kent’s comments are typical of those of so many of us who have some level of involvement in the space program. We hams identified with the program principally via our hobby’s connection. When three of our fellow hams—Mission Specialists Kalpana Chawla, KD5ESI, Dave Brown, KC5ZTC, and Laurel Clark, KC5ZSU—lost their lives on board the **Columbia**, we in the ham radio community especially felt the loss. Indeed, it was the underlying thought of many of the ham radio volunteers who participated in the debris recovery that they were doing so for their fellow hams who had died in the disaster.

In memorializing the tragedy, a plaque has been placed on Mars as part of the Mars Exploration Rover Mission. Engraved on the plaque are the crew’s names and images of **Columbia**, NASA’s emblem, the U.S. flag, and an Israeli flag in honor of Ilan Ramon, the Israeli payload specialist who also was on board the shuttle.

We can never forget that space exploration is not without risks and that fellow hams can pay, and have paid, the ultimate price for our quest to know more about our universe.

Until the next issue...

73 de Joe, N6CL