

Although ham radio is well known for its role in providing emergency communications when other networks fail, it is also an important educational tool. One of the most exciting uses of amateur radio, especially for young students, is establishing communication with astronauts aboard the space shuttle or on the International Space Station (ISS). No special license is required, and anyone who can transmit into the skies overhead can make contact.

Ham radio contacts into space began with Owen Garriot (W5LFL), who in 1983 became the first astronaut to take a ham radio into space. His radio was not an official shuttle radio – he took aboard a handy-talkie with a homemade antenna that was attached to the window with Velcro. Even with a simple setup such as this, he was able to communicate with the local ham radio club from his hometown, his mother, and King Hussein in Jordan.¹ This communication made STS-9 the first shuttle to make contact with civilians (and monarchs).



¹ http://science.nasa.gov/headlines/y2000/ast21aug_1.htm

Since this initial contact, space-borne amateur radio has expanded dramatically. First, a full permanent ham station was established as a secondary payload for shuttle to carry into orbit, the “Space Amateur Radio Experiment” (SAREX). This allowed amateur operators all over the world, and especially at schools across the world, to get in touch with astronauts and learn more about both radio and life in space. After 15 years and hundreds of contacts, SAREX was superseded by a permanent ham station aboard the International Space Station.

Amateur Radio Aboard the International Space Station, or ARISS, takes advantage of the permanent crew aboard the ISS, which usually includes at least one ham operator. Two US call signs, NN1SS and NA1SS were issued to the space station, in addition to the Russian sign RZ3DZR and German DL01SS.² Although established in cooperation between NASA and ARRL, one of the US organizations for amateur radio, the equipment on board the station is maintained by ISS Ham, an organization shared between NASA and Russia’s space agency, Energia.³



Operators aboard the station make frequent contacts with schools around the world, answering questions and telling stories.

² <http://www.arrl.org/news/stories/2000/10/13/3/>

³ <http://www.arrl.org/news/stories/2000/09/06/1/>

Although certainly a long distance, contacting space-borne stations is not difficult. The station operates on the 2 m and 70 cm bands, using both voice and packet transmissions. All that is needed is a simple ground based radio, even a handy-talkie, and an amateur radio license. Ham radio has a number of exciting uses, but among the furthest-reaching and most interesting of them is to send your signal to the men and women serving aboard the ISS. Everyone, from school kids to ham radio clubs, can get a kick out of that.