



AMSAT® is dedicated to keeping amateur radio in space. Its membership includes a worldwide group of radio hams who monitor amateur radio satellite signals and use satellites for QSOs. They also design and build the satellites, and control them once in orbit.

Since 1961, more than 70 amateur radio satellites have successfully reached orbit and begun operation. Our Vision is to deploy satellite systems with the goal of providing wide area and continuous coverage. AMSAT will continue active participation in human space missions and support a stream of Low Earth Orbiting satellites developed in cooperation with the educational community and other amateur satellite groups.

We are always interested in having committed people join AMSAT and help design, build and maintain our amateur satellites.

We'd Like to Have You as a Member

Both you and AMSAT will benefit when you join. You get the AMSAT Journal bi-monthly and support from AMSAT Area Coordinators. Member dues and donations provide AMSAT's primary support.

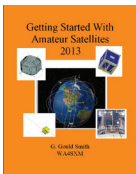
Find AMSAT on-line at:

<http://www.amsat.org>

Want to read more?

AMSAT offers the Getting Started with Amateur Satellites book... Available on-line at:

<http://store.amsat.org/catalog/>



How Do I Get Started in Amateur Satellites?

You can get a variety of information from AMSAT to get you started in amateur radio satellites.

- *The AMSAT Journal* reaches our members six times a year bringing articles on satellite operation, news of amateur satellites, and technical data about current satellites.
- The AMSAT Web site www.amsat.org provides up-to-date detailed amateur satellite information useful to the beginner or old-timer, and it's at your fingertips 24/7.
- AMSAT also offers an email forum (AMSAT-BB) that anyone can use to ask questions or trade ideas and information with other satellite operators.

You may already own the amateur radio equipment to get started

Some amateur satellites can be operated with as little as a dual-band HT and hand-held antenna. Imagine working Canada from Florida or California from Vermont. You can do it daily with this simple equipment. Satellite communications are line-of-sight and don't rely on atmospheric conditions. Both stations need only to be able to "see" the same satellite at the same time to communicate through it. Tracking software is available from AMSAT that shows you when the satellites will be over your QTH.



Enjoy continent-wide coverage using a portable station ... or build a home satellite station

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Join Amateur Radio in Space ... Join AMSAT ...

1 year membership is \$44.00 US and includes 6 bi-monthly issues of *The AMSAT Journal*

I enclose my Check Credit Card Information:

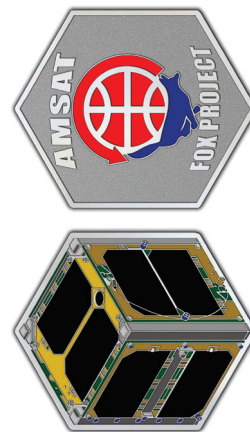
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A \$100 or higher donation will earn you a Fox Challenge Coin

Choose where your contribution should go:

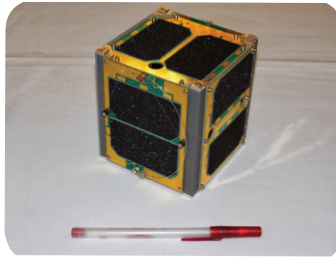
- AMSAT-Fox Project ARISS General Fund
- Future Projects

AMSAT
10605 Concord Street
Suite 304
Kensington, MD 20910

Mail this form to ...



AMSAT Fox-1 Cubesats Launching in 2015



AMSAT pioneered the concept of small satellites in low orbits. AMSAT's next satellite effort, called Project "Fox", consists a series of small CubeSats that will provide FM transponders with a 70 cm uplink with a 2 meter downlink that will match the ground performance of previous FM satellites.

A dual-band radio capable of full-duplex operation with an external antenna is enough to get started:

- 435 MHz FM Uplink
- 145 MHz FM Downlink

You may also consider using one radio to receive and another radio to transmit for full-duplex operation.



- **Fox-1A** will launch on a NASA ELaNa flight during the 3rd quarter of 2015 from Vandenberg AFB.
- **Fox-1B** will fly with the Vanderbilt University radiation experiments expected in 2016.
- **Fox-1C** will launch on Spaceflight's maiden mission of the SHERPA multi-cubesat deployer during the 3rd quarter of 2015.
- **Fox-1D** is a flight spare for Fox-1C. If not needed as a spare it will become available to launch on any open launch slot which becomes available and be submitted in a Cubesat Launch Initiative (CSLI) proposal in 2015.
- **Fox-1E** is built as a flight spare for Fox-1B but has been included in a student science proposal as part of the November, 2014 CSLI for an ELaNa flight slot. If selected the Fox-1B spare will fly as Fox-1E.



AMSAT partners with NASA and the ARRL with Amateur Radio on the International Space Station (ARISS) team to provide amateur radio equipment for the ISS. There are multiple amateur radio experiments aboard the ISS involving voice, digital, and visual amateur radio modes encompassing both SSTV and the digital ATV experiment in the Columbus module.

Other Satellite Operation

In addition to the FM satellites, there are a number of linear amateur satellites that can simultaneously carry multiple SSB and CW contacts. These satellites carry transponders that are generally 50-100 kHz wide.

- **AO-7 Mode A** features a 2 meter CW/SSB uplink with a 10 meter CW/SSB downlink.
- **AO-7 Mode B** features a 70 cm CW/SSB uplink with a 2 meter CW/SSB downlink.
- **FO-29** features a 2 meter CW/SSB uplink with a 70 cm CW/SSB downlink.
- **AO-73** features a 70 cm CW/SSB uplink with a 2 meter CW/SSB downlink.



You can operate as a portable or a fixed station on the linear satellites with a dual-band radio such as the Yaesu FT-817.