

Job Description for ARISS Local Ground Support Team Volunteer

Members of the local ARISS ground support team are the point of contact facilitators for the ARISS event. They represent the amateur radio community on-site with the school or organization that is hosting an ARISS contact. The local ARISS support team provides the equipment, sets it up and provides the hands-on operations training for the students who will be participating in the ARISS contact. They work closely with ARISS Technical Mentors to assess the site and decide what options for the contact are most suitable. They must be experienced with conducting satellite contacts, and able to assess the relevance of the many variables that can affect the satisfactory completion of a contact and be able to adjust equipment set-up as needed so they will be able to successfully execute a direct contact. In consultation with the Technical Mentor, in situations where time constraints, orbital mechanics or the event site are not conducive, they may need to set up a telebridge contact as the best option for the venue.

Qualifications

- Amateur radio license and on the air experience operating on Amateur Radio satellites with automatic antenna tracking and Doppler correction
- Basic understanding of orbital mechanics and satellite tracking programs
- VHF and UHF experience with station setup as it relates to choice of antennas, feedlines and connectors
- Familiarity with the audio equipment requirements needed to interface with the radios and/or telephone line to provide good quality audio to the participants and the audience –ample volume without feedback
- Familiarity with the equipment requirements for the ground station and access to the necessary equipment for deployment to the site
- Reliable access to telephone, e-mail and Internet
- Time flexibility and commitment to follow through
- Motivation to share the experience of ham radio with youth and adults
- Positive attitude and good interpersonal skills
- Willingness to act as part of a team
- Excellent organizational skills, and attention to detail
- Professional demeanor and willingness to represent ARRL and AMSAT
- Membership with ARRL and/or AMSAT

Knowledge of audio distribution and microwave station setup a plus.

Experience as an educator, communicator, or coach a plus.

Description of Position Responsibilities

Meet with school/organization officials to review the technical requirements for the event and determine what radio education support is desired.

Assess the site, noting obstructions and factors that may influence the success of a direct contact. In consultation with the Technical Mentor, review the time constraints, and

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orbital mechanics as well as any site constraints to determine whether the contact will be direct or telebridge.

Direct Contacts:

- Be responsible for insuring that all of the required equipment for the contact is on site, working, and properly interfaced. This includes radios, antennas, rotors, amplifiers, tracking computers, audio equipment, and displays. Some of this equipment may be provided by the school and/or other sources but the local hams have the ultimate responsibility to insure that it is all available and all “plays together” to accomplish a successful end result.
- Work with the school to select a suitable site for the contact and the equipment. Antenna location and feed line routing are particularly important and sometimes difficult.
- Test all equipment together – end to end – well ahead of the event.
- Introduce the event for the audience, describing how the communications will occur.
- Protect equipment from the ravages of weather and unauthorized use.

Telebridge Contacts:

- Be responsible for ensuring that all of the equipment is on site, working, and properly interfaced. This includes a working telephone line and telephone patch equipment to interface with the audio system.
- Be ready to describe and/or demonstrate how the telebridge amateur radio station will conduct the contact.

Coordinate and communicate with the ARISS Technical Mentor on all aspects of the preparation and execution of the event.

Provide instruction about amateur radio and provide demonstrations of amateur radio communications as part of the event or as part of educational instruction for students before or after the event if the hosting organization desires.

The local ham radio support team should be available to the school and the teachers to assist with or provide instruction in the art/science of ham radio. If possible, this support will not be limited to just the day of the contact but rather will be available for on-going activities before, during, and after the contact.

- Provide demonstrations to help students understand radio communications.
- Describe the functions of all of the equipment both in space and on the ground that enable the communication with satellites. Include topics such as basic orbital mechanics, Kepler’s Laws, Doppler effect.
- Go to www.arrl.org/etp-classroom-resources to view instructional materials developed by ARRL’s Education & Technology Program (ETP) useful for school

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- educational activities. Contact the ARRL ETP etp@arrl.org for advice and assistance.
- Visit www.arrl.org/outreach-to-teachers-and-schools for additional ideas about building a relationship with a school.

Time Commitment

This can vary widely depending upon whether the contact will be direct or telebridge, the familiarity of host organization personnel with what is involved for the event, and whether the school wants to include amateur radio and the services of the local support team in its education plan.

In general expect a minimum of 6-8 hours of time commitment on each of two days before an event and on the day of the event. Additional time will be needed for meetings with school officials and for planning in the months prior to a contact. Some schools may want to include some instruction on radio and satellite communications with students well in advance of the event, or may want to follow up with more learning about radio after the contact. Each team/individual can decide their ability to support longer-term activity.

Contact us at ARISS.Recrut@verizon.net for more information or to get involved.