



Amateur Radio on the International Space Station (ARISS) Equipment Plan

Privacy Policy

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Directions

The technical team (local amateur radio group and organization's IT representative, with guidance from the ARISS Technical Mentor) should complete this form to the best of their ability. This plan must be submitted to and approved by ARISS before you can be scheduled for an ARISS contact.

Note: ARISS recognizes that circumstances might require changes to this plan during implementation. Your Technical Mentor can approve justifiable changes if they become necessary.

When completed, save this form as a Microsoft Word document with this file naming convention:

YYYY-MM-DD, Organization Name, ARISS Equipment Plan.docx

Submit the completed form to your Technical Mentor, who will review it and forward it to the evaluation team.

Send any questions or comments about this form to ariss@arrl.org.

General Contact Information

Type of contact requested: **Direct**
 Telebridge

Contact Site Primary Phone # <i>Must be a hard-wired (landline) phone</i>	+1 520 831-0080 - David Anderson - K1AN
Contact Site Backup Phone # <i>Can be a landline or mobile phone</i>	+1 928 778-2526 - John Laing - K7PRS +1 978 602-5487 - Doug Therault - NO1D
Contact Site Time Zone <i>UTC is Coordinated Universal Time</i>	Time Zone Name: Mountain Standard Time Hours before/after UTC: GMT – 07:00
When is your area on Daylight Saving Time?	NEVER, Arizona does not recognize Daylight Savings Time

Information for Direct Contact

Complete this section for a direct contact.

Some of the information requested here might not apply to your installation; where appropriate, enter “none” or “NA” (not applicable). You should not interpret these questions as requirements. Refer to the ARISS Ground Station Recommendation and your Technical Mentor for suggested equipment.

Call sign to be used during contact:

Radio Coordinator

Ham Radio Team Lead <i>Local ham radio operator coordinating the ground station</i>	Name and call sign: David Anderson - K1AN Mailing address: 1523 N Overlook DR, Dewey, AZ 86327 E-mail address: David@X-Beacon.org Landline phone #: None Mobile phone #: +1 520 831-0080
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<p>Briefly describe the team lead's experience with weak-signal satellite operations, if any.</p>	<p>The team lead has managed a previous ARISS Direct Contact and is also relying on the local amateur radio club with more than 10 operators with more than 20 years of experience each in this area.</p>
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Contact Site

<p>Location <i>Address of contact site and brief description (for example, "1st floor auditorium")</i></p>	<p>Street: 1050 Ruth ST City, State, Zip: Prescott, AZ 86301 Description: Prescott High School</p>																																
<p>Coordinates <i>Geographic location of site, for calculating ISS passes. Provide lat/long in decimal degrees (for example, "39.392 N").</i></p>	<p>Latitude: 34.561403 N Longitude: -112.478224 E Elevation (meters above sea level): 5469.2 Feet</p>																																
<p>Horizon <i>Note any antenna obscurations (minimum horizon in degrees). For example:</i></p> <table border="1" data-bbox="219 919 690 1241"> <thead> <tr> <th><u>Azimuth (degrees)</u></th> <th><u>Elevation (degrees)</u></th> </tr> </thead> <tbody> <tr><td>0 – 50</td><td>0</td></tr> <tr><td>50 – 90</td><td>15</td></tr> <tr><td>90 – 100</td><td>30</td></tr> <tr><td>100 – 140</td><td>5</td></tr> <tr><td>140 – 280</td><td>10</td></tr> <tr><td>280 – 360</td><td>5</td></tr> </tbody> </table>	<u>Azimuth (degrees)</u>	<u>Elevation (degrees)</u>	0 – 50	0	50 – 90	15	90 – 100	30	100 – 140	5	140 – 280	10	280 – 360	5	<table border="1" data-bbox="722 772 1112 1213"> <thead> <tr> <th><u>Azimuth</u></th> <th><u>Elevation</u></th> </tr> </thead> <tbody> <tr><td>0 – 45</td><td>1.86 degrees</td></tr> <tr><td>45 – 90</td><td>2.30 degrees</td></tr> <tr><td>90 – 135</td><td>2.78 degrees</td></tr> <tr><td>135 – 180</td><td>2.00 degrees</td></tr> <tr><td>180 – 215</td><td>1.93 degrees</td></tr> <tr><td>215 – 270</td><td>2.71 degrees</td></tr> <tr><td>270 – 315</td><td>1.63 degrees</td></tr> <tr><td>315 – 360</td><td>1.89 degrees</td></tr> </tbody> </table>	<u>Azimuth</u>	<u>Elevation</u>	0 – 45	1.86 degrees	45 – 90	2.30 degrees	90 – 135	2.78 degrees	135 – 180	2.00 degrees	180 – 215	1.93 degrees	215 – 270	2.71 degrees	270 – 315	1.63 degrees	315 – 360	1.89 degrees
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Briefly describe how audio will be distributed during the contact (student/PA microphone to transmitter, receiver audio to PA, and so on).

Prescott Unified School District has a dedicated I.T./Audio/Visual manager who will take video and audio feeds from the radio station area and distribute those to radio, TV, other schools and also live internet streams of the event. The radio team will be providing and isolated audio output for this purpose.

Radio Station #1 (Primary)

Transceiver

Manufacturer and model: **Icom 9700**

Number of memories that support non-standard split and 1-kHz resolution: **99**

Output power (watts): **0.5 to 100, 0.5 to 75 (2M/70cm)**

Frequency range (MHz): **144 to 148 MHz, 430 to 450 MHz**

Minimum tuning resolution (kHz): **1 kHz**

Transmit amplifier

Manufacturer and model: **Integrated in Icom 9700**

Maximum output power (watts): **0.5 to 100, 0.5 to 75 (2M/70cm)**

Receive preamplifier

Manufacturer and model: **Mirage 2-Meter Pre-Amplifier**

Location (in station or at antenna): **At Antenna**

Antenna

Type (such as single or crossed yagi): **Circularly Polarized Yagi Beams**

Manufacturer and model: **M2 Antennas – 2MCP14 and 436CP30**

Gain (specify dBi or dBd): **20.0 dB and 18.0 dB**

Number of elements: **14 and 30 elements**

Polarization (such as horizontal or right-hand circular; specify if switchable): **Circular RH**

Rotator

Type (none, azimuth, az/el): **Azimuth and Elevation**

Manufacturer and model: **Yaesu G-5500**

Coax

Type: **LMR-400**

Approximate length: **40 Feet**

Tracking program

Name: **Ham Radio Deluxe**

Automatic rotator control (yes/no): **YES, via EA4TX ARS-USB Interface**

Other station equipment

Power source: (such as UPS or battery): **City Power with UPS (plus generator backup)**

SWR/output power meter (yes/no): **YES**

Packet capability (yes/no): **YES**

SSTV receive capability (yes/no): **NO**

Radio Station #2 (Backup)

Transceiver

Manufacturer and model: **Icom 9700**

Number of memories that support non-standard split and 1-kHz resolution: **99**

Output power (watts): **0.5 to 100, 0.5 to 75 (2M/70cm)**

Frequency range (MHz): **144 to 148 MHz, 430 to 450 MHz**

Minimum tuning resolution (kHz): **1 kHz**

Transmit amplifier

Manufacturer and model: **Integrated in Icom 9700**

Maximum output power (watts): **0.5 to 100, 0.5 to 75 (2M/70cm)**

Receive preamplifier

Manufacturer and model: **Mirage 2-Meter Pre-Amplifier**

Location (in station or at antenna): **At Antenna**

Antenna

Type (such as vertical or crossed yagi): **Circularly Polarized Yagi Beams**

Manufacturer and model: **M2 Antennas – 2MCP14 and 436CP30**

Gain (specify dBi or dBd): **20.0 dB and 18.0 dB**

Number of elements: **14 and 30 elements**

Polarization (such as vertical or right-hand circular; specify if switchable): **Circular RH**

Rotator

Type (none, azimuth, az/el): **Azimuth and Elevation**

Manufacturer and model: **Yaesu G-5500**

Coax

Type: **LMR-400**

Approximate length: **40 Feet**

Tracking program

Name: **Ham Radio Deluxe**

Automatic rotator control (yes/no): **NO, manual via Yaesu EL/AZ Dual Controller**

Other station equipment

Power source: (such as UPS or battery): **City Power with UPS (plus generator backup)**

SWR/output power meter (yes/no): **YES**

Packet capability (yes/no): **YES**

SSTV receive capability (yes/no): **NO**

Information for Telebridge Contact

Complete this section for a telebridge contact.

Audio Coordinator

Main Audio Point of Contact <i>Person coordinating the audio arrangements for the contact</i>	Name: Mailing address: E-mail address: Landline phone #: Mobile phone #:
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Audio Information

Type of Phone System <i>Analog or digital</i>	
Method of Connecting to Phone Line <i>Hardware manufacturer and model, etc.</i>	
Briefly describe how audio will be distributed between the PA system, phone line, and any other connections.	