**ARISS**

**Moderator Script for**

**Telebridge ISS Contact**



**For: {{school\_group\_name}}**

**Contact Date: {{contact\_date}}**

**Version: {{version}}**

**Event Schedule Outline for {{school\_group\_name}}**

Moderator Script Version {{version}}

Event local time zone: {{etz}}

Conference start time: {{contact\_date}} {{T01}} {{etz}} ({{conf\_UTC}} UTC)

ISS rise time: {{contact\_date}} {{AOS\_sch}} {{etz}} ({{AOS\_UTC}} UTC)

Tele-bridge station: {{telebridge\_callsign}}, in {{telebridge\_location}}

All times are local event time (24hr), event durations & times to ISS rise are in minutes (m).

ARISS preparation: ~{{D14}}m (Events #1-4)

School/group program: ~{{D15}}m (Event #5)

ARISS program/contact: ~{{D16}}m (Events #6-13)

Total event duration: ~{{D17}}m

| **Time** | **Dur.\*** | **Rise** |  | **Event Block Description** |
| --- | --- | --- | --- | --- |
| **{{T01}}** | **{{D01}}m** | **{{A01}}m** |  | **#1 - Start conference - via {{audio\_interface}}** |
| {{T02}} | {{D02}}m | {{A02}}m |  | #2 - Moderator ground station checklist |
| {{T03}} | {{D03}}m | {{A03}}m |  | #3 - Contact preparation checklist |
| {{T04}} | {{D04}}m | {{A04}}m |  | #4 - Practice run through with all questioners and ground station |
| **{{T05}}** | **{{D05}}m** | **{{A05}}m** |  | **#5 - S****chool/group program, or slack time** |
| **{{T06}}** | **{{D06}}m** | **{{A06}}m** |  | **#6 -** **Start ARISS program** |
| {{T07}} | {{D07}}m | {{A07}}m |  | #7 - ARISS introduction |
| {{T08}} | {{D08}}m | {{A08}}m |  | #8 - Optional video from student perspective - **{{student\_video}}** |
| {{T09}} | {{D09}}m | {{A09}}m |  | #9 - Optional video from the ISS perspective - **{{ISS\_video}}** |
| {{T10}} | {{D10}}m | {{A10}}m |  | #10 - Introduce the ground station |
| {{T11}} | {{D11}}m | {{A11}}m |  | #11 - Handover to ground station |
| {{T12}} | {{D12}}m | {{A12}}m |  | #12 - ISS rise and Acquisition of Signal (AOS) |
| **{{AOS\_sch}}** | **<11m** | **0m** |  | **ISS Contact!** |
| {{T13}} | --- | --- |  | ISS set and Loss of Signal (LOS) |
| {{T13}} | {{D13}}m | --- |  | #13 - Closing remarks & end of ARISS program |

*\* Events with 0 minute duration have been eliminated from the program, but not the report.*

Any needed event site customization or additions for the event should take place prior to Event #1, within Event #5, and/or after Event #13.

**Event Timeline - All event times are approximate and in event site local time.**

|  |
| --- |
| **Event #1 Starts at {{T01}} {{etz}} {{D01}}m Duration {{A01}}m to ISS Rise**  **CALL IN CHECKLIST**  Everyone should be on-time at **{{conf\_UTC}} UTC** & **{{conf\_sch}} {{etz}}** (local time at the event).  Audio conference is **{{audio\_interface}}**. Check e-mail for credentials.  [ ] Mentor ............................ **{{mentor\_name}}**  [ ] Moderator ....................... **{{moderator\_name}}**  [ ] Ground station ................ **{{operator\_name}}**  [ ] School/group .................. **{{school\_coordinator\_name}}**  [ ] Live stream operator ...... **{{livestream\_name}}**  [ ] Verizon Operator Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  → |
| **Event #2 Starts at {{T02}}** **{{etz}}** **{{D02}}m Duration {{A02}}m to ISS Rise**  **MODERATOR GROUND STATION CHECKLIST**  Verify the ground station is ready to go with the checklist below.  **MODERATOR TO GROUND STATION:**  [ ] Time check (synchronize).  [ ] Are Keps up-to-date?  [ ] Tracked ISS recently?  [ ] Flip mode enabled if required?  [ ] Check ISS expected initial azimuth, maximum elevation, and rise (AOS) time.  ISS rise expected at **{{AOS\_UTC}} UTC**, **{{AOS\_sch}} {{etz}}** (event local time).  [ ] Check and confirm the primary and backup uplink channels the ISS will be using.  [ ] Telebridge Station is ready to provide a brief overview just before the contact.  Note that ground station hands back to moderator after overview in **Event** **#10**.  [ ] Telebridge Station initial check of audio levels. Include opening radio squelch.  → |
| **Event #3 Starts at {{T03}} {{etz}} {{D03}}m Duration {{A03}}m to ISS Rise**  **CONTACT PREPARATION CHECKLIST**  Verify the following with school/group, ground station, and moderator. Note that the event site should have already tested their audio system and be ready to add the telebridge audio.  **MODERATOR:**  [ ] Verify everyone is using moderator script version **{{version}}**.  [ ] If the moderator is remote, work out how the event site will cue the moderator after the  event site program to start the ARISS program.  [ ] If the moderator is remote and the ARISS videos are to be shown...  Work out how the event site will cue the moderator after the end of the videos.   Note that the moderator cannot rely on a live stream feed for such cues.  [ ] Verify videos are cued up and ready to run.  [ ] Moderator and ground station review handovers in script **Events** **#10** & **#11**.  [ ] Make plan for running ahead of schedule and handling any filler at start of **Event #11**.   Who will do this? Moderator, Mentor, or Ground Station?  [ ] Make a plan for running behind schedule. What might be cut?  Ground station should not be shy about cutting in at one minute to ISS rise.  [ ] Final coordination discussion with everyone. Any last minute changes to script?  [ ] If ground station is providing an optional video feed, perform any final checks.  [ ] If doing a live steam, coordinate when the live stream goes live.  [ ] If using a computer conference, coordinate when the recording will start.  [ ] If using Verizon, coordinate when the recording will start with operator.  → |
| **Event #4 Starts at {{T04}} {{etz}} {{D04}}m Duration {{A04}}m to ISS Rise**  **PRACTICE** **RUN THROUGH WITH ALL QUESTIONERS AND GROUND STATION**  All questioners should be present at this time. This is where audio problems can surface. The sooner this can be completed the better. Be sure to mute any unneeded mics and speakers.  [Make this duration longer if event site program needs to start later.]  [Can increase the D04 duration in the ARISS moderator script form file to recalculate times.]  [Adjust steps below as needed if not using a simulated astronaut on an HT.]  **MODERATOR:**  [ ] Verify the event site can hear the moderator clearly and visa versa.  [ ] Verify event site can hear ground station audio clearly.  **GROUND STATION:**  [ ] Verify ground station can hear event site audio clearly with no feedback/echo issues.  [ ] Verify event site can hear the simulated astronaut clearly. Recommend a five count.  [ ] Verify the simulated astronaut can clearly hear event site.  [ ] Explain the audio check process. Remind questioners to speak clearly & directly into the  microphone, and to say “OVER” at end of each question. May need to use outdoor voice.   Try to minimize the delay for the next question. Be prepare to repeat a question if asked.  [ ] Simulate the ISS contact having each questioner ask at least one question, in order,  trying to minimize time between questions. Ground station simulated astronaut responds  with audio quality report. Make adjustments as needed.  [ ] Practice the final “cheer” in the event of left over contact time.  [ ] Make any final audio adjustments.  **[ ] Ground station hands back to the ARISS moderator.**  **MODERATOR:**  **“Do NOT change any audio settings now that audio checks have been completed.”**  **“Do NOT mute the audio for the telebridge station.”**  “ARISS pre-contact preparation is complete.”  **[ ] ARISS moderator hands off to school/group.**  → |
| **Event #5 Starts at {{T05}} {{etz}} ~{{D05}}m Duration {{A05}}m to ISS Rise**  **SCHOOL/GROUP PROGRAM, OR SLACK TIME**  This is an optional event where the school/group can customize the event. The details do not need be included here other than different start and/or ending times. The program should have a hard cutoff time to start the ARISS portion on time. If there is no program, then this is slack time.  Caution: If the audio checks take longer than planned this event will have less time.  **SCHOOL/GROUP:**  **[ ] School/group host hands off to ARISS moderator at the end of the their program.**  → |
| **Event #6 Starts at {{T06}} {{etz}} ~{{D06}}m Duration {{A06}}m to ISS Rise**  **START ARISS PROGRAM**  This needs to start on-time.  **MODERATOR:**  “Before we get started, I want to remind everyone, that this contact will be recorded.”  [Adjust the lines below depending on arrangements.]  [ ] If using Verizon, moderator requests Verizon Operator starts recording.  [ ] Live stream goes live.  **MODERATOR:**  “Hello everyone, this is **{{moderator\_name}}**, callsign **{{moderator\_callsign}}**, your ARISS moderator for today for our ISS contact with **{{school\_group\_name}}** in **{{school\_group\_city\_state}}**.”  → |
| **Event #7 Starts at {{T07}} {{etz}} ~{{D07}}m Duration {{A07}}m to ISS Rise**  **MODERATOR:**  “Through the help of amateur radio volunteers and the crew on the ISS we soon hope to establish radio contact with the International Space Station as it flies more than 250 miles (400km) above the Earth over **{{telebridge\_location}}**. This is all accomplished through ARISS, Amateur Radio on the International Space Station. The ISS is currently approaching today’s ARISS ground station traveling along at around 17,500 miles per hour (27,600km/h).”  “The contact for today will be performed using the ARISS telebridge network, a world-wide network of amateur radio ground stations that enable students to contact the ISS. ARISS is an International consortium of volunteers from several nations that assist to develop and operate the amateur radio equipment on board the International Space Station.”  “Some of those agencies that support ARISS are, The American Radio Relay League (ARRL), The worldwide AMSAT Amateur Radio Satellite Corporations, The Canadian Space Agency, The European Space Agency (ESA), The Japanese Space Agency (JAXA), Roscosmos, the Russian Space Agency, and NASA.”  Our linkup today will be with the participants at **{{school\_group\_name}}** in **{{school\_group\_city\_state}}**, now let’s check in with the group. We’ve asked **{{presenter\_name}}** to please tell us about those participating in today’s contact.  **SCHOOL/GROUP:**  [ ] Usually ad-lib about student/grpup events, where are they from, how many visitors  do you have at the venue, etc. for no more than 2 minutes.  **[ ] School/group presenter hands back to the ARISS moderator.**  **MODERATOR:**  Thank you **{{presenter\_name}}**.  → |
| **Event #8 Starts at {{T08}} {{etz}} ~{{D08}}m Duration {{A08}}m to ISS Rise**  **MODERATOR:**  “We will now take a look at a video presentation produced by the American Radio Relay League which shows students what to expect during our upcoming contact with the ISS.”  **SCHOOL/GROUP:**  [ ] School/group plays video for auditorium, run time ~5 minutes 25 seconds.  <https://www.youtube.com/watch?v=EH688q92AjY&t=68s>  **[ ] At end of video, school/group host hands back to the ARISS moderator.**  → |
| **Event #9 Starts at {{T09}} {{etz}} ~{{D09}}m Duration {{A09}}m to ISS Rise**  **MODERATOR:**  “We will now look at a short video showing how an ARISS contact looks from the perspective of Astronaut Tim Peake.”  **SCHOOL/GROUP:**  [ ] School/group plays video in auditorium, run time ~3 minutes.  <https://www.youtube.com/watch?v=Z-yHD9lVbH8>  **[ ] At end of video school/group host hands back to the ARISS moderator.**  **MODERATOR:**  “Now that we have seen what a contact looks like from the ground side and what it looks like on-board the ISS, now comes the most exciting part, your contact with astronaut **{{astronaut\_name}}** on the ISS!”  → |
| **Event #10 Starts at {{T10}} {{etz}} ~{{D10}}m Duration {{A10}}m to ISS Rise**  **MODERATOR**:  “Our contact for today is with astronaut **{{astronaut\_name}}**, amateur radio callsign **{{astronaut\_callsign}}**, who will be using the ISS amateur radio callsign **{{ISS\_callsign}}**.”  “The amateur radio ground station that will establish radio contact with the ISS today is ARISS Ground Station **{{telebridge\_callsign}}** located at **{{telebridge\_location}}** and operated by **{{operator\_name}}**, **{{operator\_callsign}}.**  “**{{operator\_name}}**, before the contact begins, please tell us a little bit about the **{{telebridge\_callsign}}** station and how you will handle today’s contact with the ISS.”  **GROUND STATION:**  [ ] Mention any additional people assisting at ground station.  [ ] Ground station describes station. Limit to ~2 minutes.  [ ] Ground station reports time to ISS rise (predicted AOS).  **[ ] Ground station hands back to the ARISS moderator.**  **MODERATOR**:  “Thank you **{{operator\_name}}**.”  → |
| **Event #11 Starts at {{T11}} {{etz}} ~{{D11}}m Duration ~{{A11}}m to ISS Rise**  **MODERATOR**:  [ ] Moderator should be prepared with filler material if ahead of the timeline.  **MODERATOR:**  “We are now about **{{A11}}** Minutes before the planned acquisition of signal from ISS. With the time for the ARISS contact quickly approaching, we want to remind all to please mute your cell phones and be as quiet as possible when not asking Astronaut **{{astronaut\_name}}** a question.”  “Remember, what we are doing on ISS is an experiment, so we can never tell the results, positive or negative until the experiment is over. And questioners, please don’t forget to say OVER at the end of your question.”  “The International Space Station will soon come into radio range of the **{{telebridge\_callsign}}** ARISS ground station in **{{telebridge\_location}}** so, **{{operator\_name}}**, it’s all yours. Good luck!, OVER!”  **MODERATOR:**  **[ ] Handover to ground station at least one minute before ISS rise time.**  → |
| **Event #12 Starts at {{T12}} {{etz}} ~{{D12}}m Duration ~{{A12}}m to ISS Rise**  **GROUND STATION:**  ---- Open squelch, rushing noise is heard.  ---- Ground station calls ISS. This may take a few minutes.  ---- Confirm that contact is solid and say “Over to the school for first question.”  → |

**SCHOOL QUESTIONS**

[Copy/paste the list of school/group questions from ARISS Ops Uplink file here.]

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| --- |
| **GROUND STATION:**  ---- IF TIME PERMITS, thank astronaut and invites all attendees to cheer in appreciation.  No additional ad-lib questions are permitted unless there is prior agreement from ARISS.  ---- Contact ends at LOS, ground station signs off.  **[ ] Ground station hands back to the ARISS moderator.**  → |

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| **Event #13 Starts at ~{{T13}} {{etz}} ~{{D13}}m Duration Post LOS**  **CLOSING REMARKS AND** **END OF ARISS PORTION OF THE PROGRAM**  **MODERATOR:**  “Ladies and Gentlemen we have just shared a “wow” moment of history. Amateur radio ground station **{{telebridge\_callsign}}** located at **{{telebridge\_location}}** and operated by **{{operator\_name}}**, **{{operator\_callsign}}**, contacted astronaut **{{astronaut\_name}}** (**{{astronaut\_callsign}}**) aboard the International Space Station, and spoke with students at the **{{school\_group\_name}}** in **{{school\_group\_city\_state}}**.”  “Now, for the international volunteer team of ARISS, including the Amateur Radio Satellite Corporations around the world, the American Radio Relay League, The Canadian Space Agency, The European Space Agency (ESA), the Japanese Space Agency (JAXA), Roscosmos, and NASA, this is **{{moderator\_name}}**, **{{moderator\_callsign}}** your ARISS moderator, sending my salutation to all of you in amateur radio terms, 73’s, which means best wishes.”  **MODERATOR:**  [Adjust the lines below depending on arrangements.]  [ ] If using Verizon, moderator requests Verizon Operator stop recording.  [ ] If using Verizon, moderator thanks Verizon Operator for the help.  [ ] Any video feeds from the moderator and telebridge station are stopped.  [ ] Moderator releases ground station from conference or asks them to standby.  **[ ] ARISS moderator hands off to school/group.**  → |

**Logistics**

**Important Dates and Times**

Contact date (YYYY-MM-DD): **{{contact\_date}}**

Event local time zone abrv: **{{etz}}**

Conference start (HH:mm): **{{conf\_UTC}} UTC / {{conf\_sch}}** **{{etz}}**

ISS rise time (HH:mm): **{{AOS\_UTC}} UTC / {{AOS\_sch}}** **{{etz}}**

**School/Group Information**

School/group name: **{{school\_group\_name}}**

School/group location: **{{school\_group\_city\_state}}**

Coordinator at event: **{{school\_coordinator\_name}}**

School principal name: **{{principal\_name}}**

School teacher name: **{{teacher\_name}}**

School/group presenter: **{{presenter\_name}}**

**ISS Information**

Astronaut name, callsign: **{{astronaut\_name}}**, **{{astronaut\_callsign}}**

ISS callsign to be used: **{{ISS\_callsign}}**

**ARISS Mentor Information**

Mentor name, callsign: **{{mentor\_name}}**, **{{mentor\_callsign}}**

For contact, mentor will be: **{{mentor\_location}}**

**ARISS Moderator Information**

Moderator name, callsign: **{{moderator\_name}}**, **{{moderator\_callsign}}**

For contact, moderator will be: **{{moderator\_location}}**

**ARISS Tele-bridge Ground Station**

Station callsign & location: **{{telebridge\_callsign}}**, **{{telebridge\_location}}**

Operator name, callsign: **{{operator\_name}}**, **{{operator\_callsign}}**

Radio audio interface: **{{audio\_interface}}**

Video feed interface: **{{telebridge\_video}}**

**Live Streaming**

Live stream planned (Yes/No): **{{livestream\_plan}}**

Live stream operator name: **{{livestream\_name}}**

**Miscellaneous**

None. [Manually edit any additional items here.]

[Delete this page for the final version of the script.]

**Instructions for Mentor & Moderator**

Event times are in school/group local time (24hr format). The version number should be incremented with each distributed version. The completed script should be provided to the mentor, the school/group, and telebridge station a few days prior to the contact.

**Event Block Format**

The script events are captured in a table with rows that prevent page breaks in the middle of an event block. A row is limited to one page. It is very helpful to turn on the "view table gridlines" feature to see the hidden boarders. Below is the anatomy of an event block.

|  |
| --- |
| **Event # Start at Event time ~1m Duration Time to ISS Rise**  [blank line]  **EVENT BLOCK NAME** (Do not change name.)  Event notes, if needed, go here. Arial font, 12pt, spacing is 1.5.  [blank line]  **MODERATOR:**  “Quoted text to be read by moderator. Arial font, 12pt, spacing is 1.5.”  [blank line]  [ ] Steps to be completed at this event in chronological order. Arial font, 12pt, spacing is 1.5.  [Notes for customizing the script are in red text with brackets, to be deleted in final version.]  → [done time] |

**Script Development Checklist**

Moderator and mentor should use this checklist as a guide to prepare this script.

[ ] Complete as much as possible in the ARISS Moderator Script Form file.

[ ] Decide if and how the ARISS videos will be used and when to start the conference call.

[ ] Generate script outline with timeline summary with Python script tool.

[ ] Review the script outline and adjust as needed.  
[ ] Update the script template file as needed and remove [Notes for customizing the script].

[ ] Add list of questions from ARISS Ops web page Uplink file to script template file.

[ ] Run Python script to generate moderator script document from the template.

[ ] Review script with school/group, mentor, and ground station.

[ ] Verify name pronunciations. Make notes as needed.

[ ] Review the script for completeness. Adjust as needed (prefer by editing template file).

[ ] Create final PDF version, minus this last page.