

NATWJ

N O R T H A M E R I C A
W O R L D J A M B O R E E

Amateur Radio Operations 2019 World Jamboree

Version 6, March 2019

All changes from Version 5 are highlighted in red.

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Overview

This section provides the overall vision for the NA1WJ Amateur Radio Operation at the Summit in West Virginia for the 2019 World Scout Jamboree. The rest of this document goes into more detailed action planning.

History

Amateur radio has been a part of the World Scout Jamboree experience since 1957 with GB3SP in the United Kingdom. See more, including audio recordings at <http://jotajoti.info/historic-materials/>. This was also where the concept of Jamboree on the Air, the largest annual Scouting event in the world, was born.

Here's the history of amateur radio stations at the World Scout Jamboree:

- 1957 – United Kingdom: GB3SP
- 1959 – Philippines: DU1PAR
- 1963 – Greece: SV1SV
- 1967 – USA: K7WSJ
- 1971 – Japan: 8J1WJ
- 1975 – Norway: LC1J
- 1983 – Canada: VE6WSJ
- 1987 – Australia: AX2SWJ
- 1991 – Korea: 6K17WJ
- 1995 – The Netherlands: PA6WSJ
- 1999 – Chile: XR3J
- 2003 – Thailand: E20AJ
- 2007 – United Kingdom: GB100J
- 2011 – Sweden: SJ22S
- 2015 – Japan: 8N23WSJ

You can find more on World Scout Jamboree history at <http://jotajoti.info/library/world-scout-jamborees/>

The 2019 World Scout Jamboree operation at the Summit Bechtel Scout Reserve in West Virginia will take advantage of lessons learned by the K2BSA amateur radio operation during the 2013 and 2017 USA National Jamborees. It will also take advantage of the existing infrastructure including the three VHF/UHF repeaters installed by Icom America, as well as the telephone poles for installing antennas, plus the K2BSA gear stored in West Virginia, including antennas, rotators, cables, and more.

Statement of Purpose

- Introduce the science, technology, fun, and magic of amateur radio operation to Scouts and Scout leaders from around the world.
- Serve as the amateur radio voice of the Jamboree via two-way radio contacts within the Summit and worldwide.

In addition, other aspects of amateur radio will be underway including: amateur radio direction finding or ARDF-Foxhunting finding hidden transmitters, contacts with amateur radio satellites, and hopefully a scheduled contact with an astronaut on board the International Space Station. We also expect to launch three balloons with amateur radio payloads and track them as they cross the Atlantic.

Jamboree Goals

Operate a demonstration station with a goal of introducing 3,000+ Scouts to amateur radio.

Provide an ARDF-Foxhunting course with expectations of over 100 teams completing the course.

Provide high visibility events for participants, such as a two-way contact with an astronaut on the International Space Station.

Make contacts worldwide with amateur radio and Scouting enthusiasts to allow them to participate at-a-distance in the Jamboree.

NA1WJ will also operate social media and website channels to engage a broad audience both within and outside Scouting.

Activities Overview

Now that we've established the purpose and goals, our next step is to establish key activities to support the achievement of the purpose and the fulfillment of the goals. Here's the broad range of activities that will be in operation during the Jamboree.

Demonstration Station

Provide amateur radio demonstrations that energize Scouts in communicating with others throughout North America and around the world. Use communication modes that resonate with Scouts such as PSK and FT8 digital modes that mimic their favorite mode of communication — texting.

- Provide simple, intuitive amateur radio transceivers that Scouts can directly operate with minimal guidance — setups where they will say “I can do this at home!”
- Standardize the demonstrations to present concepts and demonstrate operation in a tightly organized timeframe to maximize throughput.
- Optimize operational flexibility by standardizing around the same set up for every station.

ARDF – Foxhunting

ARDF stands for Amateur Radio Direction Finding. Foxhunting refers to using ARDF to find hidden transmitters. This activity is ideal for the high adventure focus of the Summit. It gets Scouts on a trail using amateur radio and direction finding techniques, expanding their orienteering skills, and involving them in yet another aspect of amateur radio and technology.

- Provide introductory training on the use of standard, simple, ARDF equipment and antennas to find hidden transmitters.
- Operate an ARDF course with successive levels of challenges that provide early success yet encourage the development of skills on more challenging tasks.
- Offer walk-up availability to the training and use of the course.

SPECIAL NOTE: ARDF-Foxhunting is now a part of Living in the 21st Century — Exploring. Brian Coleman, KB0MAP, runs orienteering and geocaching. The amateur radio team will provide staffing to add ARDF-Foxhunting. Brian was already providing all the equipment for the foxhunting operation. The location will change. This was a decision by the Jamboree leadership to optimize the number of tents used in the Summit Center.

Special Events

Schedule special events that will be of keen interest to the Scouts as well as local and national media. These should include:

- International Space Station Astronaut contact. Our proposal to host a contact was approved by ARISS in early February 2019. Our equipment plan for a Radio Telebridge contact was accepted in March 2019. Day and time of contact won't be available until July 2019
- Around the world balloon launches with tracking via amateur radio.
- Contacts via Low-Earth-Orbit amateur radio satellites as orbital paths/timing allows.
- Evening operations from the NA1WJ station with at least two operators using the buddy system. This will allow contact via propagation paths not present in the daytime within the limited programme hours.

VHF-UHF Repeaters

VHF/UHF FM repeater operation fully covers the Jamboree area via hand-held transceivers. This facilitates networking as well as emergency communication. They are open to all licensed amateur radio operators in attendance at the Jamboree. Plus, via Echolink, D-Star, and DMR, access can be world-wide.

JOTA-JOTI Exhibit

The World Organization of the Scout Movement (WOSM) will be providing an exhibit that includes the JOTA-JOTI event. The exhibit will have an amateur radio station with the special event call sign W8J.

Demonstration Station

The NA1WJ demonstration station has a primary focus on introducing the fundamentals of amateur radio to the highest number of Scouts possible consistent with the goal of providing a quality experience within the overall operation of the Jamboree.

Our goals are ambitious – introduce amateur radio to 3,000+ youth over the course of eleven days. During that time there will be 81 hours of program time, see the later overview of operation hours, with an expected average of 40 demonstrations per hour.

Our thought is that the magic of amateur radio is reaching out and communicating over both short and long distances via radio. Further, that communication is optimally via voice and digital modes, with the latter in harmony with how so many of our Scouts communicate with each other, via text messaging. We will also be offering CW contacts using decoder displays provided by MFJ. FLDIGI can also be used to provide decoding.

Given this premise, along with the focus on hands-on demonstrations to 3,000 or more, our plan is to deliver a consistent, high-quality, demonstration with voice and digital modes at the core of the experience.

Approach for Youth/Jamboree participants

Make ham radio fun, using a number of methods of demonstration and learning, and provide it in a context that is relevant to the youth, while maintaining the heritage and history that made ham radio what it is today.

Station Overview

The Demonstration Station will be composed of multiple operating positions offering a variety of modes to the participants. These include:

- Six demonstration stations with 100-watt HF transceivers, computer logging software, and large screen computer displays. (IC-7300)
- Two VHF-UHF stations for demonstrations and repeater monitoring. (ID-5100)
- Two satellite communication systems for low orbit satellite communication in addition to HF and VHF operations. ([IC-9700](#))
- Networked computer logging and control. Frequent update of Logbook of the World and Club Log to confirm contact with other stations.
- Two HF directional antennas, 3 HF dipoles, 3 HF vertical antennas, VHF/UHF vertical antennas, VHF/UHF satellite antennas with azimuth and elevation control.
- Trailer based crank-up tower (Aluma Tower Company TM-51-35), guyed, and JK Navassa 5-band yagi, 40-meter rotatable dipole, and 6 meter yagi.

Each station will have the ability to host four participants at a time, plus one control operator (NA1WJ staff member / aka Guide). The goal is to give each participant about 8-10 minutes of operating time.

Operation Hours

The demonstration station will be open every available program hour. During those times, all the stations will be active providing demonstrations. We will also provide a nightly VHF/UHF net for all participants at the Jamboree and those checking in via Echolink from around the world.



Proposed Schedule with Major Programmatic Elements

| Mon 22 July | Tue 23 July | Wed 24 July | Thurs 25 July | Fri 26 July | Sat 27 July |
|---|---------------------------------------|-------------------------|-------------------------|-------------------------------------|-------------------------|
| Arrival Day | | Mt. Jack Campfire | Mt. Jack Campfire | Program Closed | Mt. Jack Campfire |
| Program Open 1p - 5p | Program Open 8a - 5p | Program Open 8a - 5p | Program Open 8a - 5p | Cultural Celebration Day | Program Open 8a - 5p |
| Welcome Event + Orientation in Base Camps | Opening Show (730p - 930p) | Base Camp Bash (F) | Base Camp Bash (A-B) | Unity Show (730p - 930p) | Base Camp Bash (C-D) |

| Sun 28 July | Mon 29 July | Tue 30 July | Wed 31 July | Thurs 1 Aug | Fri 2 Aug |
|----------------------------------|-------------------------|-------------------------|-------------------------|--|---------------------------|
| | Mt. Jack Campfire | Mt. Jack Campfire | Mt. Jack Campfire | Mt. Jack Closed | Departure Day for NSOs |
| Program Open 10a - 5p | Program Open 8a - 5p | Program Open 8a - 5p | Program Open 8a - 5p | Program Open 8a - 3p | |
| Scout's Own Svc (830a - 930a) | Base Camp Bash (F) | Base Camp Bash (A-B) | Base Camp Bash (C-D) | Farewell Show (730p - 930p) | |

Last Update: 7 Feb 2018

Total program hours of 81 across 11 days, see Appendix M for more detail. ISS contact will potentially shut down our program for roughly 4 hours. The expected average hourly visitor count for amateur radio demonstrations is 40/hour. Given this, the total possible number of demonstrations is 3,240 maximum or 3,080 with the loss of 4 hours for ISS contact.

Demonstration Flow

The general flow of the station will be standardized, and a script provided to each guide outlining points to cover while the participants are visiting the station. The outline is:

- Sign outside door that displays current operators and languages available.
- Name tags for operators with languages spoken.
- Registrars will hand out pre-printed stickers to everyone who enters. This will generate the count of demonstrations each day.
- Greet all those who arrive, and break them into small groups of up to four each.

- Provide a laminated card introduction to amateur radio in their chosen language. This will be based on the standard script that the operators will use.
- Take them through the entry area, providing a brief history of amateur radio, and how it has changed and stayed current over the years. Visuals will be available.
- Provide them a short introduction to Morse code, and allow them to try it on a set of code practice oscillators with Morse sheets. Ask them to send each other's names. Outline that Morse Code (CW) is still an active part of amateur radio, but not a requirement for licensing as it was in the past.
- Stop briefly at each exhibit in the entry area, and give a brief explanation of what they see.

After passing the entry area, the participants will enter the demonstration area. Each station can accommodate four participants.

If needed, guide the group to an operator who speaks their language.

Operators while at the radio controls of each station will operate under the same basic guidelines:

- Give a brief description of the radio and modes available.
- Describe the correct procedures and topics for talking on the air.
- Allow each participant to use either voice, CW, or digital modes.
- Allow the participants to ask questions as they progress.
- Keep the time per participant to 8-10 minutes unless the participant queue is light (no one waiting).
- Log all QSOs, including participant, station call sign, control operator, time, date, mode.
- As much as possible, use JOTA/Scouting recommended frequencies. Work with the media team lead to publish operating frequencies in real time.
- Use all possible modes available. These can include phone, PSK, RTTY, SSTV, FT8, CW, etc.
- The venue will likely be noisy. Use headphones or keep the station AF gain (volume) down as much as possible. Keep voice levels to normal talking volume.
- Adjust the microphone gain and ALC with each new participant and limit the use of compression.

Station Operation Specifics

For each specific station type, there will be variations to operating:

HF

- Keep the station on the assigned band unless a change is required to limit interference to the other stations. Confirm changes with shift supervisor before

they are made to ensure you don't blow out another transceiver that's already on the band..

- There will likely be pileups. Allow the participants rag-chew QSOs as much as possible. During demonstrations, talk time is to be emphasized over giving out QSOs.
- Discuss the general station conditions if asked (antennas, etc.).

VHF/UHF/D-STAR/Echolink

- These stations are mostly for repeater operation. Most QSOs will be with other staff or Jamboree participants, or via Echolink or D-STAR outside the Jamboree.
- These stations will be utilized during the nightly nets and during other times as needed by K2BSA staff if requested by Jamboree management. Adjust the demonstrations according to the shift supervisor.
- We've also established an Echolink conference node *JAMBO* node 832996 for use during the Jamboree and other Scouting events. Also available is the Echolink conference node *JOTA-365*.

Satellite Operation

- When ISS or other satellite windows present themselves, the VHF/UHF capable stations will be requested to cease normal HF demonstrations so they can accommodate these passes.
- These times are well known and will be posted. If there are questions, see the shift supervisor.
- The ISS Contact will be a scheduled event with public address audio provided so the maximum number of people can hear.
- A form of selection process (drawing, etc., to be determined) will be used for those Scouts who will be able to participate in these contacts.
- A discussion prior to and after the window will be offered to explain how these contacts work and how they are different than the ones conducted inside the venue (doppler-effect, apogee/perigee, pass prediction, why the antenna moves the entire time of the contact, etc.).

Demonstration Station Setup

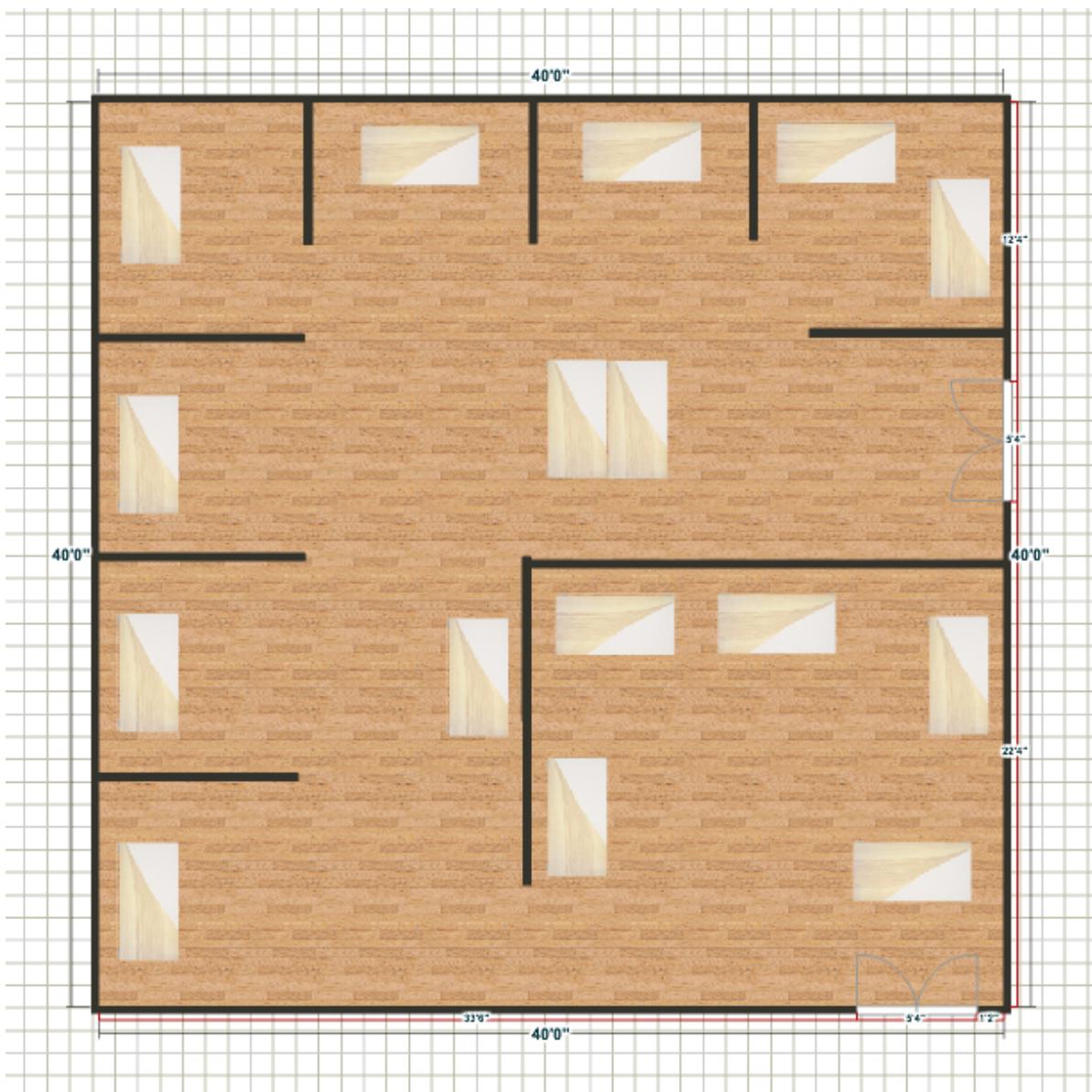
- Each station will have five sets of headphones connected to a Behringer HA-400 splitter so that Scouts can listen without audio interference between stations.
- One 16 or 32 GB SDHC Card per Icom 7300 radio can be used in its front slot to store the settings configuration for that radio to allow it to be restored quickly back to a standard baseline each morning.
- One Nifty Accessories mini-manual per station will be provided that covers that particular radio's operation. This will make it easier for operators to get up to speed and query little used configuration changes.

Demonstration Station Layout

The Demonstration Station will be housed in a 40' x 40' tent. An overall layout of the full NA1WJ site can be seen in the appendices.

The floor plan shown below is a starting point for further planning and discussion. The entry point is in the lower right hand corner, exit at the right hand side. Greeters/Registrars will be at the front door. Exhibits and displays will be in that larger area. The stations then form along the outside walls.

Please note that this is a general layout diagram with detail to be added later. Note too that the partitions shown around the entrance area will probably not be used to allow a full view of the station from the front door — enticing Scouts to enter and check it all out.



ARDF --- Foxhunting

SPECIAL NOTE: ARDF-Foxhunting is now a part of Living in the 21st Century — Exploring. Brian Coleman, KB0MAP, runs orienteering and geocaching. The amateur radio team will provide staffing to add ARDF-Foxhunting. Brian was already providing all the equipment for the foxhunting operation. The location will change. This was a decision by the Jamboree leadership to optimize the number of tents used in the Summit Center.

The goal of the hidden transmitter hunt will be to offer the Scouts an introduction to Amateur Radio Direction Finding. It will be conducted like a practice or training session and will be very informal following the spirit of IARU ARDF competitions and rules.

Draft Rules

As in IARU rules five transmitters will be used. They will be positioned no closer than 400 meters apart, none nearer the start than about 750 meters. Teams will be encouraged to find at least 2 transmitters (controls). Finding more will be at their option and available time. The team name, time out, and time returning will be recorded. Time on the course will be limited to 60 minutes per team.

Teams will consist of at least two Scouts and not more than a patrol (8). Teams can be made up of both Leaders and Scouts.

Teams will start the course at no less than 5-minute intervals. This prevents a "follow the leader" problem. No more than 5 teams will be on the course at any given time. This is a resource limitation (receivers, antennas).

Foxes may be found in any order. We may consider starting each group toward a specific control also to prevent the "follow the leader" problem. Teams will punch their control card at each transmitter to authenticate the find.

A prominent orange and white prism (orienteering flag) is located close to each transmitter for visual identification. This is where the registration device (control punch) is located. A homing fox at the finish line transmits continuously on a separate frequency to aid competitors who might get lost.

Transmitters will transmit once every 5 minutes automatically transmitting one after another (never at the same time) on the same frequency for exactly one minute each.

This approach is subject to modification from Mike Cullen, K1NPT, and his ARDF team.

Equipment

Bryan Coleman, KB0MAP, who will be running the WSJ orienteering activities, has agreed to provide the following equipment that will completely support our operation.

- 15 — FoxOring 80 m transmitters. They are 2 x 3 x 1 black boxes with two wire antenna leads, a switch and a 9 volt battery that can be easily changed. They can be easily mounted by their Velcro attachments to a plastic "electric fence" post that go

into the ground with a push of your foot. They are numbered, like orienteering controls and we have a Summit Center specific map, if you want to set up a FoxOring course.

- 8 — R3500 Chinese 80 m receivers
- 2m transmitters with longer cycle 2 m batteries and turnstile antennas made from the Homing In website. *Need to verify quantity.
- 8 — 2 m Blue Box units. (see http://www.foxhunt.com.au/2m_sniffer/manual.htm for more info)
- 6 — Byonics transmitter units and enough materials to make 10-12 2 m Yagis as well.

Brian will also be providing orienteering quality maps of the Summit Center for our use. We will also have stand by Byonics transmitters if needed.

An ARDF Youth Training Group has been established and publishing training materials for instructors at <http://openardf.org/index.php/teaching-ardf-101/>

International Space Station

Our proposal to host an ISS contact was approved by ARISS in early February 2019. Our equipment plan for a Radio Telebridge contact was accepted in March 2019. Day and time of contact won't be available until July 2019.

We will initially plan to host the contact at the NA1WJ operations tent but will look for better locations for maximizing the audience and their perspective on the contact. Jamboree leadership has directed that the search for an improved location cannot take place until we have the day and time of the contact confirmed.

Ten (10) Scouts will be selected at the Jamboree for the contact. They will be drawn randomly during the first few days of the Jamboree. The source of that list needs to be finalized but could be those who sign up at the NA1WJ location. The selected Scouts will use a list of preselected questions to ask the ISS astronaut. They won't be able to develop their own questions as the full list of questions must be provided to ARISS well in advance of the start of the Jamboree.

Twenty questions will be developed through an online submission process to gather the best questions and to support promotion of our activation at the Jamboree. Scouts will need to register at the station when they arrive at the Jamboree, ideally through a demonstration. They will then be selected for the contact about 2 days before it is scheduled. At that point, permission forms will need to be completed for each Scout.

WV8BSA VHF-UHF Repeaters

Prior to the 2013 National Scout Jamboree, Icom America installed three repeater systems that remain in place to support Summit operations year-round as well as supporting the local community. The repeaters are co-located with the commercial two-way system and a cell phone system at the Rock Borrow site on The Summit property.

The repeaters have an Internet connection for control purposes and to facilitate EchoLink and D-Star communication around the world. This will allow Scouts and amateur radio operators anywhere in the world to log on to the repeater via the Internet and communicate with Scouts at the Jamboree. It will also allow amateur radio operators at the Jamboree to communicate via the repeater to their home repeaters.

In addition, the Summit Repeater Association has been formed by local amateur radio operators to assist with maintenance. This association has further secured the club call sign of WV8BSA for the repeaters. This is a very nice touch for this permanent installation on the Summit.

The repeaters will also be used to facilitate emergency communication where and when needed.

The frequencies and access tones are shown in the nearby table.

| Repeater | Input Frequency | Output Frequency | Tone |
|--------------|-----------------|------------------|----------------|
| 2 m Analog | 146.100 MHz | 146.700 MHz | 123.0 Hz |
| 70 cm Analog | 449.025 MHz | 444.025 MHz | 123.0 Hz |
| 70 cm D-Star | 446.8125 MHz | 441.8125 MHz | Not applicable |

There is also a DMR repeater onsite at the same facility. 441.875 MHz (+) cc1 as well as one off-site that has coverage within the Summit property. See the appendix for more information on D-STAR, Echolink, and DMR.

Media Staff

[Bill Stearns, NE4RD, is our media maven. He will](#) publicize the NA1WJ Operation on social media channels, news media, websites, and other available outlets. [He](#) will take photos and videos to record the activities and to be used in publicity. Media outreach will include Jamboree media as well as amateur radio, local, national, and world-wide media.

Facilities

To accomplish the goals and activities listed above, the K2BSA location will require one 40' x 40' along with substantial traffic-free areas for antennas. The tent will require walls, stable flooring (ideally plywood secured on planking or some other method to get the floors above ground level), waterproof wiring, Internet connections, grounding systems (electrical and RF), and computer networking. A diagram of the site layout is shown in [Appendix A with detailed description of the facilities.](#)

Staff

Staffing is limited to 40 full-time positions. Nearly all will be licensed radio amateurs with substantial involvement in Scouting and, in particular, experience with Radio Scouting activities such as Jamboree on the Air. A key selection criterion will be the ability to work with youth. Front desk staff and to some extent ARDF staff do not necessarily require licenses.

Staff members will be needed to build and set up the station as well as take down the station at the end of the Jamboree.

Here is our current estimate for staff members and their assignments.

| Staff Position | Number |
|--|-------------------------|
| Demonstration Station Team Lead and Staff | 26 |
| Technical Support Team Lead and Staff | 4 shared with Demo Team |
| ARDF – Foxhunting Team Lead and Staff | 4 |
| Registrars/Greeters | 4 |
| Quartermaster | 1 |
| Media Staff | 1 |
| NA1WJ Lead | 1 |

We will also name a QSL manager to take on fulfillment of confirmation requests after the Jamboree.

Here's the current International Service Team schedule:

- 18 July 2019 – Official IST arrival
- 19 July 2019 – Meet Area/Team Leads and position training
- 20 July 2019 – Position training and site set-up
- 21 July 2019 – Position training and site set-up
- 22 July 2019 – All Contingents arrive

We have also requested the following arrivals:

- 16 July — 2 key leaders (Jim Wilson and Mike Crownover)
- 17 July — 10 set up team

There will also be other staff training requirements. This will be added when the information becomes available.

Organization Charts

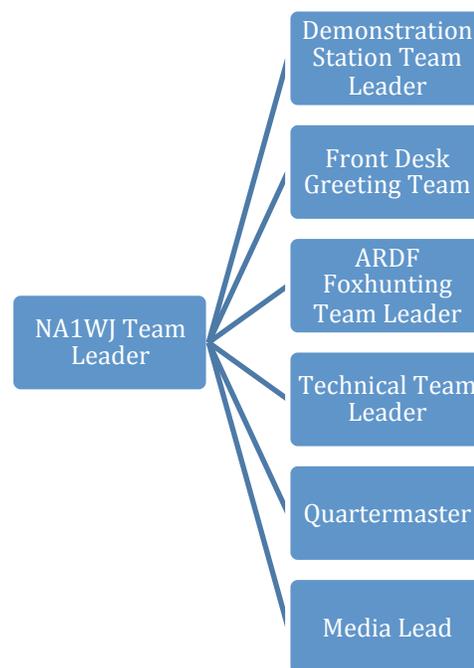
It helps to have some overall context for the World Jamboree and where amateur radio fits within that structure.

Centro Mondial is the overall top-level structure for our area. Its purpose is to expose participants to concepts and activities that help them unlock a new world. That structure looks like this:

- **Foundations, Faith, and Spirituality:** understanding how faith deepens and strengthens each life
- **The North American Dream:** understanding how the combination of character, values, and resources led to the juggernaut that is North America; plus Brownsea Island.
- **Living in the 21st Century:** looking at 5 key topics relevant to global citizens in 2025 through the lenses of jobs, hobbies, STEM, conservation, sustainability, ethics, and inclusion: transportation, food, **communications and media**, exploration, and the knowledgeable workforce; plus the Sustainability Treehouse

Within Communications & Media is the amateur radio operation.

Here's the amateur radio structure:



You can find detailed position descriptions in the appendices.

We will also appoint a QSL Manager to take the logs and fulfill requests for QSL cards after the Jamboree.

Here are the team leads and their assistants:

Demonstration Station Team Lead — Remko Welling, PE1MEW, has fulfilled this role at many world Scouting events and is superbly situated to bring a world Scouting perspective to our operation.

Assistant Demonstration Station Leads — Gary Wilson, K2GW, and Bill Bode, N4WEB, both served on the 2017 USA Jamboree operation, and Bill also at the 2013 USA Jamboree. Both are very familiar with the Summit and previous amateur radio operations there.

Front Desk Greeting Team Leaders — Ilene Arends served in this area at the 2017 USA Jamboree and provided several innovative options for our operations.

ARDF Foxhunting Team Leader — Mike Cullen, K1NPT, has conducted numerous radio Scouting events in Rhode Island, including multiple ARISS contacts.

Assistant ARDF Foxhunting Team Leader — Stein Ankarstrand, LA4MIA, has competed at the national level in ARDF using 80 meters. This experience will be very valuable for our operation.

Technical Team Leader — Mike Crownover, AD5A, served at the 2017 USA Jamboree and has built a number of contest stations. He will bring both technical leadership and a rigorous approach to operations.

Quartermaster — Donald Sonnefeld, KD2FIL, based on his work as the Secretary of the K2BSA Amateur Radio Association in documenting inventory. This position, of course, will be full time at the set up and tear down. The rest of the time it will be involved with station demonstrations.

Media Lead — Bill Stearns, NE4RD, held this position for the 2017 USA Jamboree and works throughout the year with amateur radio media.

Here's the current staff list and planned assignments:

| <u>Name</u> | <u>Call Sign</u> | <u>Primary Assignment</u> |
|-------------------------------|---------------------|--------------------------------------|
| <u>Jim Wilson</u> | <u>K5ND</u> | <u>Whatever</u> |
| <u>Rick Smith</u> | <u>N6GSE</u> | <u>Technical Team</u> |
| <u>Sjaak (Willem) Van Dam</u> | <u>PA3GVR/W4RIS</u> | <u>Technical Team</u> |
| <u>Robert Elsinga</u> | <u>PC5E</u> | <u>Technical Team</u> |
| <u>Mike Crownover</u> | <u>AD5A</u> | <u>Tech Team Leader</u> |
| <u>Donald Sonnefeld</u> | <u>KD2FIL</u> | <u>Quartermaster</u> |
| <u>Bill Stearns</u> | <u>NE4RD</u> | <u>Media Lead</u> |
| <u>Ilene Arends</u> | <u>TBD</u> | <u>Front Desk Team Leader</u> |
| <u>Tobias Senti</u> | <u>N/A</u> | <u>Front Desk</u> |
| <u>Elinor Sparrow</u> | <u>N/A</u> | <u>Front Desk</u> |
| <u>Remko Welling</u> | <u>PE1MEW</u> | <u>Demo Team Leader</u> |
| <u>Gary Wilson</u> | <u>K2GW</u> | <u>Demo Station Assistant Leader</u> |

| | | |
|------------------------------------|------------------------------|---|
| Bill Bode | N4WEB | Demo Station Assistant Leader |
| Alejandro Candia | CE3JVS | Demo Station |
| Isabel Carreño | CE3TLE | Demo Station |
| Scott Hooper | HB9EAR/KTOP | Demo Station |
| Demi Pulas | K4BSA | Demo Station |
| Hannu Ratto, Banda | OH7GIG | Demo Station |
| Axel Limbosch | PE1NLM | Demo Station |
| Jeroen Limbosch | PE1PDI | Demo Station |
| Mike Sprenger | W4UOO | Demo Station |
| Kevin Ong | 9M2KEV/N2KEV | Demo Station |
| Flavia Mendonca | PU2AMF | Demo Station |
| Suraj Khanal | 86HS608 ? | Demo Station |
| Andy Dunn | VE3XAD | Demo Station |
| Juliane Dunn | VA3JBD | Demo Station |
| Michael Cullen | K1NPT | ARDF Team Leader |
| Robert Ellis | VK5LBE | ARDF |
| Stein Ankarstrand | LA4MIA | ARDF Assistant Team Leader |
| Kaize Hong (Jerry) | BU2DE | ARDF |
| Frank Hohman | DL5HCV | ARDF |

[Here's the listing of volunteers for 17-July arrival and work on station set up:](#)

- [Flavia Mendonca](#)
- [Bill Stearns](#)
- [Donald Sonnefeld](#)
- [Rick Smith](#)
- [Bill Bode](#)
- [Mike Cullen](#)

Recruiting [continues](#) for additional staff members. At this time ([March](#) 2019) many national contingents have not yet been added to the staffing system. This list will be updated as more are added. We've established a web page listing staff at <https://k2bsa.net/world-jamboree-staff-members/>

Radio Scouter WSJ Team

This team will be informally composed of all licensed amateur radio operators at the World Jamboree. They will be expected to have HTs with them that can tune the repeaters. They will be used to provide the other side of our demonstration QSOs in case propagation doesn't allow outside contacts. We also hope to organize local West Virginia amateur radio operators to provide the same support to the operation. Of course, our Echolink and D-Star connections will also help.

We are also working with Icom America on a promotion campaign that will generate interest in North and South America as well as Europe in making contact in support of the World Jamboree.

We've established an online group for NA1WJ QSOs at <https://groups.io/g/na1wj>

Sponsors & Supporters

Amateur radio equipment is needed for all NA1WJ operations cited in this plan, from radio transceivers to antennas and support equipment, including networked computers.

Icom America is expected to be the amateur radio transceiver supplier for the Jamboree based on their previous support to Boy Scouts of America National Jamborees. They have already provided three repeaters in a permanent installation at the Summit. They will also be loaning transceivers and other gear for use in the demonstration station.



DX Engineering has already provided hex beam antennas, vertical antennas, cables, connectors, triplexers, and bandpass filters for use in the demonstration station. This was a 2017 donation.



MFJ Enterprises in 2017 provided dipole antennas, headphones, and rotator. For 2019 they are providing keys, paddles, code readers, power supplies, and additional headphones.



JK Antennas for 2019 is providing HF yagis and rotatable 40 meter dipoles.



Geochron is providing a Geochron Digital 4K UND for display at the demonstration tent entrance.

The Jamboree is providing tents, tables, telephone poles, and many other supporting items.

See detailed equipment listings in the appendix.

Ken from JK Antennas expects to attend to see his equipment in operation.

Summary

This plan is in tune with the overall focus of the Bechtel Summit Reserve, a world-class high adventure venue. This plan does that with an exclusive focus on Radio Scouting — amateur radio and Scouting.

It builds a first-class experience for Scouts and Scouters as they examine amateur radio, perhaps for the first time. It's a fun, engaging, and active introduction to technology and communication.

Appendix A — Facilities Diagram

Location 37 degrees 55' 0" North, 81 degrees 7' 28" West Summit Center Gateway

One 40x40 tent, [labeled GW-10](#). Green area, [OAA-GW-13](#) is for antennas with 50 foot telephone poles on each of the three corners.

[Tents GW-11 and GW-12 have been dropped. GW-121 is for Living in the 21st Century Communications - Media Program.](#)



This is an overview of the Summit Center with NA1WJ shown in the upper left corner.



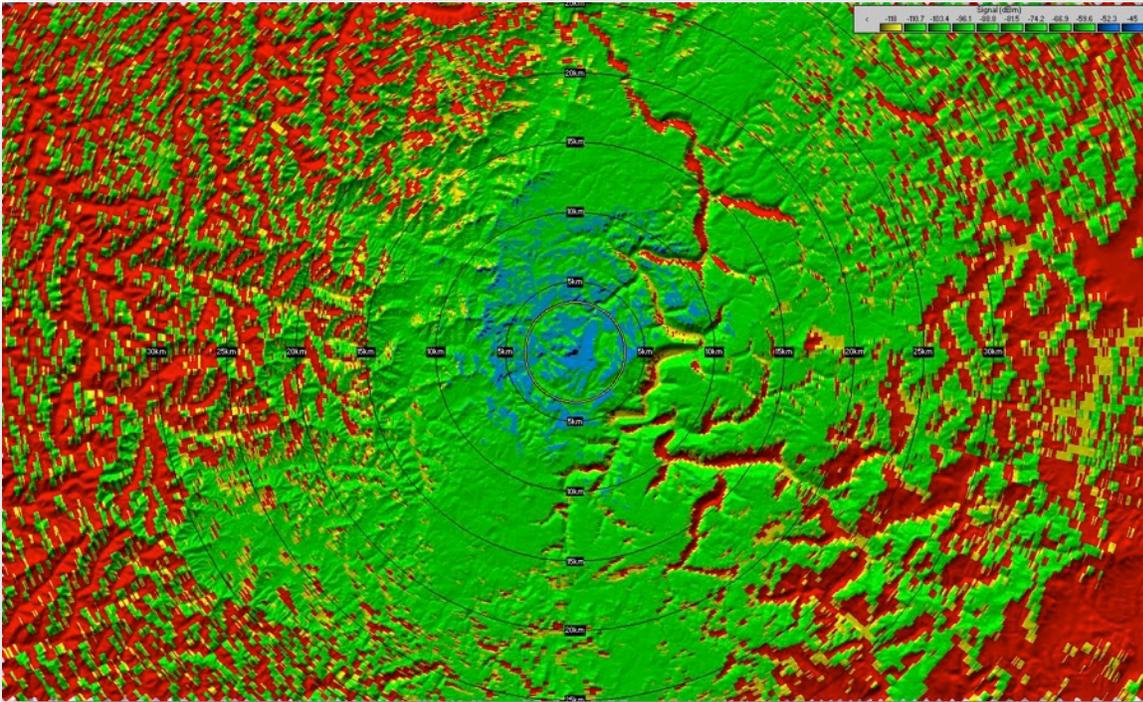
This is the Tillerson Leadership Center, see earlier overview for the location in relation to the NA1WJ station. The amateur radio space is expected to be one of two spaces labeled "storage." This will house the Media operations and HQ functions.



Appendix B – WV8BSA Repeater Location and Coverage

Location 37 degrees 54' 9.2" North, 81 degree 7' 48" West, ground elevation 2,421 feet, tower height for amateur repeater antennas 48 feet. Rock Borrow location.

UHF talk-In prediction, maximum distance shown 30 km.



| Repeater | Input Frequency | Output Frequency | Tone |
|---------------------|-----------------|------------------|----------------|
| 2 m Analog | 146.100 MHz | 146.700 MHz | 123.0 Hz |
| 70 cm Analog | 449.025 MHz | 444.025 MHz | 123.0 Hz |
| 70 cm D-Star | 446.8125 MHz | 441.8125 MHz | Not applicable |

These repeaters are operated by the WV8BSA Repeater Association with equipment donated and maintained by Icom America.

DMR Repeater at Rock Borrow site:

- 441.875 (+) MHz cc1
- JOTA 907 on ts 1 full time
- JOTA 9071 and 9072 on ts 2 on demand
- Dmarc north America 3 on ts 1
- Dmarc world wide 1 on ts 1
- West Virginia 3154 on ts 2

DMR Repeaters also available at Keeney Mountain at 442.875 MHz and Lick Knob at 443.875 MHz.

Here are the details on the West Virginia DMR Network:

| Time Slot 1 | Talk Group | Time Slot 2 | Talk Group | Full or On Demand | System Notes |
|-----------------|------------|-------------------|------------|-------------------|-------------------------------------|
| Local | 9 | WV STATE | 3154 | Full Time | CHAT 2 or either JOTA will override |
| North America | 3 | | | On Demand | 5 min timer |
| World Wide | 1 | | | On Demand | 5 min timer |
| Clear Time Slot | 27000 | Clear Time Slot 2 | 27000 | On Demand | 5 min timer |
| South East | 3174 | VA State | 3151 | On Demand | 5 min timer |
| TAC 310 | 310 | KY STATE | 3121 | On Demand | 5 min timer |
| | | OHIO STATE | 3139 | On Demand | 5 min timer |
| DCI Bridge | 3100 | Ohio Guys | | On Demand | 5 min timer |
| Mid atlantic | 3173 | TN STATE | 3147 | On Demand | 5 min timer |
| CHAT 1 | 27501 | CHAT 2 | 27502 | On Demand | 5 min timer |
| Audio Test | 9998 | | | On Demand | 5 min timer |
| JOTA | 907 | JOTA 1 | 9701 | Full time on BSA | 5 min timer |
| | | JOTA 2 | 9702 | On Demand | 5 min timer |

Station Information

NA1WJ registered with D-Star

NA1WJ DMR ID 3116747, also registered with Brandmeister

K2BSA registered with D-Star

K2BSA DMR ID 1148180, also registered with Brandmeister

Echolink:

- WV8BSA-R — Node 6544
- WV8BSA-L — Node 889773
- K2BSA-R — Node 4566

- K2BSA-L — Node 875783
- NA1WJ-R — Node 873264
- NA1WJ-L — Node 873275

Echolink Conference Nodes:

- JOTA-365 — Node 480809
- JAMBO — Node 832996

Frequencies at WSJ

Revision information

| <u>Date</u> | <u>Who</u> | <u>Notes</u> |
|------------------|--------------|--|
| <u>21-2-2019</u> | <u>Remko</u> | <u>Initial release for publication and usage in demoteam documents</u> |
| | | |

During the World Scout Jamboree in North America Radio Scouts using Amateur Radio will be active at the Demonstration station NA1WJ. Apart from Shortwave communications NA1WJ will operate on local VHF and UHF frequencies and repeaters in both FM and Digital modes. This document will cover frequencies and usage of all VHF and UHF operations of NA1WJ.

Repeaters

NA1WJ will operate on VHF and UHF repeaters that deliver coverage on the WSJ site.

Local repeaters are installed at Rock Borrow site on The Summit property:

| | <u>Repeater</u> | <u>Downlink (MHz)</u> | <u>Uplink (MHz)</u> | <u>Shift</u> | <u>Tone (Hz)</u> |
|--|-----------------|-----------------------|---------------------|--------------|------------------|
| | | | | | |

| | | | | | |
|------------------------|------------------------------|--------------------------|--------------------------|---------------------------|-----------------------|
| NA1WJ | 2 m Analog | 146.700 | 146.100 | - 600 kHz | 123.0 |
| WV8BSA | 70 cm Analog | 444.025 | 449.025 | + 5 MHz | 123.0 |
| WV8BSA | 70 cm D-Star | 441.8125 | 446.8125 | + 5 MHz | - |
| KC8AFH | DMR | 442.8750 | 447.8750 | + 5 MHz | CC 1 |

- [WV8BSA is running as Echolink node 9877.](#)
- [The D-star repeater is permanently connected to REF033A the full-time JOTA/Radio Scouting D-STAR Reflector.](#)

[Off site 2 DRM repeaters are within range of WSJ. These are:](#)

| | Repeater | Downlink (MHz) | Uplink (MHz) | Shift | Tone (Hz) |
|----------------------------|--------------------------|--------------------------------|------------------------------|-------------------------|---------------------------|
| KC8AFH (1) | DMR | 443.8750 | 447.8750 | + 5 MHz | CC 1 |
| KC8AFH (2) | DMR | 442.8750 | 447.8750 | + 5 MHz | CC 1 |

- [1. Installed at Lick Knob. South-west of the Summit property](#)
 - [2. Installed at Keeny mountain covers from the WV/VA state line on I-64 all the way to Beckley then the Lick Knob repeater will take you to the Summit.](#)
- [All three DMR repeaters are linked to DMR-MARC. And deliver talkgroups JOTA \(907\), JOTA \(9701\) and JOTA 2 \(9702\).](#)

Simplex operations

Where NA1WJ is expected to run primary on VHF and UHF repeaters, simplex frequencies can be used for local communications. These frequencies are suggested for scouts on site.

2 M FM Simplex

147.450, 147.480, 147.510, 147.540* * Use 147.540 as Calling Channel.

Avoid 146.520, the National FM Simplex Calling Frequency, as well as 146.550, which is commonly used by mobiles and RVerS.

70 cm FM Simplex

446.000*, 445.950, 446.050, 446.100, 446.150 * Use 446.000 as Calling Channel.

D-Star Simplex

SIMPLEX Channels: 145.670*, 145.640, 145.610, 438.010. * 145.670 and 438.010 are commonly used as the National D-STAR Simplex Channels and should be used only as Calling Channels for JOTA. Always listen first to avoid interfering with another QSO.

DMR Simplex

SIMPLEX Channels: 441.0000*, 446.5000, 446.0750, 433.4500, 145.7900*, 145.5100. All simplex frequencies operate on time-slot 1 and use color code 1. (*are commonly used as the National DMR Simplex Channels and should be used only as Calling Channels.)

Linked operations

Echolink

NA1WJ can be found on Echolink conference *JAMBO* and *JOTA-365* and node 832996, K2BSA Conference Node.

The local VHF/UHF repeater WV8BSA is running as Echolink node 9877 but currently off-line (13-2-2019)

Appendix C – Position Descriptions

NA1WJ Team Leader

Role Description

| | |
|--|---|
| <i>Job ID:</i> | <i>Organization: Amateur Radio</i> |
| <i>Job title: Amateur Radio Team Leader</i> | <i>Reporting to: Tim Ryan</i> |
| <i>Purpose: Overall manager for the NA1WJ amateur radio operation, reporting to the World Jamboree Media and Communications Exhibit Leader as part of Centro Mundial.</i> | <i>Period of Appointment: duration of the world scout Jamboree development, operation, and after action report</i> |
| <p>Main Responsibilities and Activities:</p> <ul style="list-style-type: none"> • Duties Prior to Jamboree: <ul style="list-style-type: none"> • Recruit key staff for each of the areas. • Pursue sponsorships and donations. • Working with staff leadership, build a comprehensive plan for Jamboree operations. • Contact radio and other vendors for use of equipment. • Prepare staff guides and other support materials. • Drive communication to staff members. • Build needs list for both equipment that will be donated and/or loaned and materials that will need to be purchased. • Meet with communication/emergency associates and coordinate efforts. • Duties at the Jamboree: <ul style="list-style-type: none"> • Interface with the Jamboree organization. • Supervise overall operation. • Hold short staff meetings daily. • Serve as a floating alternate to fill in where needed. • Work with the emergency/communications personnel to provide backup communications. • Duties after the Jamboree: <ul style="list-style-type: none"> • See that all the borrowed equipment is returned and all sponsorship agreements are fulfilled. • Prepare an after action report. • Write thank-you notes to all staff and vendors. • Prepare QSL cards for mailing (or recruit QSL manager). • Staff evaluations | <p>Physical Requirements</p> <ul style="list-style-type: none"> • Be able to meet the physical demands of the summit—walking, etc. • Living outdoors for two weeks. • |
| <p>Supervisory Responsibilities</p> <ul style="list-style-type: none"> • All aspects of amateur radio operation including staff leadership and radio operations. | |

Qualifications

| | |
|---|--|
| <p>Experience</p> <ul style="list-style-type: none"> • Have current registration in scouting with National Scout Organization • Experienced at executive management level in organizing and achieving high-level performance from staff members in a technical environment. • Experienced in all aspects of amateur radio | <p>Skills</p> <ul style="list-style-type: none"> • Communicating with others • Motivating team members • Delegating actions to others • Responding well to crises • Responsible for all operations • Reliable in completing all tasks and meeting organizational needs • Flexible in responding to changing conditions |
| <p>Certifications</p> <ul style="list-style-type: none"> • Current registration in scouting by National Scouting Organization (NSO) • Be approved to serve in this position for the 2019 WSJ by the International Commissioner or designee of your NSO • Amateur Radio License | <p>Personal Attributes</p> <ul style="list-style-type: none"> • Agree to and live by the scout oath and law • Ability to work with others in a high stress environment |

Expectations and Terms

| |
|--|
| <p>Required Training:</p> <ul style="list-style-type: none"> • Maintain training required for registered scouting position as per NSO • Maintain current 2019 WSJ Youth Protection training |
| <p>Expectations:</p> <ul style="list-style-type: none"> • Identify meetings and/or conference calls for which individual(s) are expected to attend during planning • Attendance at any other events or prior Jamborees • When expected to be on site prior, during or after Jamboree |
| <p>Time off:</p> <ul style="list-style-type: none"> • None |
| <p>Fees and Expenses:</p> <ul style="list-style-type: none"> • Fees and expenses will follow the policy of the National Scouting Organization with which the individual is registered. NSO will determine level of reimbursement for approved expenses and may not necessarily be part of the 2019 WSJ operating budget. |

NA1WJ Demonstration Station Team Leader Role Description

| | |
|--|---|
| <i>Job ID:</i> | <i>Organization: Amateur Radio</i> |
| <i>Job title: Amateur Radio Demonstration Station Team Leader</i> | <i>Reporting to: Jim Wilson</i> |
| <i>Purpose: Key leader for the NA1WJ amateur radio demonstration station. Driven to introduce amateur radio to Scouts in a fun and highly interactive manner.</i> | <i>Period of Appointment: duration of the world scout Jamboree development, operation, and after action report</i> |
| <p>Main Responsibilities and Activities:</p> <ul style="list-style-type: none"> • Duties prior to Jamboree <ul style="list-style-type: none"> • Working with the Tech Team Leader, develop station layouts. • Working with the demonstration station team, build the operations plan including bands, times, antennas, etc. • Develop an operations manual for use by the demonstration staff. • Provide training for all staff members both prior to Jamboree and at the Jamboree site. • Build staffing plans with assignments for operators to shifts as well as days off. • Determine throughput of demonstrations and develop goals. Assure goals are established, measured, and met. • Duties at the Jamboree <ul style="list-style-type: none"> • Conduct installation of NA1WJ operation. • Train staff members. • Develop staff into shifts. • Active problem solving. • Tear down of Jamboree facilities, packing of equipment and shipment to next location or storage. | <p>Physical Requirements</p> <ul style="list-style-type: none"> • Be able to meet the physical demands of the summit—walking, etc. • Living outdoors for two weeks. • |
| <p>Supervisory Responsibilities</p> <ul style="list-style-type: none"> • All aspects of amateur radio demonstration station operation including radio operations | |

Qualifications

| | |
|---|---|
| <p>Experience</p> <ul style="list-style-type: none"> • Have current registration in scouting with National Scout Organization • Experienced at executive management level in organizing and achieving high-level performance from staff members in a technical environment. • Experienced in all aspects of amateur radio | <p>Skills</p> <ul style="list-style-type: none"> • Communicating with others • Motivating team members • Delegating actions to others • Responding well to crises • Responsible for all operations • Reliable in completing all tasks and meeting organizational needs |
|---|---|

| | |
|--|--|
| | <ul style="list-style-type: none"> • Flexible in responding to changing conditions |
| <p>Certifications</p> <ul style="list-style-type: none"> • Current registration in scouting by National Scouting Organization (NSO) • Be approved to serve in this position for the 2019 WSJ by the International Commissioner or designee of your NSO • Amateur Radio License | <p>Personal Attributes</p> <ul style="list-style-type: none"> • Agree to and live by the scout oath and law • Driven to introduce amateur radio to Scouts through demonstrating the excitement of on-air communication and encouraging their active participation. • Supports new approaches. • Well-developed leadership skills • Dedicated team builder and team player. |

Expectations and Terms

| |
|--|
| <p>Required Training:</p> <ul style="list-style-type: none"> • Maintain training required for registered scouting position as per NSO • Maintain current 2019 WSJ Youth Protection training |
| <p>Expectations:</p> <ul style="list-style-type: none"> • Identify meetings and/or conference calls for which individual(s) are expected to attend during planning • Attendance at any other events or prior Jamborees • When expected to be on site prior, during or after Jamboree |
| <p>Time off:</p> <ul style="list-style-type: none"> • Limited |
| <p>Fees and Expenses:</p> <ul style="list-style-type: none"> • Fees and expenses will follow the policy of the National Scouting Organization with which the individual is registered. NSO will determine level of reimbursement for approved expenses and may not necessarily be part of the 2019 WSJ operating budget. |

NA1WJ Tech Team Leader Role Description

| | |
|--|---|
| <i>Job ID:</i> | <i>Organization: Amateur Radio</i> |
| <i>Job title: Amateur Radio Tech Team Leader</i> | <i>Reporting to: Jim Wilson</i> |
| <i>Purpose: Key technical leader for the entire Amateur radio operation. Works across all areas to determine requirements, installs and implements selected technology, and actively troubleshoots issues that occur.</i> | <i>Period of Appointment: duration of the world scout Jamboree development, operation, and after action report</i> |
| <p>Main Responsibilities and Activities:</p> <ul style="list-style-type: none"> • Duties prior to Jamboree <ul style="list-style-type: none"> • Prepare station design, site plan, requirements list, and antenna requirements. • Working with Demonstration Station Team Leader develop operating procedures and help prepare operations guide for use by all operators. • Working with the Station Team Leader, prepare installation plans for the entire operation. • Develop an emergency system that involves all staff members and other amateur radio operators on the Jamboree property. • Duties at the Jamboree <ul style="list-style-type: none"> • Working with fellow team leaders, install all equipment and ensure its operation throughout the Jamboree. • Monitor repeater operation and ensure trouble free operation. • Establish computer networks for logging software. • Supervise and control on site computers and software. • Upload logs in real time or at a minimum daily to Club Log and Logbook of the World. • Operate the emergency communications network in times of emergency, conduct tests to ensure it is ready for operation. • Tear down of Jamboree facilities, packing of equipment and shipment to next location or storage | <p>Physical Requirements</p> <ul style="list-style-type: none"> • Be able to meet the physical demands of the summit—walking, etc. • Living outdoors for two weeks. • |
| <p>Supervisory Responsibilities</p> <ul style="list-style-type: none"> • All aspects of amateur radio station technical set up, troubleshooting, and operations | |

Qualifications

| | |
|--|--|
| <p>Experience</p> <ul style="list-style-type: none"> • Have current registration in scouting with National | <p>Skills</p> <ul style="list-style-type: none"> • Communicating with others |
|--|--|

| | |
|--|--|
| <p>Scout Organization</p> <ul style="list-style-type: none"> Experienced at executive management level in organizing and achieving high-level performance from staff members in a technical environment. Experienced in all aspects of amateur radio | <ul style="list-style-type: none"> Motivating team members Delegating actions to others Responding well to crises Responsible for all operations Reliable in completing all tasks and meeting organizational needs Flexible in responding to changing conditions |
| <p>Certifications</p> <ul style="list-style-type: none"> Current registration in scouting by National Scouting Organization (NSO) Be approved to serve in this position for the 2019 WSJ by the International Commissioner or designee of your NSO Amateur Radio License | <p>Personal Attributes</p> <ul style="list-style-type: none"> Agree to and live by the scout oath and law Driven to introduce amateur radio to Scouts through demonstrating the excitement of on-air communication and encouraging their active participation. Supports new approaches. Well-developed leadership skills Dedicated team builder and team player. |

Expectations and Terms

| |
|--|
| <p>Required Training:</p> <ul style="list-style-type: none"> Maintain training required for registered scouting position as per NSO Maintain current 2019 WSJ Youth Protection training |
| <p>Expectations:</p> <ul style="list-style-type: none"> Identify meetings and/or conference calls for which individual(s) are expected to attend during planning Attendance at any other events or prior Jamborees When expected to be on site prior, during or after Jamboree |
| <p>Time off:</p> <ul style="list-style-type: none"> Limited |
| <p>Fees and Expenses:</p> <ul style="list-style-type: none"> Fees and expenses will follow the policy of the National Scouting Organization with which the individual is registered. NSO will determine level of reimbursement for approved expenses and may not necessarily be part of the 2019 WSJ operating budget. |

NA1WJ ARDF-Foxhunting Team Leader Role Description

| | |
|--|---|
| <i>Job ID:</i> | <i>Organization: Amateur Radio</i> |
| <i>Job title: Amateur Radio ARDF-Foxhunting TEam Leader</i> | <i>Reporting to: Jim Wilson</i> |
| <i>Purpose: Key leader for the Amateur Radio Direction Finding (ARDF) - Foxhunting activities for the NA1WJ amateur radio operation..</i> | <i>Period of Appointment: duration of the world scout Jamboree development, operation, and after action report</i> |
| <p>Main Responsibilities and Activities:</p> <ul style="list-style-type: none"> • Duties prior to Jamboree <ul style="list-style-type: none"> • Prepare transmitters and receivers for ARDF operations. • Determine course requirements and possibilities within the Summit Center. • Develop training for staff members. • Work with staff members to develop training for Scouts in using the equipment and operating on the ARDF-Foxhunting course. • Determine on course Scout supervision and guidance requirements and methodology. • Duties at the Jamboree <ul style="list-style-type: none"> • Set up ARDF-Foxhunting equipment and course. • Maintain equipment with the Tech Team staff. • Work with groups of Scouts to train them on ARDF techniques and route them through the course, optimizing learning and throughput. • Make adjustments as needed to the equipment, course, and training. • Tear down of Jamboree facilities, packing of equipment and shipment to next location or storage | <p>Physical Requirements</p> <ul style="list-style-type: none"> • Be able to meet the physical demands of the summit—walking, etc. • Living outdoors for two weeks. • |
| <p>Supervisory Responsibilities</p> <ul style="list-style-type: none"> • All staff members assigned to the ARDF-Foxhunting Team | |

Qualifications

| | |
|---|--|
| <p>Experience</p> <ul style="list-style-type: none"> • Have current registration in scouting with National Scout Organization • Experienced at executive management level in organizing and achieving high-level performance from staff members in a technical environment. • Experienced in all aspects of amateur radio | <p>Skills</p> <ul style="list-style-type: none"> • Communicating with others • Motivating team members • Delegating actions to others • Responding well to crises • Responsible for all operations • Reliable in completing all tasks and meeting organizational needs • Flexible in responding to changing conditions |
|---|--|

| | |
|--|---|
| <p>Certifications</p> <ul style="list-style-type: none"> • Current registration in scouting by National Scouting Organization (NSO) • Be approved to serve in this position for the 2019 WSJ by the International Commissioner or designee of your NSO • Amateur Radio License | <p>Personal Attributes</p> <ul style="list-style-type: none"> • Agree to and live by the scout oath and law • Driven to introduce amateur radio to Scouts through demonstrating the excitement of ARDF-Foxhunting and encouraging their active participation. • Supports new approaches. • Well-developed leadership skills • Dedicated team builder and team player. |
|--|---|

Expectations and Terms

| |
|--|
| <p>Required Training:</p> <ul style="list-style-type: none"> • Maintain training required for registered scouting position as per NSO • Maintain current 2019 WSJ Youth Protection training |
| <p>Expectations:</p> <ul style="list-style-type: none"> • Identify meetings and/or conference calls for which individual(s) are expected to attend during planning • Attendance at any other events or prior Jamborees • When expected to be on site prior, during or after Jamboree |
| <p>Time off:</p> <ul style="list-style-type: none"> • Limited |
| <p>Fees and Expenses:</p> <ul style="list-style-type: none"> • Fees and expenses will follow the policy of the National Scouting Organization with which the individual is registered. NSO will determine level of reimbursement for approved expenses and may not necessarily be part of the 2019 WSJ operating budget. |

NA1WJ Media Lead

Role Description

| | |
|---|---|
| <i>Job ID:</i> | <i>Organization: Amateur Radio</i> |
| <i>Job title: Amateur Radio Media Lead</i> | <i>Reporting to: Jim Wilson</i> |
| <i>Purpose: Key interface with various media outlets including Scouting media, amateur radio media, as well as national and world news media. Responsible for telling the NA1WJ Jamboree story in words, photos, videos, etc. to all interested audiences meeting their need for insight into the Jamboree and amateur radio experience..</i> | <i>Period of Appointment: duration of the world scout Jamboree development, operation, and after action report</i> |
| <p>Main Responsibilities and Activities:</p> <ul style="list-style-type: none"> • Duties prior to Jamboree <ul style="list-style-type: none"> • Ensure that all NA1WJ social media outlets are ready to handle posting of news and images. • Ensure that the website is prepared to handle posting of news, images, videos, etc. • Connect with Jamboree website and social media staff to ensure they have needed content for their operations before, during, and after the Jamboree. • Establish story contacts with Scouting, amateur radio, and national media outlets. • Connect with Jamboree media staff to facilitate timely posting of NA1WJ stories during the Jamboree. • Duties at the Jamboree <ul style="list-style-type: none"> • Working with fellow team leaders, install all equipment and ensure its operation throughout the Jamboree. • Actively engage Jamboree, Scouting, amateur radio, and national/world news media in sharing the story of NA1WJ operations. • Capture photos/videos of Jamboree operations. • Record the full NA1WJ effort and prepare an online summary. • Keep world-wide audiences informed of NA1WJ operations via social media and website. • Tear down of Jamboree facilities, packing of equipment and shipment to next location or storage | <p>Physical Requirements</p> <ul style="list-style-type: none"> • Be able to meet the physical demands of the summit—walking, etc. • Living outdoors for two weeks. • |
| <p>Supervisory Responsibilities</p> <ul style="list-style-type: none"> • No direct supervision requirements. | |

Qualifications

| | |
|--|---|
| <p>Experience</p> <ul style="list-style-type: none"> • Have current registration in scouting with National Scout Organization • Experienced in all aspects of social media, website (WordPress), and video. • Experienced in all aspects of amateur radio | <p>Skills</p> <ul style="list-style-type: none"> • High level of communication expertise and the ability to work with all media outlets to ensure that the NA1WJ story is told to a wide variety of audiences. • Ability to operate social media channels and websites (WordPress). • Ability to operate audio recorders as well as still and motion cameras. • Proven ability to interface with media and with Scouts and Scouters to get the story. • Supports new approaches. • Well-developed leadership skills. • Dedicated team player. |
| <p>Certifications</p> <ul style="list-style-type: none"> • Current registration in scouting by National Scouting Organization (NSO) • Be approved to serve in this position for the 2019 WSJ by the International Commissioner or designee of your NSO • Amateur Radio License | <p>Personal Attributes</p> <ul style="list-style-type: none"> • Agree to and live by the scout oath and law • Driven to introduce amateur radio to Scouts through demonstrating the excitement of on-air communication and encouraging their active participation. • Supports new approaches. • Well-developed leadership skills • Dedicated team builder and team player. |

Expectations and Terms

| |
|--|
| <p>Required Training:</p> <ul style="list-style-type: none"> • Maintain training required for registered scouting position as per NSO • Maintain current 2019 WSJ Youth Protection training |
| <p>Expectations:</p> <ul style="list-style-type: none"> • Identify meetings and/or conference calls for which individual(s) are expected to attend during planning • Attendance at any other events or prior Jamborees • When expected to be on site prior, during or after Jamboree |
| <p>Time off:</p> <ul style="list-style-type: none"> • Limited |
| <p>Fees and Expenses:</p> <ul style="list-style-type: none"> • Fees and expenses will follow the policy of the National Scouting Organization with which the individual is registered. NSO will determine level of reimbursement for approved expenses and may not necessarily be part of the 2019 WSJ operating budget. |

NA1WJ Staff Member Role Description

| | |
|--|---|
| <i>Job ID:</i> | <i>Organization: Amateur Radio</i> |
| <i>Job title: Amateur Radio staff member</i> | <i>Reporting to: Assigned Team Leader within the Amateur Radio Operation</i> |
| <i>Purpose: Conducts amateur radio demonstrations and/or training in foxhunting techniques. Operates complex equipment and assists with installation, troubleshooting, and pack up. Works with team members to the benefit of the Jamboree and Scout participants.</i> | <i>Period of Appointment: duration of the world scout Jamboree development and operation</i> |
| <p><i>Main Responsibilities and Activities:</i></p> <ul style="list-style-type: none"> • Duties prior to Jamboree <ul style="list-style-type: none"> • Attend NA1WJ online meetings. • Review operations plan, contributing when appropriate. • Complete all IST requirements. • Duties at the Jamboree <ul style="list-style-type: none"> • Arrive at Jamboree on designated date. • Working with fellow team members, install all equipment and ensure its operation throughout the Jamboree. • Work all assigned shifts at the station. Arriving on time. • Conduct amateur radio demonstration of operations and/or foxhunting as needed. • Engage with Scouts and fellow team members with a pleasant disposition. • Tear down of Jamboree facilities, packing of equipment and shipment to next location or storage | <p><i>Physical Requirements</i></p> <ul style="list-style-type: none"> • Be able to meet the physical demands of the summit—walking, etc. • Living outdoors for two weeks. • |
| <p><i>Supervisory Responsibilities</i></p> <ul style="list-style-type: none"> • None | |

Qualifications

| | |
|---|--|
| <p><i>Experience</i></p> <ul style="list-style-type: none"> • Have current registration in scouting with National Scout Organization • Experience with Jamboree on the Air and other Radio Scouting activities. • Extensive experience working with Scouts to demonstrate amateur radio. • High degree of amateur radio operational expertise. • Some experience setting up amateur radio stations including transceivers, transmission lines, and antennas. Ability to troubleshoot problems when | <p><i>Skills</i></p> <ul style="list-style-type: none"> • Reliable in completing all assigned tasks and meeting organizational needs • Flexible in responding to changing conditions |
|---|--|

| | |
|--|--|
| <p>needed.</p> <ul style="list-style-type: none"> • Ability to take direction and report for duty on time. • Dedicated team player. | |
| <p>Certifications</p> <ul style="list-style-type: none"> • Current registration in scouting by National Scouting Organization (NSO) • Be approved to serve in this position for the 2019 WSJ by the International Commissioner or designee of your NSO • Amateur Radio License | <p>Personal Attributes</p> <ul style="list-style-type: none"> • Agree to and live by the scout oath and law • Driven to introduce amateur radio to Scouts through demonstrating the excitement of ARDF-Foxhunting and encouraging their active participation. • Supports new approaches. • Dedicated team player. |

Expectations and Terms

| |
|--|
| <p>Required Training:</p> <ul style="list-style-type: none"> • Maintain training required for registered scouting position as per NSO • Maintain current 2019 WSJ Youth Protection training |
| <p>Expectations:</p> <ul style="list-style-type: none"> • Identify meetings and/or conference calls for which individual(s) are expected to attend during planning • Attendance at any other events or prior Jamborees • When expected to be on site prior, during or after Jamboree |
| <p>Time off:</p> <ul style="list-style-type: none"> • As available based on operational demands and the number of available staff members. |
| <p>Fees and Expenses:</p> <ul style="list-style-type: none"> • Fees and expenses will follow the policy of the National Scouting Organization with which the individual is registered. NSO will determine level of reimbursement for approved expenses and may not necessarily be part of the 2019 WSJ operating budget. |

NA1WJ Registrar Role Description

| | |
|--|---|
| <i>Job ID:</i> | <i>Organization: Amateur Radio</i> |
| <i>Job title: Amateur Radio registrar</i> | <i>Reporting to: Jim Wilson</i> |
| <i>Purpose: The registrars will greet Scouts and guide them into the amateur radio demonstration area and/or the foxhunting area. They will cheerfully answer all questions and present a pleasant face to Scouts. They will compile the overall attendance numbers throughout the day and report the file numbers at the end of each day. They will support our operations during set up and tear down.</i> | <i>Period of Appointment: duration of the world scout Jamboree development and operation</i> |
| <p>Main Responsibilities and Activities:</p> <ul style="list-style-type: none"> • Duties prior to Jamboree <ul style="list-style-type: none"> • Attend NA1WJ online meetings. • Review operations plan, contributing when appropriate. • Complete all IST requirements. • Duties at the Jamboree <ul style="list-style-type: none"> • Arrive at Jamboree on designated date. • Working with fellow team members, help install all equipment and in particular focus on the set up of the front desk and welcoming areas. • Work all assigned shifts at the station. Arriving on time. • Greet Scouts and provide insight into the activities within the NA1WJ operation from amateur radio demonstrations to foxhunting. • Engage with Scouts and fellow team members with a pleasant disposition. • Tear down of Jamboree facilities, packing of equipment and shipment to next location or storage | <p>Physical Requirements</p> <ul style="list-style-type: none"> • Be able to meet the physical demands of the summit—walking, etc. • Living outdoors for two weeks. • |
| <p>Supervisory Responsibilities</p> <ul style="list-style-type: none"> • None | |

Qualifications

| | |
|---|--|
| <p>Experience</p> <ul style="list-style-type: none"> • Ideally a licensed and active amateur radio operator, but this is secondary to the duties of a registrar. • Registered and active Scouter. • Jamboree experience helpful but not necessary. • Outgoing personality that welcomes Scouts to NA1WJ. • Eagerness to learn about amateur radio and share | <p>Skills</p> <ul style="list-style-type: none"> • Reliable in completing all assigned tasks and meeting organizational needs • Flexible in responding to changing conditions |
|---|--|

| | |
|---|--|
| <p>their experience with Scouts.</p> <ul style="list-style-type: none"> • Ability to take direction and report for duty on time. • Dedicated team player. | |
| <p>Certifications</p> <ul style="list-style-type: none"> • Current registration in scouting by National Scouting Organization (NSO) • Be approved to serve in this position for the 2019 WSJ by the International Commissioner or designee of your NSO • Amateur Radio License desired but not necessary. | <p>Personal Attributes</p> <ul style="list-style-type: none"> • Agree to and live by the scout oath and law • Driven to introduce amateur radio to Scouts through demonstrating the excitement of ARDF-Foxhunting and encouraging their active participation. • Supports new approaches. • Dedicated team player. |

Expectations and Terms

| |
|--|
| <p>Required Training:</p> <ul style="list-style-type: none"> • Maintain training required for registered scouting position as per NSO • Maintain current 2019 WSJ Youth Protection training |
| <p>Expectations:</p> <ul style="list-style-type: none"> • Identify meetings and/or conference calls for which individual(s) are expected to attend during planning • Attendance at any other events or prior Jamborees • When expected to be on site prior, during or after Jamboree |
| <p>Time off:</p> <ul style="list-style-type: none"> • As available based on operational demands and the number of available staff members. |
| <p>Fees and Expenses:</p> <ul style="list-style-type: none"> • Fees and expenses will follow the policy of the National Scouting Organization with which the individual is registered. NSO will determine level of reimbursement for approved expenses and may not necessarily be part of the 2019 WSJ operating budget. |

NA1WJ Amateur Radio Quartermaster Role Description

| | |
|---|---|
| <i>Job ID:</i> | <i>Organization: Amateur Radio</i> |
| <i>Job title: Amateur Radio Quartermaster</i> | <i>Reporting to: Jim Wilson</i> |
| <i>Purpose: ensures all equipment is delivered and inventoried at the beginning of the Jamboree and all Equipment returned at the end of the jamboree.</i> | <i>Period of Appointment: duration of the world scout Jamboree development and operation</i> |
| <p>Main Responsibilities and Activities:</p> <ul style="list-style-type: none"> • Duties prior to Jamboree <ul style="list-style-type: none"> • Attend NA1WJ online meetings. • Review operations plan, contributing when appropriate. • Complete all IST requirements. • Review all Bills of Materials and existing equipment lists in preparation for Jamboree. Identifies additional items needed to be ordered. • Duties at the Jamboree <ul style="list-style-type: none"> • Arrive at Jamboree on designated date. • Working with fellow team members, inventory all equipment, identify missing equipment, and pursue delivery. • Follow up missing equipment and determine needed work arounds with leadership. • Keep track of equipment during the Jamboree to ensure continued presence and use during the event. • Tear down of Jamboree facilities, packing of equipment and shipment to next location or storage. Document full inventory, identify any missing or damaged items, and provide documentation to team leader. | <p>Physical Requirements</p> <ul style="list-style-type: none"> • Be able to meet the physical demands of the summit—walking, etc. • Living outdoors for two weeks. • |
| <p>Supervisory Responsibilities</p> <ul style="list-style-type: none"> • None | |

Qualifications

| | |
|---|---|
| <p>Experience</p> <ul style="list-style-type: none"> • Have current registration in scouting with National Scout Organization | <p>Skills</p> <ul style="list-style-type: none"> • Reliable in completing all assigned tasks and meeting organizational needs |
|---|---|

| | |
|--|--|
| <ul style="list-style-type: none"> • Experience with Jamboree on the Air and other Radio Scouting activities. • Extensive experience working with Scouts to demonstrate amateur radio. • High degree of amateur radio operational expertise. • Some experience setting up amateur radio stations including transceivers, transmission lines, and antennas. Ability to troubleshoot problems when needed. • Ability to take direction and report for duty on time. • Meticulous record keeping and familiarity with logistics and bill of materials management. • Dedicated team player. | <ul style="list-style-type: none"> • Flexible in responding to changing conditions |
| <p>Certifications</p> <ul style="list-style-type: none"> • Current registration in scouting by National Scouting Organization (NSO) • Be approved to serve in this position for the 2019 WSJ by the International Commissioner or designee of your NSO • Amateur Radio License | <p>Personal Attributes</p> <ul style="list-style-type: none"> • Agree to and live by the scout oath and law • Meticulous record keeper. • Supports new approaches. • Dedicated team player. |

Expectations and Terms

| |
|--|
| <p>Required Training:</p> <ul style="list-style-type: none"> • Maintain training required for registered scouting position as per NSO • Maintain current 2019 WSJ Youth Protection training |
| <p>Expectations:</p> <ul style="list-style-type: none"> • Identify meetings and/or conference calls for which individual(s) are expected to attend during planning • Attendance at any other events or prior Jamborees • When expected to be on site prior, during or after Jamboree |
| <p>Time off:</p> <ul style="list-style-type: none"> • As available based on operational demands and the number of available staff members. |
| <p>Fees and Expenses:</p> <ul style="list-style-type: none"> • Fees and expenses will follow the policy of the National Scouting Organization with which the individual is registered. NSO will determine level of reimbursement for approved expenses and may not necessarily be part of the 2019 WSJ operating budget. |

Appendix D – Demonstration Station Planning

Need website display of current operating frequencies/log book. This can guide those interested in working the station and confirm those who have already worked NA1WJ.

To Do Items:

World Map to mark all contacts — visible from front door

Posters on amateur radio to decorate station and inform visitors. We have posters provided by ARRL ready for printing.

For each station:

- Azimuthal map from Summit to the world
- Band plan (JOTA frequencies) by band/Mode
- World prefix chart (wall style)
- CEPT countries list
- Third-Party rules
- Short QSO outline
- Q code charts
- D-Star info guide (with linking) include useful node #s
- Echolink info guide (with linking) include useful node #s
- Pad/paper
- Operator QSO sheets
- headsets/foot switch/headset amps, headphones
- Radio quick-books
- Cheat-sheet radio operators guide
- Signage (band, etc)

Special station activities:

- Nightly Net
 - Need Net Script
 - How do we do it on both repeaters simultaneously?
- Satellite passes
 - Master list of all passes during Jamboree
 - ISS pass information
- Balloon launch tracking with large screen

For Website:

- Technical details of station (pictorial)/physical layout
- Equipment in use by band/station
- After hours schedule/reach the world station

- Updated station layout
- Logbook of the World and ClubLog uploads
- Bands in use.

Entry area:

- Posters
- Videos
- Station event schedule (balloon launch, event contacts, satellite passes, etc. .. Chalk board? Someone to keep it up to date

Station area:

- Flags from ceiling
- ARRL maps/charts on partition walls

Technical:

- Close spacing interference mitigation (bandpass filters)
- Station grounding/antenna disconnect .. Quick .. automated or dedicated person. quick connect UHF fittings?
- WiFi Networking
- Centralized computer logging, or distributed N1MM logging, where each computer keeps a copy.
- Wifi printing.
- Computers ..

Misc:

- Logging .with N1MM. Operator training
- Clublog, etc for QSO tracking
- QSL'ing/QSL manager
- Entry Area visuals, etc.
- Daily staff briefing ..
 - At the end of the day.
 - What went well
 - What we need to change
 - What do we have coming for tomorrow
 - At the beginning of the day
 - Events
 - Schedule discussion
 - Band analysis for the day
 - Space weather report

Personnel:

- Go-getter recognition
- Interesting factoids
- Bios ... personal, ham, professional, other
- Training
- Everyone bring an H-T. We'll have a staff frequency

Unscheduled events:

- Weather ...
- Emergency action plan ... Scenarios need to be defined and how do we respond
 - Medical
 - Weather ... lightning, wind, tornado, severe weather
 - Electrical
 - RF
 - Mechanical equipment failure (aka, antenna/etc).
 - Other
- Camp event handling for an event that generates high on-air interest amongst encampment participants

Station build schedule after arrival

- unpack trailer and containers
- gather camp provided equipment
- build partition walls
- setup stations physically
- build antennas
- setup computer networking
- decorate station with signage
- store supplies/etc
- Milk crates (for storing personal gear during the day). One per person. Labeled
- Inventory all equipment we unpack — Quartermaster assisted by others.
- photograph station after build

Station takedown

- verify inventory on pack — Quartermaster assisted by others.
- photograph all packing
- pack, label, and prepare for shipping
- hand trucks/utility wagons for moving gear
- Identify order to take station down
- stage equipment in areas of tent for pack
- tape, zip ties, labels (zip tie type), packing labels, etc.

Appendix E – Staff Preparation Requirements

To be determined in the run up to the Jamboree.

It is essential that every staff member connect with the Rocket.Chat communication system and the NA1WJ Amateur Radio Chat Room. Critical communication will happen via this system. See your team leader or Jim Wilson for access instructions.

Appendix F – Jamboree Staff Schedule

Here's the current International Service Team schedule:

- 18 July 2019 – Official IST arrival
- 19 July 2019 – Meet Area/Team Leads and position training
- 20 July 2019 – Position training and site set-up
- 21 July 2019 – Position training and site set-up
- 22 July 2019 – All Contingents arrive

We have also requested the following arrivals:

- 16 July — 2 key leaders (Jim Wilson and Mike Crownover)
- 17 July — ~10 set up team (Flavia Mendonca, Bill Stearns, Donald Sonnefeld, Rick Smith, Bill Bode, Mike Cullen)

Remko Welling has also developed a detailed scheduling system for the demonstration station operators. It can be found at this link

<https://docs.google.com/spreadsheets/d/10PwjTGTz6rz-YtoifK4BV88jyamtju8IOUJj3BdBsUDU/edit?usp=sharing>

Appendix G – Staff Members

Here's the current staff list and planned assignments:

| <u>Name</u> | <u>Call Sign</u> | <u>Primary Assignment</u> |
|-------------------------------|---------------------|--------------------------------------|
| <u>Jim Wilson</u> | <u>K5ND</u> | <u>Whatever</u> |
| <u>Rick Smith</u> | <u>N6GSE</u> | <u>Technical Team</u> |
| <u>Sjaak (Willem) Van Dam</u> | <u>PA3GVR/W4RIS</u> | <u>Technical Team</u> |
| <u>Robert Elsinga</u> | <u>PC5E</u> | <u>Technical Team</u> |
| <u>Mike Crownover</u> | <u>AD5A</u> | <u>Tech Team Leader</u> |
| <u>Donald Sonnefeld</u> | <u>KD2FIL</u> | <u>Quartermaster</u> |
| <u>Bill Stearns</u> | <u>NE4RD</u> | <u>Media Lead</u> |
| <u>Ilene Arends</u> | <u>TBD</u> | <u>Front Desk Team Leader</u> |
| <u>Tobias Senti</u> | <u>N/A</u> | <u>Front Desk</u> |
| <u>Elinor Sparrow</u> | <u>N/A</u> | <u>Front Desk</u> |
| <u>Remko Welling</u> | <u>PE1MEW</u> | <u>Demo Team Leader</u> |
| <u>Gary Wilson</u> | <u>K2GW</u> | <u>Demo Station Assistant Leader</u> |
| <u>Bill Bode</u> | <u>N4WEB</u> | <u>Demo Station Assistant Leader</u> |
| <u>Alejandro Candia</u> | <u>CE3JVS</u> | <u>Demo Station</u> |
| <u>Isabel Carreño</u> | <u>CE3TLE</u> | <u>Demo Station</u> |
| <u>Scott Hooper</u> | <u>HB9EAR/KTOP</u> | <u>Demo Station</u> |
| <u>Demi Pulas</u> | <u>K4BSA</u> | <u>Demo Station</u> |
| <u>Hannu Ratto, Banda</u> | <u>OH7GIG</u> | <u>Demo Station</u> |
| <u>Axel Limbosch</u> | <u>PE1NLM</u> | <u>Demo Station</u> |
| <u>Jeroen Limbosch</u> | <u>PE1PDI</u> | <u>Demo Station</u> |
| <u>Mike Sprenger</u> | <u>W4UOO</u> | <u>Demo Station</u> |
| <u>Kevin Ong</u> | <u>9M2KEV/N2KEV</u> | <u>Demo Station</u> |
| <u>Flavia Mendonca</u> | <u>PU2AMF</u> | <u>Demo Station</u> |
| <u>Suraj Khanal</u> | <u>86HS608 ?</u> | <u>Demo Station</u> |
| <u>Andy Dunn</u> | <u>VE3XAD</u> | <u>Demo Station</u> |
| <u>Juliane Dunn</u> | <u>VA3JBD</u> | <u>Demo Station</u> |
| <u>Michael Cullen</u> | <u>K1NPT</u> | <u>ARDF Team Leader</u> |
| <u>Robert Ellis</u> | <u>VK5LBE</u> | <u>ARDF</u> |
| <u>Stein Ankarstrand</u> | <u>LA4MIA</u> | <u>ARDF Assistant Team Leader</u> |
| <u>Kaize Hong (Jerry)</u> | <u>BU2DE</u> | <u>ARDF</u> |
| <u>Frank Hohman</u> | <u>DL5HCV</u> | <u>ARDF</u> |

Recruiting for additional staff members. At this time (March 2019) many national contingents have not yet been added to the staffing system. This list will be updated as more are added. We've established a web page listing staff at <https://k2bsa.net/world-jamboree-staff-members/>

Note that staff allocations for each IST operation are limited by country. Host nations are allowed 20%, other nations 10%. The NA1WJ operation made a special request to Jamboree leadership to expand the number of USA staff to 12 from the allowed 8 to take into account FCC control operator requirements and onsite staffing needs. That request was approved on 25 June 2018.

Appendix H – Balloon Launches

We will launch three mylar balloons with amateur radio payloads. These balloons are expected to reach 30,000 to 40,000 feet in altitude and drift with the winds. Many have traveled around the world several times. Unfortunately, we won't be able to track them for long during the Jamboree. But links will be provided on the website for follow-on tracking by Scouts after the Jamboree.

Circuit boards will be purchased from Bill Brown, WB8ELK, at <http://hiwaay.net/~bbrown/> The budget is shown below. This includes 30 meter APRS for tracking over oceans and 2 meter APRS for tracking within site of ARPS digipeaters.

We expect to launch one balloon during our set up and prep time before the Jamboree. This will not only give us experience but also allow us to demonstrate to Scouts the tracking process. Two additional balloons will be launched early in the Jamboree to gain not only time to observe their track but to also provide high interest launches early in the Jamboree to attract Scouts to our operation.

Icom America is providing sponsorship funding for this activity.

| Item | Pricing | QTY | Totals | Notes |
|--|----------|-----|-----------------|--|
| Helium | | | | Determine how much is needed, buy at party store |
| SkyTracker APRS Payload | \$159.00 | 3 | \$477.00 | 2 meter APRS |
| WSPR Board | \$159.00 | 3 | \$477.00 | 30 meter WSPR to cover areas outside APRS coverage |
| Balloon | | 3 | \$- | Determine cost from Bill |
| Shipping Costs for boards and balloons | \$28.00 | 1 | \$28.00 | Approximate |
| Grand Total | | | \$982.00 | |

Appendix I – Equipment Listing

Purchase/Donate/Borrow Items

Items not covered in BOM or in previous donations that need to be purchased, donated, or borrowed:

Behringer HA400 Headphone Microamp, average price \$30, need 10

<https://www.musictri.be/Categories/Behringer/Signal-Processors/Headphone-Amplifiers/HA400/p/P0386>

SDHC Cards, 32 GB, for each IC-7300, average price \$15, need 6

Nifty Manual for IC-7300, IC-9100, ID-5100A, average price \$25, need one each to be shared.

One three foot double male ¼ inch stereo phone plug patch cable for each of the Behringer Headphone amps. Total 10.

1/4 inch to small phone plug adapters -- MFJ Headphones already have small phone plugs and adapters to 1/4 inch.

Batteries for ARDF transmitters and receivers. Need sizes and quantity.

Paul Trotter, AA4ZZ, will be providing and helping set up a trailer with small tower and rotators/antennas with azimuth-elevation control for satellite contacts including the ISS.

Icom America

| Model | Quantity | Notes |
|-------------------------------|----------|--|
| IC-7300 Council Loan Stations | <u>7</u> | Complete stations in Pelican case |
| IC- 9700 | 2 | Satellite contacts as well as HF and VHF/UHF |
| ID-5100A | 2 | Monitoring repeaters |
| SM-30 Microphone | 6 | In the IC-7300 Kits |
| PS-126 Power Supply | 6 | In the IC-7300 Kits |
| SP-5 Speakers | 6 | In the IC-7300 Kits |

WV8BSA Repeater installed at Rock Borrow

DX Engineering - donated 2017 and in warehouse at the Summit

| Item | Order Number | Quantity |
|--|------------------|----------|
| DX Engineering HEXX Beam | DXE-HEXX-5TAP-2 | 2 |
| DX Engineering Control Cable | DXE-CW8 | 300 |
| LBS HF Multiplexer | PB-TP500 | 1 |
| Coaxial Cable RG-8X | DXE-8X | 1000 |
| Coaxial Cable Connectors PL-259 (24/pkg) | DXE-PL259CS8X-24 | 2 |
| DX Engineering 4BTV Vertical System | DXE-HSR-4BTV-P1 | 2 |
| 17 Meter Add-On Kit | DXE-AOK-17M | 2 |
| 30 Meter Add-On Kit | HSR-30-MTK | 2 |
| Low Band Systems Band Pass Filter | PB-F200-21 | 1 |
| Low Band Systems Band Pass Filter | PB-F200-18 | 1 |
| Low Band Systems Band Pass Filter | PB-F200-14 | 1 |
| Low Band Systems Band Pass Filter | PB-F200-10 | 1 |
| Low Band Systems Band Pass Filter | PB-F200-7 | 1 |
| Low Band Systems Band Pass Filter | PB-F500-3-5 | 1 |

MFJ Enterprises - donated 2017 and in warehouse at the Summit

| Item | Order Number | Quantity |
|------------------------|---------------|----------|
| Hy-Gain HAM IV Rotator | HyGain HAM-IV | 1 |
| Dipole antennas | MFJ-17754 | 3 |
| Headphones for Demos | MFJ-392B | 30 |

MFJ Enterprises - new donation to 2019 World Scout jamboree

Items delivered to Jim Wilson for transport to Jamboree.

2 ea MFJ-557 Straight Key with practice oscillator

2 ea MFJ-401E keyer (oscillator for iambic paddle)

4 ea MFJ-564B Iambic paddles

2 ea MFJ-461 Code Readers

4 ea MFJ-5166 Paddle to radio cables

4 ea MFJ-4125 @ 13.8 VDC X 25 amps for IC9100's

10 ea MFJ-392B headphones

JK Antennas - donation to 2019 World Scout Jamboree

Early information on the donation provided by Mike Crownover AD5A:

2 ea JK Navassa 5 <https://jkantennas.com/jk-navassa-5.html>

1 ea JK 401 Dipole <https://jkantennas.com/jk401.html>

1 ea JK 65 6m beam <https://jkantennas.com/jk65.html>

Aluma Tower Company - Loan to Jamboree

<http://www.alumatower.com/towers-telescoping-mast-systems/open-trailer-towers-tm-51-35-mobile-trailer-tower/>

To be towed from Florida to the Summit by Mike Sprenger, W4U00.

World Jamboree via Bill of Material Requests

Request submitted to World Jamboree leadership for materials and equipment.

Bill of Material Number WSJ2803

Demonstration Tent

| SKU# | Description | WJ19 QTY |
|--------------------------------|---------------------------------------|-----------------|
| RENTAL - FOLDING CHAIRS | CHAIR, FOLDING | 40 |
| RENTAL - TENT | TENT, RENTAL, 40' X 40', WHITE | 1 |
| RENTAL - TENT FLOOR | Carpet, for tents, sq feet | 1600 |
| 999100849 | Wire System Grounding #6 | 200 |
| 999100847 | Clamp Grounding 5/8" | 8 |
| 999100850 | Wire Braided Grounding #14 | 100 |
| 999000090 | Pan Dust | 1 |
| 999000080 | Tape Insulated Electrical Blk | 4 |
| 999100411 | Knife Utility 5 Blade | 2 |
| 999100410 | Ties Cable Assorted 700pk | 700 |
| 999100629 | Monitor Flat 27" | 10 |
| IDG | Cables for monitors from Laptops | 10 |
| 999100848 | Rod Grounding 5/8"x8' | 4 |
| 999000099 | Lamp Desk Sm | 10 |
| 999119000 | Strip Power | 12 |
| 999135000 | Tape Duct Gray | 8 |

| | | |
|--|---|----|
| 999000048 | Broom Sweep Straw | 1 |
| 999162000 | Easel w/ Carry Case | 1 |
| 999000064 | Cord Extension Outdoor 50' 16 gauge | 4 |
| 999000065 | Cord Extension Outdoor 100' 16 gauge | 1 |
| 999000092 | Liner Trash 50gal | 1 |
| 999103905 | Kit Office | 2 |
| 999000003 | Cart Garden | 1 |
| 999118000 | Can Trash 45gal Wheeled | 2 |
| 999100265 | Partition Wood 6'2"x 8' | 16 |
| FACILITIES | Telephone Pole | 3 |
| 999101344 | Table Folding 6' | 12 |
| 999101251 | TV 42" Flat Screen | 4 |
| 999101399 | Player DVD | 2 |
| 999100835 | Board Dry Erase Alum Frame 4x6 | 1 |
| 999159000 | Tablet Chart Flip Paper | 5 |
| RENTAL TENT | TENT, RENTAL 40' x 40' WHITE | 1 |
| IDG - PRINTERS | LASER / ALL-IN-ONE Printer - including fax | 1 |
| IDG - WORKSTATION | server - 500 Gig | 1 |
| IDG - Wireless Network Hub | Wired or wireless network hub | 1 |
| IDG - LAPTOP | COMPUTER, LAPTOP | 14 |
| 999000016 | Cooler Water 5 gal Blu | 3 |
| 999000068 | Sheet Plastic 10'x100' 4ml | 5 |
| 999100066 | Cable HDMI 10' | 4 |
| 999100882 | Ladder Step Fiberglass12' | 1 |
| 999157000 | Board Dry Erase 24"x36" | 2 |
| 999176000A | REAM PAPER COPY 8-1/2 X 11 500 SHEETS | 4 |
| K2BSA Stored Pallets from 2017 Jamboree | Antennas, cables, rotators, etc. stored from 2017 | 5 |
| K2BSA Stored Items from 2017 Jamboree | Antenna poles, spools of coax cable | 3 |

Additional [change](#) request submitted 10 December 2018 [and again in March 2019](#) — pending [confirmation](#):

999100030 Lights Twinhead 1000w Need 2 (use for night operations)

[Rental Tent 20x20 dropped](#)

[Carpet for tent dropped](#)

Bill of Material Number WSJ2804

Foxhunting and Support Tent

| SKU# | Description | WJ19 QTY |
|--------------------------------|--|----------------|
| RENTAL - FOLDING CHAIRS | CHAIR, FOLDING | 20 |
| RENTAL - TENT | TENT, RENTAL, 20' X 20', WHITE | 2 |
| RENTAL - TENT FLOOR | Carpet, for tents, sq feet | 400 |
| RENTAL - POD | PODS, CONTAINER, 8' X 16' | 1 |
| 999100265 | Partition Wood 6'2"x 8' | 3 |
| 999118000 | Can Trash 45gal Wheeled | 2 |
| 999000092 | Liner Trash 50gal | 1 |
| 999119000 | Strip Power | 6 |
| 999101344 | Table Folding 6' | 6 |
| 999000003 | Cart Garden | 2 |
| 999135000 | Tape Duct Gray | 8 |
| 999000080 | Tape Insulated Electrical Blk | 4 |
| 999100411 | Knife Utility 5 Blade | 2 |
| 999000065 | Cord Extension Outdoor 100' 16 gauge | 1 |
| 999000064 | Cord Extension Outdoor 50' 16 gauge | 4 |
| 999101487 | Punches Control 10pk | 15 |
| 999101488 | Marker Control | 10 |
| 999100656 | Compass BSA Silva Polaris | 10 |
| 999101251 | TV 42" Flat Screen | 3 |
| 999103905 | Kit Office | 1 |
| IDG - PRINTERS | LASER / ALL-IN-ONE Printer - including fax | 1 |
| IDG - WORKSTATION | server - 500 Gig | 1 |
| IDG - Wireless Hub | Wired or wireless network hub to connect laptops | 1 |
| IDG - LAPTOP | COMPUTER, LAPTOP | 6 |
| RENTAL | Tank of Helium for balloons | 1 |
| 999000016 | Cooler Water 5 gal Blu | 3 |
| 999000027 | FLAG PENNANT 105' RED & BLUE (1,500 TOTAL FEET) | 1 |
| 999000059 | Ties Cable 8" 100pk | 1 |
| 999000060 | Ties Cable 11" 100pk | 1 |
| 999000068 | Sheet Plastic 10'x100' 4ml | 5 |
| 999000095 | Rope Braided Yel 3/8x100' 1/4 x 100' | 3 |
| 999100066 | Cable HDMI 10' | 3 |
| 999100093 | Pot Coffee 30 cup | 1 |
| 999100882 | Ladder Step Fiberglass12' | 1 |
| 999103714 | Kit Coffee | 1 |
| 999103715 | Coffee Regular | 14 |
| 999157000 | Board Dry Erase 24"x36" | 2 |

| | | |
|------------|---------------------------------------|---|
| 999176000A | REAM PAPER COPY 8-1/2 X 11 500 SHEETS | 4 |
| 999103968 | SOD STAPLES (BAG OF 300) 6" X 1" X 1" | 1 |

Change Order submitted March 2019 to accomodate request to drop tent - pending confirmation.

| SKU # | Item Description | Quantity | Proposed Quantity |
|---------------------|----------------------------|----------|-------------------|
| RENTAL - TENT | Tent, Rental 20 x 20 White | 1 | 0 |
| RENTAL - TENT FLOOR | Carpet for tents, sq feet | 400 | 0 |
| 999100265 | Partition 6'2" x 8' | 3 | 0 |
| 999100882 | Ladder Step Fiberglass12' | 1 | 0 |
| 999000068 | Sheet Plastic 10'x100' 4ml | 5 | 0 |
| RENTAL - CHAIRS | CHAIR, FOLDING | 20 | 12 |

Inventory K2BSA/NA1WJ Materials Stored at the Summit

All materials provided in 2017 by MFJ and DX Engineering (listed above and included in this listing).

| Description | Qty |
|--|------|
| DX Engineering HEXX Beam | 2 |
| DX Engineering Control Cable | 300 |
| LBS HF Multiplexer | 1 |
| Coaxial Cable RG-8X | 1000 |
| Coaxial Cable Connectors PL-259 (24/pkg) | 2 |
| DX Engineering 4BTV Vertical System | 2 |
| 17 Meter Add-On Kit | 2 |
| 30 Meter Add-On Kit | 2 |
| Low Band Systems Band Pass Filter | 1 |
| Low Band Systems Band Pass Filter | 1 |
| Low Band Systems Band Pass Filter | 1 |
| Low Band Systems Band Pass Filter | 1 |
| Low Band Systems Band Pass Filter | 1 |
| Low Band Systems Band Pass Filter | 1 |
| Hy-Gain HAM IV Rotator | 1 |
| Dipole antennas | 3 |

| | |
|---|----|
| Headphones for Demos | 30 |
| PATCH panel | 1 |
| white boards approx 2' x 3' | 3 |
| cork board approx 2' x3' | 1 |
| white board 18" x30" | 1 |
| message boards 2' x3' for stick in letters | 2 |
| desk lamps | 4 |
| plastic tarps suitable for covering radios | 14 |
| roll 10' x 100 ' 4 mil contractor plastic | 1 |
| steel masts varying lengths 3-4 feet | 4 |
| Home made mounts w/bolts for wooden utility poles | 5 |
| box of assorted ropes | 1 |
| 3 gallon Igloo water cooler | 1 |
| 5 gallon Igloo water cooler | 1 |

This is the listing of cables in storage at the Summit.

| Description | ID / Type | Connector 1 | Connector 2 | Length (ft) | Qty |
|---------------|-----------|-------------|-------------|-------------|-----|
| Rotator Cable | #1 | Odd | Bare | 110 | 1 |
| Rotator Cable | #2 | Round (F) | RECT (M) | 102 | 1 |
| Rotator Cable | #3 | Bare | Bare | 67 | 1 |
| Rotator Cable | #4 | Bare | Bare | 64 | 1 |
| Rotator Cable | #5 | Bare | Bare | 70 | 1 |
| Rotator Cable | #6 | RECT (F) | RECT (M) | 202 | 1 |
| Rotator Cable | #7 | RECT (F) | RECT (M) | 143 | 1 |
| Rotator Cable | #8 | RECT (F) | RECT (M) | 67 | 1 |
| Coax Cable | 213 | PL-259 (M) | N (M) | 40 | 1 |
| Coax Cable | 8237 | PL-259 (M) | PL-259 (M) | 180 | 1 |
| Coax Cable | 8237 | PL-259 (M) | PL-259 (M) | 20 | 1 |
| Coax Cable | 8237 | PL-259 (M) | PL-259 (M) | 40 | 1 |
| Coax Cable | 9913 | PL-259 (M) | PL-259 (M) | 30 | 1 |
| Coax Cable | 8237 | PL-259 (M) | PL-259 (M) | 113 | 1 |
| Coax Cable | 8237 | PL-259 (M) | PL-259 (M) | 200 | 1 |
| Coax Cable | 9913 | PL-259 (M) | PL-259 (M) | 50 | 1 |
| Coax Cable | 9913 | PL-259 (M) | PL-259 (M) | 38 | 1 |
| Coax Cable | 213 | PL-259 (M) | PL-259 (M) | 200 | 1 |
| Coax Cable | 9913 | PL-259 (M) | PL-259 (M) | 100 | 1 |
| Coax Cable | 8237 | PL-259 (M) | PL-259 (M) | 100 | 1 |
| Coax Cable | 8237 | PL-259 (M) | PL-259 (M) | 30 | 1 |
| Coax Cable | 9913 | PL-259 (M) | PL-259 (M) | 50 | 1 |
| Coax Cable | 9913 | PL-259 (M) | PL-259 (M) | 12 | 1 |

| | | | | | |
|-------------------|------|------------|------------|-----|---|
| Coax Cable | 213 | PL-259 (M) | PL-259 (M) | 6 | 1 |
| Coax Cable | 9913 | PL-259 (M) | PL-259 (M) | 20 | 1 |
| Coax Cable | 9913 | PL-259 (M) | PL-259 (M) | 15 | 1 |
| Coax Cable | 9913 | PL-259 (M) | PL-259 (M) | 140 | 1 |
| Coax Cable | 9913 | PL-259 (M) | PL-259 (M) | 48 | 1 |

Appendix J – ARISS Contact

The ARISS education proposal for the 2019 World Jamboree was reviewed by key ARISS team members and NASA during July/August 2018. It was formally submitted to the ARISS approval process on 1 October 2018. Approval happened February 2019. Our assigned mentor is John Kludt, K4SQC. Our equipment plan was accepted in March 2019.

At this point the team that is focused on this contact include:

- Mike Sprenger, W4UOO, who has been involved in 2013 and 2017 ARISS proposals and contacts.
- Mike Cullen, K1NPT, who has proposed and operated several ARISS contacts.
- Donald Sonnefeld, KD2FIL, who has proposed and operated one ARISS Scouting contact.
- Paul Trotter, AA4ZZ, who has been involved in 2013 and 2017 ARISS proposals and contacts.
- Bill Stearns, NE4RD, who developed media promotion plans for the 2017 ARISS contact.

The contact will be a Radio Telebridge from a downlink / uplink amateur radio stations somewhere else in the world based on the limited orbits over the Summit during programme hours.

Here are excerpts from our equipment plan:

Audio Coordinator

| | |
|---|--|
| <p><u>Main Audio Point of Contact</u> <i><u>Person coordinating the audio arrangements for the contact</u></i></p> | <p><u>Name: Mike Sprenger (W4UOO)</u> <u>Mailing address: 1513 Fox Hill Pl. Valrico FL 33596</u> <u>E-mail address: mikesprenger@gmail.com</u> <u>Landline phone #: TBD for Contact Location</u> <u>Mobile phone #: 813 503-0912</u></p> <p><u>Note: Mike Sprenger is a Broadcast/Webcast/Telephony professional hosting nearly 1000 webcasts annually for PwC LLP utilizing varying forms of Audio & Video "telebridge" technology. Approximately 10 percent of these are offsite "Events" setup in advance, tested prior, execute the event, then tear down post-event. (In other words, they do not occur from any type of "Studio") Several events have attendance (live) of more than 10,000 viewers.</u></p> |
|---|--|

Audio Information

| | |
|---|--|
| <p><u>Type of Phone System</u> <i>Analog or digital</i></p> | <p><u>Summit Bechtel Scouting Reserve has no Analog / POTS phone system infrastructure, therefore this application takes that into consideration.</u></p> |
| <p><u>Method of Connecting to Phone Line</u> <i>Hardware manufacturer and model, etc.</i></p> | <p><u>VoIP Approach:</u> <u>Primary - SIP Phone on a Laptop with USB Sound Card</u> <u>Network: WiFi (vast network from Sponsor AT&T)</u> <u>Secondary - Mobile Phone with Audio Interface</u> <u>Network: AT&T GSM (vast network from Sponsor AT&T)</u></p> |
| <p><u>Briefly describe how audio will be distributed between the PA system, phone line, and any other connections.</u></p> | <p><u>Sound System:</u> <u>Sound system will consist of :</u> <u>2-4 Meyer Sound Labs UPA-1C Speaker Systems</u> <u>Allen-Heath Mixer</u> <u>Mix-minus audio to be sent to the Phone line</u> <u>Phone Receive Audio will be sent to the</u> <u>loudspeaker system</u> <u>Local Microphone(s) will be sent to the sound</u> <u>system.</u> <u>We can use DSP digital signal processing to provide excellent echo</u> <u>cancelling capabilities from any source, whether SIP from Polycom</u> <u>Soundstructure or the Soft Phone or Mobile Phone with JK Audio</u> <u>interface.</u></p> |

Backup Options for Audio links to the Radio Telebridge:

Option B: Wired / VoIP Approach

Option B: This option would use a hardware interface (we are proposing to bring and use a Polycom Soundstructure C8) to register as a SIP telephone client with the VoIP telephony system at the Summit. We would accomplish this approach by coordinating with the telecom personnel at the Summit to exchange configuration details to register the Soundstructure to the Summit phone System using (SIP). This approach would be able to provide the highest quality digital telephony audio depending on the codecs available from the VoIP telephony system at the Summit. One of the significant advantages to the C8 Soundstructure is that it has built in Digital Signal Processing platform which provides

excellent echo cancelling capabilities. This option would require a physical network (ethernet) connection to the Summit Bechtel Network, and is not capable of using WiFi for network access. This approach would be backed up by another Soundstructure C8 DSP or a Crestron Avia processor. The nearest wired network connection is likely available at the nearby Scott Visitor center, needed make this approach viable.

Option C - using available Wireless Technologies:

Background:

With AT&T being (one of) the top Sponsors for the Jamboree, a technology emphasis was fulfilled in 2013 with highly capable GSM Wireless network by AT&T AND a highly capable infrastructure of WiFi towers enable Scouts and Leaders to use wireless everywhere at the Summit Bechtel Scout Reserve.

Approach C1 - "Primary" Using two Laptops laptops each with a SIP Soft phone installed and connected to external sound card to the sound system. A professional sound card could be used to provide connectivity to the sound system. This would be the part that leverages the WiFi network which is available everywhere on the Summit. This would provide reasonable quality audio for the event.

Approach C2 - "Backup" AT&T - Using a Mobile Phone (cell phone) with broadcast quality sound system connection. JK Audio offers professional quality interface that would bring reasonable quality audio from a mobile phone to the sound system, some versions would be bluetooth, others are hardwired. Most logical option is the bluetooth "daptor3" from JK audio.

Approach C3 - "Backup" Verizon - Using a Mobile Phone (cell phone) with broadcast quality sound system connection. JK Audio offers several professional quality interfaces that would bring reasonable quality audio from the mobile phone to the sound system, some versions would be bluetooth, others are hardwired. Most logical option is the bluetooth "daptor3" from JK audio.

Discussion:

Given the availability of the GSM (AT&T), CDMA (Verizon) and WiFi networks everywhere on the campus, using the wireless approach provides a solution in the case that we cannot obtain the needed wired network/telephony resources from the Summit Telecom team to enable a SIP telephone device via a wired network connection.

We diversify our approach in that we're using WiFi for approach "C1" and we're using a Cell Carrier AT&T for approach "C2", and Wireless Carrier Verizon for approach "C3" such that if theres a summit wide outage in WiFi, we have the statistical odds that, one of the three should work.

Disadvantage of both is that wireless / cellular could be inferior to a wired connection with higher quality codecs and hardware.

Advantage is that the majority of the control is in the K2BSA team's hands (assuming wireless network availability)

Equipment Purchase Needed:

Purchase required for a JK audio mobile telephone sound system interface for Approach C2/C3. Cost - approximately \$400 for each JK Audio 'Daptor3' <http://www.jkaudio.com/daptor3.htm>

JK Audio supports *HD Voice: While standard phone calls have a narrow bandwidth of 300 Hz to 3.4 kHz, HD Voice calls offer 50 Hz to 7 kHz bandwidth. The additional 1.5 octaves on the low end gives voice a more natural sound, while the additional upper octave dramatically improves speech clarity and intelligibility.

*Wireless HD Calls: To take advantage of this extended bandwidth, both phones on the call must support HD Voice, and both phones must be on the same carrier, in coverage areas that support HD Voice.

24th World Jamboree Story

Here is the 24th World Jamboree Story that will be shared with the astronaut and others working on this contact:

The 24th World Scout Jamboree is hosted by the North American team of Canada, Mexico, and USA. It is an event of the World Organization of the Scout Movement. 40,000 Scouts are expected to be in attendance from 160 countries. Scouts are ages 14 to 17, male and female, all races and nationalities. Official languages are English, French, and Spanish, but many other languages will be spoken at the event, reflecting the worldwide diversity of Scouting.

Amateur radio has been in operation at World Scout Jamborees since GB3SP in 1957 in the United Kingdom. From this effort grew Jamboree on the Air, now the largest annual Scouting event in the world with nearly 2 million Scouts participating. Subsequent World Jamborees provided amateur radio operations and most of the recent events also hosted an ARISS Contact. This track record demonstrates Scouting's ever present focus on science, technology, engineering, and math as well as the magic of making two-way contacts at a distance — even in space with an astronaut on the International Space Station.

The site of the World Scout Jamboree is the Summit Bechtel Scout Reserve in West Virginia, USA. This is also where the USA National Jamborees are held. Most recently Astronaut Luca Parmitano conducted an ARISS contact during the 2013 Jamboree. We send a special note to Astronaut Drew Morgan, an assistant Scoutmaster, for his encouragement during our proposal.

Appendix K – Electrical and Internet Requirements

Demonstration Station — GW16

Electrical Requirements ---

[Six 20 amp outlet boxes (four plugs each) have been designated]

Adding up all the equipment across 10 stations looks like 80 amperes at 120 VAC

Internet Requirements ---

Internet connections required for 10 stations for spotting networks, logging, and instruction/demonstration.

Foxhunting and Support Tents — GW21, GW20

Electrical Requirements ---

[Two 20 amp outlet boxes have been designated]

Adding up all the equipment looks like 20 amperes at 120 VAC

Internet Requirements ---

Internet connections required for 2 stations for spotting networks, logging, and instruction/demonstration.

Appendix L — WSJ Program Needs Declaration

Submitted to IT on 21 April 2018

Contact: Jim Wilson, phone 682-217-4030, jim.wilson@k2bsa.net

Jamboree Program Area: Centro Mondial (Andrew Miller)

Specific Program Area: Amateur Radio

Program Activity Physical Location: GW16 and GW21

What Type of data/network access do you need: WiFi Data, Other Radio Frequency, Ethernet with guaranteed bandwidth of at least 5 MB symmetrical

Describe: Ethernet to support streaming video events and online outreach. Wi-Fi for connecting internal stations to each other and central processing of data. Radio frequency for all amateur radio contacts.

Specific Network Type and Bandwidth: Ethernet with guaranteed bandwidth of at least 5 MB symmetrical.

Describe the theme and method of the overall program activity/event that will require data/network access: Video streaming of live amateur radio contacts including video of Scouts communicating with an astronaut on the International Space Station. Information on all amateur radio contacts will upload to a central logbook on the Internet. Information on stations available for contact will be downloaded from the Internet continuously. An operations plan can be found here <https://www.k2bsa.net/na1wj-world-jamboree-operations-plan/> Amateur radio frequency use will cover 3.5 MHz to 437 MHz.

Estimated number of participants: Ten active amateur radio stations with 5 Scouts at each station.

Duration of activity for average participant: 20 minutes

Dates and times of activity: From set up to teardown.

What size tent: 40x40 and 20x20

Will this activity require everyone to use an app or access the Internet in some other fashion? Internet browser for web-based tools, desktop computer internet access.

Will participants use BOM requested equipment or will they use personal phones: Jamboree BOM-requested equipment and Sponsor supplied amateur radios.

Appendix M — Program Hours and Demonstration Estimates

These are the calculations used to determine expected number of amateur radio demonstrations during the Jamboree based on what was achieved at the 2017 USA National Scout Jamboree at the identical location

| 2017 National Jamboree -- K2BSA | | | | |
|---------------------------------|-------------|-----------|--------------|----------------------------|
| Date | Number | Hours | Average/hour | Notes |
| 19-Jul | 143 | 5 | 28.6 | |
| 20-Jul | 354 | 9 | 39.3 | |
| 21-Jul | 378 | 9 | 42.0 | |
| 22-Jul | 353 | 8 | 44.1 | |
| 23-Jul | 267 | 5 | 53.4 | Sunday services in morning |
| 24-Jul | 101 | 3 | 33.7 | President Visit |
| 25-Jul | 276 | 9 | 30.7 | |
| 26-Jul | 247 | 9 | 27.4 | |
| 27-Jul | 338 | 8 | 42.3 | |
| Total | 2457 | 65 | 37.8 | |

Average 38/hour, peak 53/hour, and low 27/hour

| World Jamboree 2019 -- Days and Hours | | |
|--|--------------|---|
| Date | Hours | Notes |
| 22-Jul | 4 | |
| 23-Jul | 9 | |
| 24-Jul | 9 | |
| 25-Jul | 9 | |
| 26-Jul | 0 | Program closed for Cultural Celebration Day |
| 27-Jul | 9 | |
| 28-Jul | 7 | Sunday morning open |
| 29-Jul | 9 | |
| 30-Jul | 9 | |
| 31-Jul | 9 | |
| 1-Aug | 7 | Close all program at 3 PM |
| Total | 81 | |

Appendix O – Scout Suggested Operating Frequencies

HF SSB Voice

| Band | WOSM Calling Frequencies | Suggested Band Segment for US Stations | Notes |
|-------------|--------------------------|--|-------------------------------------|
| 80 m | 3.940 & 3.690(1) | 3.920 – 3.940 3.670 – 3.690 (1) | (1) Extra segment |
| 40 m | 7.190 & 7.090 (2) | 7.180 – 7.200 7.270 – 7.290 | (2) 7.090 not available in Region 2 |
| 20 m | 14.290 | 14.270 – 14.290 14.320 – 14.340 | |
| 17 m | 18.140 | 18.140 – 18.150 | |
| 15 m | 21.360 | 21.360 – 21.400 | |
| 12 m | 24.960 | 24.960 – 24.980 | |
| 10 m | 28.390 (3) | 28.350 – 28.400 (3) | (3) Includes Novices & Techs |
| 6 m | 50.160 | 50.160 – 50.200 | |

HF CW

| Band | WOSM Calling Frequencies | Suggested Band Segment for US Stations | Notes |
|-------------|--------------------------|--|------------------------------|
| 80 m | 3.570 (3) | 3.560 – 3.570 (3) | (3) Includes Novices & Techs |
| 40 m | 7.030 (3) | 7.030 – 7.040 (3) | (3) Includes Novices & Techs |
| 20 m | 14.060 | 14.050 – 14.060 | |
| 17 m | 18.080 | 18.070 – 18.080 | |
| 15 m | 21.140 (3) | 21.130 – 21.140 (3) | (3) Includes Novices & Techs |

| | | | |
|-------------|------------|---------------------|------------------------------|
| 12 m | 24.910 | 24.900 – 24.910 | |
| 10 m | 28.180 (3) | 28.170 – 28.180 (3) | (3) Includes Novices & Techs |
| 6 m | 50.160 | 50.150 – 50.160 | |

HF PSK-31

<http://bpsk31.com>

Call CQ JOTA. The chart below shows the commonly used frequencies for PSK-31.

| Band | Frequency | Notes |
|-------------|------------|---|
| 80 m | 3.580 | |
| 40 m | 7.080 (4) | (4) Region 2 (USA). 7.040 to 7.060 for Regions 1 & 3 |
| 30 m | 10.142 | |
| 20 m | 14.070 (5) | (5) Most activity for JOTA will be on 20 m |
| 17 m | 18.100 | |
| 15 m | 21.080 (6) | (6) Most activity can be found at 21.070 |
| 12 m | 24.920 | |
| 10 m | 28.120 | |

2 Meter FM Simplex

147.450, 147.480, 147.510, 147.540* * Use 147.540 as Calling Channel. Always listen first to avoid interfering with another QSO or auxiliary or control link. Avoid 146.520, the National FM Simplex Calling Frequency, as well as 146.550, which is commonly used by mobiles and RVers.

70 CM FM Simplex

446.000*, 445.950, 446.050, 446.100, 446.150 * Use 446.000 as Calling Channel. Always listen first to avoid interfering with another QSO or auxiliary or control link.

D-STAR

<http://www.dstarinfo.com>

REF033A has been allocated as a full-time JOTA/Radio Scouting D-STAR Reflector. After contact is established, stations should disconnect from REF033A and connect to one or other repeater or migrate to an unused Reflector.

SIMPLEX Channels: 145.670*, 145.640, 145.610, 438.010. * 145.670 and 438.010 are commonly used as the National D-STAR Simplex Channels and should be used only as Calling Channels for JOTA. Always listen first to avoid interfering with another QSO.

DMR

<http://www.dmr-marc.net>

All wide area talkgroups are permitted for use for JOTA for establishing contacts. After contact is established, stations should utilize as few resources as possible. For international, national, and regional QSO's, stations should move their transmissions to one of the DMR-MARC UA talkgroups or to the DCI TAC-310 talkgroup.

For intrastate contacts, stations may use their area's statewide talkgroup (if applicable). The use of your repeater's local talkgroup (if applicable) is always permitted. A full list of repeaters and their available talkgroups can be found at <http://www.dmr-marc.net/repeaters.html>.

SIMPLEX Channels: 441.0000*, 446.5000, 446.0750, 433.4500, 145.7900*, 145.5100. All simplex frequencies operate on time-slot 1 and use color code 1. (*are commonly used as the National DMR Simplex Channels and should be used only as Calling Channels for JOTA. Always listen first to avoid interfering with another QSO.)

DMR-BRANDMEISTER

The 907 Talk Group has been established so youth can talk worldwide with each other under the correct supervision as outlined in each country's amateur radio rules for Digital Networks and letting non Amateurs use your equipment on air. (Each Country does differ so do read your rules). The Talk Group is for Scouting, Girl Guides, Youth Groups, Schools and related youth activities.

BrandMeister DMR has set up a World Wide Talk group called 907 JOTA. TG 907 & Reflector 4907 (Open 365 days a year) 907 is only one talk group. Under your Amateur License you can use all Talk groups on BrandMeister. You might wish to talk to regions/countries away from 907.

What you will need to access TG 907 on Brandmeister-DMR: You will need a DMR radio. 907 added to you radio as a channel 907 or assess via reflector 4907. You will also need a Repeater or DV device linked to the Brandmeister network

Ham radio rules apply for making initial contact. It's a good idea to establish contact and move your QSO off to another Talk Group. If TG 907 isn't busy, it's OK to stay there.

The two links below cover all Talk Groups & Reflectors world wide.

Talk Groups <https://brandmeister.network/?page=talkgroups>

Reflectors <http://registry.dstar.su/dmr/reflector.db>

Facebook Group — BrandMeister

907 <https://www.facebook.com/groups/1644270179235342/>

* Please note that currently three unique DMR systems exist world-wide: DMR+, DMR-MARC and Brandmeister.

EchoLink

<http://www.echolink.org>

Software or apps available for Windows, Mac, iPhone/iPad, and Android. Dedicated Conference Node *JOTA-365* (node 480809). When contact is made on a Conference Node, it is recommended the two parties establish direct contact with each other to free up the Conference Node.

APRS

144.39

<http://aprs.org>

<http://aprs.org/cqsrvr.html>

<http://www.aprs-is.net/CQSrvr.aspx>

CQSRVR: CQ JOTA

CQSRVR: CQ SCOUTS (other times of the year)

Appendix P — HT Programming Assistance

Gary Wilson, K2GW, and Rick Smith, N6GSE, will be working together to provide hand-held programming services for staff members and all those at the Jamboree would require assistance to get the Jamboree repeaters set up on their HTs.

Rick will be bringing along small laptops with CHIRP installed as well as a number of programming cables. He will also have RT Systems software and cables for Yaesu VX-8R and Icom IC-51 and ID-51 Plus. Jim Wilson will bring cables for the ID-31A. Other staff members are encouraged to bring their own cables that might help this effort.

Gary has produced a spreadsheet that lists the full capability of CHIRP software that can be found at this link

[https://www.dropbox.com/s/1hq4y811f2cvy52/W2ZQ Chirp Capability.xlsx?dl=0](https://www.dropbox.com/s/1hq4y811f2cvy52/W2ZQ%20Chirp%20Capability.xlsx?dl=0)

Appendix Q — QSL Card, Patch, and Coin Design

Here's the current design for the front of the QSL card.



We've developed a patch design so that each staff member will receive 10 patches.



We've also prepared a draft design of a 1.75" ceramic coin that will be provided to all Scouts that complete the amateur radio demonstration or ARDF-Foxhunting.



Icom America World Jamboree Promotion Campaign

Coins for Scouts, 1.75" ceramic coins with NA1WJ images (5,000) for Scouts who go through the demonstration station and ARDF-Foxhunting.

Patches for Operators, embroidered patches, 10 per operator.

QSL Cards

Demo Cards, used by Scouts to record their contacts and take with them.

Calendar Sheet marked with key Jamboree dates and frequencies. To be handed out a ham shows to encourage contacts.

Magnets marked with dates and frequencies. Handouts at ham shows.

Advertising [in](#) QST magazine's June 2019 issue to support [a](#) World Jamboree article. [The QST article has been accepted for publication by the ARRL.](#)

[Here are the current designs](#)

[Magnet for handout at Hamvention and other Hamfests](#)

Work NA1WJ at the World Scout Jamboree in West Virginia.
Get on the air and help with demonstrations for Scouts.
18 to 21 July set up, 22 July to 1 August demonstrations

Find frequencies, times, and live updates at:
Website: www.NA1WJ.net
Facebook: [K2BSA.Scouting](https://www.facebook.com/K2BSA.Scouting)
Twitter: [NA1WJ_Scouting](https://twitter.com/NA1WJ_Scouting)

Also check out our group at [na1wj+subscribe@groups.io](https://groups.io/g/na1wj+subscribe)

31275_NA1WJ_Magnet.indd 1

1/11/19 9:44 AM

Handout Calendar Sheet for Hamvention and other Hamfests



Coordinate Your Calendar and Your Rig's Dial

Daytime, when your QSOs are needed for Scout demonstrations, watch for 40, 20, 17, and 15 meters.

Evenings should work well on 80 and 40 meters.

Starting points for SSB include:

| | |
|-----------|------------|
| 80 meters | 3.940 MHz |
| 40 meters | 7.190 MHz |
| 20 meters | 14.290 MHz |
| 17 meters | 18.140 MHz |
| 15 meters | 21.360 MHz |
| 12 meters | 24.960 MHz |
| 10 meters | 28.390 MHz |
| 6 meters | 50.160 MHz |

CW, PSK, and FT8 operations are also expected.
Watch for real time updates on social media and our website:

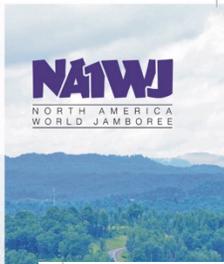
Website: www.NA1WJ.net
Facebook: [K2BSA.Scouting](#)
Twitter: [NA1WJ_Scouting](#)

Also check out our group at na1wj+subscribe@groups.io

There is also access via VOIP channels including:
Echolink Conference Node *JAMBO*
D-Star Reflector REF033A



31274_NA1WJ_Calendar.indd 2





Don't miss out on a once in a lifetime chance to work NA1WJ at the World Scout Jamboree held at the Summit Bechtel Scout Reserve in West Virginia.

The World Scout Jamboree is held every four years, most recently in Japan in 2015 with 8N23WSJ and Sweden in 2011 with SJ22S. Scouts from nearly 160 nations attend and participate in many life-changing experiences.

This is your chance to work the Scouts and help the NA1WJ station introduce amateur radio to thousands of Scouts.

Key Dates:
 18 to 21 July — Early set up and some on the air contacts.
 22 July to 1 August — Program Activities including getting Scouts on the air.

Program Times:
 Typically 8 AM to 5 PM Eastern Time.
 Operations will be around the clock for QSOs.

July 2019

| SUNDAY | MONDAY | TUESDAY | WEDNESDAY | THURSDAY | FRIDAY | SATURDAY |
|---------------|--|---------|-----------|-----------------------------------|--------|----------|
| 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| | | | | NA1WJ Jamboree Setup and Testing | | |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| Final Testing | NA1WJ Program Activities and Scouts on the Air | | | | | |
| 28 | 29 | 30 | 31 | Continued NA1WJ Scouts on the Air | | |

IC-7300 **ID-5100A**




31274_NA1WJ_Calendar.indd 1 5/11/19 9:43 AM

Demo Card for use in station handed to each Scout involved in a demonstration. (folds in the middle and fits in a pocket.

37° 53' N 81° 06' W

NA1WJ

For active participation in an activity at
Amateur Radio Station NA1WJ
at the Summit Bechtel Scout Reserve

is awarded this certificate as a record of achievement.

NA1WJ.NET

31284_NA1WJ_DemoCard.indd 1 3/6/19 10:45 AM

| Date | Time UTC | | Frequency (MHz) | Mode | Station Called/Worked | Report | | Remarks |
|------|----------|--------|-----------------|------|-----------------------|--------|-------|---------|
| | Start | Finish | | | | Sent | Rec'd | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

NA1WJ CONTACT LOG

NA1WJ Control Operator _____ Date _____

37° 53' N 81° 06' W **NA1WJ.NET**

31284_NA1WJ_DemoCard.indd 2 3/6/19 10:45 AM

Draft QST Article

World Scout Jamboree — NA1WJ Amateur Radio Operation

In July 2019 the 24th World Scout Jamboree will open in the mountains of West Virginia. The Summit Bechtel Scout Reserve, consisting of over 10,000 acres of high adventure from rock climbing to the largest collection of zip lines in the world and so much more, will host 45,000 Scouts who will travel from over 160 countries to experience that adventure but as importantly learn about other countries, experience other cultures, and make new friends.

The World Scout Jamboree happens every four years. It began in 1920 in London and since that time has been hosted by a number of national Scouting organizations, from Australia to Denmark to the Philippines, to name just a few.

World Scout Jamboree Amateur Radio History

In 1957, the 50th anniversary of Scouting, the World Jamboree was hosted by Great Britain. There GB3SP was on the air representing amateur radio for the first time at this great event.

In 1967 the World Scout Jamboree was held in the USA for the first time with K7WSJ on the air from Farragut State Park in Idaho. Since that time Scouts have been on the air with these call signs and locations: 8J1WJ Japan 1971, LC1J Norway 1975, VE6WSJ Canada 1983, AX2SWJ Australia 1987, 6K17WJ South Korea 1991, PA6WSJ The Netherlands 1995, XR3J Chile 1999, E20AJ Thailand 2003, GB100J United Kingdom 2007, SJ22S Sweden 2011, and 8N23WSJ Japan 2015

NA1WJ in West Virginia — Demonstration Station

We'll be using the call sign NA1WJ, standing for North America's 1st World Jamboree, this one hosted by a team of North American Scouting organizations: Scouts Canada, Asociación de Scouts de México, and Boy Scouts of America.

When the Jamboree opens, we'll be on the air using ten operating locations on HF, VHF, UHF, satellites, D-Star, and Echolink. Our plans are directed at introducing amateur radio to as many Scouts as possible, with expectations at roughly 3,000 Scouts and Guides

ARDF-Foxhunting

In addition to our amateur radio demonstration station, we'll be running ARDF-Foxhunting using 80 meters and 2 meters with fairly simple courses. While we expect a few experienced foxhunting Scouts to stop by from countries where this sport is more active, we'll primarily be introducing this aspect of our hobby that fits so well with Scouting's outdoor focus.

There's More

Other activities planned are an ARISS Contact with an astronaut on the International Space Station (pending successful Phase 2 equipment planning and scheduling), as well as quite a

few contacts with LEO satellites. Plus, we'll be launching three Pico balloons with WSPR payloads that are expected to drift over the Atlantic during the Jamboree and perhaps around the world long after the Jamboree is over. We'll provide information on the launches and tracking from our website as well as social media. The Jamboree closes on August 1, 2019.

NA1WJ Staff

So, how are we staffing this operation? The International Staff Team (IST) across the Jamboree numbers 9,000+ all adult Scout leaders hailing from around the world. They are running the entire operation from shooting sports to dining halls and more.

The amateur radio team has been allocated 40 staff members. All are active dedicated Scouting volunteers and nearly all of them are licensed operators from their home countries. Currently, we have staff members from the USA (a maximum of 12 members), Australia, Brazil, Canada, Chile, Finland, Germany, Liechtenstein, Malaysia, Nepal, Netherlands, Norway, Taiwan, United Kingdom, and more are expected.

NA1WJ Equipment

We'll have great stations using the IC-7300, IC-9700, and ID-5100A along with hex beams, yagis, verticals, and dipoles. But the sun is not expected to be our friend — propagation will be challenging.

The station will be staffed approximately 18 hours each day. We will be using multiple modes including SSB, CW, and digital to take advantage of the propagation we get to provide as many NA1WJ QSO's as possible. Of course, at the same time we will be introducing amateur radio to as many youth as we can. Still, working the world will be a challenge as we will only have 100 watts, but we will be using directional antennas to enhance our signal as much as possible.

We Need Your Help

This is where you come in. Turn on your rig and work NA1WJ. However, it's not just making contacts with call sign and signal report. Instead, it's demonstrating amateur radio by conducting conversations with Scouts.

We'll have one staff member operating each station along with four or more Scouts listening in and getting on the microphone. We need you on the other side engaging in questions about Scouting, about the Jamboree, and commenting on your own experiences in Scouting. That's the same thing we're seeking for Jamboree on the Air operations.

Single stations will work great. But it might be a fabulous idea to line up a Scout summer camp, Radio Merit Badge Workshop, or a weekend campout scheduled to match the days/times of the World Jamboree to get other Scouts on the air talking to the NA1WJ station.

As just one example, we expect K5PSR to be on the air from the Philmont Scout Ranch, connecting Scouts and adult leaders, who are present for hiking treks and training sessions, to the World Scout Jamboree using amateur radio.

Where to Go for More Information

You can learn all about our operation at na1wj.net. Plus, we'll be providing real time updates on social media including our Facebook page and Twitter account as well as an NA1WJ Groups.io. You can find all the links on our website

Not only will you get the satisfaction of introducing Scouts and Guides to amateur radio, you'll also receive a QSL card.

Are you ready? Mark your calendars for July 22 to August 1. Help us introduce amateur radio to the next generation of hams across the globe.

Sidebar:

The NA1WJ World Scout Jamboree operation is powered by Icom America radios and repeaters; MFJ rotators, antennas, and headphones; DX Engineering antennas, cables, triplexers, and filters; JK Antennas Yagis; a portable Aluma Tower, GeoChron Digital 4K UHD, and the K2BSA Amateur Radio Association. Thank you to our supporters.

Sidebar:

Jamboree on the Air (JOTA), the annual Scouting event held the third weekend in October, started as a result of the 1957 World Scout Jamboree held in the United Kingdom. Les Mitchell, G3BHK, (SK) felt that we shouldn't miss a single year of connecting Scouts around the world using amateur radio. Thus, began the effort to use amateur radio to facilitate Scout-to-Scout conversations to help introduce countries, cultures, and technology. JOTA and Jamboree on the Internet (JOTI) participation now numbers in the millions every year.

Appendix R — Potential Visitors

Ken, JK Antennas.

Bill Brown, WB8ELK for balloon launch.

Paul Trotter, AA4ZZ - for delivery and pickup of satellite antenna trailer.

Hector Garcia, XE2K - for tower and antenna installation.

Appendix S — Online Task Listing

We've established an online task listing so that everyone can find it and contribute with additional items and to mark completions. Here's the link:

https://docs.google.com/spreadsheets/d/1oAaEtQFhzEVvEuom-EHzlye_wv5c2azE2kmh4mZITpM/edit?usp=sharing

Appendix T — Open Items

Continued staff recruiting — waiting on IST contingents from many countries.

Determine access requirements for Sponsors and Subject Matter Experts including arrival of satellite antenna trailer and AA4ZZ for set up.

Need APRS call signs for Balloon transmitters.

Order 3 balloons and payloads from Bill Brown.

Determine amount of helium needed.

Icom America to update repeaters with latest D-star software and provide APRS function through the D-Star repeater. Repairs needed including new power amplifier for UHF repeater.

Banner Design request — pending request from Jamboree.

Bills of Materials to be approved soon. PODS to be packed beginning in June 2019.

NA1WJ Team Leader to meet one-on-one by Skype with each staff member to learn their skills and experience to help with team assignments.

Develop training for each assignment.

See purchase listing of needed miscellaneous items.

Public Address System needed for the ISS Contact

Bucket Truck must be scheduled for antenna installation and take down. Made request to Bob Scott on 18-December-2018. Asked for 19 July with 20 July as backup date.

Shims needed for mast to rotator mounts if using Hex beams.

W8J - JOTA-JOTI Exhibit Station - needs power supply, antennas, QSL cards, logbook connection, etc. Call sign reserved for maximum 15 days - 19 July to 2 August 2019.

Icom promotion campaign completion.

Appendix U – Guest Operations Policy

Objective

To allow for visiting amateur radio operators to operate the station who would like to have the experience of operating a World Jamboree station and where possible contact family members, Scouts, etc. It is not meant to supplement the existing staff of operators nor conduct demonstrations for Scouts. This policy also addresses those individuals without licenses who may wish to operate the station under supervision.

Applicable USA FCC Regulations

ARRL Control Operator FAQ at <http://www.arrl.org/regulatory-faqs>

The NA1WJ License Control Operator is Donald Kunst, W3LNE, trustee for the NA1WSJ Radio Association, which holds the license. Appointed control operators will be on site and part of the Jamboree IST assigned to the amateur radio operation. They will be appointed by the NA1WJ Team Leader and supervised by the Demonstration Station Team Leader. At least one control operator will be on duty at all times. They will need to hold an FCC issued Amateur Radio Extra Class license. [FCC regulations 97.103(b) and 97.105] They will take all action necessary to ensure proper operation.

Any licensed amateur radio operator can operate the station under the supervision of the control operator. This includes all FCC issued licenses and those who hold licenses in countries with reciprocal operating privileges in the USA. This includes all those countries with multilateral operating agreements with the USA, CEPT, or IARP. The list of countries can be found at <http://www.arrl.org/reciprocal-permit> More details on Operation in the US by Foreign Amateurs can be found at <http://www.arrl.org/foreign-licenses-operating-in-us>

Those who do not hold an amateur radio license must be supervised at all times by the control operator and they must communicate only with those countries that have third-party agreements with the USA [FCC regulations 97.115(a) and (b)] The latest listing of third-party agreements is at <http://www.arrl.org/third-party-operating-agreements>. Note that this same rule applies to all unlicensed Scouts and others using a station microphone during a demonstration.

Guest Operations Process

Front Desk process for licensed operators:

- Validate amateur radio license and identity.
- Document on-site contact information: text, email, etc.
- Determine whether operation will be with NA1WJ call sign or individual's own call sign.

- Determine desired operating days/times.
- Notify potential guest operator that this is a courtesy and not a commitment. Operations will be dependent on availability and other station priorities.
- Add to Guest Operator Schedule for sharing with station leadership.

Demonstration Station Leadership procedures:

- Determine current availability of station based on critical assignments.
- With guest operator, review operating procedures and requirements including third-party traffic regulations.
- Assign to station and directly observe operations to ensure compliance with procedures.
- Closely monitor operation during guest operator time in the station.

Front Desk process for unlicensed operators:

- Determine whether ongoing station demonstrations cannot address the individual's request.
- Document on-site contact information: text, email, etc.
- Determine desired operating days/times.
- Notify potential guest operator that this is a courtesy and not a commitment. Operations will be dependent on availability and other station priorities.
- Add to Guest Operator Schedule for sharing with station leadership.

Demonstration Station Leadership procedures:

- Assign an NA1WJ operator to work directly with the individual to operate the station and allow them time to communicate.
- As with all station demonstrations, ensure compliance with third-party traffic regulations.
- Control operator will monitor operation as with any other station in the tent.

Appendix V – Shipping Address for Donations, Loans, etc.

Arrival on 1 June 2019 to facilitate packing and delivery to NA1WJ operation.

Ship to:

Arnold Logistics Center

92 Logistics Center Way

Mt. Hope WV 25880

K2BSA Amateur Radio - NA1WJ

B.O.M. -- WSJ3105

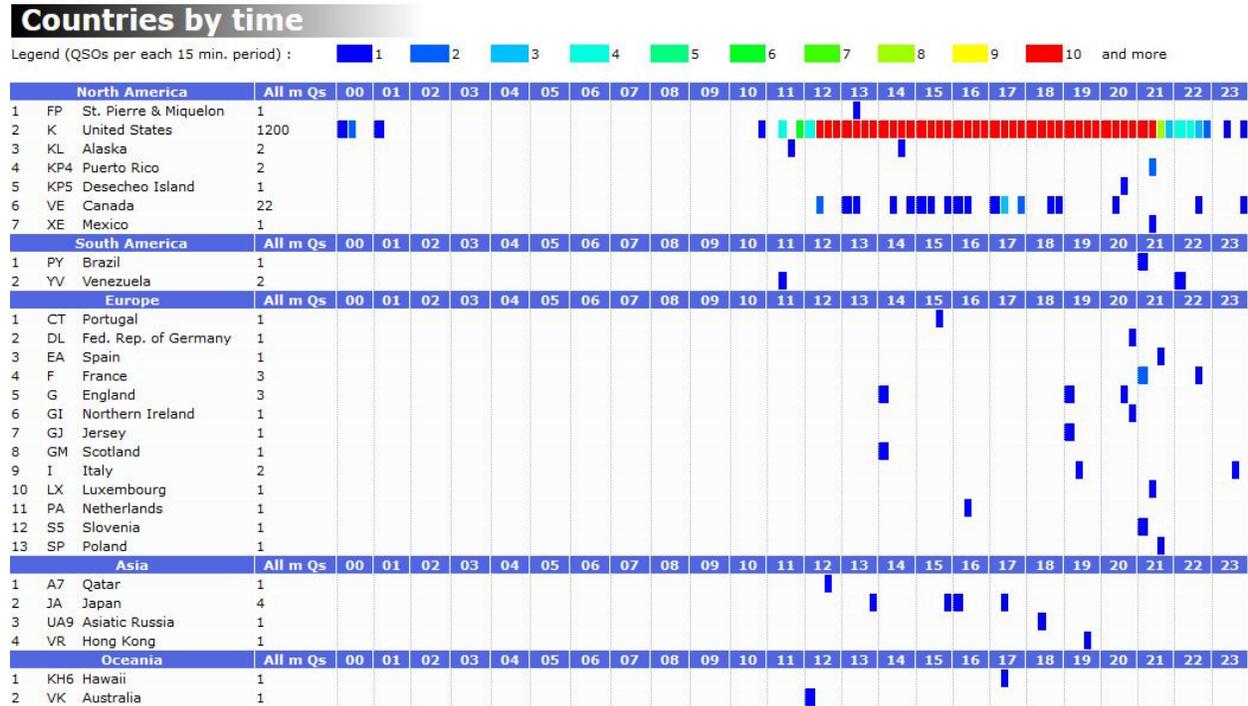
Point of Contact: Jim Wilson, 682-217-4030

Appendix W – Evening Operations

We will be able to operate at night with our staff, Scouts not expected. Security has been notified. We will need a schedule for staff coverage. We will need a minimum of two ops at all times. This is the buddy system and it will also help should Scouts show up unexpectedly. Meals will have to be taken within the existing IST arrangements. We cannot have them delivered, etc. Water and toilets are available nearby.

Appendix X – 2017 Logbook Analysis

Kevin Ong, 9M2KEV, conducted an analysis of the K2BSA USA Jamboree operation from July 2017 in the same location with close to the same equipment. This is a reasonable projection of the type of propagation we should expect for 2019 although we'll add some excellent JK yagis and operate in the evening.



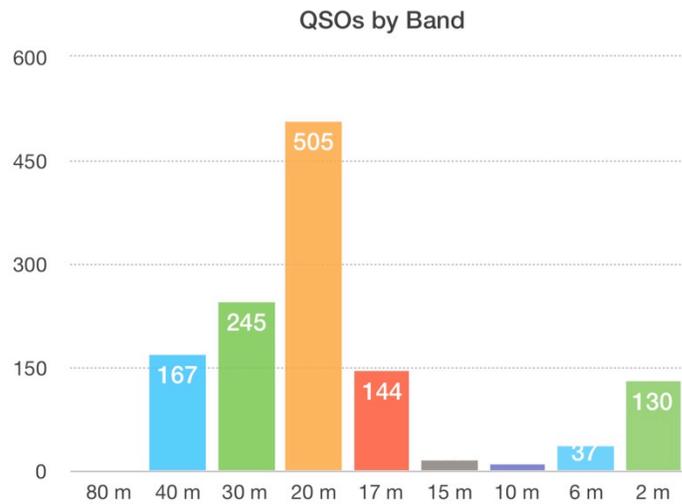
Countries

| # | Cont. | Country | Distance, km | QSOs | | | | | | | | | | | | | | Bands | | |
|----|-------|--------------------------|--------------|------|-----|-----|-----|----|----|-----|-----|----|----|-----|-----|----|-----|-------|------|----|
| | | | | CW | DIG | SSB | 160 | 80 | 40 | 20 | 15 | 10 | 30 | 17 | 6 | 2 | All | | % | |
| 1 | AS | A7 Qatar | 0 | | | 1 | | | | | | | | | | | 1 | 1 | 0.1 | 1 |
| 2 | EU | CT Portugal | 0 | | | 1 | | | | | | | | | | | 1 | 1 | 0.1 | 1 |
| 3 | EU | DL Fed. Rep. of Germany | 0 | | 1 | | | | | | 1 | | | | | | 1 | 1 | 0.1 | 1 |
| 4 | EU | EA Spain | 0 | | 1 | | | | | | 1 | | | | | | 1 | 1 | 0.1 | 1 |
| 5 | EU | F France | 0 | | 3 | | | | | | 3 | | | | | | 3 | 0.2 | 1 | 1 |
| 6 | NA | FP St. Pierre & Miquelon | 0 | | | 1 | | | | | 1 | | | | | | 1 | 0.1 | 1 | 1 |
| 7 | EU | G England | 0 | | 1 | 2 | | | | | 1 | 1 | | | | 1 | 3 | 0.2 | 3 | 3 |
| 8 | EU | GI Northern Ireland | 0 | | | 1 | | | | | 1 | | | | | | 1 | 0.1 | 1 | 1 |
| 9 | EU | GJ Jersey | 0 | | | 1 | | | | | | | 1 | | | | 1 | 0.1 | 1 | 1 |
| 10 | EU | GM Scotland | 0 | | | 1 | | | | | | | | | | | 1 | 0.1 | 1 | 1 |
| 11 | EU | I Italy | 0 | | 1 | 1 | | | | | 1 | | 1 | | | | 2 | 0.2 | 2 | 2 |
| 12 | AS | JA Japan | 0 | | | 4 | 2 | | | | | | | | | | 2 | 4 | 0.3 | 2 |
| 13 | NA | K United States | 0 | | 119 | 204 | 875 | 4 | 2 | 163 | 490 | 14 | 9 | 227 | 135 | 37 | 119 | 1200 | 95.3 | 10 |
| 14 | OC | KH6 Hawaii | 0 | | | | 1 | | | | 1 | | | | | | 1 | 0.1 | 1 | 1 |
| 15 | NA | KL Alaska | 0 | | | | 2 | | | | | | | | | | 2 | 2 | 0.2 | 1 |
| 16 | NA | KP4 Puerto Rico | 0 | | 2 | | | | | | | | | 2 | | | 2 | 0.2 | 1 | 1 |
| 17 | NA | KP5 Desecheo Island | 0 | | | | 1 | | | | 1 | | | | | | 1 | 0.1 | 1 | 1 |
| 18 | EU | LX Luxembourg | 0 | | 1 | | | | | | | 1 | | | | | 1 | 0.1 | 1 | 1 |
| 19 | EU | PA Netherlands | 0 | | | | 1 | | | | | | | | | | 1 | 0.1 | 1 | 1 |
| 20 | SA | PY Brazil | 0 | | | | 1 | | | | | | | | 1 | | 1 | 0.1 | 1 | 1 |
| 21 | EU | S5 Slovenia | 0 | | | | 1 | | | | | | | | | | 1 | 0.1 | 1 | 1 |
| 22 | EU | SP Poland | 0 | | | 1 | | | | | | | 1 | | | | 1 | 0.1 | 1 | 1 |
| 23 | AS | UA9 Asiatic Russia | 0 | | | | 1 | | | 1 | | | | | | | 1 | 0.1 | 1 | 1 |
| 24 | NA | VE Canada | 0 | | 2 | 6 | 14 | | | 3 | 9 | | | 6 | 3 | | 1 | 22 | 1.7 | 5 |
| 25 | OC | VK Australia | 0 | | | 1 | | | | | | | | 1 | | | 1 | 0.1 | 1 | 1 |
| 26 | AS | VR Hong Kong | 0 | | | | 1 | | | | | | | | | | 1 | 0.1 | 1 | 1 |
| 27 | NA | XE Mexico | 0 | | | 1 | | | | | | | | | 1 | | 1 | 0.1 | 1 | 1 |
| 28 | SA | YV Venezuela | 0 | | 1 | 1 | | | | | | | | 2 | | | 2 | 0.2 | 1 | 1 |

This is the number of QSOs by band in 2017.

2017 USA National Jamboree K2BSA

| BAND | TOTAL QSO |
|------|-----------|
| 80 m | 2 |
| 40 m | 167 |
| 30 m | 245 |
| 20 m | 505 |
| 17 m | 144 |
| 15 m | 14 |
| 10 m | 9 |
| 6 m | 37 |
| 2 m | 130 |



Appendix Y — Jamboree Guidebook Entry

Here's the first draft entry for amateur radio in the Jamboree Guidebook. We expect to see the full draft of all entries followed by further editing.

Area: Amateur Radio NA1WJ

Location: Gateway 10 — near the Summit Center zip line northern terminus — look for the antennas.

Operating Hours: Open all programme hours

Activities: Given the right conditions, amateur radio can span the globe, connecting the World Scout Jamboree to those who cannot join us. Stop by and help us make it happen.

We'll have ten amateur radio stations on the air talking to other stations around the world. Our primary purpose will be to get you in front of the microphone so that you can participate in the science, technology, fun, and magic of amateur radio.

We'll also be using amateur radio direction finding to locate hidden transmitters. You'll be shown how to use a directional antenna and then set out on a course over the Summit Center to find these transmitters.

We've further planned a few special events. These include using amateur radio satellites to communicate with other stations, launching three balloons with amateur radio payloads that we'll be able to track as they cross the Atlantic Ocean, and we have a planned contact with an astronaut on the International Space Station — stay tuned for the exact day and time.

Want to talk to an astronaut on the ISS? Stop by early and get in the drawing to be one of 15 Scouts selected.

Quote / Tagline: The Science and Technology of Amateur Radio Extends Around the World and Even into Space — Stop By and Be A Part of It

IST Information: All licensed amateur radio operators with privileges to operate in the USA should bring their VHF-UHF handie-talkies and make use of the available FM, D-Star and DMR repeaters. We will also hold a nightly net. See this page <https://k2bsa.net/wv8bsa-repeaters/> for more information on frequencies. See this page <http://www.arrl.org/foreign-licenses-operating-in-u-s> for information on operating in the USA.

Appendix Z — Other Station Schedules

Here we can keep track of other station operations that are expected during the Jamboree. Also review Scout Camps on the Air at <http://scota.us/calendar.php>

K5PSR at Philmont — D-Star, Echolink, and HF

GB100GP at Gilwell Park — As many of you will be aware, 2019 marks the centenary of Gilwell Park belonging to The Scouts. In commemoration of this, OFCOM have granted the use of a special callsign at Gilwell Park – GB100GP – for the whole of 2019.

It is intended that we will activate this callsign at all the major events this year – Fun Days, Gilwell 24, JOTA-JOTI and Scarefest. We may also, infrastructure permitting, be able to use it during Gilwell Reunion for demonstrations.

In addition to the above, there will be a special 4 day activation of the callsign, from July 25th to July 28th, to cover the actual anniversary itself – July 26th, the day that Gilwell Park was officially opened as a Scouts site. For further information about the history and origins of Gilwell Park, do refer to Scout Factsheet FS145001 – The Origins of The Wood Badge, available at <https://members.scouts.org.uk/factsheets/FS145001.pdf>

Appendix AA — Station Location

The station is located in the Summit Center Gateway — Tent GW-10

The IST Camp in in Echo.

You can find a detailed map of the Summit from the 2017 National Jamboree at this link https://www.summitbsa.org/wp-content/uploads/2014/04/Final_2017Jamboree_Overall_ParticipantMap.pdf

A portion of that map is duplicated on the next page and highlighted with station location and IST camp location.

Note that the Living in the 21st Century leadership is planning on having a welcome tent in the IST staff area. This will allow you to find your tent, drop off your gear, and head to the welcome tent where they can direct you on finding your work location.

An alternative is just go to the Summit Center, the Scott Visitor Center, the Stadium, or the Tillerson Leadership Center. Once at any of those locations — look for the telephone poles and antennas.



Appendix AB — Plan for Monthly Meeting for Demonstration Station Team Member

Purpose

The team members of the NA1WJ demonstration station at the 19th World Scout Jamboree are international and from countries all over the world. These team members are scouts that might know each other from previous World Scout Jamborees or from JOTA-JOTI but for many of them it will be the first time they will work together at the 19th WSJ.

In preparation to the WSJ a small (core)team will do planning and preparations for the demonstration station. This includes periodic meetings in which they have contact and get to know each other. These preparation activities aid in shaping the team. We want to offer all team members of the demonstration team the opportunity to get to know the team and its members so they form a team before they even have started at the WSJ.

In preparation to the WSJ we want to offer the demonstration team members of NA1WJ to get to know each other in advance to the period in which we will operate NA1WSJ.

How

- Starting February we will organise monthly meetups for NA1WJ team members. All team members are welcome.
- For the meetups we will use Zoom (<https://zoom.us/pricing>) This platform is a universal and accessible for free. It will solve the issue of different systems that are not interoperable (Skype and Skype for business for example).
- Meetups take maximal 40 minutes (Limitation of Zoom free). But can be restarted when required. It is good to limit the time so it fits more easily within someone's calendar and to keep efficiency of the meetup high.
- The meetup will be held in the weekend to allow all members to participate. Because of time zone differences it might be difficult to satisfy all member requirements. Therefore we will have to experience what constraints are in place. Based on this we might have to adapt the schedule or plan extra meetups. The last is not preferred.
- During the meetup we will have
 - short announcements from the core/leadership team
 - team member introductions
 - Discussions on topics

- Free formate exchange of experiences and ideas.
- Meetup will be hosted by one of the demoteam core team members (Gary, Bill or Remko) who will also be the chairman of the meeting.

Planning

Time

Because of time zones Meetups will be during the weekend and at such time that the majority of the team members can attend. Figures 1 shows global time zones.

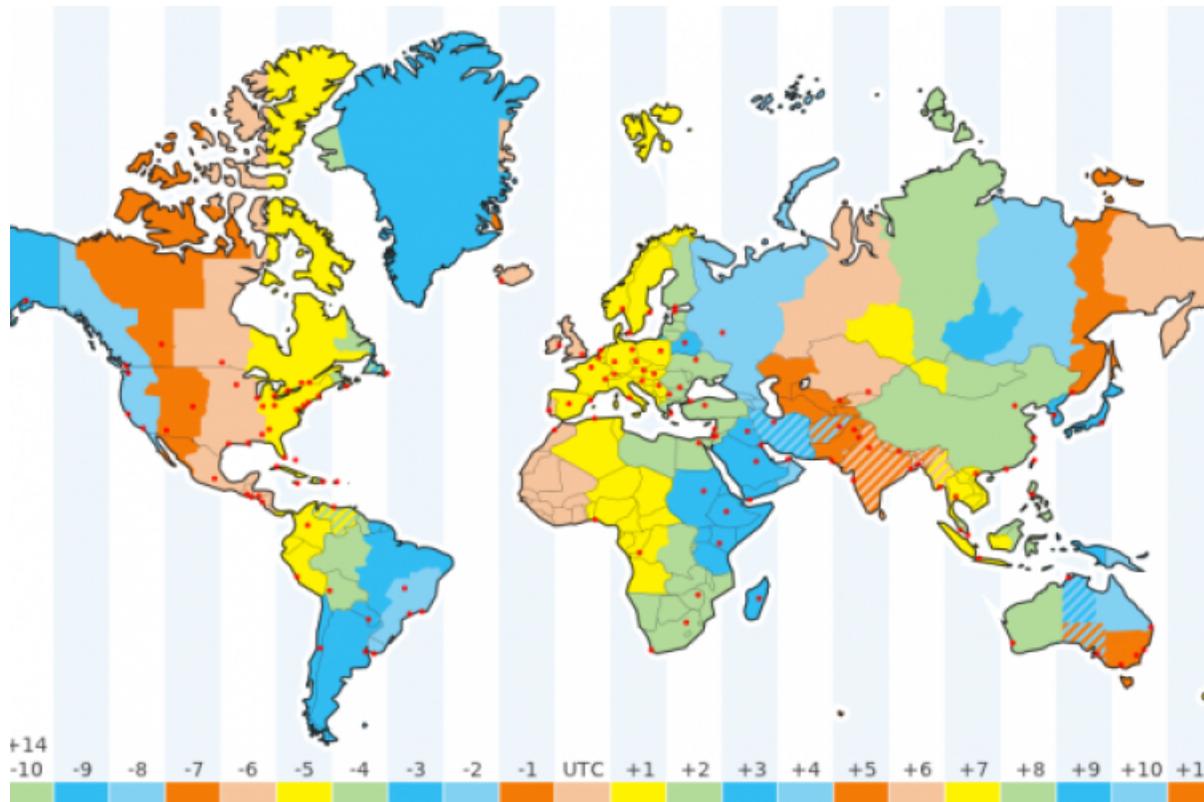


Figure 1: Time Zones

Using the member list of January 2019, the countries represented are estimated and represented in table 1. Using the estimated time zone it is possible to calculate the optimum time for the meetup. There are two options estimated. The first option is at 14:00 UTC. At this time all members can attend between 8:00 and 24:00 local time. no-one has to get out of bed or stay up. The second option is 18:00 UTC. at this time only asian members vae stay up during the night.

Table 1: Countries represented by team members of NA1WJ demonstration team.

| Country | Count | Zone | +/- | 14:00 | 18:00 |
|----------------------|----------|--------------|-----|--------------|--------------|
| <u>Brazil</u> | <u>1</u> | <u>04:00</u> | - | <u>10:00</u> | <u>14:00</u> |
| <u>Canada</u> | <u>3</u> | <u>05:00</u> | - | <u>09:00</u> | <u>13:00</u> |
| <u>Chile</u> | <u>2</u> | <u>03:00</u> | - | <u>11:00</u> | <u>15:00</u> |
| <u>Finland</u> | <u>1</u> | <u>01:00</u> | | <u>15:00</u> | <u>19:00</u> |
| <u>Germany</u> | <u>1</u> | <u>01:00</u> | | <u>15:00</u> | <u>19:00</u> |
| <u>India</u> | <u>1</u> | <u>05:00</u> | | <u>19:00</u> | <u>23:00</u> |
| <u>Japan</u> | <u>3</u> | <u>09:00</u> | | <u>23:00</u> | <u>03:00</u> |
| <u>Liechtenstein</u> | <u>1</u> | <u>01:00</u> | | <u>15:00</u> | <u>19:00</u> |
| <u>Malaysia</u> | <u>1</u> | <u>07:00</u> | | <u>21:00</u> | <u>01:00</u> |
| <u>Namibia</u> | <u>1</u> | <u>03:00</u> | | <u>17:00</u> | <u>21:00</u> |
| <u>Netherlands</u> | <u>5</u> | <u>01:00</u> | | <u>15:00</u> | <u>19:00</u> |
| <u>Norway</u> | <u>1</u> | <u>01:00</u> | | <u>15:00</u> | <u>19:00</u> |
| <u>Sudan</u> | <u>1</u> | <u>03:00</u> | | <u>17:00</u> | <u>21:00</u> |
| <u>Switzerland</u> | <u>1</u> | <u>01:00</u> | | <u>15:00</u> | <u>19:00</u> |
| <u>Taiwan</u> | <u>1</u> | <u>08:00</u> | | <u>22:00</u> | <u>02:00</u> |
| <u>Tanzania</u> | <u>1</u> | <u>03:00</u> | | <u>17:00</u> | <u>21:00</u> |
| <u>Tunisia</u> | <u>1</u> | <u>01:00</u> | | <u>15:00</u> | <u>19:00</u> |

| | | | | | |
|-----------------------|-----------|--------------|----------|--------------|--------------|
| <u>Turkey</u> | <u>1</u> | <u>02:00</u> | | <u>16:00</u> | <u>20:00</u> |
| <u>United Kingdom</u> | <u>2</u> | <u>00:00</u> | | <u>14:00</u> | <u>18:00</u> |
| <u>USA</u> | <u>11</u> | <u>06:00</u> | <u>-</u> | <u>08:00</u> | <u>12:00</u> |
| <u>Zimbabwe</u> | <u>1</u> | <u>03:00</u> | | <u>17:00</u> | <u>21:00</u> |

Using the estimations presented in table 1 it is proposed to have the meetup at 14:00 UTC.

Dates

The following dates are proposed

| |
|------------------|
| <u>23-2-2019</u> |
| <u>23-3-2019</u> |
| <u>13-4-2019</u> |
| <u>18-5-2019</u> |
| <u>8-6-2019</u> |
| <u>22-6-2019</u> |
| <u>13-7-2019</u> |

Process

All team members are invited prior to the meetup using either a calendar appointment or using Doodle (<https://doodle.com>). A calendar appointment should do but Doodle will allow the participants to mark their planned presence.

After the initial announcement participants will receive a notice for applying for a Zoom account.

Prior to the meetup participants will receive a link to attend the Meetup at zoom.

Each Meetup will be hosted by a chairman. The chairman will be team member of the Demoteam organisation team. These are Bill Gary or Remko.

The Meetup will have a variable agenda depending on the topics that need to be discussed. Topics can be proposed by all team members.

A example agenda is given:

1. Opening, welcome by chairman
2. Announcements,
3. Introduction of team members of NA1WJ demoteam (5 minutes per person).
everybody can introduce himself once, not every meetup again
4. Discussion, Q&A.
5. Closing of session (estimate is 1 hour)