



## 2017 Jamboree After Action Report



## PURPOSE & GOALS

### Statement of Purpose

- Introduce the science, technology, fun, and magic of amateur radio operation to Scouts and Scout leaders.
- Facilitate earning the Radio Merit Badge.
- Introduce ARDF-Foxhunting.
- Serve as the amateur radio voice of the Jamboree via two-way radio contacts within the Summit and worldwide.

### Jamboree Goals

- Operate a demonstration station with a goal of introducing ten percent of Jamboree participants to amateur radio ~ 3,000.
- Teach the Radio Merit Badge with a goal of 300 to 400 Scouts earning the badge during the Jamboree.
- 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.
- Operate a special event station to make contacts worldwide with amateur radio and Scouting enthusiasts to allow them to participate in the Jamboree.
- Operate social media and website channels to engage a broad audience both within and outside Scouting.



**Introducing the science, technology, fun, and magic of amateur radio**

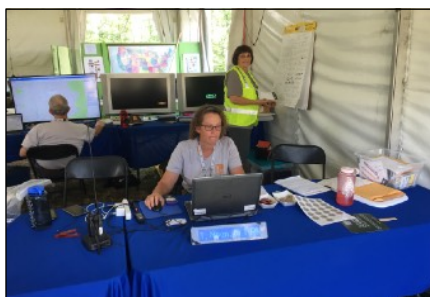
# NUMBERS

## Meeting Goals and Mentoring the Next Generation of Amateur Radio Operators

Here is a full collection of the numbers from the K2BSA operation at the 2017 Jamboree.

Description	Number
Amateur Radio Demonstrations — Number of Scouts	2,457
Amateur Radio Two-Way Contacts Logged (HF, VHF, UHF, Satellites)	1,399
Radio Merit Badges Earned	305
ARDF - Foxhunting — Number of Scouts	200+
Nightly K2BSA Net via W8BSA repeater and Echolink Conference *JAMBO*	392 check ins from 198 unique stations
Facebook Views and Reach at K2BSA.Scouting Page (10 July to 6 August)	1,656 Page Views 36,700 People Reached
Website Traffic at <a href="http://K2BSA.net">K2BSA.net</a> (15 July to 29 July) Normal traffic is 200 users and 400 page views per day.	10,136 Page Views 4,760 Sessions 3,884 Users

**44 K2BSA Staff members made it all happen so that Scouts could enjoy many aspects of amateur radio**





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## WHAT WORKED

### Here's our quick list of what worked during the Jamboree.

- Provided amateur radio demonstrations for nearly 2,500 Scouts and Leaders despite the loss of nearly a full program day due to the efforts expended for the President's appearance.
- Helped 305 Scouts earn the Radio Merit Badge through on site training and amateur radio contacts that took less than 4 hours from their high adventure activities.
- Provided 1,000+ amateur radio contacts for stations around the world during the Jamboree including GB3GP at Gilwell Park in England and TF15MOOT in Iceland at the World Moot.
- More than 200+ Scouts and Scouters participated in an Amateur Radio Fox hunt designed to introduce them to the sport of Amateur Radio Direction Finding. This is more than double the participation of four years ago.
- Set up portable station operations at Garden Ground to extend the reach of amateur radio within the Jamboree and to demonstrate backpacking portable amateur radio operation.
- Launched two balloons with amateur radio payloads that we're tracked over the next several days to the Atlantic. Their transmissions should be picked up within the next few weeks over Europe or Africa as they potentially travel around the world. One balloon is currently over the Dominican Republic.
- K2BSA Front Desk registration staffed by Scouters without amateur radio licenses or background provided new perspective on several improvements including building a welcoming presence along with detailed oversight of the Radio Merit Badge completion records.
- 392 stations checked into one of the eight, nightly, 2m voice and Echolink nets of which 189 were unique stations. This includes stations from Australia and Alaska, the H. Roe Bartle Scout Reservation in Missouri and 41 other states.
- Problems related to the APRS Repeater diagnosed and repaired, leaving a fully functional iGate and Digipeater operation for future Scouts and local Hams to use.



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## WHAT DIDN'T

Here's our quick list of what didn't work, or challenges, along with potential solutions.

Challenges	Potential Solutions
Lost equipment in the Logistics Center.	Implemented packing after the Jamboree for Logistics Center storage and improved setup at next Jamborees.
Not enough time for a considered thoughtful approach to set up.	Arrive at least two more days prior to Jamboree start. Consider installing antennas on a permanent basis for use by local amateur radio clubs in support of Jamboree on the Air as well as easy set up prior to Jamboree. Establish a Quartermaster position for all equipment inventory and checkout. Small team of no more than 10 to get setup accomplished over first 2-3 days.
Contact with International Space Station cancelled due to astronaut workload.	Not much can be done around this issue.
ARDF Foxhunting operations attempted to operate with competition standards but it didn't suit the introductory nature of our operation.	Good stretch to reach a new level but needed to remain at an introductory level. Make sure to keep simple ARDF operations for next Jamborees.
Too many changes implemented by everyone at their personal initiative.	Need to establish firm oversight of all changes with recorded station configuration and approval process for any suggested changes. This should also include a daily pre-operations review of station set up to ensure that everything is operating correctly before opening station operations. Establish a technical team for daily equipment review and any required troubleshooting. Let them do their job without others getting in the way.
Social media and the K2BSA website carried our message to those outside the Jamboree including details around making amateur radio contacts. However, WiFi issues prevented many timely posts and discouraged live video feeds.	Improve WiFi bandwidth or provide a direct Ethernet connection to the K2BSA operation.

## POTENTIAL OPPORTUNITIES

Here's our list of potential opportunities along with ways to leverage them at the next Jamboree.

Potential Opportunities	Ways to Leverage Them at Next Jamboree
Amateur radio portable operations to Garden Ground.	Improved location on Garden Ground with signs to explain operations and to encourage connection between Scouts on location and amateur radio.
Subject Matter Expert for ARDF Foxhunting.	This helped our operation at the beginning of the Jamboree and taught the Subject Matter Expert what worked best at an introductory level for the Scouts. Consider this for other areas within the operation.
Establish Quartermaster Position.	Above problems in finding equipment and installing it could have been better managed with direct oversight from a Quartermaster supported by team leadership.
We brought 2 fans that worked well to provide ventilation.	We need 4 more to cover each classroom and at least 2 more for the demonstration tent.
Front desk registration worked well.	Establish 3 to 4 positions on the front desk to allow for relief and days off.
Equipment worked very well across the 8 stations.	Due to propagation limitations only 3 HF stations could really operate at the same time. In future, set up 3 HF stations and 3 VHF/UHF/Echolink/D-Star stations. Standardize on IC-7300 for HF. Simplify operation and provide QSOs at every station throughout the Jamboree.
Radio Merit Badge transition to demo station went well, but return to class was challenged due to propagation.	Consider offering QSO time before class so that element is already covered.
Attract more Scouts for Radio Merit Badge Classes.	Offer charging stations during classes.
ARDF Foxhunting located at front desk worked well.	But is also caused considerable noise in the demonstration station during instruction for Scouts. Need separate nearby tent for briefings.
A few Scouts experienced difficulty on the ARDF Foxhunting course.	Need on-course coach to catch Scouts who don't understand how to find the transmitters.
Staff qualifications through online survey and phone call from chairman worked well.	Recommend that staff members have experience with ARRL Field Day and with contests.

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## SPECIAL ACTIVITIES

We planned three special activities during the Jamboree: amateur radio contact with the International Space Station, balloon launches with amateur radio payload, and Summits on the Air activation of Garden Ground.

### International Space Station

Our proposal was submitted in August 2016 and approved in December 2016. During 2017 leading up to the planned contact during the Jamboree we work with our ARISS Mentor, John Kludt, and the BSA to explore and test ways of conducting the contact using a telebridge connection rather than direct radio contact as the orbits did not work for a direct contact. This culminated in a full blown public address system provided by Mike Sprenger, W4UOO, a K2BSA staff member, with several options for connecting to phone lines once at the Summit.

Unfortunately, approximately one week before our planned contact dates, we were informed that the work schedule on the ISS didn't allow time for our contact. This breaks a string of Jamboree contacts with astronauts dating back to 1997 and the MIR space station.

### Balloon Launches

The K2BSA staff, led by Keith Kaiser, WA0TJT, launched an ARHAB balloon from the Summit on July 21 with call sign K2BSA-11 and a second balloon on July 25 with call sign K2BSA-12.

The payload that flies on the small Jamboree balloons weighs less than a half ounce and is totally solar-powered. It transmits its position and altitude every two minutes during daylight hours and could float in the Jet Stream for days and weeks. It could potentially fly across the Atlantic Ocean or even around the World.

As of 9 August 2017, tracking has shown that K2BSA-11 reached the Atlantic Ocean but has not yet been picked up after that point. K2BSA-12 has been tracked near Puerto Rico and over the Dominican Republic. Both balloons are presumed to be over the Atlantic at this point. We hope to see their radio transmissions picked up again once they cross the Atlantic.



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## Summits on the Air

Summits on the Air is an amateur radio activity that involves hiking to summits and using amateur radio gear to contact other operators. On the Summit property, the Garden Ground is a designated summit within this program. Mike Crownover, AD5A, and K2BSA staff member, hiked to Garden Ground and activated this summit for the first time ever.

That activity fits well within Scouting and it was felt would be another way of reaching Scouts with the science, technology, fun, and magic of amateur radio.

During the Jamboree K2BSA activated this summit three times. Each time improving it's ability to connect with Scouts and share amateur radio. The HF radio used in the activations was the Icom IC-703 including its special backpack just for this type of operation. On the third activation, Mike, W4UOO, and Jacob Sprenger, activated amateur radio satellite contacts using an Icom IC-821H.

More work can be done in this area for the next Jamboree.



## Summits on the Air from Garden Ground



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## ARRL RECOGNITION

Bill Morine, N2COP, Assistant Director of the ARRL Roanoke Division, and Dan Ringer, K8WW, Manager of the ARRL West Virginia Section, visited the Jamboree. They received the full tour of our operation and provided a recognition award from the Roanoke Division and West Virginia Section of the ARRL.

The award stated:

*The Roanoke Division and the West Virginia Section Salute the Dedicated Staff of K2BSA — For Advancing Amateur Radio at the Boy Scout National Jamboree, July 19-28, 2017, the Summit Bechtel Reserve, Glen Jean, West Virginia.*

Our 40+ Jamboree staff members appreciated and deserved this recognition. Thanks, ARRL.



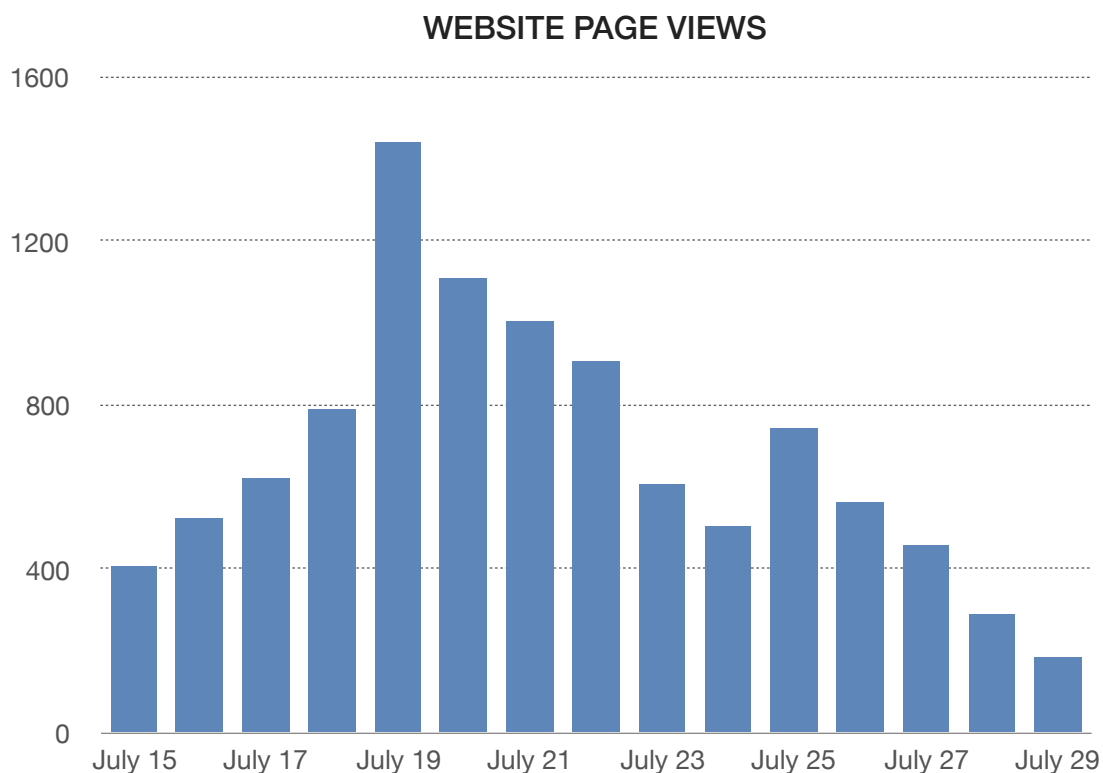
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## SOCIAL MEDIA

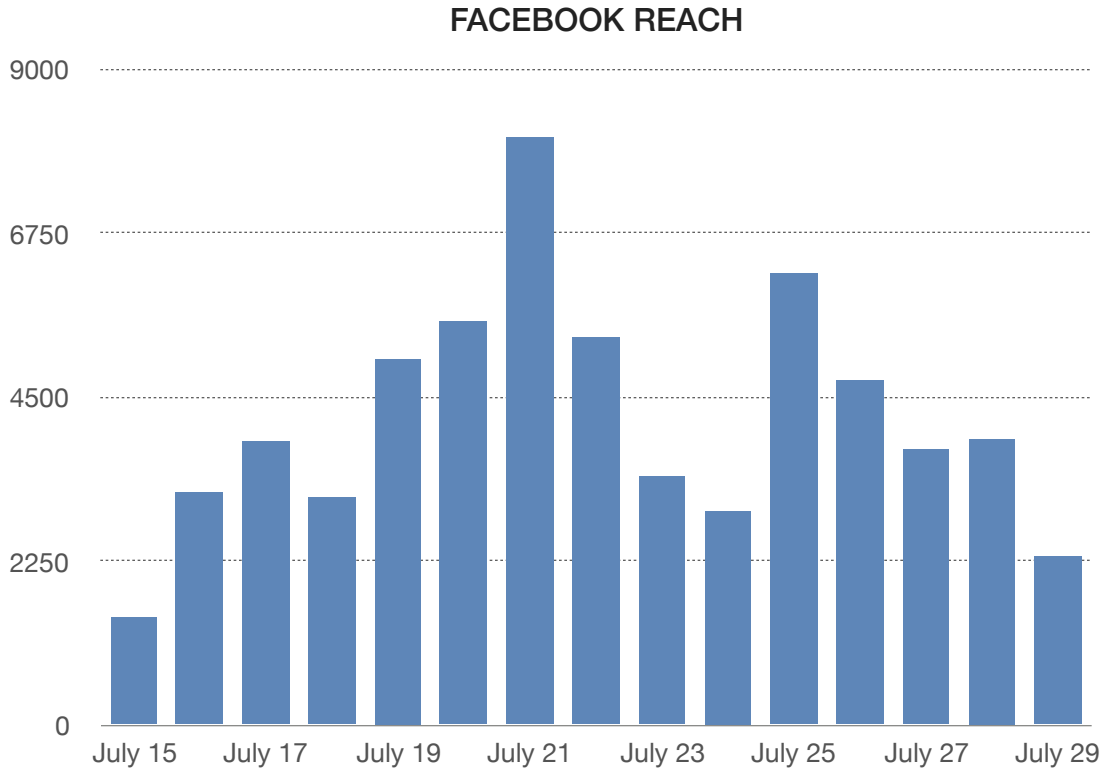
If no one hears or sees your efforts, has it really happened? With this concept in mind, we made every effort leading up to and during the Jamboree to communicate our activities with amateur radio and Scouting audiences to keep them informed and to engage them in our on-the-air activities.

Bill Stearns, NE4RD, brought a great deal of enthusiasm and expertise to the role of Strategic Communications Wizard, generating a number of interviews on amateur radio related podcasts and web video shows. Then, during the Jamboree, he kept up a lively series of social media posts, including live videos, at the K2BSA Facebook and Twitter pages.

As noted in our summary, we were able to greatly increase website and social media traffic. Here's a bit more insight into that traffic.



The page with the greatest traffic was Jamboree-Live with details on how to make contact with K2BSA.



Here it is worth noting that Facebook Live videos of the balloon launches attracted a great deal of attention on July 21 and July 25.



**The science, technology, fun, and magic of amateur radio.**

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## SPONSORS

### **Icom America**

Icom America's support to Scouting and the Jamboree has grown to legendary proportions. Their local Scout council loan program began in 2012 and continues to supply complete stations, with the IC-7300, for local events. Installation of three repeaters at the Summit in 2013 and follow on maintenance in 2017 has ensured that this substantial investment continues to support the Jamboree as well as operations throughout the year on site and in the local community.

Icom is the official amateur radio transceiver supplier for the 2017 Jamboree. They provided IC-7300, IC-7600, IC-7700, IC-9100, and ID-5100 along with power supplies, speakers, and microphones to support the operation. They also shipped an additional ID-5100 overnight to further support our operations during the Jamboree.

### **DX Engineering**

DX Engineering provided two hexx beams, two 4BTV vertical systems, one thousand feet of coaxial cables, PL-250 connectors, bandpass filters, and a multiplexer. In addition, they shipped 30 meter kits for the verticals during the Jamboree to help us cope with limited daytime propagation.

### **MFJ Enterprises**

MFJ Enterprises provided 30 headphones, three dipole antennas, and a rotator.

A big thank you to all our sponsors for their support.



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## EQUIPMENT STORAGE FOR NEXT JAMBOREE

Donated equipment from DX Engineering and MFJ Enterprises as well as equipment accumulated by K2BSA Amateur Radio Association over the years, has now been placed on pallets, shrink-wrapped, and stored in a shipping container. After the Jamboree the BSA Summit Logistics operation will be storing it in their warehouse ready for the next Jamboree.



**Equipment packaged and ready for the next Jamboree.**

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## THANK YOU

The list is long of all those who contributed to the success of the K2BSA Jamboree operation. Here's a starting point.

- All those that provided QSOs for our Scouts.
- K2BSA Jamboree Staff members.
- Paul Trotter, AA4ZZ, and Tim O'Rourke, W4YN, for storing the K2BSA gear in Charlotte since 2013.
- Members of the K2BSA ARA for their financial support.
- WV8BSA Summit Repeater Association and in particular Chris Hatcher, KC8AFH, for his ongoing work and support of the repeater installations.
- Dan Busse, KA0TER, for his support of the amateur radio repeaters from his position as Chairman, Jamboree Two-Way Commercial Communications.
- Brian Coleman, KB0MAP, for his support of our ARDF-Foxhunting efforts from his position as Chairman, Jamboree Land Navigation.
- Bill Brown, WB8ELK, for his support of our balloon launches, including providing all the equipment.
- Mike Sprenger, W4UOO, for his superb work preparing for the ISS contact, including providing all the audio gear needed for the contact
- John Kludt, K4SQC, ARISS Mentor for his work supporting our efforts to bring off an ISS contact.
- Sean Kutzko, KX9X, and the ARRL for great new design posters displayed in our demonstration tent.
- Dick Arnett, WB4SUV, for his on-site work instructing our staff and helping with our ARDF-Foxhunting efforts.
- Joe Durnal, NE3R, K2BSA QSL Manager
- Bryan Hoyer, K7UDR, for building and providing an APRS Digipeater for permanent installation at the Summit.
- Our Sponsors, Icom America, DX Engineering, MFJ Enterprises, and their staff members who worked hard to make everything happen.
- BSA Summit Logistics Center, for storing and finding our gear for 2017 and for storing it securely for the next Jamboree.
- ARRL Roanoke Division and West Virginia Section for their recognition of our work in Radio Scouting.

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THANKS TO ALL OUR JAMBOREE STAFF MEMBERS

