



**Radio Scouting** is the intersection of **Scouting** and amateur **radio**. We introduce **Scouts** to the fun, technology and magic of STEM & amateur **radio**.

2022 JOTA Presentation by Ken Lyons, KN4MDJ regarding youth scouting programs.  
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# SOME DRY HISTORY

Amateur Radio has been a part of scouting since its formation in 1908 with the first troops. Amateurs started experimenting with radio well before the First World War in these early years.

A number of Scout troops, for example the 1st Arundel and the 3rd Altrincham, held transmitting licenses in the early 20s.

**Radio in scouting predates the BSA!**



**Knocked Down, The Trek Cart, Forms a Table, a Shelter, and an Aerial Radio Mast. - 1908**

Baden Powell was of the opinion that wireless **was an excellent interest** for youth and **encouraged them to take it up.** He saw that it would be an essential form of communication for use in emergencies. Some troops even had mobile stations using their trek carts, in addition to the equipment in their Scout hut.

Our program was restarted in 2018 and has quickly expanded. *We aim our program on the education/STEM side showing the technologies and radio spectrum.* Events are held nearly monthly with about 2,000 scouts on popular council weekends.





Jamboree on the Air (JOTA), is an international Scouting and Guiding activity held annually. Started on the fiftieth anniversary of Scouting in 1957, it was devised by Leslie R. Mitchell, a radio amateur with the callsign G3BHK (sk 2014).





In 1957, a World Scout Jamboree was held at Sutton Park in central England, with 35,000 Scouts from 62 countries attending. For the first time at any World Jamboree local radio amateurs installed and operated a large station under the call sign GB3SP. Scouts and leaders were allowed to visit, as long as they stayed behind the little fence with the flower pots and kept the noise down.

Towards the end of the Jamboree they were all a little sad, and someone remarked that we might try to contact each other on the air. This then developed into the idea of trying to make contact on one specific day, and Les was asked to make the necessary arrangements.

Then Les got the visionary idea: why not run the event for a whole weekend and ask all radio amateurs throughout the world with an interest in the Scout Movement to put their stations on the air and, at the same time, invite their local

Scouts to join them. So JOTA was born. (This was his own choice of title for Les felt it described exactly what the event was – a Jamboree-on-the-Air.)

In October 1957, Les organized a weekend station with his local Scout group in Reading, Berkshire, to test the idea. Using only a 40 watt transmitter (AM) they made contacts all over the world, and it was obvious that the interest was such that a worldwide Radio Jamboree could be envisaged. He drew up rules for the event keeping them as simple as possible. In fact, they were so simple that they have remained unchanged ever since.

**It is now past history that the event has gradually expanded to become the largest international event on the Scout calendar. After 2014 over to a million young Scouts participate on the radio-waves and internet every year.**

Les kept coordinating all JOTA activities in the UK up to 1988 and played an active role during the event up to very recent.

In the introduction to the JOTA history booklet published in 2007, Les Mitchell wrote "while I certainly did originate JOTA, I feel I have been showered with too much credit, for I just gave the boulder a push and it gathered its own momentum as it rolled down the hillside! We must not forget, too, the thousands of individual radio amateurs who have each contributed time and effort to make JOTA enjoyable for so many years".

Les Mitchell, G3BHK, silent key October 2014.





# JOTA Jamboree-on-the-air



KN4LSY Larry Schnaudigel works on the JOTI laptop while a cub shares a QSO with KN4MQR Justin Sligh. Jota is the 3<sup>rd</sup> weekend of October every year since 1958













Who has a radio in their pocket, right now?  
Going beyond the car radio dial 88 – 108 MHz.



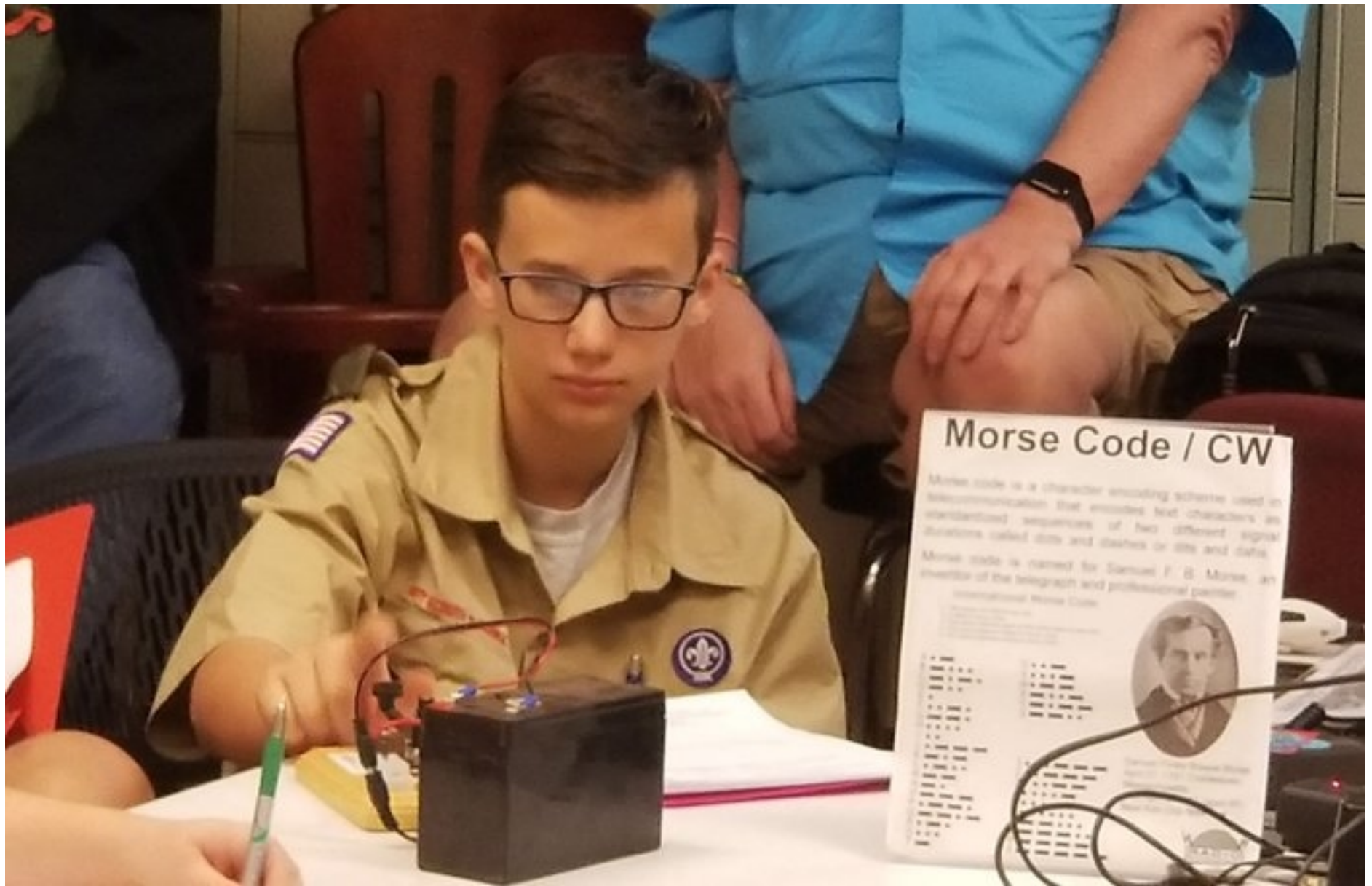
1830s Morse Code invented & Glass jar batteries  
1860's Lead Acid battery, relay & transcontinental connections.  
1860's US Civil war, first modern war communications  
1890's wireless tech starts  
1912 Titanic & SOS made popular





# Some images Pre Covid, 2019 & 2020





## Morse Code / CW

Morse code is a character encoding scheme used in telecommunication that encodes text characters as standardized sequences of two different signal durations called dots and dashes or dits and dahs.

Morse code is named for Samuel F. B. Morse, an inventor of the telegraph and professional painter.

International Morse Code



A	• • • • •	• • • • •
B	• • • • •	• • • • •
C	• • • • •	• • • • •
D	• • • • •	• • • • •
E	• • • • •	• • • • •
F	• • • • •	• • • • •
G	• • • • •	• • • • •
H	• • • • •	• • • • •
I	• • • • •	• • • • •
J	• • • • •	• • • • •
K	• • • • •	• • • • •
L	• • • • •	• • • • •
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Q	• • • • •	• • • • •
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S	• • • • •	• • • • •
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V	• • • • •	• • • • •
W	• • • • •	• • • • •
X	• • • • •	• • • • •
Y	• • • • •	• • • • •
Z	• • • • •	• • • • •
0	• • • • •	• • • • •
1	• • • • •	• • • • •
2	• • • • •	• • • • •
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8	• • • • •	• • • • •
9	• • • • •	• • • • •



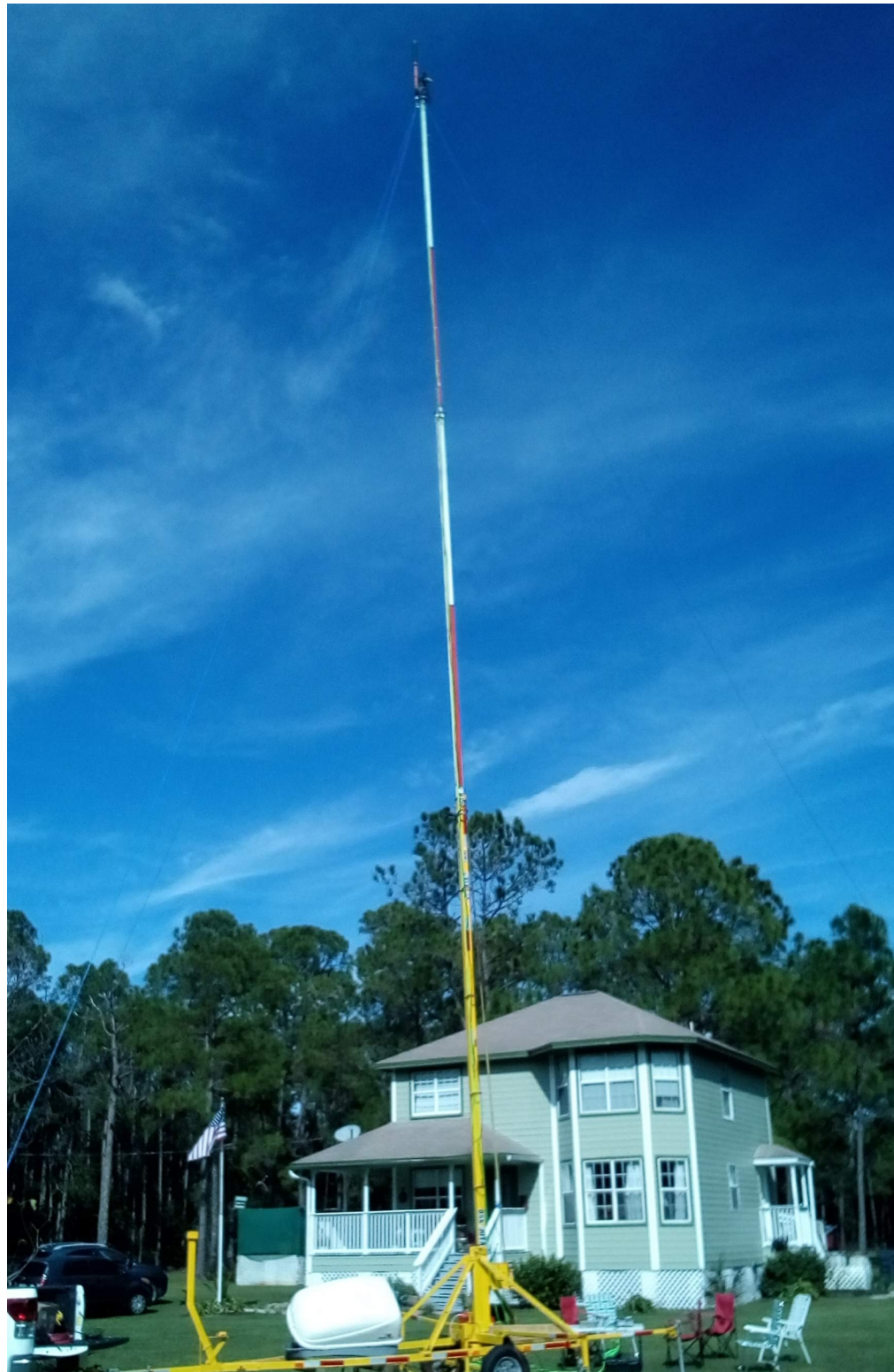






Some youth learn to do the phrase: “Radio Scouting” in CW, in under 20 seconds, with just a few minutes of practice.





**Thanks to:**

**<http://djfabweld.com> -  
DJ Fabrications & Welding,  
407-654-1950,**

**for donating and building  
our 60' mobile tower for the  
2018 JOTA.**

**We broke national  
records with it!**

**Offers:**

**Long-range Wifi 10mi LOS  
repeaters for GMRS & 70cm  
Fan Dipole for 80/40/20/10  
– no beam or satcom...yet**





**Spring 2020 upgrade, added an equipment enclosure with dual workstation areas. Currently working on pullout drawers with monitor, computers and radios. ETA Summer 2023**

**Next project is to add foldout solar panel awnings and a quiet inverter generator for emcom use.**

## **JOTA NEEDS**

- **Volunteers** – We need helpers and anyone willing to assist in putting on the event programs and herding the youth. Knowing CW is not required nor is using a radio.
- **Hams & Stations** – JOTA always exceeds the number of radios available, we think of it as a second field day. Get some practice with your radio and setup.
- **Members and Supporters** – We get grants and advertising partnerships by the number of supporters and participants we have.
- **Hams on the Air** – The worst feeling in the world is calling CQ on a repeater, simplex or common freq and not getting any response when demonstrating the power of radio.

- **Equipment Donations** – Every club and program always has equipment needs, each program will vary. But usually boils down to radios, coax and various antennas.
- **Financial Donations** – All JOTA events and most youth events in general are free of charge to the participants, usually the volunteers putting on the event cover all the costs.
- **Prizes** – We give away dozens of FRS radios, RC cars, and stem games to cub scouts as game prizes and entry level ham radios to newly licensed youth to encourage them and make it fun. (~\$100 in prizes for every event)



# SPONSORS



**HamTestOnline™**

*Online courses for the ham radio exams.*

Offers our youth \$10 classes!

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Maxon America, Inc. for support material/docs for our donated GMRS repeater

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David Bermejo wB4SA Keychains and Promotional items

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[www.mods.dk](http://www.mods.dk) Equipment Manuals and Schematics

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[www.davisrf.com](http://www.davisrf.com) for sponsoring high quality / low loss Coax cables for our events. (made in USA)

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[jowersbatteries.com](http://jowersbatteries.com) for sponsoring our ARDF batteries.

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Local IT company for donating \$100 for a 2020 Spring Youth College Scholarship

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[www.arrl.org](http://www.arrl.org) foundation grant to support our 2020 Radio Merit Badge and Lic. summer camp program.

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[Lake Amateur Radio Association \(LARA\)](http://LakeAmateurRadioAssociation.org) for donating a 2M analog radio Yaesu FT 1500, power supply, 50' of coax and a copper J pole antenna.

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[www.FTA-vacations.com](http://www.FTA-vacations.com) for donating two plastic card printers. Fargo Direct to Card DTC550

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[www.amazon.com/Warehouse-Deals](http://www.amazon.com/Warehouse-Deals) for discount CB Radios for our Battle Ship game.

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[www.QRZ.com](http://www.QRZ.com) for discount XML subscription for our call-sign lookup tools.

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[www.HamRadioDeluxe.com](http://www.HamRadioDeluxe.com) for donating the latest cutting-edge software for our scouts to use.

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[www.GigaParts.com](http://www.GigaParts.com) for donating several hundred WRTC 2018 hats for our 2018 JOTA.

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[www.ToolesACEhardware.com](http://www.ToolesACEhardware.com) WG for donating a 2ft length of safety chain for our JOTA trailer.

# Games





## WiFi scavenger hunt, 30 min

A fun game where scouts search for hidden transmitters. Using their cellphone, the wifi bars will get stronger the closer they are to it, the fox can be **stationary or moving**. Winner has fastest search time with all the correct box letters.







**ARDF** - Amateur Radio Direction Finding is a fun game where scouts search for hidden transmitters using various technology. Using a radio receiver, the



signal and sound will get stronger the closer they are to it, the fox can be stationary or moving. The aim of the activity is to promote team work, orienteering, triangulation, STEM and methodical collecting of information to archive a goal.

To keep costs and equipment minimal we use WiFi Foxes, where the hunter uses their phone or tablet. When they find it they record the letter/number on the box, or take a pic, to prove they found it.



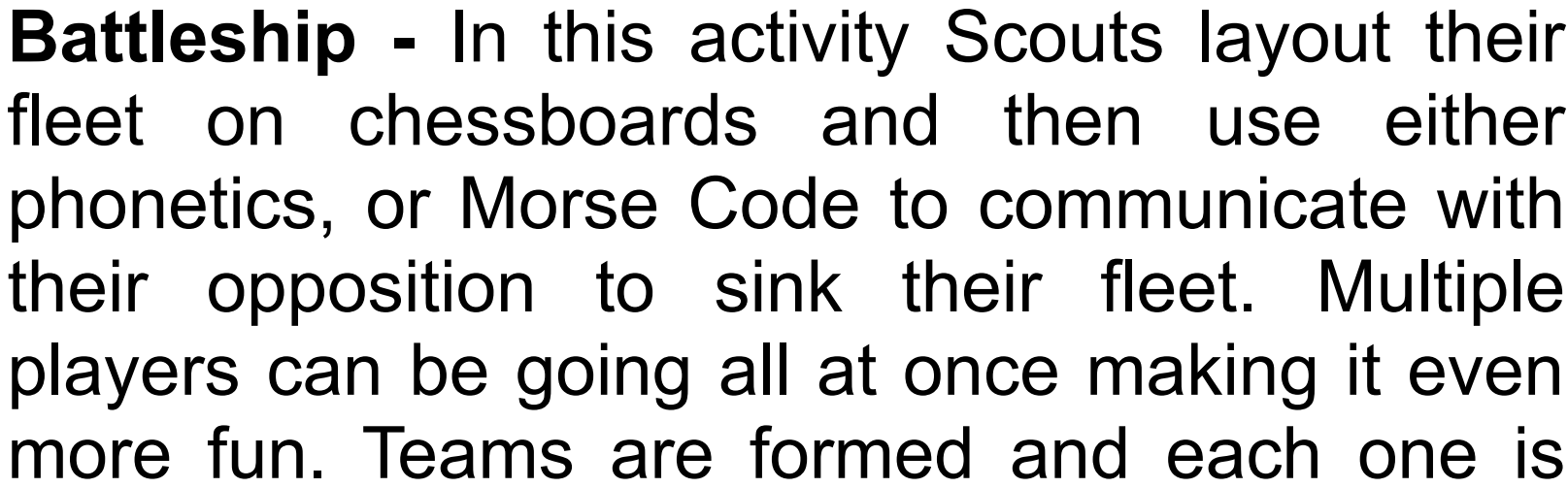


**Blind Sheep / Mine Field, 10 min**  
Scouts use a radio while blind-folded and are guided around an obstacle course by a person outside the course who can not touch the blindfolded person. The activity is a trust exercise and a lesson in team work and giving clear instructions over a communicators system. Points are counted for every time the person steps on an obstacle or crosses a boundary.



Up to 5 tables (individuals or teams) can be setup, each calls out their shot one after the other. Everyone records hit/misses so they can keep track of their opponents positions as well.

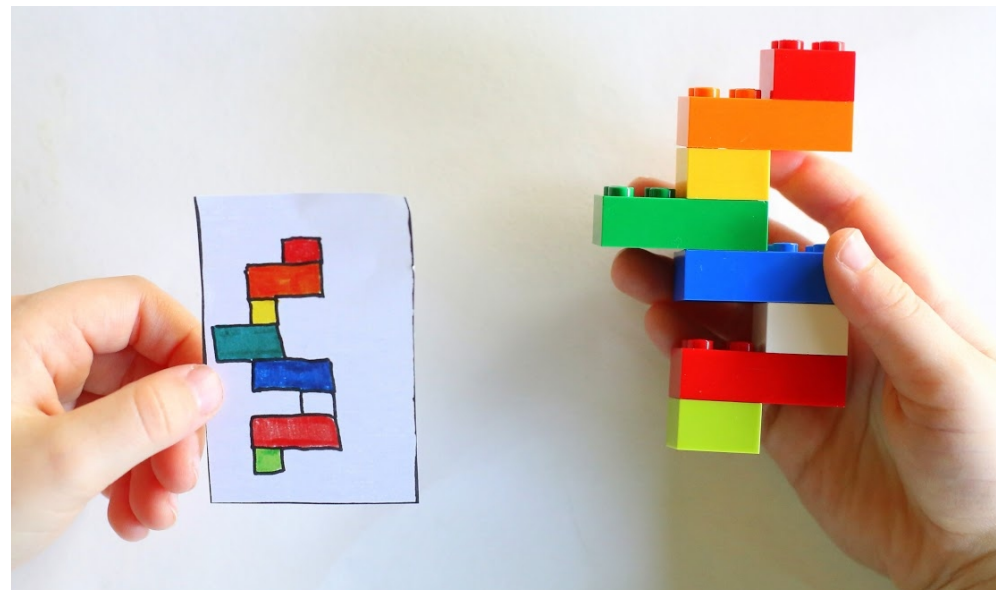
A 10x10 grid with columns labeled A through I and rows labeled 1 through 10. The grid contains several yellow circles, red circles, and gray capsules. The yellow circles are located at (C,2), (E,2), (G,2), (D,3), (F,3), (H,3), (F,4), (F,5), (G,6), (I,6), (F,7), (I,8), (I,9), and (I,10). The red circles are located at (E,4), (F,6), (F,7), and (I,2), (I,3), (I,4). The gray capsules are located at (A,4)-(E,4), (B,8)-(C,8), (F,6)-(F,9), and (I,2)-(I,5). The numbers 1 through 5 are located in yellow circles at (G,4)=1, (H,3)=2, (I,2)=3, (I,3)=4, and (I,4)=5.



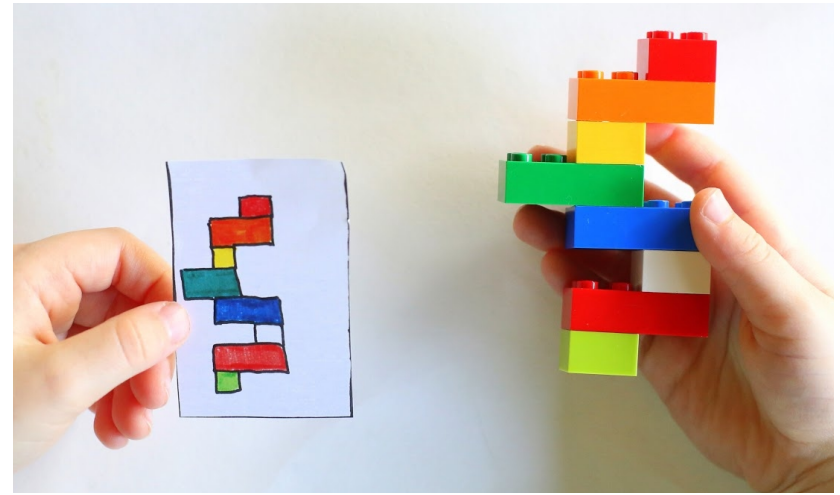
**equipped with a communication device.** Each team sets up their board takes a Battleship worksheet. (Graph Paper with Letters/Numbers marking rows and columns) Quickly place your ships on the board by drawing them on the top grid. Aircraft carriers take 5 positions, Battleships 4, Cruisers 3 and Frigates 2. (You only have 4 ships). The first one to place their ships signals AR, Once the opponent also signals AR, you take it in turn to fire on your opponent. The first person to have signaled AR goes first. Players call grid locations in phonetics and opposition team notifies them of a hit (H) or miss (M) and marks it off on sheet. First team to sink all of the opposition's ships is the winner. **This game can be played with a variety of options.** For the beginner use phonetics either in person or over radio. For more competent youth, get them to use Morse. This can be either in person or radio by voice, saying dah's and dit's or using a Morse Code buzzing key.



**Lego puzzle build, 10 min** - The game is played with partner teams. Each team is given an identical set of lego and a radio. One team builds (the builder) and another copies the model (the copier) The builder makes a small object from the lego blocks and the copier tries to recreate it. This may sound very easy, but they can't see each other! Using the walkie talkie the builder gives instructions to the copier telling them where the next lego brick should go. Do they both look the same when finished? When they have finished, swap roles so both experience the difficulties of the other role. Winner is the fastest team to copy both ways.



**Lego puzzle** - The game is played with 2 teams or individuals. Each team is given an identical set of lego and a radio. One team builds (the builder) and another copies the model (the copier) The builder makes a small object from the lego blocks and the copier tries to recreate it. This may sound very easy, but they can't see each other! Using the walkie talkie the builder gives instructions to the copier telling them where the next lego brick should go. Do they both look the same when finished? When they have finished, swap roles so both experience the difficulties of the other role.







**CW/MORSE code challenge, 10 min** - Partner teams learn how to do SOS and transmit a short message between each other. The challenge is encoding the message and having your partner decode it then reverse. Winners are the fastest to exchange a message back and forth.

## **Telegraph Encrypt/Decrypt game (harder)**

A fun game where scouts have to transcribe a longer message and get it to their partner via telegraph. Their partner has to write it out, then send an answer back. They work as teams and the fastest teams of the day win prizes. They can repeat the game as many times as they like, getting a new phrase each time. Each station SET involves two Morse code straight keys a good distance from each so that a pair of scouts can communicate with each other. We can do two teams at a time. The phrases they use are simple one line scout jokes, one sentence each way. The first couple times take a while, but they slowly learn/memorize each letters 'dit-da code' so they start transcribing the sentence to morse much faster the more times they do it.

Cub 1: What time is it when a buffalo sits in your canoe?

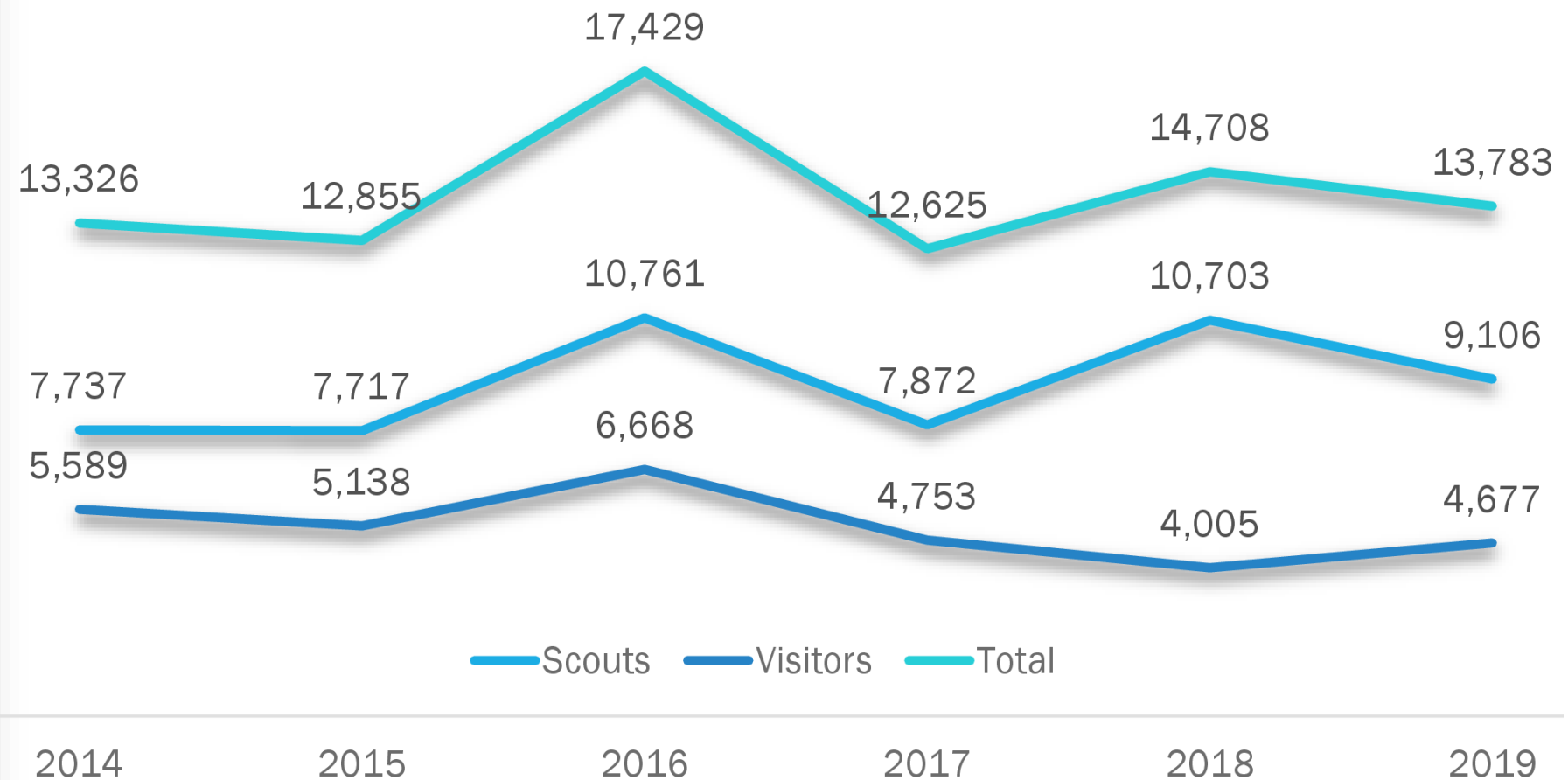
Cub 2: Time to get a new canoe.



# JOTA Jamboree-on-the-air – National Numbers

## INCREASED PARTICIPATION BY STATION

While the reported numbers show a slight fall in overall participation, our calculations show that each station averaged an additional 13 people in attendance over last year. This shows an aggregate increase of 24% attendance per station even with our reported stations being down from 266 in 2018 to 201 in 2019.



## Our combined JOTA/JOTI Stats

2021 Jota Participants: **1,917** (9 hams, 11 Vols)

2020 Jota Participants: **766** (4 hams, 5 Vols) [Covid Cap.]

2019 Jota Participants: **1,503** (6 hams, 15 vols)

2018 Jota Participants: **1,010** (5 hams, 10 vols)

## Other numbers

2021 RS Event Participants: **6,415** (all events)

2021 5x October Jota-Like weekends: 5,400

2020 RS Event Participants: 1,690 (all events)

2020 BSA Radio Merit Badges: 340

2020 2x October weekends: 1,350

2019 RS Event Participants: **12,300** (all events)

2019 4x October weekends: 7,800



**During 2019 we presented our program  
before 12,300 scouts at our council events.**



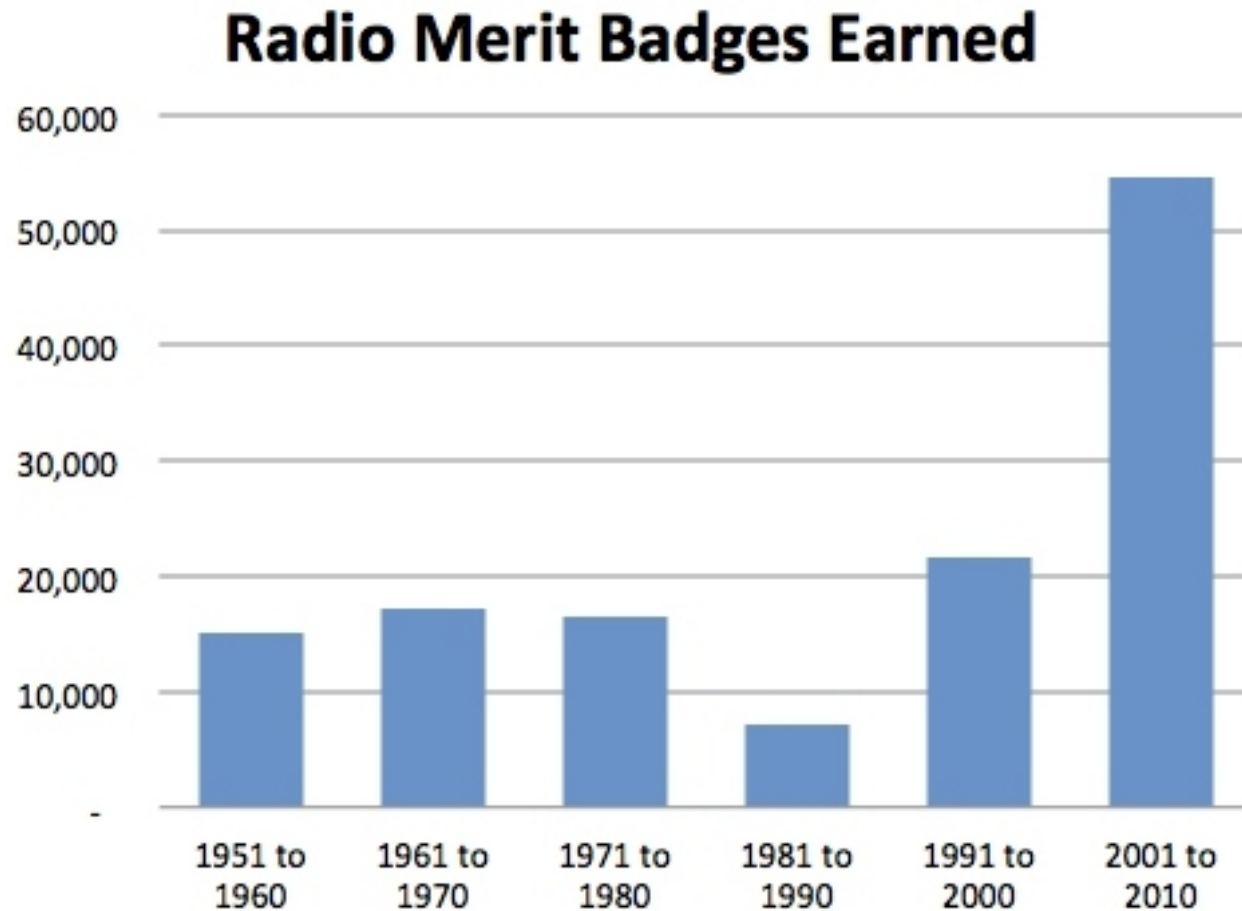


**All** our participants learn how to do SOS in Morse Code.

In **Oct 2021 we exposed over 5,400 scouts** to Ham radio, Morse code, ARDF, and the MegaBlok build game using FRS walkie-talkies.

*We are on track to do it again with 12,000 in Sept-Oct 2022.*

Radio Merit Badge starts the road to getting an FCC license.



We use JOTA and our events as an introduction followed by rank advancement with the **Radio Merit Badge**, about 7,000 **Scouts** nationally earn the badge each year.

We met our target for ~370 Radio Merit Badges in 2020/21.

# Ken Lyons, KN4MDJ

Trustee for w**B4SA**, BSA - Central Florida Council, [www.RadioScouting.US/cfc](http://www.RadioScouting.US/cfc) for 26,000 scouts in 9 counties and I helped restart our council program in 2018.

ARRL Southeastern Assistant Division Director - Radio Scouting, [www.kn4mdj.com](http://www.kn4mdj.com)  
"Bringing Amateur Radio Scouting programs to a half million scouts in AL, GA, FL, PR, USVI"

Promote Radio Scouting activities and opportunities in both the **Boy Scout** and **Girl Scout** programs covered by the Division. Participate in regular discussions with ARRL HQ, National BSA and National GSUSA regarding the Radio Scouting program and how best to improve the program nationally and in the Division.

Areas covered: 31 BSA Councils, 14 GSUSA councils in Alabama, Georgia, Florida, Puerto Rico, US Virgin Islands for a half million scouts.



I was employed by the US Department of Defense from 1996 to 2003. Then worked for 17 years as an IT Manager, now post covid, I'm self-employed in the same field.



Our wB4SA Council Radio Scouting program covers 26,000 scouts in 9 counties in Central Florida. Some neighboring councils have shown interest in restarting their programs.

If we get enough ham support in those areas they could also be restarted. Local support is key to our success (OARC & LARA).

Our scouting youth are eager to learn but we need the **support** of local clubs, hams, elmers along with funding and equipment.

A long-term goal is to roll-out VHF radios to patrol leaders at camp outs, replacing ¼ watt FRS.



# wB4SA Referral Service

We are currently working on a national list of all BSA councils with active radio scouting programs for inter-council events and assistance on our homepage, [www.RadioScouting.US](http://www.RadioScouting.US)



Occoneechee Council Radio Club [near Raleigh, NC]

Chris Cancilla - KN4TRE, W4CEC.com



Chester County Council K2BSA/3 [near Philadelphia, PA]  
BSA Camp Horseshoe Radio Station  
Walt Beattie, AA3WB



Pacific Skyline Council (WR3-31) - Radio Scouting Program [near Foster City, CA]  
Walter Underwood, K6WRU, Radio Scouting Chair



Greater Niagara Frontier Council Radio Scouting Committee W2SSR [near Buffalo, NY]  
Donald A Sonnefeld, KD2FIL



Rainbow Council Radio Scouting, K9RSR (C7-702) [near Chicago, IL]  
 Brian McDaniel, N4AE



Atlanta Area Council Amateur Radio Club, KZ4BSA (S9-92) [near Atlanta, GA]  
 Elden Morris, N1MN



Susquehanna Council, KK3BSA (N4-533) [near Millmont, PA]  
 Tim Gelvin, K3TEG



Occoneechee Amateur Radio Society, Raleigh, NC (S7-421) [near Raleigh, NC]

Chris Cancilla, W4CEC, Occoneechee Council



Mike Crownover, AD5A, Alamo Council [near San Antonio, TX]

Misc:

David H Goldenberg, W0DHG [near Los Angeles, CA]  
 Bill Stearns, NE4RD, Montana Council [near Great Falls, MT]



**Radio-Scouting auf Pfadfinderlagern**  
**Radio-Scouting on Scoutcamps**



Co-Operative with [www.Radio-Scouting.De](http://www.Radio-Scouting.De) (Scouting in Germany)  
 For Trans-Atlantic events between councils, jambos and other large events.



We are also working on a national **ham referral list** for troops and scouts seeking ham assistance for demos, field day & jota in their local community. We can quickly match hams that volunteer to assist by zip code to troops requesting assistance.

We get dozens of contacts every October from troops outside our area in need and usually it takes too long to co-ordinate through the ARRL and local clubs with monthly meetings. By having a list of hams for every zip-code, already willing to assist scouts in their community, we can quickly connect the two.

Signup at: [www.RadioScouting.US/J](http://www.RadioScouting.US/J)

# WIRELESS WONDER AGED 14 AMAZES SENATE COMMITTEE

Young W. E. D. Stokes, Jr., Glibly Discussed Radio-Activity and Modern Electricity in a Way That Made Staid Solons Wonder.



PHOTO © BY  
UNDERWOOD  
UNDERWOOD

N. Leavers, 149 Clinton Street,  
Brooklyn, N. Y.

ONE of the reasons why W. E. D. Stokes, Jr., the fourteen-year-old President of the Junior Wireless Club of America, Ltd., led a delegation of his organization down to Washington last week to oppose the passage of the Depew bill for the regulation of radio communication, was to take a hack at what he said was the "communication trust" of this country. His mission was considered a success by many of his elders, who ought to know. He is the youngest pleader that ever appeared before a Senate committee.

He is at once the youngest orator who ever appeared before a Senate committee to argue on a bill, and undoubtedly the youngest self-confessed trust-buster in the world.

Some night soon, perhaps this week, the thirteen charter members of the Junior Wireless Club of America, Ltd., will get together in the Ansonia Hotel, Broadway and Seventy-third Street, and will there celebrate the organization, over a dinner, upon the first hack taken at what they call the "communication trust," and upon the prospects for their continued use of the air, of which it was the purpose of the "trust," through this bill, to deprive them, they declare.

W. E. D. Stokes, Jr., called Weddy, as his father was also called in his younger days—rode back from Washington triumphant Friday afternoon, having just missed a dinner at the White House at the invitation of the President. At 9 o'clock Friday night he was found in his workshop at the southeastern corner of the sixteenth floor of the Ansonia Hotel, among a tangle of apparatus of all kinds. Stretched all the way across one end of the room was a blue Yale flag, toward which the young inventor inclines strongly.

As Harvard got young Stid, the mathematical and philosophical prodigy, so Yale will probably get this prodigy of physical science.

One side of the room was taken up with the wireless telegraphy and wireless telephone instruments. It was not too machinery, but full-sized apparatus, with the appearance of having been made for business purposes.

With an ease and swiftness born of exceeding familiarity with the instruments, the boy connected a wire here and there, turned a few screws, and prepared to see what he could catch out of the air from the members of his club, who have a wave length which enables them to talk with one another without interfering with other operators, so President Stokes says.

"Oh, I suppose Jones did not get up the new aerial while I was gone," he explained to a friend who knew all about his wireless experiments. "I told him to take down the old aerial on the roof while I was gone and put up that better one, so that I wouldn't lose any time. You see, we got back earlier than we expected, and I suppose he didn't finish his work. I thought of going to the roof and looking after the thing when I came home to-night, but I was a bit tired, so I didn't go up there."



George Manley with Some of His Home Made Apparatus.

day night, got out there before his elders and had a few words by himself.

"Well, what success did you have with the Depew bill?" he was asked.

"Oh, fine, we think," he answered, restlessly playing with a string of electric light bulbs that lay on the floor. "I didn't think they ought to be there, and so he hid them in a corner."

"Well, what is the Senate committee going to do about it?" he was asked.

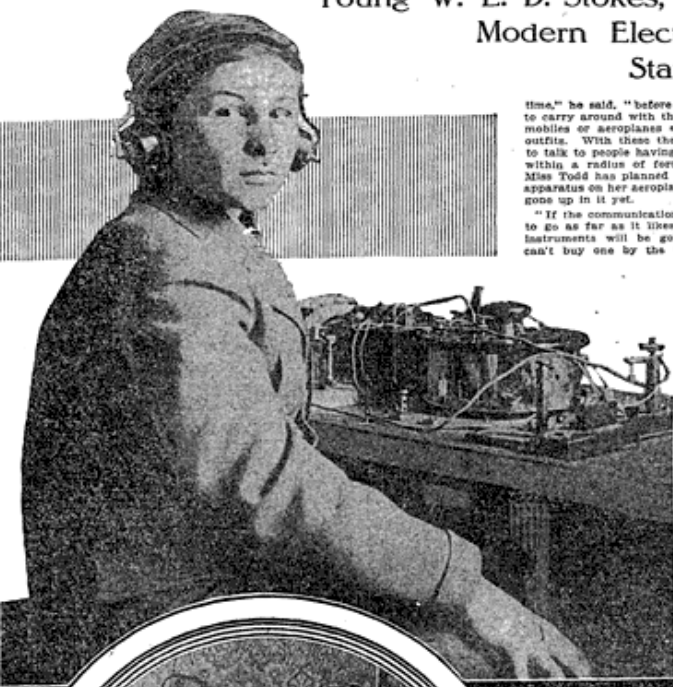
"Which shows that the youngster doesn't know nearly so much about Senate committees as he does about aerials, kilowatt coils, and the like. Finally he leaped on a bicycle, which sat against the wall, and went racing through the winding hallways."

After a while he was pinned down to a talk about his wireless work and the expedition down to Washington. About four years ago, he went on, he became interested in electricity, which he encountered in the course of his regular studies. It attracted him powerfully, and he pursued it diligently.

"You see, one thing leads up to another," he explained, "and I just naturally came on up to wireless telegraphy and telephony. That seemed to give me plenty of room to work in. I have invented a good many electrical appliances. Patents have been granted on five or six of them."

Miss E. L. Todd of 121 West Twenty-third Street, the earliest woman to devote herself to heavier-than-air flying machines in this country, gave young Stokes considerable instruction in his studies. She is the Honorary President of the Junior Wireless Club of America, Ltd., and has an apparatus near her room with which she talks to the club members.

"I built -- -- station home -- -- and 40,000 -- -- wireless experimenters"



W. E. D. STOKES, JR.



Ralph S. Bolton, 261 Stuyvesant Avenue, Brooklyn, a Wireless Worker.

W. E. D. Stokes, Jr., the 14-year-old President of the Junior Wireless Club. (In picture above.)

It would be nice to organize a number of us boys who had begun to experiment with wireless telegraphy, so that we could arrange to talk to each other and help one another along. You see we can fix our instruments so that we get a unique wave length, and that enables us to talk to each other without interfering with anybody else, and without being interfered with by others."

"There are thirteen charter members, and every one of them has apparatus of his own. We usually talk to each other early in the night. I am the President, George Elitz of 441 East Forty-seventh Street, is Vice President, Fatoune Monn, out in East Orange, is Recording Secretary, and Frank King, up at 205 West 100th Street, is Secretary, and Frederick Bernour, who also lives in East Orange, is Treasurer."

"Do you know, there are between 25,000 and 40,000 -- -- wireless experimenters"

by meetings of the club at the Ansonia and know the secrets of the organization. "But a boy must have his own station," explained President Stokes, Friday night, "to be a full-fledged member of the --"

time," he said, "before men will be able to carry around with them in their automobiles or aeroplanes wireless telephone outfits. With these they should be able to talk to people having like instruments within a radius of forty or fifty miles. Miss Todd has planned to put a wireless apparatus on her aeroplane, but she hasn't gone up in it yet."

"If the communication trust is allowed to go as far as it likes, all the wireless instruments will be gobbled up so you can't buy one by the time science has

operators, he told of a boy who on visiting a wireless station some months ago found a new operator packing up his things to leave. The operator said there was something radically wrong with the station, which would have to be attended to by an expert. The boy, went on young Stokes, located the trouble in a few minutes and set things going. It later developed that he was the boy."

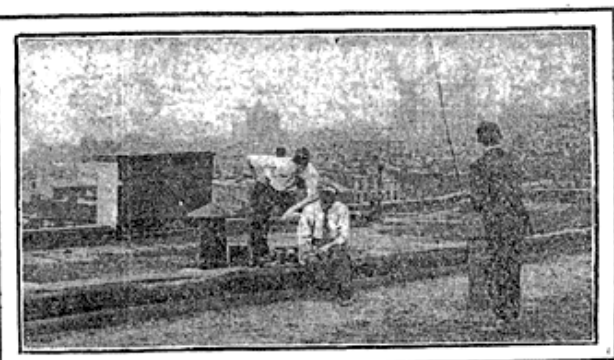
"About a month ago we heard about the bill that looked like it would result in monopolizing the air for professional wireless operators and companies," went on the boy, "and we decided we had better send a delegation down to Washington to argue before the Senate Committee on Commerce and Labor. George Elitz, Frank King Ernest Amey, and myself decided that we would go down. We left here on Wednesday, and arranged for a hearing on Thursday."

"There were a lot of other amateurs from all over the country down there to

Japan, England, Russia, and Germany excel this country in their wireless systems. "The messages of the British Admiralty sent on a uniform wave length and in a secret code cannot be made out by those for whom it is not intended," he said.

"The system of wireless on our battleships should be such that every ship could send 1,000 miles and receive 2,000 miles, and two or three special ships of each fleet should be able to send 2,000 miles and receive 4,000, so that no fleet of our Government would be out of range of Washington, in which city should be established the very best possible type of central station."

"Every ship should have an apparatus of the same up-to-date type, instead of the many different antiquated systems now in use, most of which lack means of cutting out interference, and which use wave lengths varying from 450 to 1,000 metres, as you can see from consulting the United



A Group of Wireless Operators Receiving Messages.

argued against the bill as it now is, and a good many representing the profession. The man who spoke just before I did was over six feet tall. He was an amateur, too, and he thought that the bill would cut us out of the air, if we obeyed the letter of the law."

"As a matter of fact, it would require an army of wireless Government inspectors to enforce the law, and it would take a whole lot of money. It would require the building all over the United States of a double system of wireless stations in every locality, so as to take the triangulation, to locate the offender. For a wireless aerial will be just as operative if strung within a house (in the cellar, or any portion of the house) or along the eaves of the house, as it will in the air."

"It is just as easy to conceal the aerial as it is to conceal the operator. With the new methods of radio transmission, the location of the operator could be absolutely determined. There would be no noise, no spark, to indicate his location. He might have a dozen aerials, a mile apart, which would only cost from \$2 to \$3 each, connected to some one locality, or a dozen localities, where the operator could be concealed; and while the engineers were trying to locate one apparatus by triangulation the offender could be operating another one a mile away, or two miles away. And it would require the co-operation of several skilled radio engineers to locate each apparatus."

"To substantiate this statement, any of us would guarantee to prove that it would take at least a month for the Government aerial engineer detectives to discover our locality, for the engineering calculations would be so intricate it would take days to locate the exact position of the offender."

"If our Government prepared to establish a Detective Bureau of Wireless Police, which would be fully equipped, if not more

States Government report of Oct. 1, 1909.

"Our Government should use a uniform wave length and a secret code for transmitting Government messages, and with the proper kind of instruments, they would have no complaint to make of interference from private or public stations."

"Mr. Chamberlain, Commissioner of the Bureau of Navigation, Department of Commerce and Labor, in a letter to us March 15, 1910, says that Admiral Sperry told him recently that he was in constant communication with Washington in the round-the-world cruises until he got within two or three days of the home shores. We believe that the Admiral's wireless operators did not represent things to him quite as they were. We know the official Government report, previously quoted, states that the Connecticut had on board at the time an instrument of the antiquated Shoenaker type, having only a 3 K. W. transmitter."

"Any expert will tell you that an instrument of only 3 K. W. transmitter could not, under the most favorable conditions send over 450 or 500 miles, more probably only about 400 miles on the average. With this instrument an operator could not possibly cut out interference or work with equal efficiency under all atmospheric conditions at all hours of the day or night, and at all seasons of the year. Surely the operator misled the good Admiral as to the real cause of trouble in communicating. Why, to-day most all the ocean steamer messages are transferred or relayed from ship to ship within a radius of 500 miles at most."

"We amateurs are blamed for much that we do not do. The cases where amateurs actually interfere are few and exaggerated. In many cases antiquated apparatus and incompetent professional operators are responsible for the trouble. A good operator with an up-to-date na-

W. E. D. Stokes, Jr., at Home.



# Youth saves Amateur Radio in the US - 1910 & 1912

This 14 year old kid, W. E. D. Stokes, Jr. (1910):

- President of the Junior Wireless Club,  
(later renamed to Radio Club of America, RCA)
- held patents relating to wireless communication.
- 1910 no commercial radio stations (not till 1923)
- no FCC to regulate the airwaves (not till 1934)
- Estimated 25,000 to 40,000 US amateur wireless operators

New York Senator Chancey Depew (R) had introduced a bill that would restrict the use of airwaves, posing a threat to the radio club's hobby. So the club sent their president down to Washington to **testify before Congress**. At the time, **he was the youngest person to do so**. Fought the same bill again in 1912 and won.

That congressional record was broken in 1994 by a 6 year old, regarding racial category labels.



# Program Potential

Our program touched the lives of over 12,300 scouts in 2019 and our virtual Radio Merit Badge requests exploded during covid. We have the potential to get hundreds of youth licensed each year and our goal of providing free starter equipment, fcc fees and VE testing is very cost prohibitive. Those youth will also begin their brand loyalty based on their starter equipment.

If our program were rolled-out nationally it could mean several thousand (~24,000) newly licensed scouts each year through summer camps and scheduled council events. Youth that the ham community has been begging for.

We've expanded our program to assist ham clubs in other areas and councils to recreate our program. We just need to keep the momentum going so that it grows beyond our council and through the rest of the country.

With my new ARRL position archiving that goal has been made possible. Some projects in the works.

- **Scout Ham Box:** HF/vhf/uhf/SDR 50 watts, less than \$1k
- **Council Cube Repeater:** 50watt GMRS & UHF repeater with cellular backbone to interconnect councils, much like the east coast reflector. Each hour different councils would link up. Unit mailed to councils and maintained by local clubs.
- **Youth outreach:** several scouting orgs are interested in STEM.
- **Club outreach:** contacting every club to get support for their local youth programs and helping to restart their STEM.
- **Ham outreach:** getting a list of volunteers willing to assist in demo stations or merit badge education about radio.



Youth: 2.4 million youth (2019)

Peak: 1973, 4 million youth

Adults: 1 million volunteers

Councils: 272

Youth Units: 100k+

Just 1% = 24,000

Radio Merit Badge: 7,000/yr

K2BSA Members: 506 (BSA national)

wB4SA Members: 837

building to 1000+ (grant threshold)



ARRL Members: 161,000

ARRL Clubs: 2,481

FCC lics, “hams”

2018: 750,000

2011: 700,221

2001: 683,000

1991: 494,000

1981: 433,000

1971: 285,000



I've visited a number of clubs and talked to thousands of hams, everyone says the same two things...

1. We need more youth, everyone has gray hair.
2. The repeaters are dead. (get youth on VHF to solve it)

And here I am... screaming “**I have 2,000** [different] **youth almost every weekend that want to learn!**”. And we are just 1 of 270 BSA councils across the country, some are even larger.

Scouts out-number ARRL members **15:1** and all hams **3:1**

If we get just 10% youth interest...

that's 240k youth exposed to the RS/Radio Merit Badge;  
if we capture 10% of those you have 24,000 licensed techs.

We need and desire...

**hams to assist** in running programs

**receptive clubs** to send them to, after licensed at camp

clubs & **ARRL** to **not charge high dues** to under 18 or 26 youth!

– Ken, KN4MDJ

## Suggested Membership Structures

<b>YOUTH / JUNIOR (&lt;18)</b>	<b>STUDENT (18+)</b>	<b>ADULT</b>	<b>ASSOCIATE</b>	<b>ELMER / SENIOR</b>
Licensed ham Non-Voting Free Dues	Licensed ham Voting Reduced Dues	Licensed ham Voting Full Rate Dues	General Public Non-Voting Reduced Dues	Licensed ham Voting Reduced Dues

Youth programs touch the lives of thousands of youth daily.

It's our job to provide exciting and interesting  
STEM programs that appeal to the youth at camp.

Interested youth need **your support**  
to continue their learning when they go home.

It's the local clubs that provide elmering for our youth.  
Don't make dues a hurdle that limits growth and learning.



## Key points

### GO TO WHERE THE YOUTH ARE!

We go to scheduled scouting events and become an additional activity of the program. Youth only visit for 10-15 minutes for the activity.

### KEEP IT INTERESTING

We add or change up what we do on every event. This year we are adding POTA setups, expanding ARDF and GoBoxes. Drones/Sat/ISS attract youth! Waterfall displays and computers are key to many youth.

**Ham is more than ARES, SSB, CW and old guys!**



# Q & A

**Support our program...  
become a member,  
supporter or just enjoy our  
monthly newsletter as we  
bring radio STEM to youth.**

**[www.RadioScouting.US/J](http://www.RadioScouting.US/J)**

