

# Radio



# Scouts



# Radio Scouting



# KØBSA

# Radio Scouting for Northern Star Scout Council

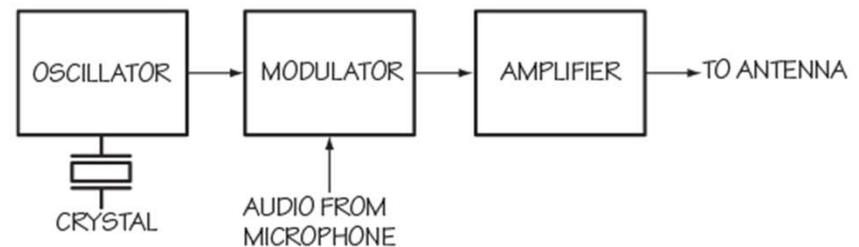
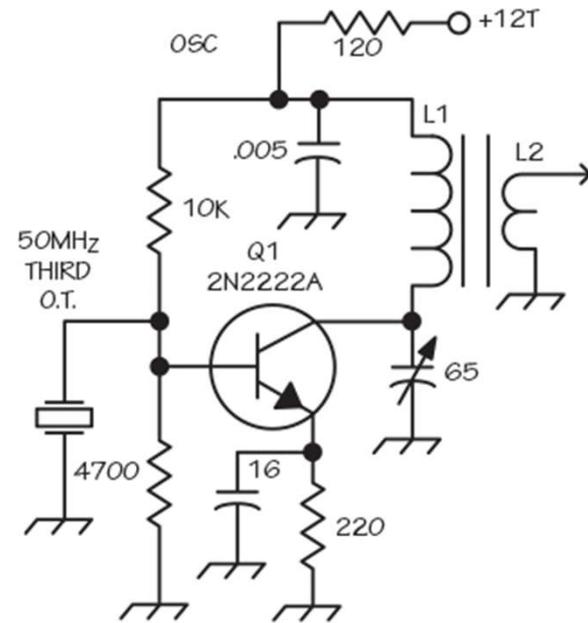
SPRC Mtg on 5/2/2025

Dan Dionne, K9ALV,  
k9alv@ARRL.net

SPRC Scout Radio Liaison,  
Troop 3268 Committee Member,  
Radio Merit Badge Counselor

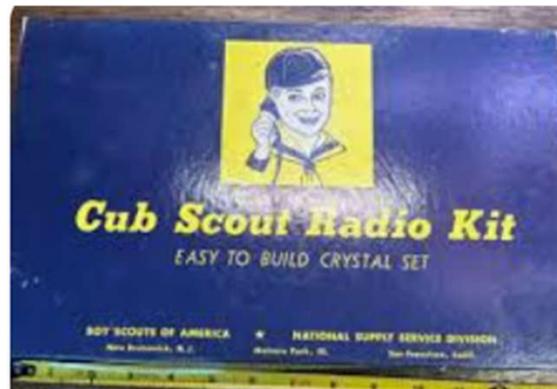
# Agenda

- You do: Scouting? Radio Scouting?
- Introduction
- You Know Radio. Scouting is...
- Northern Star Council Territory Map
- Radio Scouting Objectives
- Radio Scouting History
- JOTA Jamboree On The Air
- The Scouting Museum in St Paul
- Scout Frequencies & Modes
- SCOTA Scout Camps on the Air, SSOTA; Scout Stations...
- USA & International SCOTA Events
- Local Events for MB & SCOTA
- How to Help / Get Involved
- Radio Patches
- The Radio Merit Badge
- Radio Merit Badge Book
- Questions



# You do: Scouting? Radio Scouting?

- Please raise your hand if you had **Scouting in your life**? Either Boy or Girl Scouts. As a leader or as a kid. Also if you were an involved parent / grand parent, etc.
- How many of you are **currently** involved in Scouting?
- Raise your hand if **radio and Scouting were tied together** for you at some time in your life.



# Introduction

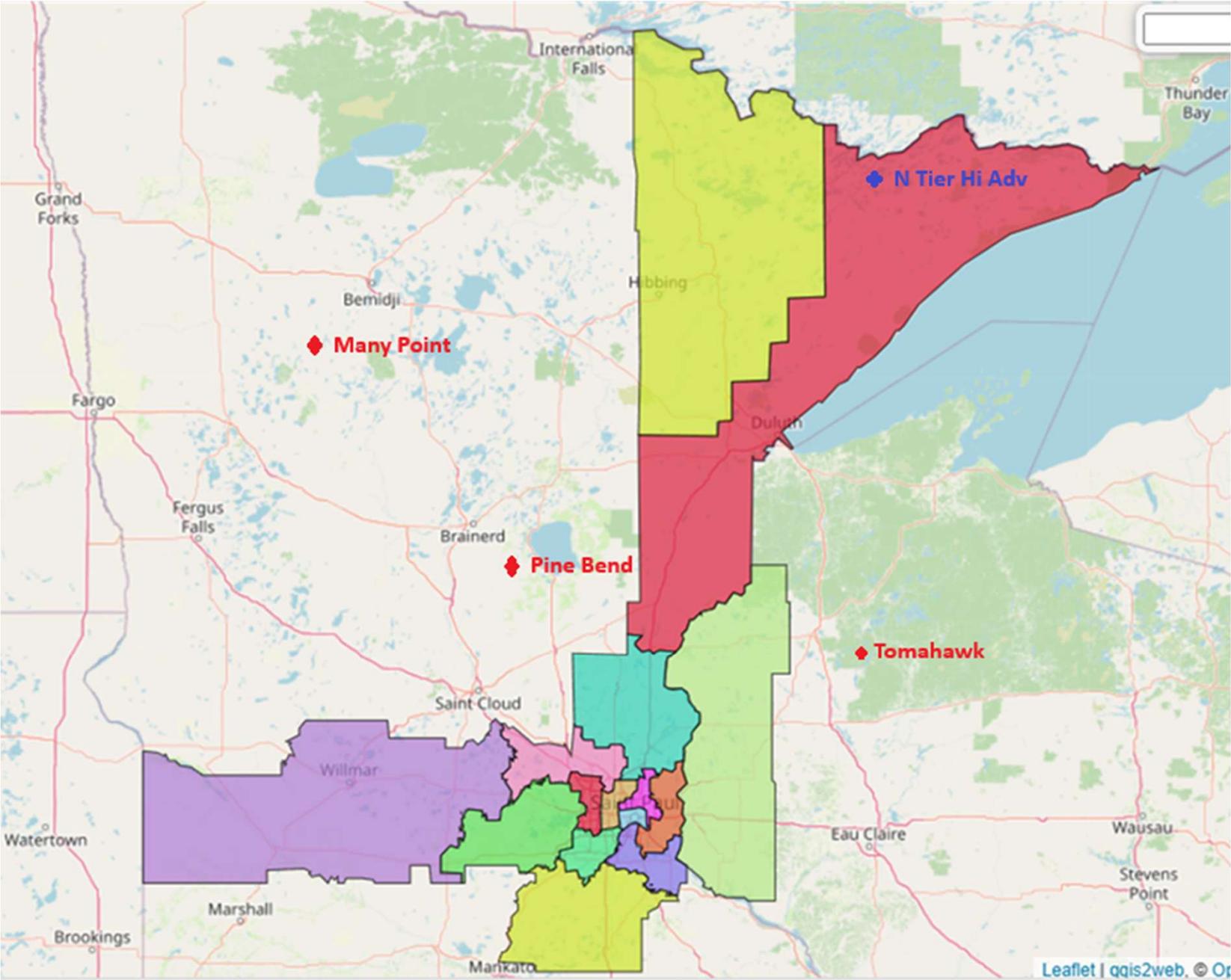
- 1970's electronics training, 1973 First Class Radio Telephone FCC license (expired).
- Retired a year ago after 45 years in IBM field service - CE/SSR/IPR - facility planner.
- In 2017 I got my Tech and General license.
- In Scouts in the 1960's, then did a year in Civil Air Patrol. I just finished 4 years Cub Scout Den Leader duty and started BSA Troop Committee Member.
- Certified Merit Badge Counselor for Radio, Electronics, Electricity. FCC Tech trainer.
- Member of MNYARC (Minn Youth Amateur Radio Council).
- For now, my Radio Scout work is with Tim Arimond N0BYH and Rick Clem W0IS.
- I'm involved with radio support for BikeMS 150 / TRAM this year and a half dozen in the past. Also, three Twin Cities Marathons. I do Field Day and Winter Field Day.
- My Robbinsdale HOA controlled QTH strangles HF ops so that's always portable. 2m and 70cm works fairly well.
- Rigs: icom 7100 (HF, VHF, UHF) and icom 5100 (VHF, UHF), Baofeng HT.
- Married 49.4 years to wife Janet. Grandkids: 7, 11, 22 – the youngsters are Scouts.
- 30 years in Milwaukee, 35 in Denver, 6 in Twin Cities.
- 9ALV is the 1925 ID for my grandfather. My dad was KA9IWR and, before marrying mom, had a Piper Cub. KI7PJL is my sister. One brother was a CB'er – no luck licensing him yet.

# You know Radio. Scouting is...

- Not just the **Mottos** of: Do your Best and Be Prepared or **Slogan**: Do a good turn daily.
- Not just the **Law**: A Scout is Trustworthy loyal helpful friendly courteous kind obedient cheerful thrifty brave clean and reverent.
- Not just the **Oath**: On my honor I will do my best to do my duty to God and my country and to obey the scout law; to help other people at all times; to keep myself physically strong, mentally awake, and morally straight.
- **The primary purpose** of Scouting, including Boy Scouts, is to **develop youth into responsible, ethical, and well-rounded individuals who are prepared for life**. It aims to **foster character development, citizenship** training, and **leadership skills** through a **variety of activities**.
- **Organization / Roles**: Cubs [K-5] (Adult Leader/Top down). **BSA** [5-12 (18y.o.)] is **Scout led**: Scout roles such as: Assistant Patrol leader, Den Chief, Web Master, Bugler, Quartermaster, Scribe, Librarian, Historian, and more. Older Scout (Patrol Council) roles: Patrol Leader, Assistant Senior Patrol Leader, Senior Patrol Leader, and more. Adults roles: Scout Master and his direct assistances, Troop Committee Chair / Members, Merit Badge Counselors, etc.



# Northern Star Council Territory Map



# Radio Scouting Objectives

- **Again**, see the middle paragraph of the previous page.. **develop youth into responsible, ethical, and well-rounded individuals who are prepared for life...foster character development, citizenship training, leadership skills through a variety of activities.**
- The Northern Star Council has specifically requested I, as a Radio Merit Badge Counselor, incorporate **STEM** (Science, Technology, Engineering, Math) and **international communication and good will** aspects into our radio programs. - Easy, these are **already basic facets of Amateur radio.**
- **Develop interests in radio**, expose Scouts to radio **operation**, provide **training** and teach **skills** through the **Radio Merit Badge**.
- Show how **radio is in technology**, such as in **Bluetooth, WiFi, Celluler, drones, cars**, etc.
- Assist / train Scouts to **obtain an FCC Technical license**.
- **Involve Scouts** in radio related **community service**.
- Have Scouts **examine radio related careers**.
- **Hands-on use** and circuitry of radio.
- Introduce **technical concepts** such as wavelength, frequency, bands, parts of a radio / transmitter, antenna, Ohms Law, power, protocols, laws, read schematics, etc.
- **Have fun**

# Radio Scouting History



- 1910: Boy Scouts of America founded in Washington, DC.
- 1918: Wireless Merit Badge (MB).. formal integration of radio into the BSA.
- 1923: The Wireless MB becomes the Radio MB.
- 1930: Requirement to send Morse code at 10 wpm is reduced to 5 wpm.
- 1958: First internation Scout JOTA Jamboree on the Air.
- 1984: Morse code MB req. dropped. Add options for 1) amateur radio, 2) broadcast radio, 3a) ShortWave listening,
- 2017: 3b) add Medium Wave listening, 4) Add Fox Hunting.

=====

## Ham Radio History

- 1912 Dept of Commerce, Bureau of Navigation, Radio Div/Serv - Navy – interference – Titanic... The Radio Act
- 1914 ARRL formed
- 1920s Outlaw spark gap
- 1910s-1930s, WWI, temporary shutdown amateur radio
- 1927 Federal Radio Commission established
- 1934 FCC formed



# JOTA, Jamboree On The Air



- Global Boy & Girl Scouting event, over 1.5M participants, 160+ countries.
- **3<sup>rd</sup> weekend of October**
- [ARRL supported](http://ARRL.org) – ARRL.org
- Annual JOTA registration encourages Club Call IDs such as: KB0BSA, KK4BSA, KB3BSA. Our [Minn club call is K0BSA](#) (MNYARC managed). K2BSA is an extensive radio scouting organization in NJ. Troops around the US use extended ID like K2BSA/9.
- [Tim Arimond, N0BYH](#), has operated a JOTA station for the past 23+ years and I assisted with the past three events.
- The [North Star Museum Of Boy Scouting & Girl Scouting](#) has a roof antenna and is where JOTA and other local radio Scout events are placed.



# The Scouting Museum in St Paul



< Dan,  
< MB Instr  
Rick Clem  
Tim  
Arimond >

Radio MB  
class

v



# Scout Frequencies & Modes

- **World Organization of the Scout Movement (WOSM)** supports Radio Scouting and encourages specific frequencies during events like JOTA.

80m: CW: 3560-3800kHz, SSB: 3650-3700kHz

40m: CW: 7040-7200kHz, SSB: 7080-7140kHz

20m: CW: 14060-14350kHz, SSB: 14100-14125kHz and 14280-14350kHz

15m: SSB: 21350-21450kHz

10m: SSB: 28225-28400kHz

Scout World Operating Frequencies (general guidelines):

CW: 3,590, 7,030, 14,070, 21,140, 28,190kHz

PHONE: 3,740, 7,090, 14,290, 21,360, 28,990kHz

- ARRL, JOTA, and K2BSA expand and refine the above. They include: 2m and 70CM Simplex, PSK-31, DSTAR, DMR, AllStar, IRLP, EchoLink, APRS, Wires-X, WinLink, etc. (FT8 is usually excluded.)
- **\*\* Scout-to-Scout communication is a top objective. \*\***
- Unlike Field Day or contesting, Scout events seldom track points and **do encourages prearranged communications. Repeaters ARE allowed.**



# SCOTA, SSOTA: Scout Stations..

- SCOTA / SSOTA **runs year round at any scout camp or scout station.**
- Includes Klondike Derby (KDOTA), National Scout Jamboree, etc.
- There's no POTA-like spotting. SCOTA / SSOTA main feature provides a private Facebook site that you can **create a notification of your camp radio event.** And event **look-up** to see what's happening so your Scouts can join in. The SCOTA web site gives rules, activations, POTA-like site ID, etc.
- Pre-planning: Day(s) before the event, contact the Facebook poster to prearrange contact specific details.
- Over the past year **I interviewed Scout Camp Directors and Rangers to determine interest in SCOTA with positive results.** I have operated and tested propagation at Tomahawk, Sterns, Rum River, Rush Creek and Phillippo Camps. ...Not yet Many Point – soon.

# USA & International SCOTA Events

Communication, invitation, notification:

- SCOTA  Andy Cogswell Yesterday at 11:22 AM · 🌐  
Facebook posts > I'll be at 📍 Quail Hill Scout Reservation this weekend. Hopefully I'll have time to operate. I'll have my FT-891 with me, operating as W2PSK/P <https://qrz.com/db/w2psk/p>  
No scouts on the air though. I'm the campmaster and will be tending to my duties while the scouts are with their units doing their thing.

**Troop 82 live @ BSA Camp Cherokee,  
Yatesville, KY. Moni: APRS KC8PFI-7 and  
KG4DVE repeater (echoing 975506)**

-  Greg Pioppi April 12 at 12:01PM · 🌐  
K2BSA/3 will be on the air Saturday April 26, for the Minsi Trails Council STEM Camp-O-Ree from the beautiful Pocono Mountains of Pennsylvania.  
We will be on the usual Scout frequencies.

- Event example files... if time  
SCOTA Facebook contact example for 2025**0503**.pdf  
SCOTA KDOTA Facebook contact example for 2025**0308**.pdf  
Rpt for SPRC K0BSA **WFD** on 2025**0125**.pdf

# Local Events for MB & SCOTA

Communication, invitation, notification:

- By Local, I mean Twin Cities through Northern Council territory.
- **Monthly** Northern Star Council web site, the Navigator news paper and the softcopy eNavigator.
- Monthly SPRC Ground Wave event notice
- **Weekly** Starlight post to Troop and Cub leaders via email to the Council.
- **Immediate** posts to Northern Star Portals in Facebook sites in:

Northern Star Scouting web site: <https://www.northernstar.org/>

Northern Star **Cubs** Facebook: <https://www.facebook.com/NorthernStarBSA/>

Northern Star **Scouts BSA** Facebook: <https://www.facebook.com/groups/NorthernStarScoutsBSA>

Northern Star **Cub Scouts 2** Facebook:

<https://www.facebook.com/groups/NorthernStarCubScouts>

Northern Star **Venturing** Facebook: <https://www.facebook.com/groups/NSCVenturing>

**Northland** Scouting Facebook: <https://www.facebook.com/groups/northlandscouting/>

And

- **Email direct** to Northern Star Certified Radio Merit Badge Counselors and interested Ham.

# How to Help / Get Involved.

- Consider [participating in Radio Scouting activities](#) at home or on-site.
- You're always welcome to [drop in](#) to observe and help.
- To be a [BSA Registered Adult](#):
  - Do 20 minute on-line [Youth Protection Training](#) (YPT).
  - Fill in a BSA Adult [Registration](#) form. (Three references are needed.)
  - Pay [\\$65](#) for processing, [insurance](#) and [background check](#).
- With the above, you can be 1 of 2 adults in a room with 2 or more scouts (e.g. 2-deep leadership and Scout Buddy Plan). You can help with SCOTA and MB training but can't sign forms or tests or access all scout systems.
- Do a [Merit Badge Counselor](#) form & take Counselor course to do all duties.
  - Contact a local Scout [BSA Troop](#) / [Venture Crew](#) / [Explorer Post](#), [Sea Scout Ship](#), show above forms and have forms processed.
  - Now you can conduct MB classes and SCOTA (w 2-deep/Buddies), be in the system, access some Northern Star internet / facebook sites, etc.
- To stay / work at a campout, and for more system access, you further need the BSA [Troop Committee Member](#) position in a Scout Unit.

# KØBSA Cert of Participation / QSL

	<h2 style="margin: 0;">KØBSA</h2>
	<p>Sponsor: MNYARC (MN Youth Amateur Radio Council)          Trustee: Jason Godfrey NØRPM@arrl.net          Repeater KØYTH 444.775 + 114.8</p>
<p>QSL USPS: <a href="https://www.mnyarc.org/mnyarc/">https://www.mnyarc.org/mnyarc/</a>          MNYARC, PO Box 27253, Golden Valley, MN 55427-0253</p>	
<p>Check boxes: Radio MB <input checked="" type="checkbox"/>, Other MB <input type="checkbox"/>, JOTA <input checked="" type="checkbox"/>, SCOTA <input type="checkbox"/>, SSOTA <input type="checkbox"/>, Special event <input type="checkbox"/>          Camp: Spring <input type="checkbox"/>, Summer <input type="checkbox"/>, Fall <input type="checkbox"/>, Winter <input type="checkbox"/>, Klondike Derby <input type="checkbox"/>, Emergency <input type="checkbox"/>          Ham: Net <input type="checkbox"/>, POTA <input type="checkbox"/>, SOTA <input type="checkbox"/>, Field Day <input type="checkbox"/>, Winter Field Day <input type="checkbox"/>, Contest <input type="checkbox"/>          Environment: Inside <input checked="" type="checkbox"/>, Outside <input type="checkbox"/>, Battery <input type="checkbox"/></p>	

*Confirmation  
of  
Radio Scouting  
Contact / QSL.*

Northern Star Scout Council Ft. Snelling, MN. Venture Crew 3373	<h2 style="margin: 0;">KØBSA</h2>	Event Ham Operator: <b>Dan Dionne, K9ALV</b> k9alv@ARRL.net at Grid: EN35ha
<p><b>From:</b> Scout information and location: <a href="#">Issac, Pack 432, N St Paul, MN</a>. Scout Museum grid: EN35ma13. 10 minute contact.</p>		
<p><b>To:</b> Scout information and location: <a href="#">William, Pack 0742, Dublin, VA</a></p>		
QSL: PSE <input type="checkbox"/> or TNX <input checked="" type="checkbox"/>	Freq: <u>21.360</u> MHz / Band: <u>15</u> m	RST: Rx; <u>59</u> , Tx; <u>59</u>
Local: <u>10/19/2024</u> , hhmm: <u>1207PM</u> CT		Mode: <u>SSB</u>
UTC: <u>   </u> / <u>   </u> / <u>2025</u> , hhmm: <u>   </u>		Power: <u>99</u> W

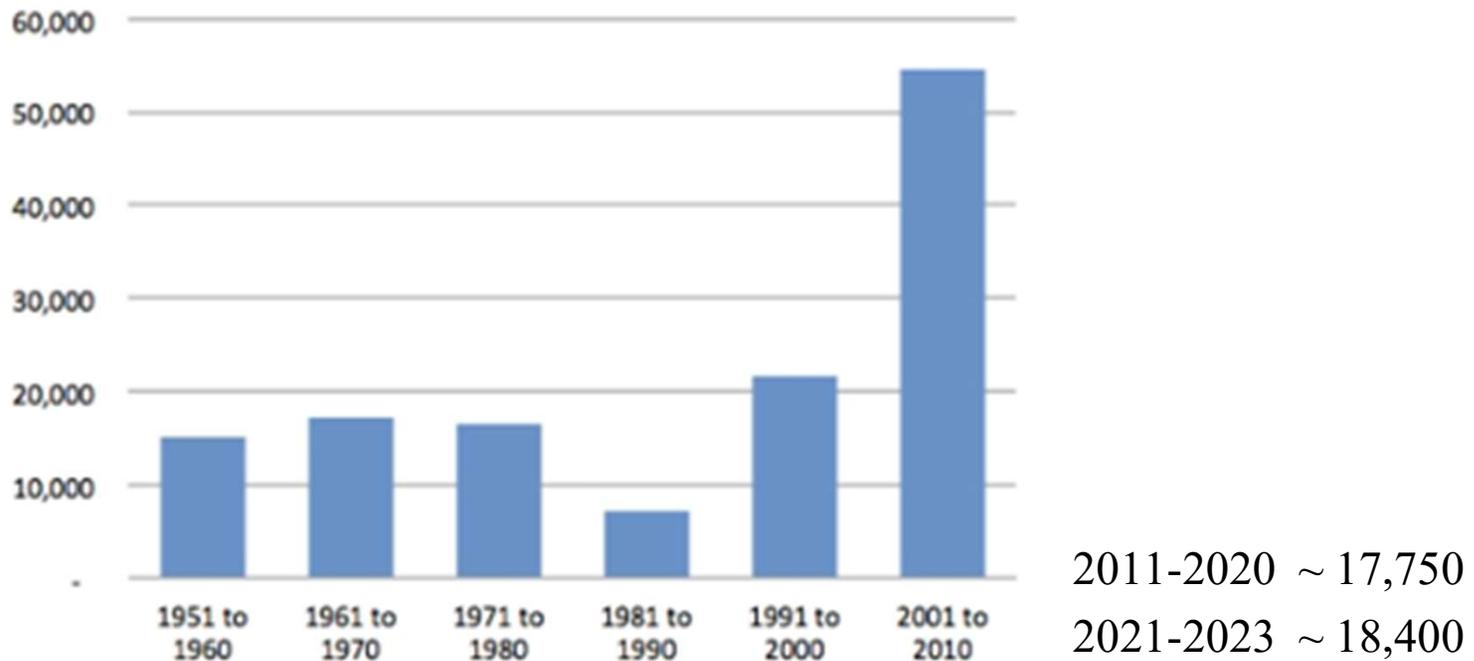
*Certificate of  
Participation*



# The Radio Merit Badge

- The **Radio MB is an Optional MB**. It's a **4 to 6 hour class, no required homework**.
- The Emergency Preparedness, Communications, Electronics don't mention Radio MB.

**Radio Merit Badges Earned**



- Tim and I offer a **custom course that incorporates Radio, Electronics & Electricity MB's AND FCC Tech License training**. There's economy of scale in combination, e.g. all have Ohms Law, grounding, etc. It's 10 sessions, 1 day/week, 2 hours, w homework. Parents are welcome to learn and get a license (and some do)!
- There are 139 MB's. Eagle rank does 14 specific required MB's and 7 optional MB.

# Radio MB -> FCC Tech



Scout Camps On The Air (SCOTA)

Sam Wilfond · 18h · 🌐



Sam Wilfond

18h · 🌐

Congratulations are due to two Scouts from Troop 100 who obtained their FCC Technician Licenses over the weekend. They will receive the BSA Amateur Radio Operator strips at their Court of Honor.

You and 26 others

7 comments



Like



Comment



Send



Keith Melvin

Well done! de KA8BSA. ...

1d Like Reply



Dan Dionne

Sam, Congrats to you too! A) How long were classes? B) How many classes? C) How often were classes? Thanks for the post. Dan K9ALV for K0BSA.

2d Like Reply



Mike Calhoun

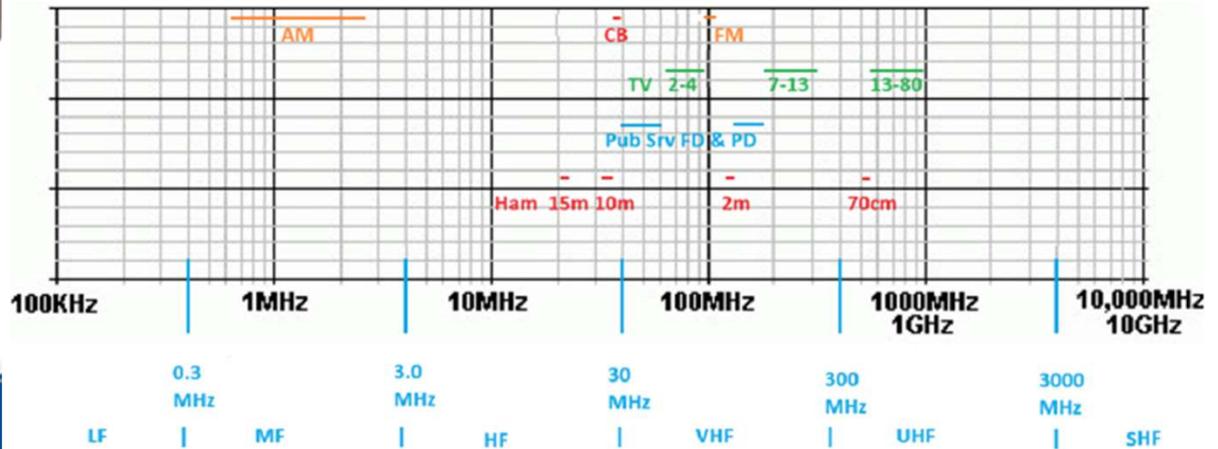
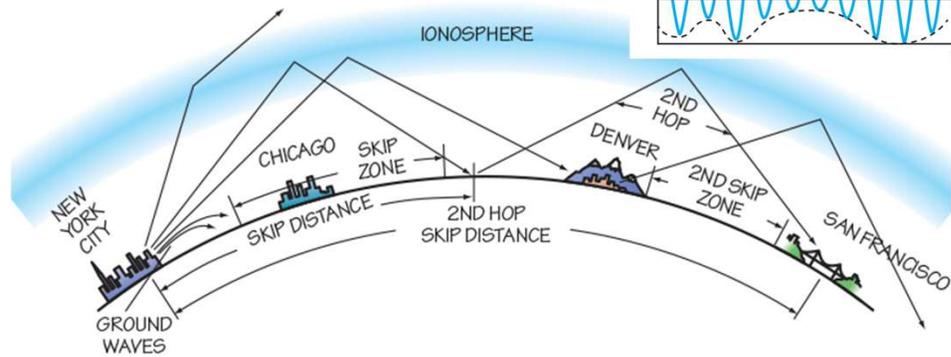
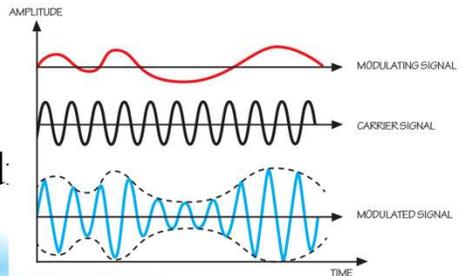
I make the same deal with every Scout that takes Radio MB from me. They get this patch when they show me their Technician license.

73 de N5LMC

- Posted 5/5/2025

# Radio Merit Badge Book

- MB follows the ARRL Tech License Manual, but not the full depth.
  - Open the Radio Merit Badge book and scan through. Pause on pages:
    - 13 Call sign regions, 14 Phonetics, 16 Propagation, 20 Spectrum, 21 Band boundaries, 21 Radio Spectrum, 22 CW, 23 Block Diagrams, 24 Schematic, 24-25 Modulations, 26 NOAA, 27 Safety, 29 ISS Sunita Williams 2012 JOTA (stuck June 2024-March 2025), 30 JOTA & radio lingo, 33 abbreviations & Q codes, 35 QSL cards, 40 Amateur Bands/Freq, 41 Broadcast, 50 Broadcast terms, 57 SW listening, 58 Fox hunt, 61 Careers,
  - 1) Scan Requirements on pages 4 to 7.
- OR
- 2) Display file: “RadioMB-Workbook Dan Answers 20250328.pdf”



# Questions??



St Paul Scout Museum in 2013

Venture Crew 3373, K0BSA, helping Cub Scouts

Left: building crystal radios at JOTA

Right: Portable 3 element beam in Museum parking lot.

**\*\* Thanks for having me and allowing me to tell this story. \*\***