



***Please join us at 7pm on the 1<sup>st</sup> Tuesday of each month in person or on ZOOM.***

Mount Nebo Methodist Church  
3685 Nebo Rd, Dallas, GA 30157

### Did You Know

Where does the word **antenna** originate from? From Latin antenna, antemna ("yard, sailyard; pole"). First used in this sense as a Latin word in the 15th century and as an English word by the end of the 17th century.

### Conundrum

Every radio signal must travel half the distance between antennas. Next, it then must travel half the remaining distance. Then again it travels the next remaining half and repeatedly halving the distance. Always reaching the next half, but never completing the entire distance. Therefore, radio communications is impossible. (Editor adapted Zeno's Achilles and the Tortoise Paradox)

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## ***W4RSC "Radio Silver Comet"***

***The Silver Comet ARS Inc. a 501 (c) (3) Not for Profit Organization***



## **Editor's Notes:**



**Articles Wanted!** Do you have a story about your ham radio life? Doesn't need to be dramatic, but if it affected your ham career, others will enjoy reading your story. Please email the editor your story, he will polish it, and our club will learn about you. Alain Trottier, N9AL, [atrottier@gmail.com](mailto:atrottier@gmail.com) – Editor

Copies of past SKYWAVE newsletters: <http://www.silvercometars.com> .

## **Monday – “SCARS Night Out” Net!**



Please join us on the 146.955 (- 77Hz) repeater at 7:00pm and on Zoom. Check the SCARS Groups.IO calendar for meeting and Zoom link information.

It's fun and informative. Suggestions for Topics of Discussion are always solicited. You don't have to dress up because it's very informal and you can bring your dinner and eat it too.

**Additional Moderators are needed.** If interested in helping out, please contact Troy at [troy.davis@hotmail.com](mailto:troy.davis@hotmail.com)

## **SCARS Community Food Drive!**



Let's keep up the good work in 2023. Monetary donations are easy to make on our website at <http://www.silvercometars.com/about.php>

**Helping Hands of Paulding County** will gratefully appreciate your thoughtfulness. For more information on this great organization: <http://hhpcga.org/community-support/food-pantry-clothing-donations>

# **W1AW and VOTA (by Duvall K4CGA)**

Who is it and what is it? Recently everybody has been talking about W1AW's Volunteers On The Air (VOTA) program and what does it mean.

W1AW is both the amateur radio call sign and the primary operating station of the American Radio Relay League (ARRL) and is the flagship station for amateur radio operations within the United States.

Let's start off by explaining what the ARRL is and what it does. The ARRL is the primary representative organization of amateur radio operators to the US government and is the largest membership association of amateur radio enthusiasts in the United States. The ARRL provides technical advice and assistance to approximately 160,000 plus amateur radio enthusiasts by supporting a number of educational programs and sponsoring emergency communications services throughout the country.

W1AW is located on the grounds of the ARRL Headquarters in Newington, Connecticut and routinely transmits bulletins and Morse code practice in order to keep amateur radio operators informed of significant amateur radio events and provide code practice.

VOTA is a year-long (2023) ARRL sponsored operating event honoring its Volunteers On The Air and encouraging all amateurs to become more active and involved in amateur radio and the ARRL. Join the fun! Visit the official VOTA website for further details: [vota.arrl.org](http://vota.arrl.org).

Several SCARS members recently participated in the ARRL's Georgia Section (call area 4) using the call sign W1AW/4. Edwin Whitworth KJ4KKB hosted the event at his home.





### VOTA Operators:

Whitworth KJ4KKB, Ozment W4DTO, Shepherd K4KPD, Mellichamp N4DDM,  
BROWN KJ4JJX, Benoist AG4ZR, Walls K4ELI.

Below pictures are by Whitworth KJ4KKB:







# **Spring Ducting Season (by O'Brien W4AMP)**

Quote

*The single biggest problem in communication is the illusion that it has taken place.* - George Bernard Shaw, Nobel Prize-winning playwright

## Ducting

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The ducting season for vhf/uhf/microwave is approaching. This part of ham radio is challenging yet rewarding. A good part of the contacts there are made by knowing the conditions and when the tropospheric ducts are occurring. There can be ducts in the winter also. This ducting allows transmission of VHF frequencies and above beyond traditional line of sight.

### **Duct Facts**

They can form at certain altitudes only and not be on others. They can last a few minutes or days. They all have a MUF (Maximum Useable Frequency) and even that can be different by altitude.

All of these frequencies have what is called "morning enhancement". As long as the sun comes up! Early morning after sunrise to about 9 or 10 am allows increased signal travel and a quieter band. Making contacts over 100 to 200 miles are common.

Sometimes a duct will be massive and cover most of the US! I have heard ducts into Mexico where the MUF was 432! There is a famous duct that forms often from California to Hawaii where the MUF sometimes reaches 1296!

### **Tips**

Most of this all-mode work is done on horizontal loopers or Yagi. Many think they cannot operate 144/222/432 on a vertical at all. But as George Carlin used to say "au contraire, mon frère". The loss between a vertical and a horizontal antenna is around 20 dbs. Most installations have verticals and will gladly switch over if you ask. Some feel you need expensive, long boom antennas to operate. While they do help, a simple horizontal loop or dipole works well. A simple two band loop that covers 144/432 is easy to make.

A decent feedline is required. LMR 400 is about the least you want to use. Here I use LMR 600 on everything due to the cost. Hardline is best if you can afford it. Always have a good loss calculator on hand so you can figure loss. With my 125' LMR 600 on 1296 I lose about three watts. I wish I had those three watts, but until I hit the Powerball the LMR 600 will be my setup.

## **Tools**

Whenever you are on any amateur band and contacts get very short the band above is open and the MUF is moving up. If 20 is short, 10 is open. If 10 is short, six is open. This is a good guide all the way up in frequency. You need to be on the calling frequencies: 50.125, 144.200, 222.100, 432.100, 902.100, 1296.1 etc.

Listen to the big guns. Several operations in North Georgia and Tennessee are located on mountains with huge stations. As they work stations you do not hear you can look up the call and put your beam on them. If you still do not hear them then the duct might not reach down to your area. Rare, but does happen. I at 1250' elevation while many up north are over 2,000'.

Use reflection if possible. You can aim a signal into Atlanta and reflect somewhere else. Huge glass covered sky scrapers work great. Foliage kills high band signals. There are aircraft and rain scatter possibilities for microwaves. There is also meteor scatter, where the signal is reflected off of the ionized trail. The ultimate of course is EME, or earth moon earth. This usually requires a large and expensive antenna.

I tried to work ISS on UHF APRS. I had VHF and UHF phone and VHF APRS. So, I got on my brand new Yaesu FTM100D and went to set the APRS address. Guess what? No way to put in ISS! Sent Yaesu a email and they said oh well. I don't even think they did a firmware fix either. Then I picked up my little Yaesu FT1. Put ISS in the address, and waited for the pass. When I heard the chirp, I held the HT about a foot over my barbeque grill sideways and hit send. Connected immediately. I still need mode L (1296).

Power is good as well, right up there with elevation. But 100 watts on 144 and 75 on 432 is sufficient. That is what the ICOM radios use. My current station is seven elements and 400 watts on 144, ten elements and 150 watts on 222, 28 elements and 75 watts on 432, 55 element looper and ten watts on 1296. I also have a 19-element vertical looper on 927.5 FM. I tried to spread my limited funds around. Our grid is EM73. All stations want that of course. Some want the whole number. Mine is EM73nv.

Watch your SWR. While a 2.0 is doable on hf, it will pop your finals on these higher frequencies. And they are pricey. Find someone with a Bird meter and the proper slug and ensure the SWR is low. High SWR will degrade your signal. A meter, barrel connector, switch is known as an impedance bump here - keep this low. The higher in

frequency the more this applies. On 1296 I have a single power meter in line and that's all. Joining feedline with barrel connectors is bad above six meters.

Another inexpensive way to detect ducts is an outdoor TV antenna. Most stations now are UHF. TV ducts like everything else. The Gulf coast stations are a great example. Broadcast FM radio works as well.

Online tools for VHF/UHF/Microwave:

- Loss Calculator
  - <https://kv5r.com/ham-radio/coax-loss-calculator/>
  - <https://timesmicrowave.com/calculator/>
- Ducting Forecast
  - <https://www.dxinfocentre.com/tropo.html>
- VHF and up propagation maps
  - <http://aprs.mennolink.org/map>
  - <https://www.dxmaps.com/spots/mapg.php?Lan=E>
- VHF/UHF live chat
  - <http://www.on4kst.info/chat/login.php?band=8>
  - Georgia is in IARU Region 2

Quote

*Excellent communication doesn't just happen naturally. It is a product of process, skill, climate, relationship and hard work.* - Pat McMillan

## Reginald Fessenden

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The first voice and music signals heard over radio waves were transmitted in December 1906 from Brant Rock, Massachusetts (just south of Boston), when Canadian experimenter Reginald Fessenden produced about an hour of talk and music for technical observers and any radio amateurs who might be listening.

*Editor: adapted from Briannica.com*



## **Field Day 2023 (by Duvall K4CGA)**

The American Radio Relay League/Radio Amateurs of Canada Field Day is held annually the fourth full weekend in June, beginning at 1800 UTC Saturday (2:00pm EDT) and running through 2059 UTC (4:59pm EDT) Sunday. 2023 ARRL Field Day is June 24-25. The 2023 Rules will be updated/released in March.

Sponsored by the ARRL and RAC (but organized primarily by the ARRL), Field Day is open to all Amateur Radio operators covered by these two IARU member organizations. Field Day is an annual amateur radio exercise, widely sponsored by IARU regions and member organizations, encouraging emergency communications preparedness among amateur radio operators. In the United States, it is typically the largest single emergency preparedness exercise in the country, with over 30,000+ operators participating each year.

Since the first ARRL Field Day in 1933, radio amateurs throughout North America have practiced the rapid deployment of radio communications equipment in environments ranging from operations under tents in remote areas to operations inside Emergency Operations Centers (EOCs). Operations using emergency and alternative power sources are highly encouraged, since electricity and other public infrastructures are often among the first to fail during a natural disaster or severe weather.

To determine the effectiveness of the exercise and of each participant's operations, there is an integrated contesting component, and many clubs also engage in concurrent leisure activities (camping out, cookouts, etc.). Operations typically last a continuous twenty-four hours, requiring scheduled relief operators to keep stations on the air. Additional contest points are awarded for experimenting with unusual modes, making contacts via satellite, and involving youth in the activity.



2022 SCARS Field Day

## GA ARES State Meeting (story by Roumillat KF4ESP, DaLee KY4BN)

The GA ARES State Meeting 2023 happened on February 11 at the Georgia Public Safety Training Center in Forsyth, GA. SCARS members DaLee KY4BN, Roumillat KF4ESP, Mitra K04HGP, and Trottier N9AL attended. DaLee's excellent notes are here: [https://docs.google.com/document/d/1G7d-3II9pl9\\_yRPLTxltYjrLC4x-tkVWBM\\_E-hOsfuL](https://docs.google.com/document/d/1G7d-3II9pl9_yRPLTxltYjrLC4x-tkVWBM_E-hOsfuL). Below are a few highlights, but several more classes were presented.

Lee Stone, KT4LS was the main presenter. He presented several awards. Lee also gave an update about the State Badge and the new requirements: IS-100c, IS-700b, IC-001 (an ARRL course), Weapons Carry License, serve as NET Controller at least twice in the last 6 months. There is a \$20 fee as well. The badge will expire when the Amateur Radio License expires.

Field Portable Operations, by Frank Dean, K4SJR, EC Pickens County. Frank presented several antenna and portable comms kits that he has used for several years. He also spoke briefly about the mesh network system, ARDEN. Larry Whitfield, AB4NX, Georgia Sectional Tech Coordinator was assisting Frank. Frank highlighted a new Fox Hunt module for \$45 and their club-made YAGI made with measuring tape. Also, Cherokee Closeouts has Pelican cases for \$60.



FirstNET by AT&T, presented by John Davis, WB4QDX. Apparently Amateur Radio operators are able to apply for the FirstNet privileges for the new 700 MHz cell band along with the somewhat better priority call and data service for the existing cell frequencies. An AT&T approved device, cell phone or hotspot is required and among other requirements, our EC would have to approve the service as well.

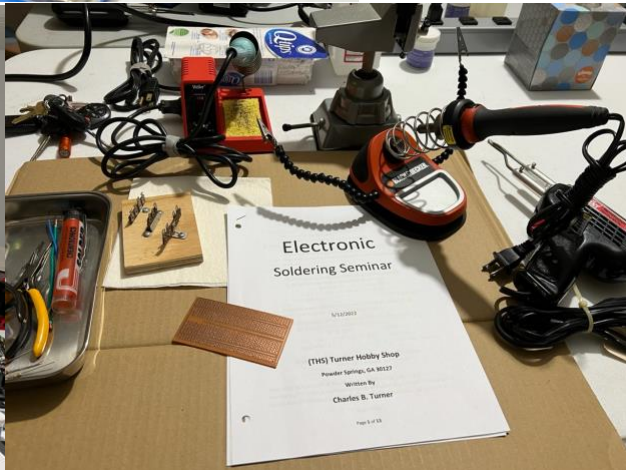
Congratulations to Roumillat KF4ESP who won the grand prize raffle, walking away with a new ICOM IC-7300 transceiver. (Pictures by Trottier N9AL)





## Electronic Soldering Seminar (story & pictures by DaLee - KY4BN)

Charles Turner (K0CZR) held two "Intro To Soldering" classes for the Silver Comet and W4IBM club members recently. He provided information on different types of solder, flux and wicks, plus tips and tricks on making a reliable solder joint. After the discussion, there were a couple of lab projects which included hands-on lessons on soldering larger wire connections with both 100W and 25W soldering irons, and soldering small components onto pre-printed circuit boards. Attendees were Dianne DaLee (KY4BN), Kunal Mitra (K04HGP), Ed Rutledge (K04BWN), Jason Turner (call?) and Ruth Leber (WA4MDQ). Big thanks to Cheri Reynolds (K4TXA) and John Reynolds (W4TXA) for providing the workshop space and Kunal Mitra (K04HGP) for providing the Chick-Fil-A's!

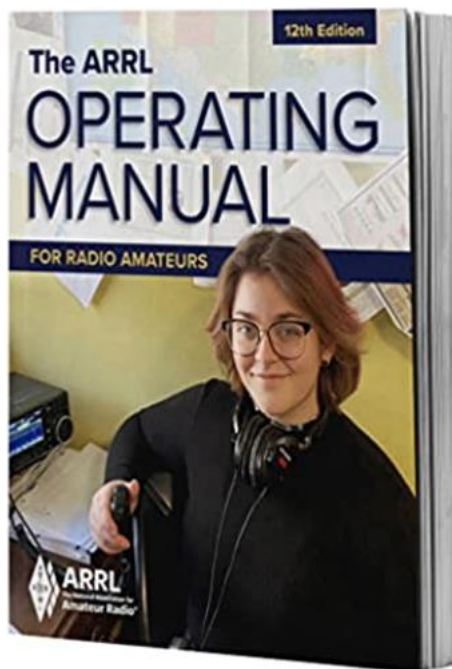




## Book of the Month

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### The ARRL Operating Manual for Radio Amateurs



by ARRL inc.

The ARRL Operating Manual for Radio Amateurs is divided into two sections (Volume 1-2 and Volume 3-4).

Talking to friends. Serving your community. Chasing DX. Adding a new band. Trying a new mode. Working a contest. Taking your radio on the road or out in the field. These are just a few of the exciting and fun on-air operating activities to try once you have earned your license and mastered the basics.

The ARRL Operating Manual for Radio Amateurs is as a comprehensive guide to Amateur Radio operating — things you can do on the air with your gear. In some cases, you may need to pick up new software or another radio, antenna, or accessory, but in many cases, you already have the tools you need to get started. Featuring new material on FT8 and other WSJT-X digital modes, this 12th edition has been revised and updated by experienced hams who are active on the air. They are happy to share what they have learned so that you can get involved and on the air too.

# Adaptories

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*Adaptation + Stories = Classics for Children*

## **Birds of a Feather**

Birds of father flock together  
And so will operators with radios;  
Rats and mice shall have their choice,  
And so shall I have those.

## **Hey Diddle Diddle**

Hey diddle diddle, the cat and fiddle,  
The radio signal jumped over the moon.  
The little dog laughed to see such fun  
And the radio dish ran with the spoon!

## **Dibbity, Dibbity, Dibbity, Doe**

Dibbity, dibbity, dibbity, radio,  
Give me a pancake and I'll go.  
Dibbity, dibbity, dibbity, chatter,  
Please give me a lovely fritter.

## **I Scream**

I scream, you scream,  
We all scream for a signal that's clean.

## **A Peanut**

A peanut sat on the railroad track,  
His reception was all a-flutter;  
Along came the train, the 9:15,  
Toot! Toot! Peanut Butter!

*The Editor adapts classic children's stories to share with the amateur radio family.*

## **Interesting Links**

### *ARRL*

ARRL Home: [www.arrl.org](http://www.arrl.org)

ARRL Affiliated Club: [www.arrl.org/clubs](http://www.arrl.org/clubs)

ARRL Section: [www.arrl.org/sections](http://www.arrl.org/sections)

License class in your area: [www.arrl.org/class](http://www.arrl.org/class)

License exam in your area: [www.arrl.org/exam](http://www.arrl.org/exam)

Hamfest or convention: [www.arrl.org/hamfests](http://www.arrl.org/hamfests)

Email ARRL Clubs: [clubs@arrl.org](mailto:clubs@arrl.org)

### *SCARS Media Center*

Web: <http://www.silvercometars.com/index.php>

Groups.IO: <https://silvercometars.groups.io/g/main>

Facebook: <https://en-gb.facebook.com/groups/2360561620926754/>

QRZ: <https://www.qrz.com/db/W4RSC/>

Info: [Info@silvercometars.com](mailto:Info@silvercometars.com) or [Silvercometars@gmail.com](mailto:Silvercometars@gmail.com)

Webmaster: Troy Davis (K4JDA) at [troy.davis@hotmail.com](mailto:troy.davis@hotmail.com)

Newsletter editor: Alain Trottier (N9AL) at [atrottier@gmail.com](mailto:atrottier@gmail.com)

## **Upcoming Events**

Watch for K4ELI's weekly email notices for contest and special events on the SCARS

Group.io reflector or visit the ARRL website at:

[http://www.arrl.org/special\\_events/search/page:2/Date.start:2016-09-14/Date.end:2016-12-31/model:Event](http://www.arrl.org/special_events/search/page:2/Date.start:2016-09-14/Date.end:2016-12-31/model:Event)

### **Breakfast @.....**

Ready to join us for casual conversation, informal Q&A, problem solving? We meet at Martin's Restaurant, 3918 Charles Hardy Parkway (HWY 120), Dallas 30157, every Thursday @ 8:30am. Visitors, spouses and friends are welcomed.



# **SCARS Amateur Radio Licensing Schedule**

## **SCARS/BHBC Test Session (aka East)**

K4ELI and the VE Team will be testing at 7 PM at Burnt Hickory Baptist Church,  
5145 Due West Road, Powder Springs, 1<sup>st</sup> Thursday of each month.

**No walk-ins. Register or call ahead.** See sign at Front Desk for Room #.

### **2023 Schedule**

Feb 2 \* Mar 2 \* Apr 6 \* May 4 \* Jun 1

For more information: Steve Walls, K4ELI: [swalls46@att.net](mailto:swalls46@att.net) (404) 697-9849

**All classes of license exams will be available.**

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## **SCARS/Paulding Test Session (aka West)**

W4TXA and the VE Team will be testing at 7 PM at the 2735 Hiram Acworth Hwy  
(Hwy 92), Dallas, GA 30157, 2<sup>nd</sup> Tuesday of each month.

### **2023 Schedule**

Feb 14 \* Mar 14 \* Apr 11 \* May 9 \* Jun \* 13

For more information: John Reynolds, W4TXA, [w4txa.john@gmail.com](mailto:w4txa.john@gmail.com) (770) 715-9640

**All classes of license exams will be available.**

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### **BRING:**

- Original and copy of existing license.
- Copy of FRN # if you have a GMRS license or some other license.
- \$15 cash----exact change
- Photo ID

See the following web sites for more details:

SCARS [http://www.silvercometars.com/about.php#TEST\\_SESSION](http://www.silvercometars.com/about.php#TEST_SESSION)

ARRL <http://www.arrl.org/licensing-education-training>

# Silver Comet Amateur Radio Society

## 2023 Calendar

**\*\* Don't forget our club breakfast every Thursday morning around 8:30am \*\***

	<i>February</i>	<i>March</i>	<i>April</i>	<i>May</i>	<i>June</i>	<i>July</i>
<b>Meeting 1st Tuesday Date/Time:</b>	<b>2/7 7:00 PM</b>	<b>3/7 7:00 PM</b>	<b>4/4 7:00 PM</b>	<b>5/2 7:00 PM</b>	<b>6/6 7:00 PM</b>	<b>7/4 7:00 PM</b>
<b>Meeting Location</b>	Mount Nebo Methodist Church	Mount Nebo Methodist Church	Mount Nebo Methodist Church	Mount Nebo Methodist Church	Mount Nebo Methodist Church	Mount Nebo Methodist Church
<b>Meeting Activity</b>	160 M by Salyers AJ8B	Weather by Tupin N5IMC	Weather by Tupin N5IMC	RFI/VHF Propagation	TBA	TBA
<b>Additional Activities</b>	TBD	TBD	TBD	TBA	Field Day	TBA
<b>Hamfest &amp; Conventions</b>	Dalton Hamfest	TBA	Calhoun Hamfest	Forsyth Swap Meet	Atlanta Hamfest	TBA
This calendar is "Subject to change". Submit change request to K4ELI Steve						
V2023.0						

# W4RSC



Paulding County, GA - EM73 - ITU Zone: 8

Silver Comet Amateur Radio Society, Inc.

PO Box 1873

Hiram, GA 30141

[www.silvercometars.com](http://www.silvercometars.com)



STATION	Confirming QSO				Pse QSL <input type="checkbox"/> Tnx QSL <input type="checkbox"/>		
	DAY	MONTH	YEAR	UTC	MHz	RST	MODE

## SILVER COMET AMATEUR RADIO SOCIETY, INC.

CONTACT US:

Groups.io Request:

[SilvercometARS@groups.io](mailto:SilvercometARS@groups.io)

Repeater:

146.955 (-) (77hz)

Contact: Club President

Dan Ozment, W4DTO

Email: [dan@ozment.net](mailto:dan@ozment.net)

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