Ham Radio in the 21st Century
W4RSC "RADIO SILVER COMET" ARRL SPECIAL SERVICE CLUB

SILVERCOMET SKYWAVE

Silver Comet ARS, INC NEWS PO BOX 1873 Hiram Ga. 30141 501 (C) (3) Not for Profit June 2019 Vol 6 Number 6

The Prez Sez

As we are now into our month of June.. And… we have finished our spring cleaning… June weddings... And of course **Field Day.** This will be our main topic at our next meeting. Our Field Day committee is working hard to make this years' Field Day, one of our best. So mark your calendars - June 22nd and 23rd. The fourth weekend this month. Also, keep in mind that right after Field Day, around 2:00 PM, we will be having a BBQ. This event is not just about the great camaraderie or the good food or even how to show others what we can do, but this is a great time to sharpen our skills in emergency communications. I know that I, among others, like to think that "oh yeah, I know what to do" but it seems like every year, I have to say... Dang it, I forgot this or that... So, let us support our club, and our community and see what we can do.

John Reynolds - W4TXA
President - The Silver Comet Amateur Radio Society

In This Issue

W4RSC "Radio Silver Comet"
The Silver Comet ARS Inc. a 501 (c) (3) Not for Profit Organization


Editor's Notes:

Sorry for the delay in this month's edition. Your suggestions and submissions are solicited and greatly appreciated. Copies of past SKYWAVE newsletters can be found at the club website http://www.silvercometars.com/newsletter.php .

Chuck K4CGA, Editor

Monday – "SCARS Night Out" Net!

Check-in begins at 7:30PM. A new dimension has been added to our Monday night net. Once a month (1st Monday), we will introduce a new subject for technical discussion. Suggestions for Topics of discussion are solicited. Look forward to hearing from you. It's fun and informative.

73's David Walk – K4BBH

SCARS Community Food Drive!

How can SCARS help? **Bring food!** Please continue to bring an item or two to our monthly meetings. These items will be delivered in the next couple of days to one or more of the local community food banks and are greatly appreciated by the recipients.

Field Day 2019 – It's Almost Here!

2019 ARRL Field Day

June 22-23.

That 's this month!

Additional information is available on the ARRl's website at

http://www.arrl.org/files/file/Field-Day/2019/2019-Rules-RevA.pdf

Field Day 2018

Pavilion at Ben Strickland Park in Hiram

Come join us. Bring your curiosity and have some fun!

Talk to someone in another part of the country or somewhere else in the world.
Meet some of our new amateurs and chat with some of our "old-timers".
See how it is done in an emergency or get some ideas for your own station.

The Silver Comet ARS Field Day Committee members are:

James KM4IKO (Chairman)
Chuck K4CGA *Mike K4MWC.*
Rick K4ZMW *Stan KN4MVZ*

Burgers and 'dogs will be available for participants on Sunday after 3pm at the end of the operations and cleanup. Please advise K4ZMW if you plan on attending.

Stay tuned for more information that will be presented at the June club meetings and on the Silvercometars@groups.io reflector.

Quadnet During FD 2019

Last year the QuadNet Array was the hub of activity for Field Day stations across North America to allow demonstrations of D-STAR and DMR digital voice to the general public. The demonstrations proved to be a huge success and included an avenue for non-licensed visitors with the help of a licensed control operator to make their first on air contact. We had stations from field day sites in almost every US state as well as all of the Canadian provinces. Stations outside of North America included England, Australia, Italy, France and more.

The QuadNet admin team is extending an invitation to once again use the Array for Field Day 2019. There have been some major improvements to the Array this year. We not only have D-STAR and Brandmeister DMR capability, but we have also added DMR Plus and Yaesu System Fusion to the mix. This allows users of the most popular digital voice modes to talk with one another.

We encourage everyone that is planning on having a digital voice station at their field day site to join us on the QuadNet Array. Remember, contacts made on any internet assisted mode do not count for points. However since Field Day is as much about public outreach as it is about the final point total, having a station that allows you to demonstrate all aspects of the hobby to the public is a great way to teach visitors about what we can do.

You can join the QuadNet Array by connecting to one of the following:

D-STAR Reflectors:

XRF757A	XLX307D
XLX735A	XLX049D

QuadNet Smart Groups:

DSTAR1	DSTAR3	DMR Plus:
DSTAR2	DSTAR4	

Use server IPSC2-QuadNet - Talkgroup 320 or reflector 4541

DMR Brandmeister:
Talkgroup 31012

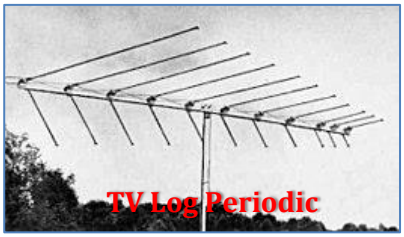
Yaesu System Fusion:
Reflector 37099

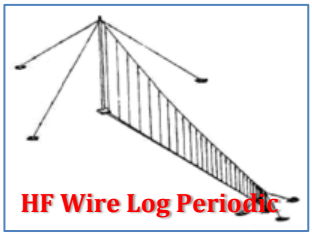
If anyone has any questions you can contact the QuadNet admin team at admins@openquad.net

73 - Jeff VE6DV Courtesy of Lee-WB4QOJ

What Is A Log Periodic!

A log-periodic antenna, also known as a log-periodic array, is a multi-element, directional antenna designed to operate over a wide band of frequencies. It was invented by Dwight Isbell and Raymond DuHamel at the University of Illinois in 1958. *Wikipedia*





LPDA antennas look somewhat similar to Yagi antennas, in that they both consist of dipole rod elements mounted in a line along a support boom, but they work in very different ways. *Adding elements to a Yagi increases its directionality, or gain, while adding elements to a LPDA increases its frequency response, or bandwidth.*

The LPDA normally consists of a series of half wave dipole "elements" each consisting of a pair of metal rods, positioned along a support boom lying along the antenna axis. The elements are spaced at intervals following a logarithmic function of the frequency. The successive elements gradually decrease in length along the boom.

The radiation pattern of the antenna is unidirectional, with the main lobe along the axis of the boom, off the end with the shortest elements. Each dipole element is resonant at a wavelength approximately equal to twice its length.

The bandwidth of the antenna, the frequency range over which it has maximum gain, is approximately between the resonant frequencies of the longest and shortest element.

Every element in the LPDA antenna is a driven element, that is, connected electrically to the feedline. A parallel wire transmission line usually runs along the central boom, and each successive element is connected in *opposite* phase to it. The feedline can often be seen zig-zagging across the support boom holding the elements.

Another common construction method is to use two parallel central support booms that also acts as the transmission line, mounting the dipoles on the alternate booms.

What Is A Log Periodic! Continued

Other forms of the log-periodic design replace the dipoles with the transmission line itself, forming the log-periodic zig-zag antenna.

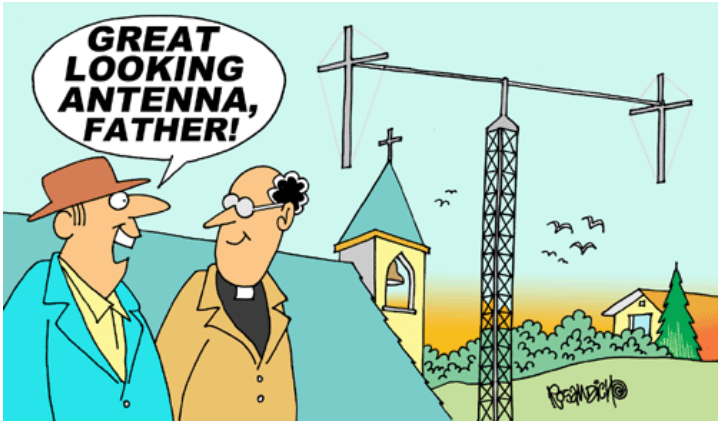
The Yagi and the LPDA designs look very similar at first glance, as they both consist of a number of dipole elements mounted along a support boom. The Yagi, however, has only a single driven element connected to the transmission line, usually the second one from the back of the array, the remaining elements are parasitic. The Yagi antenna differs from the LPDA in having a very narrow bandwidth.

In general terms, at any given frequency the log-periodic design operates somewhat similar to a three-element Yagi antenna; the dipole element closest to resonant at the operating frequency acts as a driven element, with the two adjacent elements on either side as director and reflector to increase the gain, the shorter element in front acting as a director and the longer element behind as a reflector.

However, the system is somewhat more complex than that, and all the elements contribute to some degree, so the gain for any given frequency is higher than a Yagi of the same dimensions as any one section of the log-periodic.

Why consider a log periodic antenna? A single log periodic offers wide bandwidth operation across multiple amateur bands with a single feedline providing good impedance matching, a low SWR and moderate directivity.

Tower And Antenna Update!



Member Biography Request

The Silver Comet ARS has really grown over the last few years with many new and experienced amateurs joining our club. Occasionally, we will feature a member's bio describing how they got started in ham radio and some things about their ham radio career.

The editor is requesting your biography for publication in a future issue of this newsletter. Please submit your bio addressing some or all of the following topics to K4CGA.ga@gmail.com .

1. What got you interested in ham radio?
2. How did you study for your license?
3. How old were you when you first got your license and in what year and what class?
4. What was your first equipment setup?
5. Have you been on the air continuously or have you taken extended breaks?
6. What was your first call sign and other calls signs you may have held?
7. What have been your modes of operation (CW, SSB, Digital, Satellite) & which one to you prefer the most?
8. What is your preferred operating band or frequencies? (LF, HF, UHF/VHF)
9. Have any significant events occurred as a result of being a licensed amateur (job offers, antennas struck by lightning or going on a DX-pedition)?
10. What is your current station or equipment set up?
11. What other club affiliations do you currently have or have had in the past (RACES, AREAS, DX or Contest clubs or local clubs)?

Please include anything you think would be interesting to other members regarding you ham radio career. Please keep your bio to 2 pages or less if possible and include a passport or yearbook style selfie.

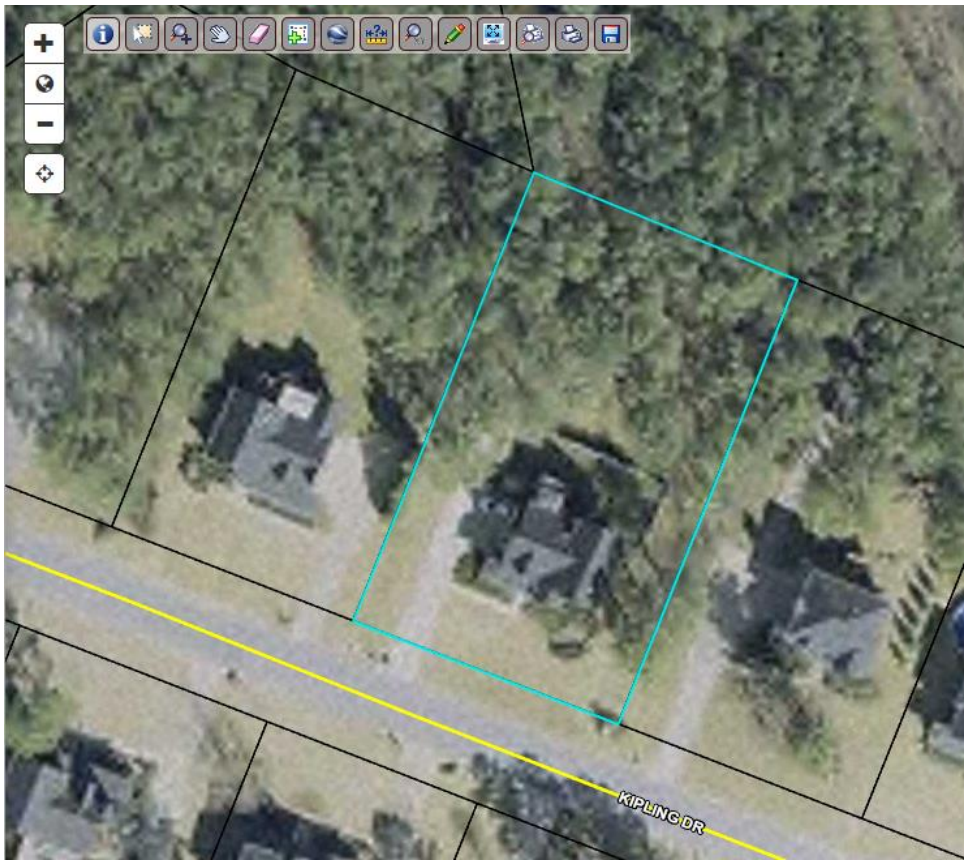
Your participation in the club activities and in this segment of the newsletter is greatly appreciated. I

If you have any questions feel free to contact me. Deadline is the 25th of each month.

Chuck, K4CGA, Editor

Are Your Antennas On Your Property?

You can make sure your antennas are on your property and create a plot of where they are and what direction they are pointing. K4LDC, Larry, has kindly provided a link to the Paulding County Tax Record Site http://qpublic.net/ga/paulding/ along with directions on how to view your property according to the county registered plots. Search on your name to pull up the tax record. Below the Summary section is a [View Map] link that will take you to the interactive GIS map. Use the ruler selected from the icons along the top to plot your wire antennas. Then you can save it as .jpg to your computer for future reference.



Build a G5RV Antenna – 80m thru 6m

The **G5RV antenna** is a dipole with a symmetric resonant feeder line which serves as impedance matcher for a 50 ohm coax cable to the transceiver.

Louis Varney (G5RV) invented this antenna in 1946. It is very popular amateur radio antenna that can be erected as horizontal dipole, a sloper, or an inverted-V.

G5RV.pdf · version 1.pdf

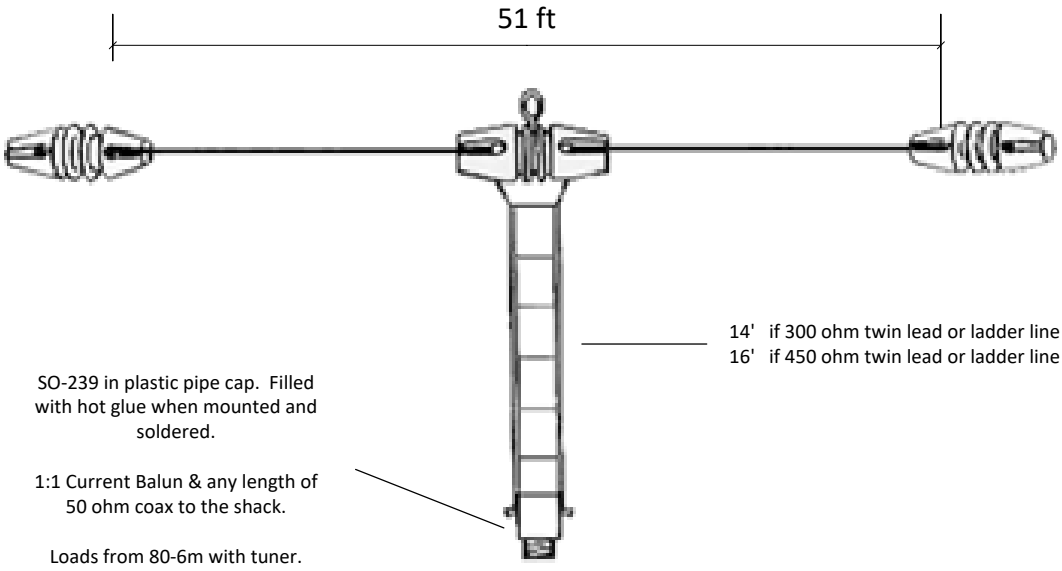
The symmetric resonant feeder line consist of 300 ohm or 450 ohm twin lead (TV type), Window-Line or Ladder-Line.

With an antenna tuner (transmatch), it can be tuned to operate on all HF amateur radio bands (3.5–30 MHz) with a low SWR to the transmitter. An antenna tuner may not be required if the antenna is constructed to full-size dimensions.

Commercially produced G5RV antennas are available in various dipole and feeder line lengths. There is the G5RV MAX, G5RV, G5RV Lite & the G5RV Jr.

It is recommended to use a 1:1 Current Balun with any G5RV antennas the balun helps reduce noise, increase performance and helps prevent interference.

K4CGA - Chuck's
G5RV Jr. Construction



Interesting Links to visit!

Silver Comet ARS YouTube Channel
https://www.youtube.com/channel/UCaL7UG0gkRJxV7lnTj_P3IQ/videos

History of Digital Modes (#191)
https://youtu.be/tXLXe9C7JX8

Using a SDR dongle or high end SDR receiver
https://www.rtl-sdr.com/tag/sdrsharp/
https://www.youtube.com/watch?v=Je2WUfYY0xI

Soundcard SDR Basics, SDR Sharp - g4zfqradio
https://sites.google.com/site/g4zfqradio/connecting-soundcard-sdr-to-computer

Win4icomsuite nice video ic7300
https://sites.google.com/site/g4zfqradio/connecting-soundcard-sdr-to-computer

13 Colonies Special Events
http://www.13colonies.net/

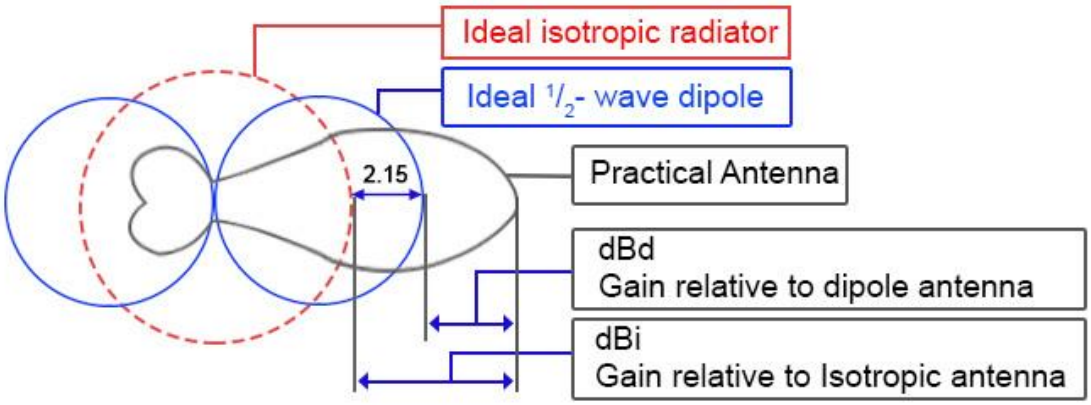
Courtesy of Steve - K4ELI

Antenna Gain – Do You Really Understand It?

Antenna gain, measured in decibels (**dB**), is a key performance number which combines the antenna's *directivity* and *electrical* efficiency. These numbers are quite frequently used in decision making for purchasing or building an antenna.

Decibels expressed in **dBi,** is the ratio between the gain of the chosen antenna compared to the gain of an isotropic antenna which is a ***theoretical*** antenna that radiates power uniformly in all directions. **dBi** (**i** stands for Isotropic antenna) has a zero **dB** power rating, therefore it has no gain/loss when compared to itself.

Decibels expressed in **dBd,** is the ratio between the gain of the chosen antenna compared to the gain of an ***dipole*** antenna. Dipole antennas have a different radiation pattern compared to isotropic antennas. Because the beam is slightly concentrated, dipole antennas have a gain over isotropic antennas of 2.15 dB in the horizontal plane. Which means they have a gain of 2.15 ***dBi***.



If you plan on buying or building an antenna, check the gain specifications to insure you are getting the the performance you desire. Here are some links for reference to help you better understand antenna gain.

https://en.wikipedia.org/wiki/Antenna_gain
http://www.antenna-theory.com/basics/gain.php
https://www.telewave.com/2018/02/08/understanding-antenna-gain/
https://www.m2inc.com/blog/dbi-vs-dbd/

Breakfast @.....

Come join us for casual conversation, informal Q&A, problem solving and occasional humiliation at the McDonalds in Hiram (in front of WalMart).

It has a variety of food, is reasonably quick, has decent prices, and is convenient to the majority of the club members.

Visitors, spouses and friends are welcomed.

Come Join Us!

Thursday Mornings
We Gather Around 8:30 +/-
Until ??????

Recent SCARS Website Updates:

http://www.silvercometars.com/index.php

- **SCARS Home** page updated with:
  - Days remaining until **Field Day 2019**.
  - Field Day 2019 information and map links.

Send SCARS website corrections, comments, or suggestions to K4LDC (Larry) at K4LDC@arrl.net

Contest & Special Events

2019 ARRL Contest Dates - Ver B – 2 November 2019

January 2019 1 Straight Key Night 5 Kids Day 5-6 RTTY Roundup 19-21 January VHF	**February 2019** 11-15 School Club Roundup International 16-7 DX – CW
March 2019 2-3 International DX– Phone	**April 2019** 14 Rookie Roundup – Phone
June 2019 8-10 June VHF 15 Kids Day 22-23 Field Day	**July 2019** 13-14 IARU HF World Championship
August 2019 3-4 222 MHz and Up Distance Contest 17-18 10 GHz & Up – Round 1 18 Rookie Roundup – RTTY	**September 2019** 14-16 September VHF 21-22 10 GHz & Up - Round 2 21-22 EME - 2.3 GHz & Up
October 2019 **21-25** School Club Roundup 19-20 EME - 50 to 1296 MHz	**November 2019** 2-4 Nov. Sweepstakes – CW 16-18 Nov. Sweepstakes – Phone 16-17 EME - 50 to 1296 MHz
December 2019 6-8 160 Meter 14-15 10 Meter 15 Rookie Roundup–CW	**Check your emails for additional contest and special event activities**

Additional Contest Calendars

http://www.contestcalendar.com//index.html
http://www.cq-amateur-radio.com/cq_contests/cq_annual_contest_calendar/cq_annual_contest_calendar.html
http://ncjwecom/

Upcoming Special Events

Please look for K4ELI's email notices regarding 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

SCARS V.E. ACTIVITIES

SCARS/BHBC Test Session (aka East)

K4ELI and the VE Team will be testing at 7pm at Burnt Hickory Baptist Church, 5145 Due West Road, Powder Springs, on the following dates:

2019 Schedule

Jan 10 Feb 7 Mar 14 Apr 4 May 2 Jun 6
Jul 11 Aug 1 Sep 5 Oct 3 Nov 7 Dec 5

Please check the ARRL website for changes or corrections.

For more information, contact Steve Walls, K4ELI: swalls46@att.net

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SCARS/Paulding CoC Test Session (aka West)

W4TXA and the VE Team will be testing at 6:30pm at the Paulding County Chamber of Commerce, 455 Jimmy Campbell Pkwy (Hwy 278), Dallas, on the following dates:

2019 Schedule

Jan 8 Feb 12 Mar 12 Apr 9 May 14 Jun 11
Jul 9 Aug 13 Sep 10 Oct 8 Nov 12 Dec 10

For more information, contact John Reynolds, W4TXA: john-w4txa@comcast.net

All classes of license exams will be available.

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

Silver Comet Amateur Radio Society

2019 Calendar

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

	January	February	March	April	May	June
Meeting 1st Tuesday Date/Time:	01-08-2019 7pm	02-05-2019 7pm	03-05-2019 7pm	04-02-2019 7pm	05-07-2019 7pm	06-04-2019 7pm
Meeting Location	Paulding Chamber of Commerce Bldg	Paulding Chamber of Commerce Bldg	Paulding Chamber of Commerce Bldg	Paulding Chamber of Commerce Bldg	Paulding Chamber of Commerce Bldg	Paulding Chamber of Commerce Bldg
Meeting Activity	Portable Operations (W4DTO)	QSL Cards for Beginners (K4ELI)	Peanut (WB3ILX)	Weather (K4DMF)	TBA	BSA Merit Badge Class
Additional Activities	TBD	Fox Hunt	TBD	GA QSOP	Family Night Dinner	Field Day
Hamfest & Conventions	Lawrenceville TechFest	Dalton, GA Orlando, FL (HamCation)	Birmingham, AL Ellijay, GA	Mobile, AL Calhoun, GA	Dayton, OH	Atlanta, GA

This calendar is "Subject to change". Submit change request to W4TXA John

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Silver Comet Amateur Radio Society

2019 Calendar

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

	July	August	September	October	November	December
Meeting 1st Tuesday Date/Time:	07-02-2019 7pm	08-06-2019 7pm	09-03-2019 7pm	10-01-2019 7pm	11-05-2019 7pm	12-03-2019 7pm
Meeting Location	Paulding Chamber of Commerce Bldg	Paulding Chamber of Commerce Bldg	Paulding Chamber of Commerce Bldg	Paulding Chamber of Commerce Bldg	Paulding Chamber of Commerce Bldg	Paulding Chamber of Commerce Bldg
Meeting Activity	Digital (Wb3ILX)	Computer Controls (TBD)	V.E Work & Adv. Licensing (W4TXA)	HF / VHF / 160 Band Work (TBD)	Hint & Kinks The Basics Pt1 (K0CZR)	Hint & Kinks The Basics Pt2 (K0CZR)
Additional Activities	TBD	TBD	Club Fall Picnic	AM DX Contest	Club Elections	Christmas Dinner
Hamfest & Conventions	Cullman, AL	Huntsville, AL	SEDEC DX	La Grange, GA Chattanooga, TN Rome, GA	Lawrenceville GA Montgomery, AL.	

This calendar is "Subject to change". Submit change request to W4TXA John.

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SILVER COMET AMATEUR RADIO SOCIETY, INC.

CONTACT US:

Groups.io Request: SilvercometARS

www.silvercometars.com

146.955 (-) (77hz)

Contact: *Club President*
John Reynolds, W4TXA

Email:
John.W4TXA@gmail.com

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