



It sure is. Some of our members found out the hard way by attending the 2020 G.A.R.S TechFest. Standing from L>R are James KM4IKO and Tommy KM4VTE. Sitting from L>R are Chuck K4CGA, Steve K4ELI and ??? who we found sitting along side GA-316 on his space ship looking for the TechFest location. With the help of WAZES, Google Maps and a GPS, it was finally located. Look elsewhere in this edition to find out the alien's name and call.

In This Issue

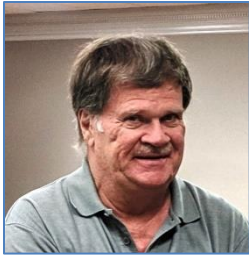
- The Usual Stuff
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W4RSC "Radio Silver Comet"

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



The Prez Sez:



John Reynolds W4TXA

As I was reading the Newsletter from the North Fulton group, I saw a New Year's Resolution list and realized how appropriate this would be not only for The Silver Comet group, but to all of us 'Hams':

1. Chat on our local repeaters more often.
2. Invite a friend to a Silver Comet meeting.
3. Practice our Morse code!
4. Mark Field Day (June 27-28) on your calendars.
5. Introduce a youngster to Ham Radio!
6. Contribute an article to our Newsletter

Number 1 = We are so lucky in this era to have repeaters, when I first got into this hobby, we didn't have repeaters. We have so many in this area to chit chat on and it is a shame that we don't make better use of them.

Number 2 = Most of us have at least a couple of non-ham friends, and our meetings are usually interesting (at least I haven't seen too many people sleeping). So bring a friend.

Number 3 = Even we that have some arthritis, should heed the call to practice (or relearn) one of our basic skills... and that is our 'dah dah' 'dah dah dah' 'dit dah dit' 'dit dit dit' 'dit' 'dah dit dah dit' 'dah dah dah' 'dah dit dit' 'dit'.

Number 4 = For the past several years, we have been improving our Field Day. Even though it's February, it is time to start thinking about this.

Number 5 = Think about our hobby and how to keep it strong. New blood. We all have children and some of us have grandchildren... show them some of the fascinating things about our hobby. And last (but not least)...

Number 6 = February is 'be kind to your Newsletter Editor Month'... take a few minutes out and contribute an article to our Newsletter.

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



Editor's Notes:



Copies of past SKYWAVE newsletters can be found at the club website <http://www.silvercometars.com/newsletter.php>. Please submit your member bios and articles prior to the 25th of the month.

Chuck K4CGA, Editor

Monday – “SCARS Night Out” Net!

Check-in begins at 7:30PM. It's fun and informative. On the 1st Monday of each month, a new technical subject will be introduced for discussion. Suggestions for Topics of discussion are always solicited. You don't have to dress up, it's very informal.

SCARS Community Food Drive!



Our food drives last year were very successful and a lot of Paulding County residents had some good food for their Holiday meals. However, ***our food collection did not start out too well this year.***

Let's make 2020 another great year and feed more folks. Please bring an item or two to our monthly meetings. These items are delivered to ***Helping Hands***, a Paulding County Food Bank located in Dallas.

Your donations are greatly appreciated by the recipients.

\$\$\$\$...Dues-R-Due...\$\$\$\$

If you have not done so already, it is time to pay your 2020 dues. Dues for this year have been increased to \$20. You can pay our treasurer, Dave K4DMF, by check, cash or credit card at the meetings or at breakfast or use our Pay-Pal online access at the SCARS website, www.silvercometars.com.

Failure to pay your dues results in our secret wizard turning you into a frog or CB'er.

Mark your Calendar!



Feb. 7th - 9th – Orlando HamCation 2020
Feb. 14th - Valentines Day
Feb. 22nd - Dalton Hamfest
Mar. 6th - 7th - Birmingham Hamfest
Mar. 28th – Ft. Payne ALTailgate/Hamfest
May. 14th - Dayton Hamfest

Recap: January's Program - Estate Planning!



Estate planning: The process of arranging for the disposal of an amateur's **radio** equipment by their family in the event of incapacitation or death. K4ELI-Steve presented this very informative program on a subject that is extremely important to all amateurs. If you missed this presentation and need some information, please contact Steve.

February's Program – Ham Tower Engineering!



This month's program will be presented by club member Corey Wilks KN4ULL, a Structural Engineer and certified tower climber. Corey works for Jacobs, an international civil engineering firm and will provide us with some valuable information on ham radio tower construction, maintenance and safety.

If you plan to put up a tower in the near future, you might want to attend this presentation for sure.

LIFE IS SIMPLE



Member BIO - Bernie Poulin, KN4AHC

I was born and raised in the small New England town of Waterville Maine. Along with my parents, I have two sisters and two brothers. After finishing high school I attended college in Wisconsin for two years, returning to the University of Maine.

In early January 1968 I enlisted in the US Army to attend the aviation warrant officer flight program, graduating in February 1968 with orders to Vietnam.

Returning to the U.S. in April 1970, I became an instrument instructor pilot. I left the active service in February 1972 and accepted a position in the Maine National Guard as a civil service flight instructor, holding a position on weekend drills as a military instructor pilot.

I volunteered to return to active duty in 1986 and retired as a Chief Warrant Officer 5 in January 2001, accepting a position with Atlantic Southeast Airlines. I retired as Captain at age 60 and continued to fly until just a few years ago.

During my time just before college and then all through my time as an aviator I had the opportunity to use aircraft HF radios and as a teenager, used a Hallicrafters S-119 Sky Buddy. Three years ago I decided to investigate the Ham radio community and finally called Steve Walls one evening about sitting for my Technician license. The rest of my Ham radio story continues; I'm now operating with a general license and gearing up for the eventual Extra Class exam.

Editor: *Bernie resides here in Smyrna, Cobb County during the winter months and summers in Maine. He is currently erecting a tower at his Maine location and has provided some pictures.*





Trivia or Not!

Can you name these connectors?



Piggy back disconnect
wire sizes 16-14 AWG



MDD1.25-110 quick disconnects
male spade terminals 2.4mm
wire sizes 22-16 AWG



quick disconnects male spade
terminals
wire sizes 22-16 AWG



butt splice connectors
red
wire sizes 22-16 AWG
blue
wire sizes 16-14 AWG



bullet connectors and terminals
male and female
wire sizes 22-16 AWG



bullet connectors and terminal
male and female
wire sizes 16-14 AWG



Female Quick Disconnect
red
wire sizes 22-16 AWG
blue
wire sizes 16-14 AWG



blue quick disconnects male
spade terminals
wire sizes 16-14 AWG



red fully Insulated Female Spade
wire sizes 22-16 AWG



blue fully Insulated Female Spade
wire sizes 16-14 AWG



M6 yellow ring terminals
wire sizes 12-10 AWG

M5 blue ring terminals
wire sizes 16-14 AWG

M4 red ring terminals
wire sizes 22-16 AWG



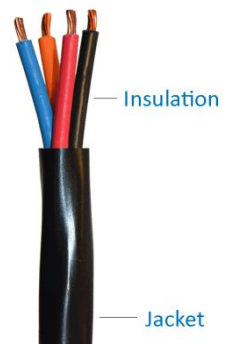
yellow bullet connectors
and terminals male and
female
wire sizes 12-10 AWG

Wire! Some Interesting Facts.

Most of the time, when hams think of wire, the first thing that comes to mind is coax. But what about all that other wire we see around the shack. You might find power cables, ground wires, rotor cables, and who knows what else.

Just what do you know about your wire? What is a PVC jacket? What about a PUR or TPE jacket? Which one is best for outside or inside? Well maybe a few of these charts can help you.

But, do you know the difference between wire jackets and wire insulation? A jacket is the outer sheath that protects the wire or cable core from mechanical, moisture, chemical issues and helps with flame resistance, protection against sunlight and helps facilitate installation. Jackets come in a variety of types and styles and are mainly plastic or rubber based.



Insulation is a coating that is extruded or taped onto bare wire to separate conductors from each other electrically and physically. There are a variety of insulation types for different applications.

	Thermoplastic			Thermoset		
	PVC	Polyurethane	CPE	Neoprene	EPR	CPE
Oxidation Resistance	Excellent	Excellent	Excellent	Good	Excellent	Excellent
Heat Resistance	Excellent	Good	Excellent	Good	Excellent	Excellent
Low-Temperature Flexibility	Poor to Good	Good	Excellent	Fair to Good	Good to Excellent	Fair
Weather/Sun Resistance	Good to Excellent	Good	Excellent	Good	Excellent	Excellent
Abrasion Resistance	Fair to Good	Outstanding	Excellent to Outstanding	Good to Excellent	Good	Good to Excellent
Flame Resistance	Excellent	Poor	Excellent	Good	Poor	Good
Water Resistance	Fair to Good	Poor to Good	Outstanding	Excellent	Good to Excellent	Good to Excellent
Underground Burial	Poor to Good	Good	Excellent to Outstanding	Good to Excellent	Excellent	Excellent

What is the best jacket material to use?

Thermoplastic

Thermoplastics are the primary insulation and jacket used in wire and cable. A Thermoplastic is a material that softens when heated and becomes firm when cooled. Thermoplastics come in a variety of different types each with its own set of characteristics.

Types: PVC, Fluoropolymer, Polyolefin, TPE

Thermoset

Thermoset plastics are a group of compounds that are hardened or set by the application called cross-linking. Cross-linking is accomplished by a chemical process, vulcanization (heat & pressure) or irradiation.

Types: CPE, XLPE, EPR, Silicone Rubber

Fiber

Fiber jackets are commonly used in high temperature applications due to their excellent heat resistance. Fiber jackets are also flame resistant and can be used as overbraids for silicone rubber insulation.

What is the best ethernet cable to use?

FEATURES / SPECS	CAT 5E	CAT 6	CAT 6E	CAT 6A	CAT 7
Common Usage					
Phone Lines	✓	✓	✓	✗	✗
Home Network	✓	✓	✓	✗	✗
Office Network	✓	✓	✓	✓	✗
Data Center	✗	✗	✓	✓	✓
Potential Bandwidth (per sec)					
	1000 Megabits	1000 Megabits	1000 Megabits	10,000 Megabits	10,000 Megabits
Time to transfer 1 Terabyte					
	3 hours	3 hours	3 hours	20 minutes	20 minutes
Data Transmission					
	1000 BASE-T	1000 BASE-TX	Exceeds 1000BASE-TX	10GBASE-T	Exceeds 10GBASE-T
Connector Type					
	RJ45 8P8C	RJ45 (for Cat6)	RJ45 (for Cat6)	RJ45 (for Cat6A)	GG45
Frequency Range Minimum					
	0 - 100 MHz	0 - 250 MHz	0 - 250 MHz	0 - 500 MHz	0 - 600 MHz
Frequency Maximum					
	350 MHz	500 MHz	550 MHz	600 MHz	750 MHz
Performance Distance					
	328 Feet	328 Feet	328 Feet	328 Feet	328 Feet
Alt. Distance					
		10Gb @ 180ft	10Gb @ 180ft		



Do you know what the colors in your house wiring mean. Maybe this will help.

Recycling Projects!

Got an old hard drive laying around? Put it to good use! Don't trash it! RECYCLE it! Make a *SANDER* or a *CLOCK* out of it. Impress your friends. Make it a gift.



<https://www.instructables.com/id/Hard-Disk-Sander/>



<https://www.instructables.com/id/Hard-Drive-Desk-Clock/>

Club Member Evacuates Americans From Wuhan, China!

Wuhan Flu Crisis. Have you heard of it? It has been all over the news recently and club member Brian Bowie KM4PEB of Rockmart sure has. Brian is a pilot for Kalitta Air, a U.S. charter airline, and was at the controls of the 747 that flew (no pun intended) into Wuhan China and flew the first group of American evacuees out to Anchorage, Alaska. Sounds like an exciting adventure and he probably has some good stories to tell.



Winter Field Day!

Silver Comet A R S Contest Report Winter Field Day Total Score = 1,488

Current status: 01/27 16:16 UTC

Call	Score	QSOs	20 Min	60 Min	Frequency
K4BBH	750	98	0	0	7.02733
K4SHW	315	105	15	12	7.23300
K4JDA	126	11	0	0	
K4ELI	102	34	0	0	7.21300
K4LFJ	66	22	6	5	3.94700
K4CGA	64	18	0	0	3.97068
K4LDC	60	30	0	0	14.28000
KM4VTE	5	5	0	5	7.29690

Yep! It's winter alright. If you are not sure, just stick your finger out the window for verification.

The club had a pretty good turnout of members operating the WFD contest this year. Here are some preliminary results.

Please turn in your scores on time.

Troy K4JDA was actually brave enough to operate QRP (low power), outdoors and on battery power.

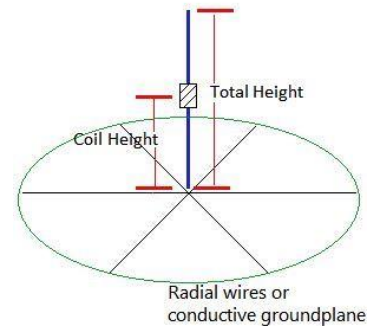
Troy operated about 3.5hrs, worked 11 contacts and made 5K+ points. He made some strange comment about it being cold. Hmmmm. Wonder why!



Coil Shortened Antenna

Ever want to build an antenna for 40m or 80m or 160m but don't have the room or can't find the right length of materials? There is an app for that, or maybe not an app but definitely a formula. It looks like this.

$$L_{\mu H} = \frac{10^6}{68\pi^2 f^2} \left\{ \frac{\left[\ln \frac{24 \left(\frac{234}{f} - B \right)}{D} - 1 \right] \left[\left(1 - \frac{fB}{234} \right)^2 - 1 \right]}{\frac{234}{f} - B} + \frac{\left[\ln \frac{24 \left(\frac{A}{2} - B \right)}{D} - 1 \right] \left[\left(\frac{fA}{2} - \frac{fB}{234} \right)^2 - 1 \right]}{\frac{A}{2} - B} \right\}$$



Eq. 1 (This is the equation that is used to make the calculation on this page)

LuH = inductance required for resonance

ln = natural log

f = frequency, megahertz

A = overall antenna length, feet

B = distance from center to each loading coil

D = diameter of radiator, inches

But, if you are not good at math anymore because of computers and cellphones, the link listed below will take you to several calculators that will figure it out for you. It also has some good info on the following that you might find useful.

Small Transmitting Loop Antennas
Full-Wave Loop Antennas
Quarter-Wave Vertical Antennas
Coil-Shortened Vertical Antennas
Dipole Antenna Length
Coil-Shortened Dipole Antenna
Coil Inductance

Toroid Coil Winding
Wire Gauge & Diameter
Capacitance (Capacitor Design)
Capacitive Reactance (Xc)
Inductive Reactance (XL)
Body Mass Index (BMI) Calculator

For more information, go to:

<http://www.66pacific.com/calculators/coil-shortened-vertical-antenna-calculator.aspx>

Courtesy of research done by club member Troy K4JDA.

Interesting Links to visit!

More SSTV Good Pix from Space

<https://ariss-sstv.blogspot.com/?m=1>

NASA astronaut shares pic of Atlanta from space

<https://www.wsbtv.com/news/local/nasa-astronaut-shares-pic-atlanta-space/BYFTHO6AOVF7RCOCZQZY4BTIWE>

Does Snow Affect Vertical Antenna Performance

<https://qrznow.com/does-snow-affect-vertical-antenna-performance-ham-radio-qa/>

SDR Console with recording software

<https://www.sdr-radio.com/sdr-console-the-movie>

WTR Browser frequency search

<http://wtrbrowser.co.uk/WTR%20BROWSER%20MK2%20PRO.exe>

Lot of archives of old magazines

<https://www.americanradiohistory.com/>
<https://www.americanradiohistory.com/QST.htm>

ARRL Clubs - SILVER COMET AMATEUR RADIO SOCIETY, INC.

<http://www.arrl.org/Groups/view/silver-comet-amateur-radio-society-inc>

Silver Comet ARS YouTube Channel

https://www.youtube.com/channel/UCaL7UG0gkRJxV7lnTj_P3IQ/videos

Silver Comet ARS Website

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

Silver Comet ARS – ARRL Clubs

<http://www.arrl.org/Groups/view/silver-comet-amateur-radio-society-inc/type:club>

Silvercometars@groups.io/HOME

<https://groups.io/g/silvercometars>



New ARRL Online Magazine



The ARRL has launched a new magazine called “*On the Air*”. It will be available in both online and printed form bi-monthly to active ARRL members. *On the Air* will offer insight into radio technology, equipment selection, operating procedures and general communications.

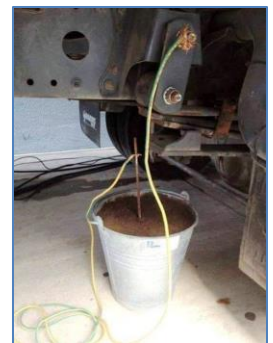
Amateurs, both old and new will find articles of interest and questions answered in this new publication. For more information: <http://www.arrl.org/news/arrl-to-launch-new-on-the-air-magazine-in-january>

More On Lightning and Grounding!

Here is another example of grounding and lightning protection about to be installed by your Editor, Chuck K4CGA. Copper Buss Strap will be attached to 8’ ground rounds at each end of the strap. This will be installed outside at the coax entrance to the house.



Assembled



Mobile Grounding



MoldRite # 101-18
Available at Home Depot



Altelix P/N LC03UFUB
Lightning Arrestor

Breakfast @.....

Have you joined us for casual conversation, informal Q&A, problem solving and occasional humiliation?

We meet 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 the last one leaves!**



Skywave Newsletter Banner!

The Skywave newsletter banner was designed by its originator and previous editor, Lee - WB4QOJ, and has served the club very well for many years. However, the Silvercomet ARS club has grown over the past several years and so has the content and distribution of the newsletter. Word has it that other clubs in and out of the metro area anxiously await the next edition.

Maybe it is time to consider updating and streamlining the banner. Your current editor, ME - K4CGA, is old, slow and running out of ideas. I am soliciting club members to get creative and design a new banner for the newsletter. If I get enough good ideas, I might make it a contest and let club members vote on their favorite.

Submit your ideas soon.

Recent SCARS Website Updates:



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

- **Education** page updated:
 - Added link to **Radio Estate Tips and Good Practices** documents and sample spreadsheet provided by Steve (K4ELI) under the **Reference** section.
- **Home page** updated:
 - Added N0NBH's current **Solar-Terrestrial Data** graphics at the bottom of the page for quick reference.

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

Upcoming Special Events

Please look for K4ELI's weekly 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



Alien on page 1.

Robert KN4RTJ

Contest & Special Events

2020 ARRL Contest Dates

January 2020 1 Straight Key Night 4 Kids Day 4-5 RTTY Roundup 18-20 January VHF	February 2020 10-14 School Club Roundup 15-16 International DX – CW
March 2020 7-8 International DX- Phone	April 2020 19 Rookie Roundup – Phone
June 2020 13-15 June VHF 20 Kids Day 27-28 Field Day	July 2020 11-12 IARU HF World Championship
August 2020 1-2 222 MHz and Up Distance Contest 15-16 10 GHz & Up – Round 1 16 Rookie Roundup – RTTY	September 2020 12-14 September VHF 19-20 10 GHz & Up - Round 2 12-13 EME - 2.3 GHz & Up
October 2020 19-23 School Club Roundup 10-11 EME - 50 to 1296 MHz -	November 2020 7-9 Nov. Sweepstakes – CW 21-23 Nov. Sweepstakes – Phone 28-29 EME - 50 to 1296 MHz
December 2020 4-6 160 Meter 12-13 10 Meter 20 Rookie Roundup-CW	<div> Check your emails for additional contest and special event activities </div>

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/>

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:

2020 Schedule

Jan 9 Feb 6 Mar 5 Apr 2 May 7 Jun 4
Jul 9 Aug 6 Sep 3 Oct 1 Nov 5 Dec 3

Please check the ARRL website for changes or corrections.

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

All classes of license exams will be available.

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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:

2020 Schedule

Jan 14 Feb 11 Mar 10 Apr 14 May 12 Jun 09
Jul 14 Aug 11 Sep 08 Oct 13 Nov 10 Dec 08

For more information, contact John Reynolds, W4TXA: w4txa.john@gmail.com

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

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



Silver Comet Amateur Radio Society

2020 Calendar

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

	January	February	March	April	May	June
Meeting 1st Tuesday Date/Time:	01-07-2020 7pm	02-04-2020 7pm	03-03-2020 7pm	04-07-2020 7pm	05-05-2020 7pm	06-02-2020 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	Ham Radio Estate Planning (Steve K4ELI)	Ham Tower Engineering (Corey – KN4ULL)	6m Operation & Antennas (Mike – K4PI)	Weather (Dave – K4DMF)	Spark Gap Transmitter (Hal – N4GG)	Field Day Prep Field Day Team
Additional Activities	TBA	TBA	TBA	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 K4ELI Steve

V2020.02

The Alien on page 1 is Robert KN4RTJ

Silver Comet Amateur Radio Society

2020 Calendar

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

	July	August	September	October	November	December
Meeting 1st Tuesday Date/Time:	07-07-2020 7pm	08-04-2020 7pm	09-01-2020 7pm	10-06-2020 7pm	11-03-2020 7pm	12-01-2020 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	VE Recognition Night	"Last Man Standing" TV (John – WD4QDX)	Grits Bike Ride	TBA	PWR Supplies Dummy Loads Testing	TBA
Additional Activities	TBD	TBD	Club Fall Picnic (TBD)	AM DX Contest	Club Elections SCARS OTA Reunion	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 K4ELI Steve

V2020.02

W4RSC

Paulding County, GA - EM73 - ITU Zone: 8

Silver Comet Amateur Radio Society, Inc.

PO Box 1873

Hiram, GA 30141

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
www.silvercometars.com
146.955 (-) (77hz)

Contact: *Club President*
John Reynolds, W4TXA

Email:
w4txa.john@gmail.com

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