



**Our November General Meeting will be held on Wednesday, November 17th, via Zoom, at 6:30 pm.**

Our guest speaker this month will be Clint Bradford, K6LCS.

His ad and website are listed on page 30. You can also check out his Bio at qrz.com.

For more meeting info, please see page 2!



**November Meeting will be presented again via Zoom!**

**Wed, Nov. 17th, at 6:30 pm. Go to:**

<https://us06web.zoom.us/j/81928642821?pwd=WxNStjdEdHd5emZaaDRaaENQdnFWZz09>

**See p. 2 for more info.**



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## November General Membership Meeting

**Our General Meeting is on Wednesday, November 17th, at 6:30 pm.**

Our guest speaker this month will be Clint Bradford, K6LCS, from California, who will speak about his experience working with AMSAT and How to Work Satellites with your HT.

Some requests for when you join our meetings:

- When you fill out your name, please add your call sign *after your first name*. (Example: Chuck (KØITP) Poch). If you don't have a call sign yet, just put "no call." *You can change your name with the 3 little dots at the top right corner of your screen.*
- You will be muted automatically. (If you need help getting in, call out on our club repeater via VHF, UHF, or on EchoLink.) Be sure to have your video going and your volume up, so we can see/hear you!

The Zoom meeting will start at 6:30 pm with social time, ask an Elmer, meet a Board member, and general questions. The *actual meeting* begins at 7:00 pm, with intros and club business, and then the presentation will begin at approximately 7:15 pm.

**Going forward, this Zoom info will be the same for all Monthly General Meetings.**

**To Join our October Zoom Meeting, click on this link:**

[https://us06web.zoom.us/j/81928642821?  
pwd=WXNSTjdEdHd5emZaaDRaaENQdnFWZz09](https://us06web.zoom.us/j/81928642821?pwd=WXNSTjdEdHd5emZaaDRaaENQdnFWZz09)



**Meeting ID: 819 2864 2821**  
**Passcode: 787437**

Find your local number: [https://us06web.zoom.us/u/  
kcsybGuZpe](https://us06web.zoom.us/u/kcsybGuZpe).

If you have to miss this meeting, you can see our meetings at:  
<https://w0eno.org/meeting-presentations/>.



## Ham Jargon

### Doppler Effect (or Doppler Shift)

The increase (or decrease) in the frequency of waves (in this case, radio waves) as the source (in this case a satellite) and observer (in this case, a ham radio operator) move towards (or away from) each other. Waves traveling towards the operator get compressed. In contrast, radio waves emitted by the satellite traveling away from an operator get stretched.

Check out videos of many of our previous meetings and activities at:

<https://www.youtube.com/channel/UC0bX61lXfLHEvix6msKzITg> or by going to the club web site at [w0eno.org](http://w0eno.org) and selecting Presentations under the LARC History tab. Subscribe to our channel so you don't miss out!

If you miss a meeting or you don't drive after dark, you will still be able to watch them here!



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### Help Support your Club with your Online Shopping!

Did you know your purchases can make a difference? *When you shop for anything at [smile.amazon.com/ch/84-1056239](https://smile.amazon.com/ch/84-1056239), Amazon Smile donates to the Longmont Amateur Radio Club — at no cost to you!* Last quarter, they sent LARC \$38 as their donation from our members' shopping. Every last dollar helps! *You can also just click on the picture below to log into your account to shop and to help your Club at the same time.*



When you go to this link, you enter your own username and password, just like you normally do. You can also go to [smile.amazon.com](https://smile.amazon.com) and select Longmont Amateur Radio Club. *Shopping with this Amazon link doesn't cost you anything – Amazon provides this donation, and every little bit helps our club!*

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### Useful Ham Radio Web Site

<https://kv5r.com/ham-radio/coax-loss-calculator/>

This site contains coax calculators for antenna feed lines (coax and ladder line) and effective radiated power (ERP). Useful when designing, building, and installing antennas.

**“Don't wait until the fourth Thursday in November, to sit with family and friends to give thanks. Make every day a day of Thanksgiving!” - Charmaine J. Forde**

LARC is keeping up with what is going on with Covid-19. I ask all members to be safe & take care of yourselves. Vaccines are here and opportunities to get them are in every town. Lots of changes are happening. Recently, Covid cases are starting to climb again with the Delta variant. Mask requirements have been reinstated for indoor activities. So, with that said, we are virtual for all LARC meetings until further notice, at least until 2022.

Thank you to all the members who showed up for our October General Meeting. We were able to get our board members voted in and our bylaws passed. Thank you also for all our Volunteers!

We have several upcoming events:

- Turkey Trot on Nov. 13th: Volunteers are needed. Contact [Doug Altman \(KEØSI\)](#) for details.
- Parade of Lights on Dec. 11th. Volunteers needed. Contact Doug (above) for details.

Our new website is here! Check it out and give your feedback! We are still improving it. Keep an eye on our website and emails for current information.

Join the Tuesday night and Thursday night nets for fun and educational talk! Want to try being a net control station (NCS)? Contact Jerry (NØOUW) or me for details! We want You!

Do you have an idea for a presentation, or do you know someone who would like to present to your club? Contact a board member and let's get them in front of us. We are currently looking for presenters for our 2022 General Meetings.

I always mention our LARC appreciation award I was doing for the club. If you know someone in the club that deserves an extra “Thank you” or “Above and Beyond,” please let me know! I'm looking for recipients for our 2021 awards and recognition. Every month would be great!!

Congratulations to the 2021 Above and Beyond recipients so far this year:

- January “Above & Beyond” recipient Kat Gonderinger (WØUM) for producing the LARC monthly Splatter — her many volunteer hours make it the best Ham Radio Newsletter out there.
- June “Above & Beyond” recipient Doug Altman (KEØSI) for a successful 2021 Field Day after an uncertain 2020!
- October “Above & Beyond” recipient Harlan Olson (WØHLO) for his donations to LARC and for his time and effort to help support our marketing.

I have always said that this is your club. How can you help? We're looking for volunteers for our LARCFest 2022 Committee (planning has started — it's in the spring!) and upcoming club events. Please contact a board member with your ideas, suggestions, and desired roles.

As always, please contact me with any questions, comments, suggestions, or concerns.

Thank you and 73,  
Charles Poch - KØITP  
LARC President  
[KØITP@WØENO.ORG](mailto:KØITP@WØENO.ORG)





### Take our Poll!

Please take LARC's quick and fun [November Poll](#) by answering this poll question. Feel free to add any comments you would like. After you have finished and submitted it, you will be given the option to see a summary of all the responses so far. Your answers and identity are completely anonymous if you wish. Please select the answers that apply! If clicking on the polls below doesn't take you to the poll, please go to: <https://vote.pollcode.com/92497686>

#### Check all non-ham activities you enjoy:

- Listening to Music
- Computers
- Reading
- Walking
- Fishing
- Pets
- Camping
- Photography
- Home Repair
- Astronomy
- Cooking
- Meteorology
- Woodworking
- Gardening
- Yard work
- Model Trains
- Remote-controlled aircraft
- Flying Drones
- Remote-controlled boats
- Cycling
- Jogging
- Hiking
- Traveling
- Other - put in comments

Vote View



## Net — [Tuesday Night Hamlet Net, 7:00 pm](#)

The Club sponsors an informal net for newer ham radio operators on Tuesday evenings at 7:00 pm. Learn how to use nets, ask questions, discuss ham radio topics, get familiar with your radio & make new friends on the club's linked repeaters on 147.270 and 448.800 MHz, Tuesday nights at 7:00 pm. *For more information about this net, click on the title above.*

You can also reach our nets on the internet via [EchoLink!](#)

## Net — [Thursday Night Club Net, 8:00 pm](#)

The Club also sponsors an informal net each week on Thursday evenings at 8:00 pm to chat about whatever is on your mind and to announce upcoming Amateur Radio Club activities. You will find the net on 147.270 and 440.800 MHz on Thursday nights at 8:00 pm. *Click on the title above for more information about this net.*

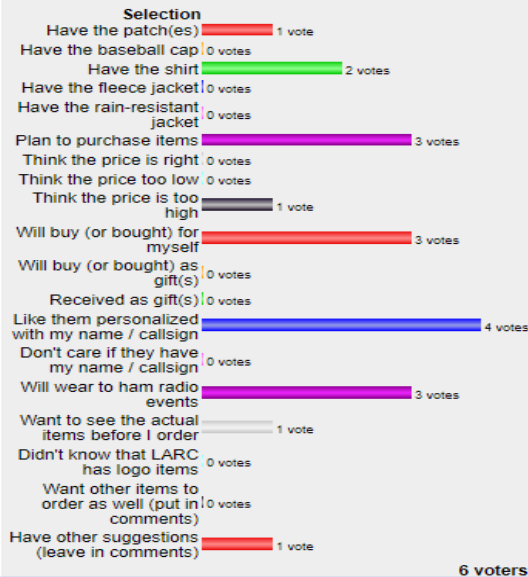
**STAY CONNECTED TO YOUR FELLOW HAMS!  
GET ON OUR NETS!**



**Oct. Poll Results — Thanks for voting!**

**Take our November Poll Now! It will only take about 2 minutes!**

#### About LARC Logo Apparel, I: (select all that apply)



Count the turkeys in this issue and put your count in your poll comments — those with the correct turkey count will get a prize!



## TAKE OUR [NOVEMBER POLL!](#)

Either click on the poll on the left, or go to:

<https://vote.pollcode.com/92497686>

We want to know your thoughts! Please also add your comments!



## Upcoming Special Events and Contests

As found on ARRL.org and other web sites, here are some selected upcoming QSO Parties and Special Events that you could get on to pass the time while stuck in your house over the next 30 days. See the links below for more information, rules, logs, and QSL card information. Some just provide an email address to get more info other than what's on the ARRL web site. They all present a great opportunity to get on the air and have some fun! Plan your calendar!

Start Date	End Date	More Info
11/12	11/13	USS Cobia WWII Submarine Celebrating Veterans Day <a href="http://www.qrz.com/db/NB9QV">www.qrz.com/db/NB9QV</a>
11/13	11/13	102nd Anniversary of Armistice <a href="https://www.theworldwar.org/amateurradio">https://www.theworldwar.org/amateurradio</a>
11/13	11/13	USS Midway Museum Ship Special Event <a href="http://www.qrz.com/db/ni6iw">www.qrz.com/db/ni6iw</a>
11/16	11/16	Worldwide Sideband Activity Contest <a href="https://wwsac.com/rules.html">https://wwsac.com/rules.html</a>
11/17	11/17	NRA's 150th Birthday Party <a href="http://www.w7yrc.org/nrabirthday">www.w7yrc.org/nrabirthday</a>
11/20	11/20*	Wings over the Rockies Special Event Station WØR <a href="http://www.explorationofflight.org">www.explorationofflight.org</a>
11/20	11/21	ARRL EME Contest (Earth-Moon-Earth) <a href="http://www.arrl.org/eme-contest">http://www.arrl.org/eme-contest</a>
11/20	11/22	ARRL Sweepstakes Contest, SSB <a href="http://www.arrl.org/sweepstakes">http://www.arrl.org/sweepstakes</a>
11/27	11/28	CQ Worldwide DX Contest, CW <a href="http://www.cqww.com/rules.htm">http://www.cqww.com/rules.htm</a>
11/29	11/29	RSGB FT4 Contest <a href="https://www.rsgbcc.org/hf/rules/2021/r80m_ft4.shtml">https://www.rsgbcc.org/hf/rules/2021/r80m_ft4.shtml</a>
12/01	12/01	VHF-UHF FT8 Activity Contest <a href="http://www.ft8activity.eu/index.php/en/">http://www.ft8activity.eu/index.php/en/</a>
12/03	12/13	W2W Pearl Harbor Day Commemoration <a href="http://ww-2.us/">http://ww-2.us/</a>
12/04	12/04	Two-Meter Classic Sprint <a href="https://fwrc.info/2021/05/21/two-meter-classic-sprint/">https://fwrc.info/2021/05/21/two-meter-classic-sprint/</a>
12/04	12/04	Remember Pearl Harbor NE1PL <a href="http://www.ne1pl.org">www.ne1pl.org</a>
12/08	12/08	VHF-UHF FT8 Activity Contest <a href="http://www.ft8activity.eu/index.php/en/">http://www.ft8activity.eu/index.php/en/</a>
12/11	12/11	USS Midway Museum Pearl Harbor Special Event <a href="http://www.qrz.com/db/ni6iw">www.qrz.com/db/ni6iw</a>
12/11	12/12	Transatlantic Test of 1921 Special Event W2AN/1BCG <a href="http://1BCG.org">1BCG.org</a>
12/11	12/12	ARRL 10-Meter Contest <a href="http://www.arrl.org/10-meter">http://www.arrl.org/10-meter</a>
12/11	12/12	TRC Digi Contest <a href="https://trcdx.org/rules-trc-digi/">https://trcdx.org/rules-trc-digi/</a>
12/11	12/12	International Naval Contest <a href="https://www.marinefunker.at/">https://www.marinefunker.at/</a>
12/12	12/12	<b>CQC Great Colorado Snowshoe Run</b> <a href="http://www.coloradoqrclub.org/contests/snow.htm">http://www.coloradoqrclub.org/contests/snow.htm</a>
12/18	12/18	RAC Winter Contest <a href="https://www.rac.ca/wp-content/uploads/2021/10/CanadaWinterContestRules2021_English.pdf">https://www.rac.ca/wp-content/uploads/2021/10/CanadaWinterContestRules2021_English.pdf</a>

- \* Also look up WØR on qrz.com
- See tons of QSO Parties at <https://qsoparty.eqth.net/index.html>
- See these and also more Special Event Stations at [http://www.arrl.org/special\\_events/search/page:1/model:Event](http://www.arrl.org/special_events/search/page:1/model:Event)
- You can see much more QSO Party and Contest Information at: <https://www.contestcalendar.com/contestcal.html>
- To learn more about having fun with QSO Parties, take a look at this link: <http://www.arrl.org/files/file/QST/This%20Month%20in%20QST/April2019/KENNEDY.pdf>

## BOARD OF DIRECTORS

President: Charles Poch, K0ITP  
Vice President: Michael Ritchie, W0KKI  
Secretary: Pat Engstrom, W1PGE  
Treasurer: Don Lewis, K0EE

### ADDITIONAL VOLUNTEERS:

Membership: Steve Shearer, K0STE  
Technical: Mark Skelton, N7CTM and  
Bryan Gonderinger, AF0W  
Publicity: Steve Haverstick, KF0AGY  
Splatter Editor: Kat Gonderinger, W0UM  
Planning/Special Events: Doug Altman,  
K0SI & Mark Mollenauer, KD0GOC  
BCARES Representative: Jerry Schmidt,  
N0OUW  
Repeater Trustee: Bryan, AF0W  
Education: Kat, W0UM & Bryan, AF0W  
LARCfest Chair: Dick Paige, KE0VT  
VE Team Leads: Aaron, AJ7R & Kat, W0UM

### Contact Us:

Email to: [board@w0eno.org](mailto:board@w0eno.org) will reach all members of the Board.

Board meetings are held on the first Wednesday of each month at 6:30 pm.  
General Club meetings are held on the third Wed. of each month at 6:30 pm.

Current Club meetings are held online using Zoom and are open to all. Join us!

If you have a suggestion for a topic or for a guest speaker, or would like to present a topic yourself, please send email to [Chuck, K0ITP](mailto:Chuck.K0ITP).

If you have a general interest article about ham radio that you would like to see in a future issue of Splatter, please email it to [Kat, the Splatter Editor](mailto:Kat,theSplatterEditor).

Articles received by the 25<sup>th</sup> of the previous month will be considered for publication in the issue for that month.

Longmont Amateur Radio Club  
P.O. Box 86  
Longmont, CO 80502

LARC is a non-profit organization organized exclusively for one or more of the purposes as specified in Section 501 (c)(3) of the Internal Revenue Code Vol. 17. No.6.

### Repeaters:

#### VHF:

147.270 MHz (+) 600 kHz, 100 Hz CTCSS

#### UHF:

448.800 MHz (-) 5 MHz, 88.5 Hz CTCSS

#### Echolink::

W0ENO-R, Station #8305

## Visit & Post on our Facebook Page!

Our club has a Facebook page — did you know that? Feel free to share your ham-related posts, projects, activities, and news at:

<https://www.facebook.com/LongmontAmateurRadioClub/>.

We'd love to have our members active on both our LARC web site at [w0eno.org](http://w0eno.org) AND on our Facebook page, so check it out, share, and post today! Tell all your ham operator friends!

Find us on 

## Thank You!

**Many thanks to our special contributing authors for this month's Splatter:**

- Doug Altman, K0SI
- Jim Andrews, KH6HTV
- Bryan Gonderinger, AF0W
- Ed Mohrman, WA7EM
- Chuck Poch, K0ITP
- Steve Shearer, K0STE



## Call for Articles!

I am constantly looking for articles to publish in the Splatter monthly newsletter. Topics should apply to Amateur Radio, or other closely-related topics of interest to most ham operators. Tell us about your ham radio activities and projects. Articles (250-500 words) of things you have done and/or built (with pictures!) are always of interest.

Submissions may be edited for spelling, grammar, content, or length if necessary. The deadline for submissions is the 25th of each month; however, submissions received after the deadline will be considered if they fit into the newsletter. If a late entry doesn't make it into the current month's news, it may be used in one of the following months.

[Kat, W0UM, Splatter Editor](mailto:Kat,W0UM,SplatterEditor)

## LARC VE Exam Session Information

LARC sponsors a VE Exam Session every month. Upgrade your license before FCC fees start up! Our regular *LARC (ARRL VEC) Exam Sessions* are given on the *fourth Saturday of the even-numbered months* — (but on the 2nd Saturday for December), and our *LARC/Patriot VE Exams* are given on the *third Sunday of the odd-numbered months*.

### October VE Exam Session Results

Our LARC ARRL VE Team held an Exam Session on Saturday, October 23rd, led by Aaron Rees (AJ7R).

Also assisting with this Exam Session were David Casem (AD0UF), Jeanne Lindstrom (AC0XA), Lynn Mears (K0CLM), and Dick Paige (KE0VT). Thank you to our volunteer examiners for your service! We couldn't have done it without you!

At this session, 7 candidates were tested, which resulted in 5 new Technicians, 1 new General who passed Technician also, and 1 new upgraded General. There were a total of 8 passed exams in all. Congratulations to everyone who passed their exams!



License	#
Technician	5
General	2
Extra	0
<b>Total</b>	<b>7</b>

### NEXT Exam Session on Sunday, November 21st @ 9 am

Our next VE Exam will be with the LARC Patriot VE Team led by Kat (W0UM) and Bryan (AF0W) on Sunday, November 21st, at the Terry Street Professional Building at 350 Terry St., Longmont, 80501, *upstairs in the Onyx Room*. This is a free exam session, which may be taken in-person online on the candidate's personal laptop or tablet.



Please pre-register at <https://hamstudy.org/sessions/w0pct>. Walk-ins are also allowed, and will be seated as seats become available.



### Upcoming VE Exam Schedule

Date	Day	Time	Exam Session Info	Exam Options
<b>Nov. 21</b>	<b>Sun</b>	<b>9:00 am</b>	<b>LARC/PVET VE Team</b>	<b>In person on laptop or tablet, or on paper</b>
Dec. 11	Sat	10:00 am	LARC ARRL VE Team	In person on paper
Jan. 16	Sun	9:00 am	LARC/PVET VE Team	In person on laptop or tablet, or on paper



## Ham Enthusiast Breakfasts Every Saturday Morning

Want some social time with other ham radio operators in a small group? Join us for breakfast!

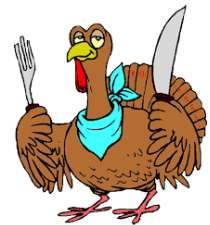
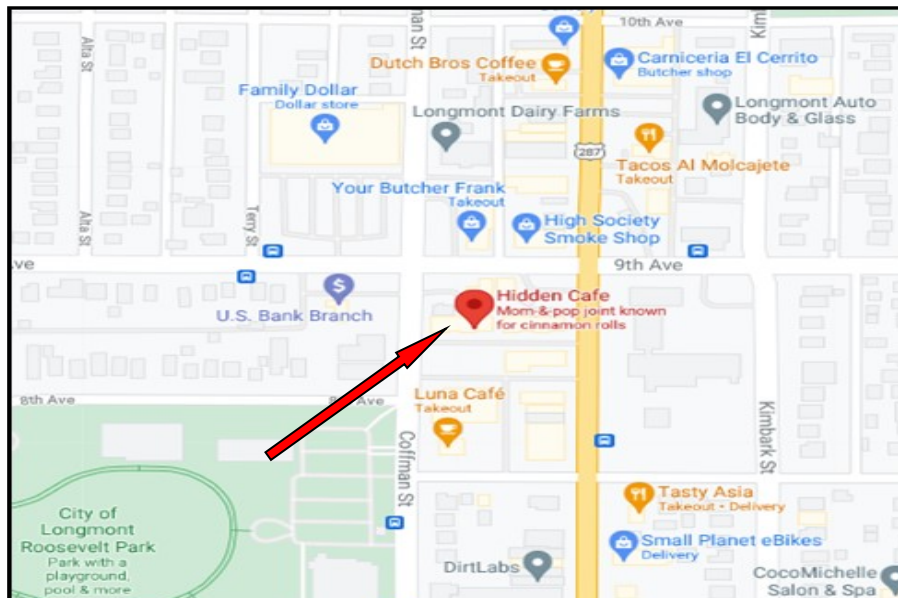
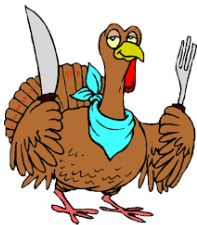
### Saturday morning breakfasts meet at 8:00 am every Saturday.

Join us on Saturday mornings at the **Hidden Café in the Towne Square Shops, at 829 Main Street, #5 in Longmont.** It's easiest to enter the parking lot from Coffman Street, just south of 9th Avenue.



These are hosted by Don Lewis, KE0EE.

We hope you will join us on a regular basis for breakfast. If the group gets much larger, we will relocate to a larger restaurant. Get on the 8 pm Thursday Night Net to confirm the location, and/or check our website to see if the location has changed.



## ARRL Foundation Scholarship Program Opened November 1 for Applications

The ARRL Foundation Scholarship Program plans to provide more than 100 scholarships ranging from \$500 to \$25,000 in 2022.



Applicants must be active, FCC-licensed amateur radio operators (a quick check shows that ARRL membership is typically not required for eligibility), and must submit a completed electronic online application. There are many individual scholarships, including the ARRL Rocky Mountain Division Scholarship, and the ARRL General Fund Scholarships.

For more information, including specific scholarships and eligibility requirements, go to <http://www.arrl.org/scholarship-program>.

I'd like to welcome our new club members who joined us in October! When you meet them or hear them on the air, please say hello!

LARC Newest Members — September		
Call	First Name	Last Name
N1ZTT	Daniel	Acker
None	Dustin	Livingstone
KFØGZW	Ben	Drake
None	Andrea	Drake
KFØEUJ	Daniel	Blair

The LARC October General Meeting was held on Wednesday, October 20th via Zoom with a total of 44 attendees.

The first order of business was to approve the updates to the Bylaws and the officers for the 2021-2022 year. In order to have a quorum of members, Club Bylaws required 33 voting members present at the time of the vote. That requirement was met with 41 voting members present at the time of the vote, as verified by Pat (W1PGE), Secretary, and Steve (KØSTE), our Membership Chair. After the quorum was certified, President Chuck (KØITP) called for a vote. The updated Bylaws were voted on first and the motion passed. Then Chuck asked if there were nominations from the floor for Officers, there were none. Then Chuck called for a vote for Officers and the motion passed. The Officers for this year are:

- Chuck Poch (KØITP), President
- Michael Ritchie (WØKKI), Vice President
- Don Lewis (KEØEE), Treasurer
- Pat Engstrom (W1PGE), Secretary

Thanks to everyone who joined the meeting and voted.

Jim Andrews (KH6HTV) made the evening presentation on his experience with Amateur Radio Television (ATV). Jim wowed everyone with his extensive knowledge about ATV using amateur radios to send and receive television. It was fascinating how amateur radio can be used for TV. Jim's company also manufactures a number of amateur TV products for analog and digital TV transmitters. You can check out his website at <https://kh6htv.com>.

We hope you continue to attend the General meetings for the presentations, comradery, and for questions/answers that come up before, during, and after the meetings. Plans are being made to have some additional well-known ham-involved people as presenters for the upcoming club meetings for 2022, and to start hybrid in-person/Zoom meetings when we can. Watch for an email and check our website for updates.

Did you miss out on the General meeting? You can access the

*>> Continued next page >>*

Meeting Presentations link on our web site at <https://w0eno.org/meeting-presentations/> to watch our previous meetings and events.

A door prize drawing was done based on the attendance after the meeting was over. Jason (KF0GSA) was drawn as the winner and selected some QST magazines as his prize.

Our club is always looking for additional donations of door prizes to give away at the meetings. If you have something you can donate for the drawing(s), you can contact me at the email or cell number below. It does not have to be radio-related — just anything that could be beneficial to another member..

Thank you, Pat (W1PGE), for providing minutes about the voting and our guest presenter.

Stay safe, and hope to see and/or hear you at the next General Meeting on November 17th. Any questions or issues, feel free to contact me.

Steve Shearer (K0STE)  
[K0STE@W0ENO.ORG](mailto:K0STE@W0ENO.ORG)  
Membership Chairman



[membership@w0eno.org](mailto:membership@w0eno.org)  
(303) 915-9942

**GIVE  
THANKS**  
FAMILY • FRIENDS • GRATITUDE

## **New Release – WSJT-X version 2.5.2**

*Bryan, AF0W*

The WSJT-X development team has announced the general availability release of WSJT-X version 2.5.2. This release mainly contains improvements and repairs defects related to Q65 and JT65 when used with nonstandard and compound call signs. Those planning to use Q65 or JT65 to make weak-signal contacts involving a nonstandard call sign should upgrade to this version. Also included is a new feature for microwave aircraft scatter, as well as repairs for bugs detected since the general availability release of version 2.5.0. A complete listing of changes is available in the [Release Notes](#). Links to WSJT-X 2.5.2 [installation packages](#) for Windows, Linux, and Mac are available at <http://physics.princeton.edu/pulsar/k1jt/wsjtx.html>.

You can also get the WSJT User Guide at <https://physics.princeton.edu/pulsar/k1jt/wsjtx-doc/wsjtx-main-2.5.2.html>.

We have many events and activities coming up for you to get on the air, have fun, and help your community.

If you would like to join us and help with any of these activities, please let us know, so if any dates or locations are changed, you can be notified. You can also just show up — but check our website first to ensure there haven't been any changes.

Date	Day	What	Where	Contact
11/13 *	Sat	Turkey Trot Foot Race	Altona School, Longmont <b>(volunteers needed!)</b>	Doug, KE0SI
12/11 *	Sat	Parade of Lights	Downtown Longmont <b>(volunteers needed!)</b>	Doug, KE0SI

- Dates with an asterisk (\*) are community service events, when our club members provide radio support. Please help us with these! Send Doug email with your intent to volunteer.
- To contact Doug, our Event Coordinator, send email to [KE0SI@w0eno.org](mailto:KE0SI@w0eno.org).
- Also keep an eye on our LARC website ([w0eno.org](http://w0eno.org)) for all of our upcoming events.

## CQ World Wide DX Contest

The CQ World Wide DX Contest is the largest Amateur Radio competition in the world. Over 35,000 participants will be on the airwaves on the last weekend of November for CW. Their goal is to make as many contacts as possible with as many DXCC entities and CQ Zones as they can.

The logs are to be submitted in Cabrillo format via an upload page.

Everyone who participates can print up their own online certificate suitable for framing once your call is in the database (after uploading your log). You can also get your logs checked with an email link being sent to you.

Everyone is encouraged to participate! For more information and to see all the categories in which you can enter, go to [cqww.com](http://cqww.com).

**CQ WW Contest  
Dates**

CW: November 27 - 28, 2021

Starts: 0000 UTC Saturday  
Ends: 2359 UTC Sunday





Bad eyesight and large fingers are two causes of frustration with modern radios with small print and tiny menus and buttons. Many mobile and desktop radios provide some means of control via a computer – commonly referred to as CAT (Computer Aided Transceiver) control. This capability can be used to construct your own customized radio interface.

I recently came across a couple of examples of this for Yaesu radios. The first is a project by Andy Webster, G7HUN, that utilizes an Arduino Nano, a small OLED display and a few buttons to improve on the user interface for the Yaesu FT-817. The Yaesu CAT interface is via a serial connection, making it easy to control with the microcontroller. Andy's writeup can be viewed at: <https://swling.com/blog/2020/08/andy-builds-a-genius-companion-control-display-for-the-yaesu-ft-817-transceiver/>.

While Andy's project is for DIYers, Chris Day, ZL1CVD, of New Zealand has a number of pre-made boards that provide features such as large meter displays, enhanced radio displays, and customizable control knobs for Yaesu radios on his web site at: <https://www.catknobz.com/>.

Hopefully these two examples will provide you with some ideas to solve issues encountered in your own shack!

More Information:

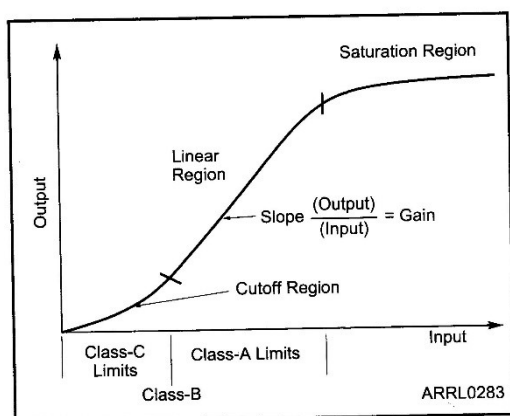
- Yaesu FT-817 CAT Programming: [http://www.ka7oei.com/ft817\\_meow.html](http://www.ka7oei.com/ft817_meow.html)
- Kenwood TM-v71/TM-D710 Rig Control: [https://github.com/LA3QMA/TM-V71\\_TM-D710-Kenwood](https://github.com/LA3QMA/TM-V71_TM-D710-Kenwood)
- [https://wiki.radioreference.com/index.php/Amateur\\_Radio\\_Transceiver\\_Control](https://wiki.radioreference.com/index.php/Amateur_Radio_Transceiver_Control)
- [https://www.dxzone.com/catalog/Software/Radio\\_Control/](https://www.dxzone.com/catalog/Software/Radio_Control/)



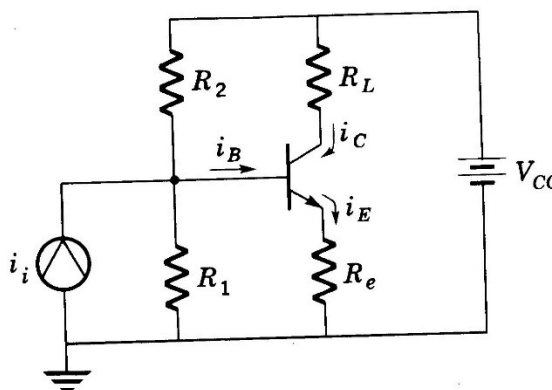


Circuit design is a complex subject. Like many engineering fields, the basic principals (as taught in 3<sup>rd</sup> year college courses) are simple enough. But, if you are going to commit millions of dollars to high volume products, you have to incorporate circuitry to handle all the off-nominal cases, all the variations in the part's spec sheet values when bought in production quantities, have to optimize to accommodate automated production equipment, etc, etc, etc. That is why it is hard to look at the schematic of a complex, modern transmitter and recognize the main design elements. So, let's try to strip back to just the basics of how an amplifier works.

Whether it is bipolar transistors, field effect transistors or vacuum tubes, the principal is the same. All these devices can function as switches or as amplifiers. They have a positive and a negative terminal and a control terminal. The simplest application (like in a digital computer circuit), apply a voltage (or current) to the control terminal in order to drive the positive to negative terminal current either fully on or fully off (a "0" or "1"). For these devices to act as amplifiers, you must set bias voltages on the terminals to put it into the **linear region**.



**Figure 6.9 — This graph shows the three regions of amplifier operation: cutoff, linear and saturation. Each region of the curve corresponds to a different operating class.**

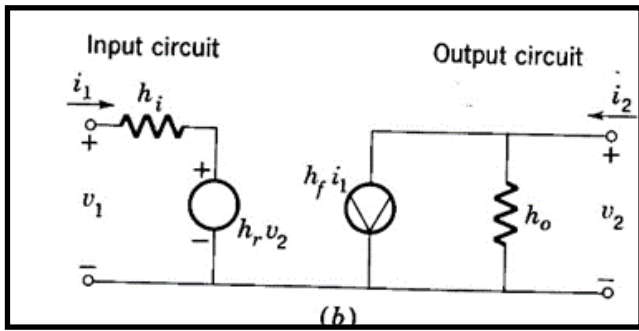


The design of such a circuit has two parts; 1) DC analysis and 2) AC analysis. DC analysis starts with the resistors in the above circuit. The resistors in this bipolar transistor circuit set the base to emitter voltage and the collector to emitter voltage so that the transistor is in the linear region and a small change in the base current results in a much larger change in the collector current. After the "quiescent point" is set by DC analysis, AC analysis handles the signal.

For small signal AC analysis, a simplified model of the transistor (or FET or tube) can be used. The input circuit looks like the Thevenin Equivalent ([https://en.wikipedia.org/wiki/Thevenin%27s\\_theorem](https://en.wikipedia.org/wiki/Thevenin%27s_theorem)) of the input and emitter resistors. The output looks like a current source that supplies the input current multiplied by the gain of the transistor.

Proper size capacitors look like "opens" to DC voltages and "shorts" to AC signals. So, it is

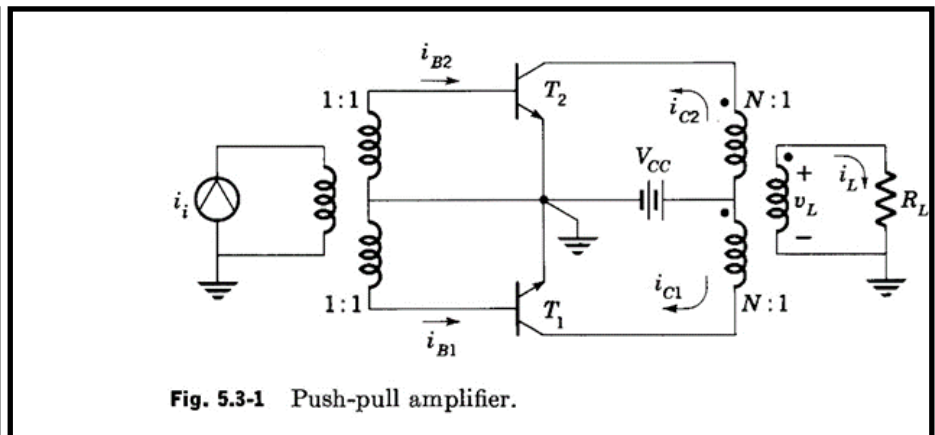
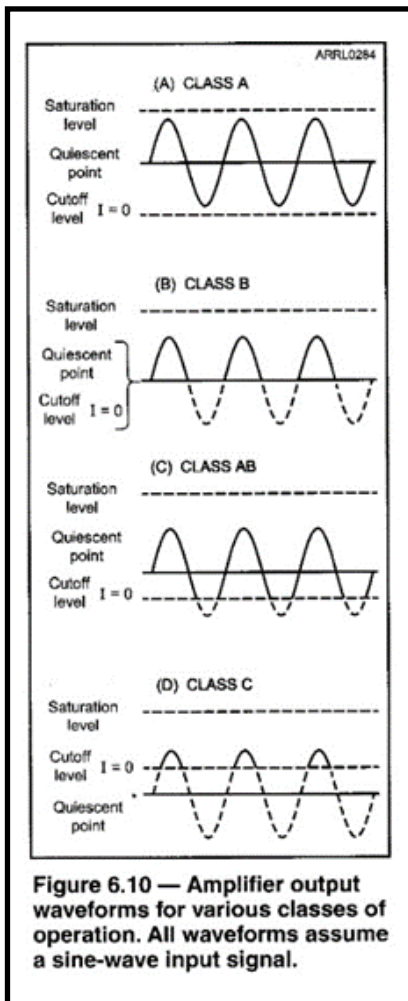
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very common to see stages in the transmitter “AC coupled” by capacitors. The AC signal is superimposed on the DC bias. You also see lots of capacitors that are “bypass caps”. Their job is to shunt unwanted noise, harmonics and other bad stuff to ground. You need to use the right value for each of these bypass caps to kill the right offending signals and leave the desired signals untouched. The 3<sup>rd</sup> kind of capacitor is

used in a tuned (resonant) LC circuit to cause oscillation as the desired frequency.

A Class A amplifier is biased and driven so that the signals are fully in the linear region and the output waveform is a faithful (bigger) copy of the input waveform. This is needed for SSB amplitude modulated transmitters. Class B and Class C will go outside of the linear region. Detailed analysis will show that Class B or C is more efficient (more power out for less power in). It is acceptable for CW and FM transmission. A common optimization to get the efficiency

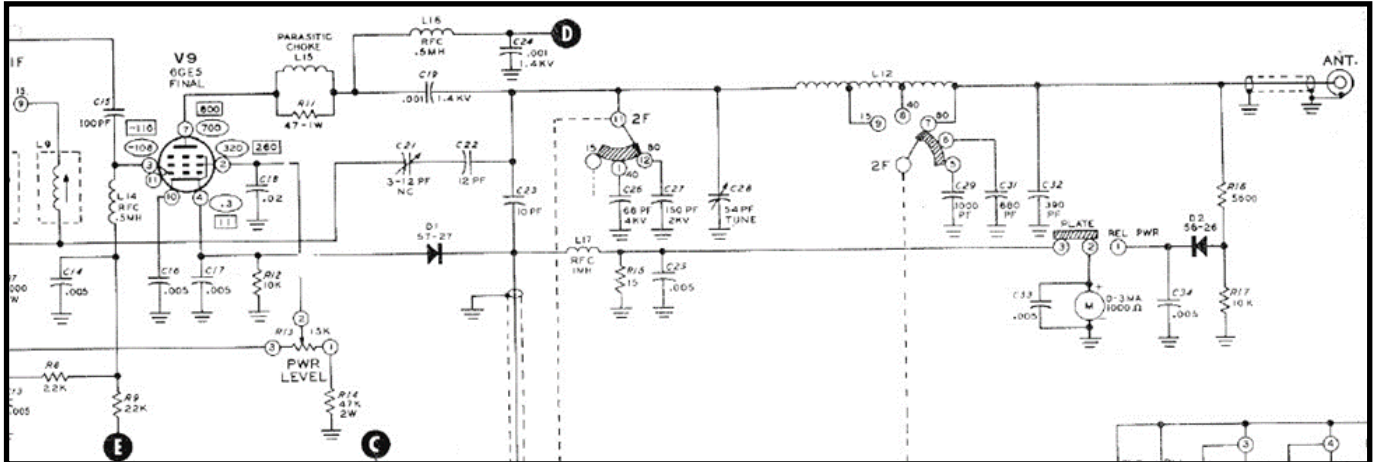


of Class B while getting the full fidelity of Class A is a “push-pull” circuit using two transistors.

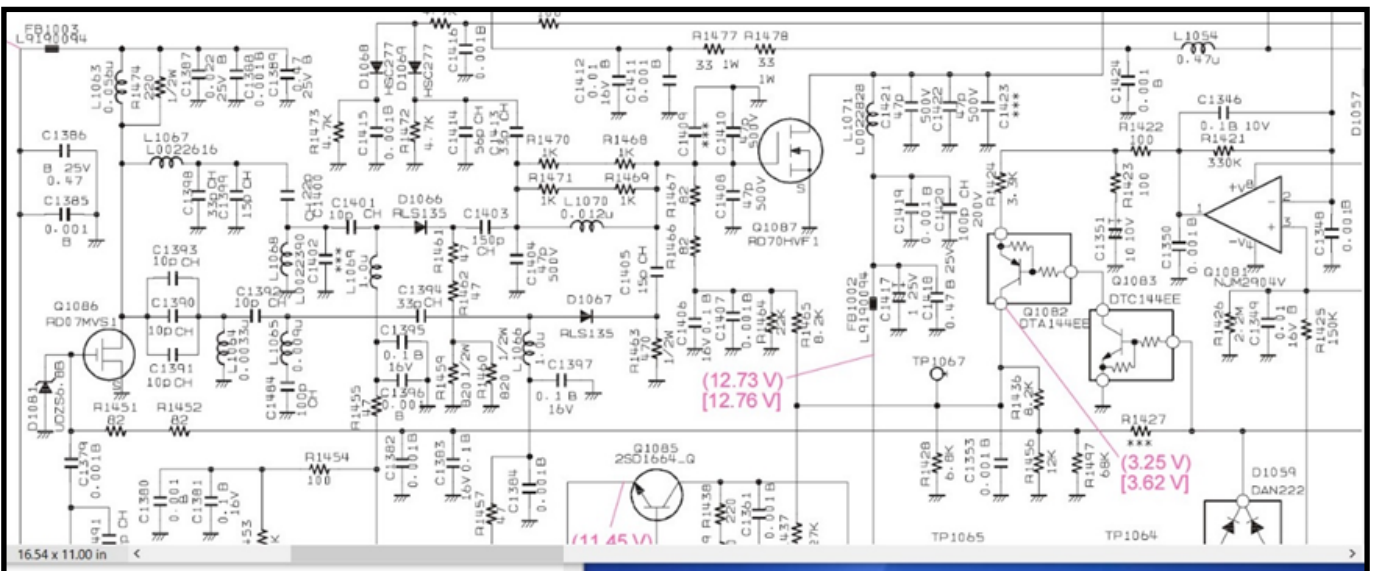
The final amplifier in my 1965 era HW16 is V9 in the following circuit. The grid signal comes from the prior “driver” tube (left of the drawing). It is amplified and the large signal leaves the high voltage plate, is cleaned up by the “tank circuit” (LC tuned circuit), and sent out to the antenna. Note how different inductor and capacitor values are switched in for each of the 3 ham bands. This is a Class C amplifier (CW only transmitter).



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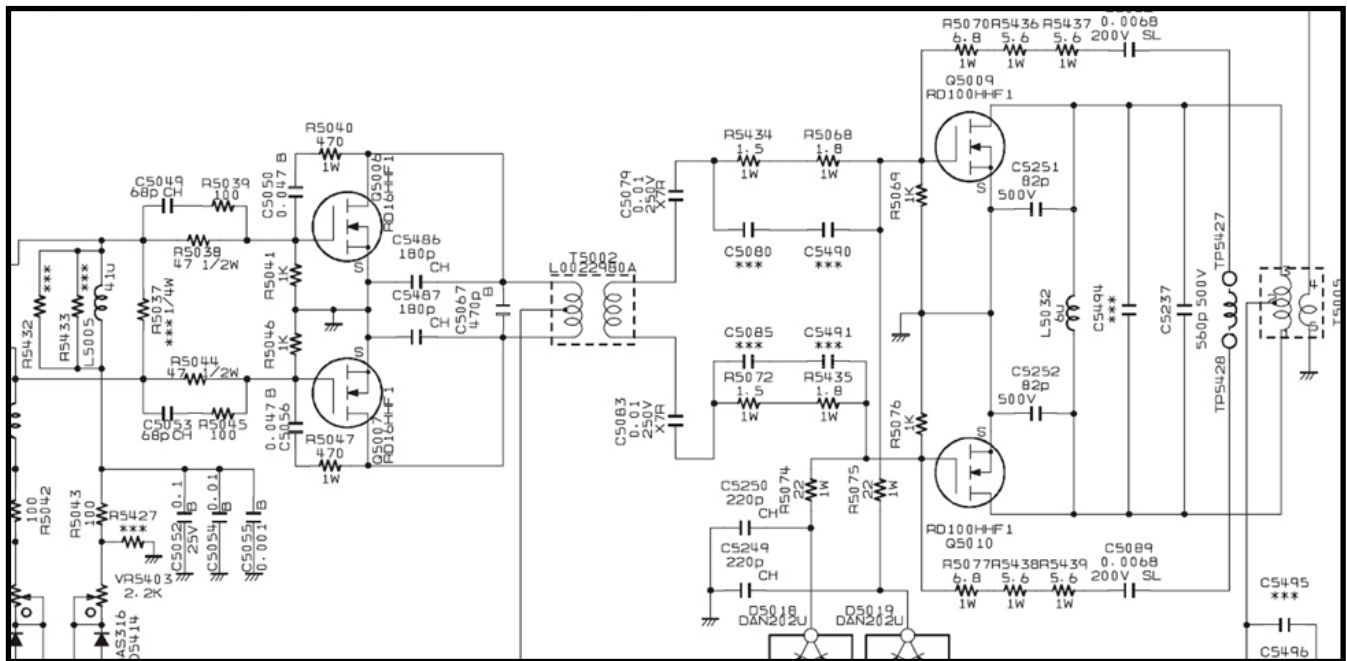


The amplifier in my Yaesu FT7800 144/440 FM transceiver is below. Q1087 (a FET) is the final amplifier. The smaller gate signal is amplified into a larger signal across the source to drain junction. It is also a class C amplifier (FM only). Why so many components? Well, suppression of harmonics and spurs is a lot harder at VHF and UHF, so lots of distributed capacitors. At VHF and especially UHF, even a few inches of simple traces on a PC board can act like an antenna. And, the FT7800 is built using surface mount components, so simple resistors, transistors and small value capacitors are tiny and cheap – so you can use a lot of them. And, Yaesu expects every radio rolling off the assembly line to work 1<sup>st</sup> time with no adjusting. So the circuit has to tolerate wide variances in production lots of components. In 1965, Heathkit tolerated a manual alignment set of steps done by skilled technicians.



The RF amplifier in my Yaesu FT450D HF SSB/CW/AM/FM transceiver is below. Q5009 & Q5010 are the final amplifier. They are also FETs. Because this transmitter supports SSB (and AM), the amplifier must be linear. This radio runs Q5009 and Q5010 as a push-pull pair.

>> continued >>



So, in a few pages, that's a couple semesters of college EE classes and many years of working as a junior engineer under some senior guy. There are many circuit simulator software packages that help in this work.

## HO—HO—HO HAMS!

Get your kiddos to check in to our “On the Air with Santa” – call sign N0P !

Santa will be on the air from 5-7 pm on Sunday, November 28, 2021. Then again on Monday, November 29 through Friday, December 3 from 6-7 pm each night. Round up all the kids and get the kids (young and old) on the repeaters or via Echolink (node 5803), and let them tell Santa what they want for Christmas (with you doing initial check-in and listening, of course!)! **Say Hi to Santa !**



Here are some exam questions from the current exam pools. Go ahead and answer them, and then check your answers on page 21. Let's see how you do! We recommend [hamstudy.org](http://hamstudy.org) to study with flashcards and also to take your practice tests. It keeps track of your weak areas for you!



### Technician Exam Review -- Question T5B06

If an ammeter calibrated in amperes is used to measure a 3000-milliampere current, what reading would it show?

- A. 0.003 amperes
- B. 0.3 amperes
- C. 3 amperes
- D. 3,000,000 amperes

### General Exam Review -- Question G5B06

What is the output PEP from a transmitter if an oscilloscope measures 200 volts peak-to-peak across a 50 ohm dummy load connected to the transmitter output?

- A. 1.4 watts
- B. 100 watts
- C. 353.5 watts
- D. 400 watts

### Extra Exam Review -- Question E5B04

What is the time constant of a circuit having two 220 microfarad capacitors and two 1 megohm resistors, all in parallel?

- A. 55 seconds
- B. 110 seconds
- C. 440 seconds
- D. 220 seconds



## Upcoming Hamfests and Conventions

You can use this to plan some of your upcoming fall and winter travel to get away from our cold winter weather. You will find local events in bold print.

Some conventions and hamfests may have been canceled or postponed due to the Covid pandemic. Check the hamfest event calendar on the ARRL website calendar to be sure it's still on at <http://www.arrl.org/hamfests/search/page:1/model:Event>.

Date(s)	Description	Location
11/20	Northeast Nebraska Hamfest <a href="http://qsl.net/evarc">http://qsl.net/evarc</a>	Norfolk, NB
12/04	Superstition ARC Superfest <a href="http://">http://</a>	Mesa, AZ
01/14—01/15	Cowtown Hamfest <a href="http://cowtownhamfest.com">http://cowtownhamfest.com</a>	Forest Hill, TX
01/15	Thunderbird ARC Hamfest <a href="http://www.w7tbc.org">http://www.w7tbc.org</a>	Glendale, AZ
<b>01/15</b>	<b>Winter Hamfest 2022</b> <a href="http://ncarc.net">http://ncarc.net</a>	<b>Loveland, CO</b>
01/23—01/29	Quartzfest <a href="http://quartzfest.org">http://quartzfest.org</a>	Quartzsite, AZ
01/29	<a href="#">26th Annual Albuquerque ARC Winter Tailgate</a>	Albuquerque, NM

## Raspberry Pi Shutdown Button

*Bryan, AF0W*

One big problem with Raspberry Pi-based systems (especially those that are mobile/portable) is that you have to be very careful to properly shut the system down prior to removing power. Your SD memory card can become corrupted if the system is in the process of writing to the card when power is removed.

It's not only your application that you have to worry about – the Raspberry Pi operating system has numerous processes that can write to the SD card at any time for things like log files, swap memory, file system changes, etc.



You can attempt to work around this by making the card read-only, but then you have no way of saving data locally on the system across reboots.

There are hardware solutions that provide UPS (uninterruptible power supply) functionality (and graceful shutdown capability when the UPS battery becomes exhausted), but these can be a bit pricy, and still do not necessarily cover the case where you want to power down the Pi.

For example, perhaps you use a Pi to run software for JT8 when you're out at a remote camp site. While you can connect in via a phone or tablet and shutdown the Pi, there is an easier way.

Jason Oleham, KM4ACK, recently uploaded a video titled "Raspberry Pi Safe Shutdown Script" where he shows how to attach a simple switch and software to your Pi, which will allow you to shut it down safely without having to connect into it with another device. This video can be found at: [https://www.youtube.com/watch?v=fyHYSLbhLgU&list=PLRuRszo\\_oVMr3YAxN8eHuyWoqBb501a0d](https://www.youtube.com/watch?v=fyHYSLbhLgU&list=PLRuRszo_oVMr3YAxN8eHuyWoqBb501a0d)

[v=fyHYSLbhLgU&list=PLRuRszo\\_oVMr3YAxN8eHuyWoqBb501a0d](https://www.youtube.com/watch?v=fyHYSLbhLgU&list=PLRuRszo_oVMr3YAxN8eHuyWoqBb501a0d)

## Upcoming RMHAM University Classes

Rocky Mountain Ham (RMHAM) is offering free and very interesting classes for the rest of this class season.

If you are interested in taking one (or more), you can register at:  
<https://www.rmham.org/cgi-bin/rmham-u/signup>.



Date & Time	Presenter(s)	Topic
Nov. 13, 8:30 am	Willem AC0KQ and John W0VG	<b>RouterOS 101</b> This class is an introduction to configuring Mikrotik devices assuming no prior knowledge of RouterOS used by these devices, but does assume basic IP knowledge. The class is in the form of a lab and will cover initial configuration of routers as well as microwave radios. <b>Zoom Meeting ID: 868 1909 1200</b> Passcode: 271144
Dec. 11, 8:30 am	Mike K0NGA	<b>DMR Programming Lab</b> This class will be a hands-on lab about programming DMR Radios. Bring your DMR radio and a laptop. <b>Zoom Meeting ID: 895 9898 7685</b> Passcode: 102015
Jan. 8, 8:30 am	James KI0KN and Mark, N7CTM	<b>Motorola and Kenwood Radio Programming Lab</b> How to program commercial radios from Motorola and Kenwood for DMR, analog and P25. Managing code plugs. Special topics like use of older radios for packet stations, DMR roaming and data transmission. <b>Zoom Meeting ID: 818 7427 5580</b> Passcode: 031606
Feb. 12, 8:30 am	Various	<b>NerdFest</b> A bunch of short presentations on esoteric topics in ham radio. <b>Zoom Meeting ID: 836 0184 8546</b> Passcode: 155428



## RMHAM Past Presentation Videos Available

Past presentation and class videos are available if you cannot make it to the classes.

Upcoming 2021-2022 RMHAM University classes and Tech Talks are listed at: <https://www.rmham.org/rocky-mountain-ham-university/>. Presentations are free, and classes (not Tech Talks) have the option of in-person attendance.

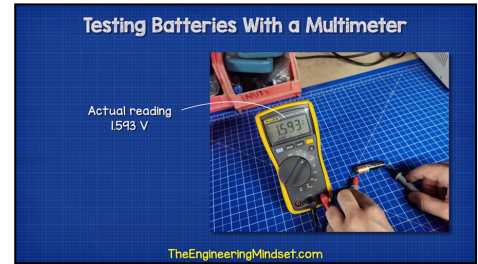


- **Problems Winding up your Coax?**

You've Been Doing This Wrong Your Whole Life!! This YouTube video will show you how to wins your feedlines properly and without twists or tangles... see <https://youtu.be/t8PvNMCo3T8>.

- **Testing Batteries with a Multimeter**

Ever wonder why you can check an AA battery with a multimeter, see that it's putting out 1.5 volts, but then when you try to use the battery, your device won't work? Check out this video on YouTube to find out why (and how you can get an indication of your battery's true status): [https://www.youtube.com/watch?v=JjElWj0fFX4&list=PLRuRszo\\_oVMr3YAxN8eHuyWoqBb501a0d](https://www.youtube.com/watch?v=JjElWj0fFX4&list=PLRuRszo_oVMr3YAxN8eHuyWoqBb501a0d)



- **Ham Locator**

For a web page which shows the license address of any ham in the country, go to <https://haminfo.tetranz.com/map>. If you put in your own call sign, it will show all the hams and their call signs around your area.

- **Online Groups for NanoVNA**

Check out these sites that can help you with your NanoVNA:

- <https://groups.io/g/nanovna-users>
- <https://groups.io/g/NanoVNAV2>
- <https://groups.io/g/nanovna-f>
- <https://groups.io/g/nanovna-f-v2>

- **Fantastic Amateur Radio Magazine (online) from Canada**

Contains over 120 pages of projects, news, views, and reviews, with no ads: <https://bit.ly/SARC21NovDec>

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## Answers to The Fifth Degree — What Do YOU Know — Questions from p. 18



Exam Level	Question	Answer
Technician	T5B06	C
General	G5B06	B
Extra	E5B04	D

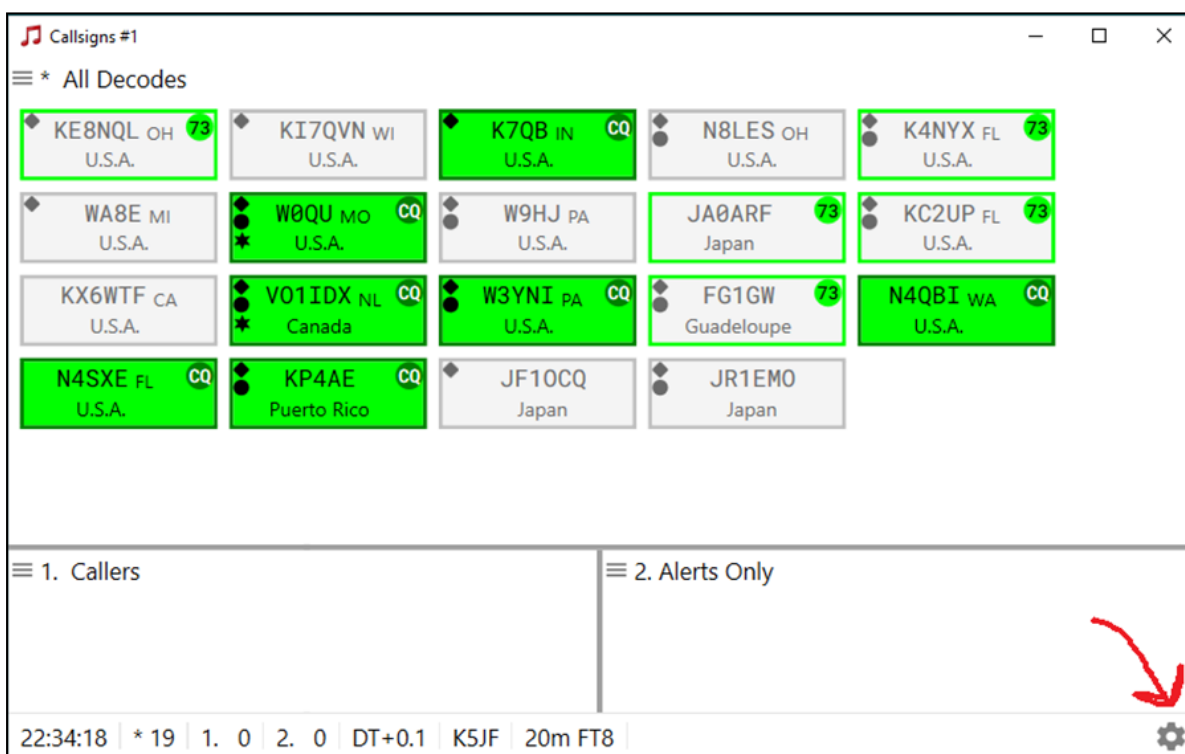


I recently saw a Facebook post touting an update to JT-Alert. It had been a while since I'd upgraded, so I gave it a try. Turns out I was on version 2.6.16 – the current version is 2.50.7!

One reason I'd stopped using JT-Alert as much as I used to was that the window displaying call signs was getting too small for me to easily read.



I'm not sure when they implemented the new call sign window, but it's a lot easier on the eyes – especially since you can easily zoom it in to make it more readable (just click on the small gear icon in the lower-right corner of the window).



Since I don't think I'm the only one in the club with vision issues, I thought this would be a valuable upgrade to others as well.

If you use WSJT-X and have not tried JT-Alert, I strongly recommend you check it out. It is free and can be downloaded from: <https://hamapps.com/>.

You can see a full list of features on that web page, but in short, it provides several audio and visual alert types based on the decoded call signs within WSJT-X. Examples include your call sign (i.e. someone calling you), wanted state, wanted DXCC, wanted continent, etc. It can also log to a number of different systems including those on your computer (i.e. DXLab DXKeeper, ACLog, ADIF file) and web-based services (QRZ, eQSL, ClubLog, etc.).

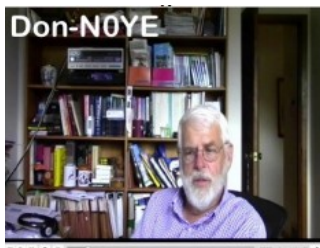
One thing to watch out for is to make sure that the sound card you select for JT-Alert alerts is not the same one you're using with WSJT-X for your radio, or else the alerts will be transmitted.



This is a follow-on to my Zoom presentation for your LARC October meeting. My talk was on "High-Definition, Digital Amateur Television".

Boulder County has a DATV repeater, W0BTV. It covers most of the eastern half of Boulder County and beyond out onto the eastern prairie. Due to its location (same as the BARC 146.70 repeater) it does not penetrate into the mountainous western part of the county. The repeater does give good coverage over most of the city of Longmont, plus points further to the north and east. We presently have one active ATVer up in Johnstown, Bob, WB0NRV, 29 air miles from the repeater.

The repeater has an active group of ATVers. They hold a weekly ATV net on Thursday afternoons. The net starts at 3pm and runs for one to one and a half hours. The repeater's transmitter is typically turned on a half-hour to one hour prior to the net with either a test pattern or with a DVD playing a vacation travelogue. During the net each participant gets a chance to turn on his TV transmitter and chat on the air with the other net participants.



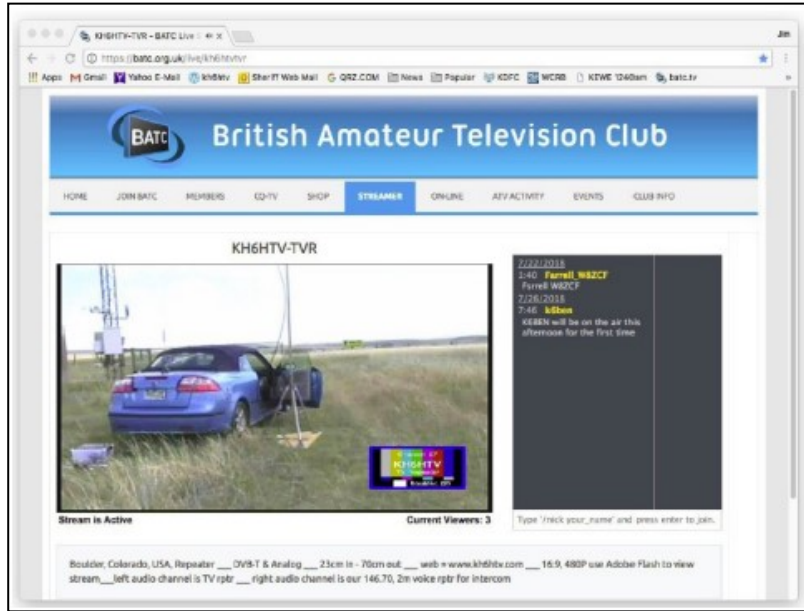
Each TV transmission lasts for typically about ten minutes. Many different topics are discussed on the various nets. Some are ham-radio technical, some are slide shows of walks around town, or travels, etc. We also have some viewers without TV transmitters who join in and add their comments. We use the BCARES 2 meter FM voice repeater on 146.76 MHz for net control and our intercom. If you only listen to 76, you might wonder why the conversation is one-sided? It is because the other person is on TV and talking on the TV channel. Thus, a full-duplex conversation is actually in progress.

So how can you join in and watch the ATV net? You can watch it on your computer being streamed over the internet. But being hams, we really like to do things using antennas over the air. Here is what it takes to do either.

**Internet:** Boulder's W0BTV ATV is streamed live over the internet. We use the services of the British Amateur Television Club (BATC) for streaming. The URL link to the BATC server in the U.K. is <https://batc.org.uk/live/>. This takes you to the BATC page for streaming. There are over 60 ATV repeaters around the world listed on this page, plus many more individual ATV hams. Those that have active streams might be in a stand-by mode playing a test pattern. To access the Boulder ATV repeater by clicking either "N0YE" or "KH6HTV-TV.R."

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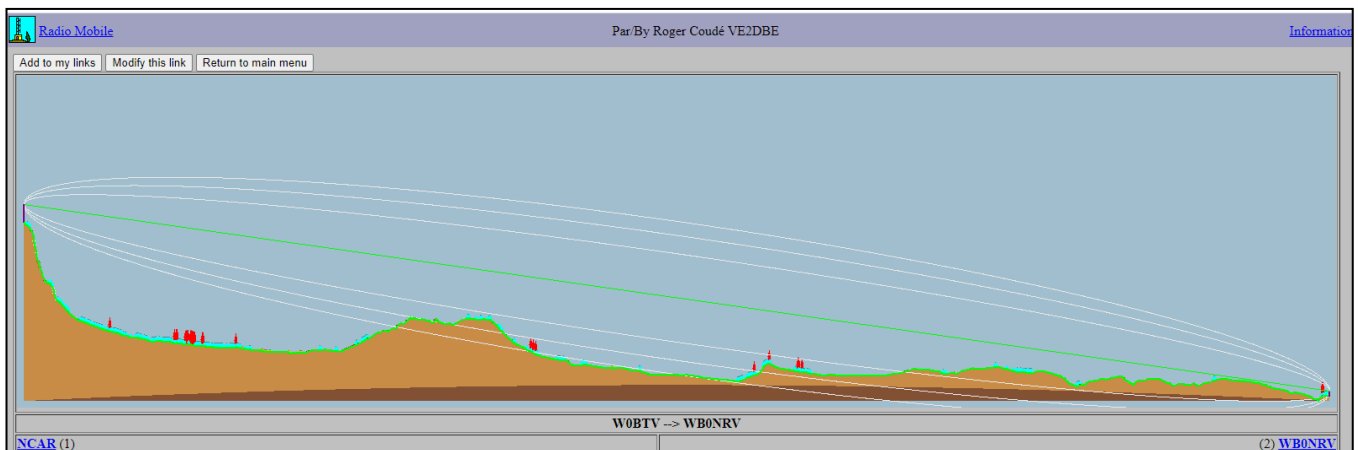




We only stream to the BATC when our weekly net is in progress, or there is a special event in progress, such as a BCARES operation. An example was the Cal-Wood forest fire a year ago when we had live video coverage 24/7 for several days. We use both stereo and audio channels. We put the ATV repeater's audio on the left channel and the 146.76 audio on the right channel. Please note that the stream from the BATC has about a 20-second delay from the live video. Thus, it can be confusing if you are also listening to 146.76 live.



**Over the Air:** If you want to actually watch the ATV repeater over the air, we are willing to help you get set up. It will be a multi-step process.



RF path profile from W0BTV-ATV repeater in Boulder to WB0NRV in Johnstown

>> continued >>

**Step 1** — I will first determine if a viable RF path exists from the repeater to your QTH. I use the free, online computer program called *Radio Mobile* to perform an RF path prediction. We have found *Radio Mobile* to be very accurate. If it says no path exists, we will drop it there. The above plot (previous page) shows an example of one path which works for Bob, 47km to the northeast.

**Step 2** — If *Radio Mobile* says there is a workable path, then we are willing to loan you on a short-term basis a digital TV set-top box receiver. It is similar to the set-top box provided by the cable TV company. Our repeater’s output is on the 70cm band on channel 57 at 423 MHz. You cannot receive this signal directly on your home TV receiver. The set-top box must be used. We are using vertical polarization. If you already have a vertically-polarized, 70cm antenna at your QTH, then great. You will simply connect it to the set-top box. The HDMI output from the set-top box goes to your home TV receiver, the same as if you were plugging in a DVD player, etc. If this is not convenient, we could also loan you a small, portable TV monitor. If you don’t have a suitable antenna, we do also have available for loan a Diamond X-50, 2m/70cm base station antenna, antenna tripod mount, mast, and a length of coax cable.

**Step 3** — Once you have this set up at your QTH, you then give us a phone call and ask us to turn on the ATV repeater with a test signal. If you still have trouble receiving the signal, we are also willing to do a doctor’s house call for de-bugging.

**Step 4** — After you have achieved reception at your QTH, the next step is for you to purchase your own digital TV set-top box. Unfortunately, these come “dumb” and will not automatically work to receive the repeater’s signal.

To get around this problem, we offer to purchase a suitable receiver for you, program it to receive all of the amateur 70cm and 33cm ATV channels, and then re-sell it to you at cost. The cost is typically about \$50, although we sometimes have been able to find receivers for as low as \$15.

Interested in our offer? — Then contact me at [kh6htv@arrl.net](mailto:kh6htv@arrl.net).

73 de Jim, KH6HTV, Boulder, Colorado



**\$42 DVB-T RECEIVER for 70cm & 33cm ATV !!!**



## Thank You to our Volunteers! You are Appreciated!

We had a great turnout of Volunteers for both the Boulder County Fair Parade on August 23rd and also for the Longmont Halloween Parade on October 30th. Thank you so much for helping LARC serve our community!



We still need volunteers to cover two more things this year — the Longmont Turkey Trot Race this Saturday, November 13th in the morning. Please let [Doug \(KEØSI\)](#) know if you can help out with this!

Then the next Parade that we cover is Saturday evening, December 11th, for the Longmont Parade of Lights. Please also let Doug know if you can help out with this one.



## LARC Logo Apparel — New Sale Prices!

These are great clothes to wear for all our club-related activities, and to show your pride in our club at other ham events! They also make great gifts for your favorite hams!

Order your items today at <https://forms.gle/AgZQSMhrRtR1tLEG8>.

					
<b>Short-sleeved Shirt \$32</b>	<b>Long-sleeved Shirt \$40</b>	<b>Fleece Jacket \$43</b>	<b>Soft-shell Jacket \$55</b>	<b>Cap \$16</b>	<b>Patches SM \$4 LG \$6</b>



## Are Your LARC Dues Current?

Did you know that your dues and/or annual renewals can be paid online at the club website ([w0eno.org](http://w0eno.org)) using PayPal? You don't have to have a PayPal account; you can pay with a credit card (Visa, MC, Discover, AmEx), or select 'bill me later.' You can also join or renew by mailing a check to the club (LARC, P.O. Box 86, Longmont, CO, 80502), or by giving payment to Steve Shearer (K0STE) at a club meeting when we start having them in person again. *If you aren't current on your dues, you are moved to a different mailing list and may not get club info, emails & this Splatter newsletter. Get them paid up, send email, and you're back on list!*

Yearly dues are only \$20 per year for an individual or for a family at the same address. You can find membership information by clicking on the Membership link on our club web page. Contact Steve at [membership@w0eno.org](mailto:membership@w0eno.org) if you need to know your current dues status.

## Calling All Business Owners, Restaurants, Services, and Retail Shops!

### Advertise with LARC in the Splatter!

The Splatter newsletter is published once a month. You can advertise your business with us at very reasonable prices!

Your ad will run for a one-year period (12 months) from when your first ad runs.

Get more business by offering a special promotion code for our readers, or by offering a deal on certain products — or just advertise your business!

### Donate to LARC for Monthly Drawings

When you donate products or gift cards to our club for the drawings at our monthly meetings, we will run a business-card sized ad for you or for your business in our next monthly Splatter for free!

You also will be mentioned in the next month's Splatter newsletter and in the final issue of the year as a donor to our Club for the year, as well as on our [w0eno.org](http://w0eno.org) web site. You will also get a donation receipt from our Treasurer.

If you can make a donation, please send your information to Steve Shearer at [k0ste@w0eno.org](mailto:k0ste@w0eno.org).

### PROMOTE YOUR BUSINESS WITH SPLATTER ADVERTISING

Ad size and cost – *per year.*

Business Card	2" h x 3.5" w	\$ 100
Quarter Page	4.2" h x 3.25" w	\$ 200
Half Page	4.25" h x 7" w	\$ 300
Full Page	8.5" h x 7" w	\$ 500

The above prices are per year – not per month. (12 months of ads)

Your advertisement will be seen by amateurs throughout Colorado, the Rocky Mountain States, and even the rest of the United States. Splatter circulation is approx. 1,500.

Send Ad and/or Contact us for more details at:

[Splatter@w0eno.org](mailto:Splatter@w0eno.org)

Checks are to be Made out to Longmont Amateur Radio Club. LARC is a 501(c)(3) corporation.

## Support Your Club!

Usually our annual April LARCFest (hamfest) is our biggest fundraiser each year for LARC. In 2020 and 2021, however, it have been cancelled due to the Covid-19 pandemic. We are trying to raise funds for the club in other ways to be able to support more activities and events for our members, support our community, and also to keep our repeaters up-to-date and add new technology.

1. Get a King Soopers or City Market card and link it to our club. Every time you shop, LARC earns a small portion donated by the grocery store! See the directions at: <https://www.kingsoopers.com/i/community/community-rewards>. Select Longmont Amateur Radio Club as your charity (organization # VW736).
2. Do all your Amazon Ordering on Amazon Smile. Doesn't cost you a cent extra! For every order you submit, Amazon sends LARC a small percentage of your sales amount. Go to [https://smile.amazon.com/gp/chpf/homepage/ref=smi\\_chpf\\_redirect?ie=UTF8&ein=84-1056239&ref=smi\\_ext\\_ch\\_84-1056239\\_cl](https://smile.amazon.com/gp/chpf/homepage/ref=smi_chpf_redirect?ie=UTF8&ein=84-1056239&ref=smi_ext_ch_84-1056239_cl)
3. Donate directly to our club on our LARC website at [https://www.paypal.com/donate/?hosted\\_button\\_id=3Y4UZGXSVC9W](https://www.paypal.com/donate/?hosted_button_id=3Y4UZGXSVC9W). You can use PayPal or a debit or credit card, and you will be sent a receipt from our club treasurer.
4. Volunteer to participate in or to lead ham-related activities for the club members. Your specific skills and knowledge will be a big help to enrich our club! You'll have a lot of fun, too!
5. Advertise your biz or skills with the Splatter. See page 27 for more details. We want your business!
6. Purchase or gift our LARC Logo Wear, and LARC receives a small percentage of your sale! So far, we have a cap and shirt — more items coming soon! These are a great fundraiser for our club! Be proud to wear to ham radio events everywhere! These are purchased, embroidered, and patched by a local business owner who is also a LARC member! These make great Holiday Gifts



Click here to shop at AmazonSmile  
and Amazon will donate to LARC

**amazon**smile  
You shop. Amazon gives.

*See them all on page 26! On Sale through end of 2021 with Reduced Prices!  
Get Your Items Now!*

- Short-sleeve Shirts (\$32) embroidered with your call sign, name if desired, and our LARC Logo patch.
- Long-sleeve Shirts (\$40) embroidered with your call sign, name if desired, and our LARC Logo patch.
- Fleece Jackets (\$43) embroidered with your call sign, name if desired, and our LARC Logo patch.
- Soft-shell Jackets (\$55) embroidered with your call sign, name if desired, and our LARC Logo patch.
- Caps (\$16) emblazoned with our LARC Logo patch on the front with your call sign embroidered on the back.
- Individual Patches \$4 (2.5") and \$6 (3.5")
- See the pictures of these new items on page 26 of this Splatter.
- To order any of our LARC Logo Items, go to <https://forms.gle/AgZQSMhrRtR1tLEG8>



### Editor's Note

I welcome and thank you for any news items you submit for publication in the LARC Splatter.

Please note that all articles submitted may be edited for spelling, grammar, and length. Files in the form of DOC, DOCX, RTF, PDF, and TXT are all accepted.

If you would like a picture included, please send them in separate files, in JPG or PNG format. If you would like a caption under the picture, please specify what you would like your caption to say.

### Longmont Amateur Radio Club

LARC is organized for educational and scientific purposes and to provide public communication services to the local community and adjacent areas through the operation of Amateur Radio. The Club holds regular meetings for the business of the Club, for the presentation of papers, amateur radio topics and their discussion.

**Our November Meeting will be on Wednesday, 11/17, at 6:30 pm via Zoom. Click on:**

<https://us06web.zoom.us/j/81928642821?pwd=WXNSTjdEdHd5emZaaDRaaENQdnFWZz09>

**See p. 2 for more info.**

## Longmont Amateur Radio Club 2021 Leadership Team & Committee Chairs

Position	Name	Call Sign
President	<a href="#">Charles Poch</a>	KØITP
Vice President	<a href="#">Michael Ritchie</a>	WØKKI
Secretary	<a href="#">Pat Engstrom</a>	W1PGE
Treasurer	<a href="#">Don Lewis</a>	KEØEE
Technical Committee	<a href="#">Mark Skelton</a>	N7CTM
Membership Committee	<a href="#">Steve Shearer</a>	KØSTE
Past President	<a href="#">Jerry Schmidt</a>	NØOUW
Publicity Committee	<a href="#">Steve Haverstick</a>	KFØAGY
Planning Committee	<a href="#">Doug Altman</a>	KEØSI
Repeater Trustee	<a href="#">Bryan Gonderinger</a>	AFØW
LARCFest Committee	<a href="#">Dick Paige</a>	KEØVT
Special Events Coordinator	<a href="#">Mark Mollenauer</a>	KDØGOC
License Exam Coordinator (ARRL)	<a href="#">Aaron Rees</a>	AJ7R
Education Coordinator/Instructor	<a href="#">Kat Gonderinger</a>	WØUM
Education Coordinator/Instructor	<a href="#">Bryan Gonderinger</a>	AFØW
Splatter Newsletter Editor	<a href="#">Kat Gonderinger</a>	WØUM

## Please Visit LARC's Sponsors & Supporters

*(there's always room for more!)*

Spaces for entrepreneurs to set up an office, as well as meeting and conference rooms available.



**COWORKING**  
WORKING MORE SOCIALLY

350 Terry St.  
Longmont, CO. 80503

Contact us at [support@cosolve.co](mailto:support@cosolve.co) for more information



**Jim Andrews, KH6HTV**

Get your FREE ATV Handbook at

[https://  
kh6htv.files.wordpress.c  
om/2021/02/an-55a-atv-  
handbook-1.pdf](https://kh6htv.files.wordpress.com/2021/02/an-55a-atv-handbook-1.pdf)

Get the FREE newsletter at

<https://kh6htv.com/>



Clint Bradford, K6LCS

[work-sat.com](http://work-sat.com)

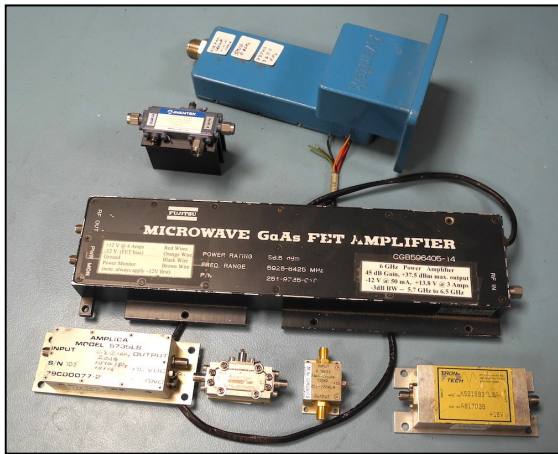
## November Puzzle



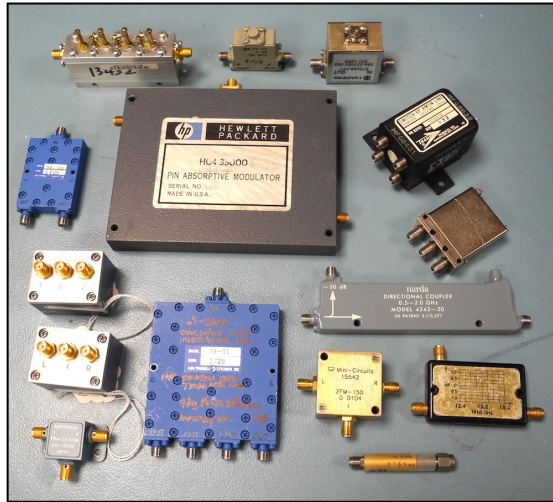
- APPLE
- APPLE PIE
- BISCUITS
- BLESSING
- CANDLES
- CASSEROLE
- CHESTNUTS
- CIDER
- COLLARD GREENS
- CORN
- CORN BREAD
- CRANBERRY SAUCE
- DRESSING
- FAMILY
- FOOTBALL
- GATHERING
- GRACE
- GRATITUDE
- GRAVY
- GREEN BEANS
- MASHED POTATOES
- PEAS
- PECAN PIE
- PILGRIMS
- PUMPKIN PIE
- ROLLS
- SQUASH
- STUFFING
- SWEET POTATOES
- THANKFUL
- TOUCHDOWN
- TURKEY
- YAMS







Amplifiers: 1 to 18GHz- up to 5 Watts



SMA microwave parts: all types

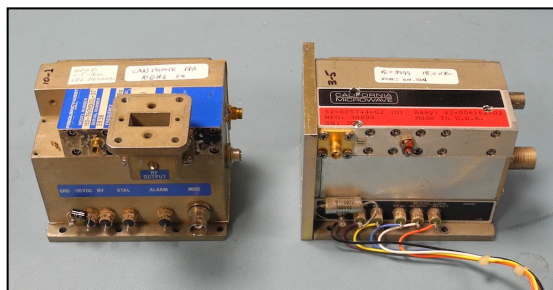
## FREE MICROWAVE GEAR:

Are you a Boulder County, Colorado area ham ? Have you thought about getting into microwave amateur radio ? Would you like some microwave gear to get you started ? If so, then we have an offer you can't afford to ignore. A local microwave ham has donated a whole lot of microwave goodies to be distributed FREE to local area hams interested in microwaves. The equipment includes lots of SMA microwave components, antennas, plus waveguide components in the following sizes: WR-62, WR-75, WR-90, WR-112, WR-137, WR-159, WR-187, & WR-229. WR-229 is for 3.3 - 4.9GHz, while WR-62 is for 12.4 - 18GHz. Also included are some wired equipment, such as Frequency-West brick local oscillators, amplifiers, down-converters, etc. Complete inventory lists have been prepared to itemize all of the multitude of stuff available.

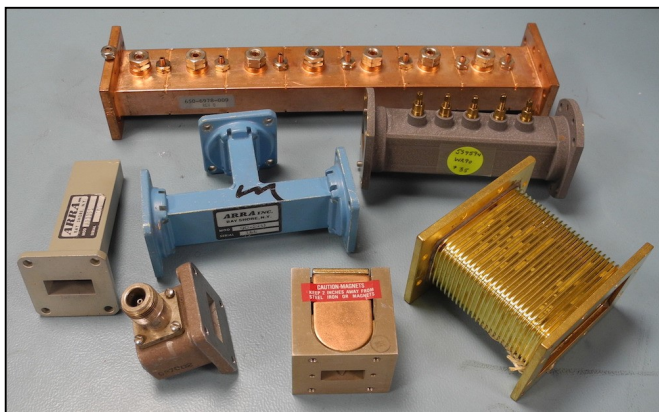
If interested, contact Jim at [kh6htv@arri.net](mailto:kh6htv@arri.net). Jim will then e-mail you copies of the inventory lists and give you details on where to pick it up. No shipping. You must pick up the items you want in person.



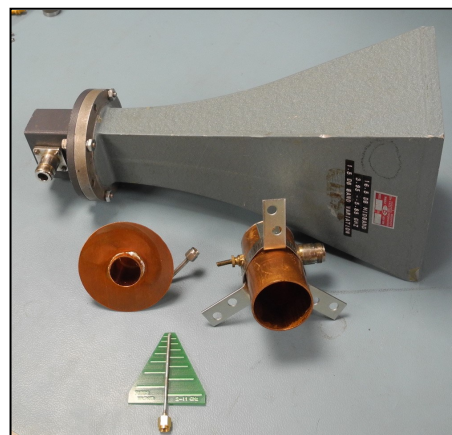
10 Watt X & S band Amplifiers



Microwave Local Oscillators: 1 - 18 GHz



Waveguide Components: 3 to 47 GHz



Microwave Antennas

**Longmont Amateur Radio Club**

P.O. Box 86

Longmont, CO 80502-0086

w0eno.org

**Membership Application**

Tax Deductible Donation to LARC: \$20 per year [ ] New Member: [ ] Renewing Member Payable via PayPal with [sent application](#).

First Name: \_\_\_\_\_ Last Name: \_\_\_\_\_ Birth Year: \_\_\_\_\_

Address: \_\_\_\_\_ City: \_\_\_\_\_

State: \_\_\_\_\_ Zip: \_\_\_\_\_ - \_\_\_\_\_ Call Sign: \_\_\_\_\_ Class: \_\_\_\_\_

E-mail: \_\_\_\_\_ (needed for correspondence)

H-Phone \_\_\_\_\_ C-Phone: \_\_\_\_\_ B-Phone: \_\_\_\_\_

I am a member of: [ ] ARRL [ ] BCARES [ ] VE

**DISCLAIMER AND WAIVER:** I apply for membership in LARC. I understand that some LARC activities are potentially hazardous. If I am injured or killed while participating in a LARC activity, I and my heirs agree to hold harmless LARC and its officers, directors, and members.

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

**OTHER LICENSED FAMILY MEMBERS (Same Address) (No extra cost)**

Name: \_\_\_\_\_ Call: \_\_\_\_\_ Signature: \_\_\_\_\_

Name: \_\_\_\_\_ Call: \_\_\_\_\_ Signature: \_\_\_\_\_

Name: \_\_\_\_\_ Call: \_\_\_\_\_ Signature: \_\_\_\_\_

Note: A tax deductible receipt will be provided.

**THE CHECKED MEETING TOPICS ARE OF INTEREST TO ME**

Training Class for [ ] Technician [ ] General [ ] Extra [ ] Volunteer Examiner

Band: [ ] HF [ ] VHF [ ] 222 [ ] UHF [ ] 900MHz [ ] Other \_\_\_\_\_

Mode: [ ] CW [ ] SSB [ ] AM [ ] FM [ ] ATV [ ] Other \_\_\_\_\_

Digital: [ ] SSTV [ ] PSK31 [ ] MFSK [ ] PACKET [ ] FT8 [ ] APRS [ ] Other \_\_\_\_\_

Electronics: [ ] Components [ ] Circuit Analysis [ ] Amplifiers [ ] Other \_\_\_\_\_

Other Topics: [ ] Antennas [ ] Propagation [ ] Satellites [ ] Kit Building [ ] Fox Hunts [ ] Soldering

[ ] DSP [ ] DX [ ] ARES [ ] Contests [ ] QRP [ ] HamFests [ ] Emergency Preparedness

[ ] Community Service Events [ ] Other \_\_\_\_\_

[ ] Other \_\_\_\_\_ [ ] Other \_\_\_\_\_





**ARRL** The national association for  
**AMATEUR RADIO**®

# Membership Application

Application for use by ARRL Affiliated Clubs

## Contact Information

I am a brand new member or my membership has been lapsed for 2 or more years. My club will keep \$15 of my dues.

I am renewing (includes lapsed members of less than 2 years). My club will keep \$2.00 of my dues.

Name \_\_\_\_\_ Call Sign \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ ZIP \_\_\_\_\_

Email \_\_\_\_\_ Phone \_\_\_\_\_

Date of Birth \_\_\_\_/\_\_\_\_/\_\_\_\_ **Get an annual birthday coupon (US only)**

My Family Member is Joining or Renewing: (\$10 per member)

Name \_\_\_\_\_ Call Sign \_\_\_\_\_

Name \_\_\_\_\_ Call Sign \_\_\_\_\_

## Your Annual Membership Dues – Circle Your Choice/s.

	1 Year	2 Years	3 Years	
US	\$49	\$95	\$140	Monthly QST or On the Air via standard mail for US members
Youth	\$25			Must be 21 years old or younger AND the oldest licensed Radio Amateur in the household
Canada	\$62	\$120	\$177	Monthly QST via standard mail for Canadian members
International	\$76	\$147	\$217	Monthly QST via standard mail for International members
International/Canada – no print magazine	\$49	\$95	\$140	Digital magazines
Family	\$10	\$20	\$30	Must reside with primary member and have corresponding membership dates; no extra copies of magazine
Blind	\$10	\$20	\$30	No delivery; all other member benefits apply. Requires a one time signed and dated statement of Legal Blindness

Additional membership options available online at [www.arrl.org/join](http://www.arrl.org/join). US Memberships include \$21 per year for magazine subscriptions. Dues are subject to change without notice and are non-refundable. Memberships may not be combined with any other promotion or special offer.

I do not want my name and address made available for non-ARRL related mailings.

## Choose your print magazine:

**QST**, ARRL's membership journal for active radio amateurs (12 monthly issues)

**On the Air – New!** Beginner-to-intermediate-level help and advice (6 bimonthly issues)

All members can access the digital edition of both magazines

## Payment Information

Please charge my ARRL dues less my club's commission. I have paid the commission directly to my club.

\$ \_\_\_\_\_ Total Charge to:  Visa  MasterCard  Amex  Discover  Check Enclosed

Card Number \_\_\_\_\_ Expiration Date \_\_\_\_\_

Card Holder's Signature \_\_\_\_\_

ARRL ■ 225 Main Street ■ Newington, CT 06111-1400 ■ USA  
Toll free (US) 1-888-277-5289 or 860-594-0200 ■ [www.arrl.org/join](http://www.arrl.org/join)