

The El Dorado County

Newsletter of the El Dorado County Amateur Radio Club

January 2019, Vol.13, No. 1

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Club Information

FROM THE PRESIDENT

Greetings,

This will be a short message from me this month.

Time has been flying by for the Harmors and we haven't had much free time; my mother was in a car accident before Christmas, we had to put down our family dog right at the start of the year and we had to get Natalie back off to college just this week.

I hope your new year is off to a better start than ours. We have the club meeting this Thursday, so, it's the perfect time to show off any radio presents that Santa may have brought you. We also have the Coloma special event station this Saturday and Sunday, Jan 26-27.

We should have a few weeks of good weather coming up, to make any antenna repairs that you need to take care of after that last round of storms. The storms did a beautiful job of covering the Sierra's in a fresh blanket of snow. Nancy and I were able to enjoy some of the snow on Tuesday after our trip to Reno to drop of Natalie back at University of Nevada Reno.

Stay warm and hope to see and catch up with many of you on Thursday at the meeting.

73,

Jay, KE6QLA

NEXT MEETING

Thursday, January 24th

7:15 PM

Federated Church

1031 Thompson Way

Placerville

Ian, W6TCP, talks about

WSPR

Weak Signal Propagation Reporter
Network

Submitting Material to the Circuit

Material may be submitted for publication by sending it directly to the editor. This can be done by US Mail, or via the Internet (preferred). The deadline for each issue is the **Thursday**, one week before the monthly meeting.

by mail
Bob Hess, W1RH
5020 Glory View Drive
Placerville, CA
95667

THE AG6AU REPEATERS

YOUR DONATION TO THE REPEATER FUND WILL KEEP US COMMUNICATING!!
IRLP Node 7195 and the AG6AU-R Echolink 668182 node are available for use on the 440 and 2 meter repeaters. Autopatch available on the 6M repeater

BAND	FREQUENCY	PL
6 Meters	52.78 MHz	107.2 Hz
2 Meters (wide area)	147.825 MHz	82.5 Hz
1.25 Meters	224.06 MHz	127.3 Hz
70 Centimeters	441.725 MHz	82.5 Hz
33 Centimeters	927.2375 MHz	127.3 Hz
33 Centimeters	927.2750 MHz	127.3 Hz

ITEMS FOR SALE

- Heath Kit linear amplifier SB-200 80/40/20/15/10 meters \$400.00
- Heath Kit power/SWR meter \$45.00
- MFJ-214 tone (cw generator) for tuning amp \$45.00
- Motorola MTX 9250 Handheld with charger \$45.00 (need programming cable and software for 900 Mhz)

Contact: **DON BROOKS KG6YST**
530 902-2198

- VK3YNG Foxhunt Sniffer MK4 w/3 3-element 2 meter Beam (\$200)
- Pro-Am Portable Antenna (turns 5 ham sticks into dipoles). Includes 40 & 75 meter antennas, mast, and carrying case. (\$200)
- AEA Antenna Analyzer (\$250)
- Heil Gold ICM Microphone w/HB-1 Boom (beautiful for a base station) (\$100)

Contact: **BOB HESS W1RH (W6HFM Estate)**
w1rh@yahoo.com

REPEATER TIDBITS

Bob, W1RH

Here's a few codes you might want to jot down:

2#111—Punch in this code on 2 meters and the repeater will respond, "RADIO CHECK READY" Key your microphone, say a few words, release the mic, and hear your signal as it is recorded at the repeater.

4#111—Punch in this code on the 440 repeater and the repeater will respond, "RADIO CHECK READY" Key your microphone, say a few words, release the mic, and hear your signal as it is recorded at the repeater.

6#111—Punch in this code on 6 meters and the repeater will respond, "RADIO CHECK READY" Key your microphone, say a few words, release the mic, and hear your signal as it is recorded at the repeater.

2#112—Will play back the date and time on 2 meters.

4#112—Will play back the date and time on 440.

6#112—Will play back the date and time on 6 meters.

61291—Enter this code on 6 meters to link 6 meters to 2/440

61292—Enter this code on 6 meters to un-link 6 meters from 2/440

HF AMPLIFIERS AND LINE VOLTAGE

Bob, W1RH

Colton, WD6CWM, recently asked me to take a look at his Ameritron AL-811 amplifier. In short, it's doing just fine.

Testing the amp did remind me of the problem with voltage drop. Most medium and high power HF amplifiers come with the option of operating them on either 120 or 240 volts. The amplifier came wired for 120 volt operation. It's rated to operate at about 600 watts maximum. 550-575 watts is probably more realistic. My testing, however, showed the amplifier putting out 400 watts into a very accurate Bird watt meter. The amplifier was feeding a 1,000 watt dummy load.

Why 400 watts? Look at the two pictures. The first one shows my line voltage at 113 volts with no drive to the amplifier. The second picture shows my line voltage sagging to 105 volts with the amplifier operating at maximum current load with a power output of 400 watts. I always recommend wiring your shack with a 240 volt circuit when using an HF amplifier. This amplifier, under full load had the plate voltage sag to 1,200 volts. In order to make full power, the plate voltage should be 1,700 volts. Ameritron recommends that the amplifier plate current not exceed 450 ma.

$450 \text{ ma} \times 1700 \text{ volts} = 765 \text{ watts input power} \times 75\% \text{ efficiency} = 574 \text{ watts}$

With 1200 volts, look at the power output:

$450 \text{ ma} \times 1200 \text{ volts} = 540 \text{ watts} \times 75\% \text{ efficiency} = 406 \text{ watts}$

If you're following me, the moral of the story is: don't let the line voltage sag. Run your amp off if a 240 volt circuit. The results are even more dramatic if you try to run a legal limit 1500 watt amp off of 120 volts!



QRP LAB'S QCX 5 WATT CW AND WSPR KIT

Jordan, WC6J

During this last rainy week, I finished building my first radio transceiver from a kit. The kit I chose was QRP Lab's QCX 5 watt CW and WSPR transceiver kit for the 20 meter band. I first heard about this kit last year after many people who attended the Xenia Hamvention were posting about how impressive the kit is. The kit sells for \$49 and currently has a solid rating of 5 out of 12 reviews on eHam.

The QCX was developed by Hans Summers, G0UPL, as a build project for the 2016 Youth On The Air event. The radio is filled with many features including through-hole construction, Class E amplifier, high performance receiver, dual A/B VFO, 200Hz AF filter, functional CW decoder, CW message memories and much more. The kit's 140 page instructions are so clear that most anyone who follows the directions is guaranteed to complete a working radio. The hardest part was the toroid winding but there are plenty of photos and diagrams to keep you on track. All test equipment needed to get the radio aligned and on the air are built into the radio's software. There is also an active Groups.IO board to help answer any questions. Since this was my first kit build, I took my time checking and rechecking my work and it took me about 8 hours to complete the kit.



I built this radio primarily because of the included WSPR beacon. I was able to complete some CW QSO's and got very good signal reports when used the radio on my 20 meters home dipole.

Soon, QRP Labs will be releasing a new SSB/CW 10-band, 10 watt SDR based transceiver kit which I am looking forward to building once it's available. For more information on QRP Labs and their kits go to <https://qrp-labs.com/>

TUBE OF THE MONTH

Norm, N6JV

Visit the Museum: n6jv.com

X-117 a Missing Link

When a paleontologist is digging around in the ground looking for fossils and starts finding horse bones, it might be from the burial of the “old gray mare” from the nearby farm. When he digs out the legs and finds that his horse has toes, he knows that this is a really old horse that may be 15 million years old. As a paleontologist of vacuum tubes, I am always looking for examples of transitional tubes that would lead to the evolution of very successful tube types.

EIMAC started assigning “X” numbers to their experimental tubes in 1942. They needed to do a better job of documenting their research. By order of the U.S. military, they were also required to have a dating system of their production tubes. Good stuff for the researcher.

A few months ago, I found a X-117 for sale on the internet. I had never seen one before, so I bid on it. The tube looks very much like the traditional 4-250A. It was made from

available parts. The plate is from a 250T and the envelope from a 304T. We know that the filament was also from a 250T as it is 5 volts at 10 amps. It has the experimental stamp on the glass with serial number 51 and the date of 11 April, 1944. The X-117 number was issued in January 1944. The actual production line date is marked C4-83525 which translates that it was made in March 1944 and it was the 83,525th tube made that month in San Bruno, California. The base skirt has no air flow holes so they hadn't settled on the method of cooling yet. For comparison, the second tube is an experimental tube that is actually designated 4-250A from July 1944. There were about 42 different “X” tubes built for this research project. The final tube was not offered for sale until September 1946, so they were ready with the new products when ham radio started up after the war.



DUES

The dues are: Member: \$15.00 / Spouse/Assoc. Member: \$7.50.
There are three ways you can pay your dues and make a repeater donation.

1. Through PayPal. Go here: <http://www.edcarc.net/html/membership.shtml> and scroll down to the PayPal button. There is a slight handling charge.
2. By mail, send a separate check for the dues and repeater donation. Club dues check to be made out to "EDCARC" and repeater donation check to "AG6AU Repeater Fund". You can mail the checks to:

EDCARC
P.O. Box 451
Placerville, CA, 95667

3. In person, bring your checks (see #2) to the next EDCARC meeting. If you have any updates to your personal information, e.g. address (residence or email), phone #'s, etc. then fill out an application form here: http://www.edcarc.net/files/El_Dorado_County_ARC_Membership_App.pdf and either mail it to the address in #2 or bring it to the meeting.

Thanks to everyone for supporting your club!
73, Nancy, KG6PNP, Treasurer

THE EDCARC TUESDAY NIGHT NET
HAVE YOU SAID HI TO NANCY LATELY?
WILL YOU BE CHECK-IN #20?
8:00 PM EVERY TUESDAY

52.78 (107.2)

147.825 (82.5)

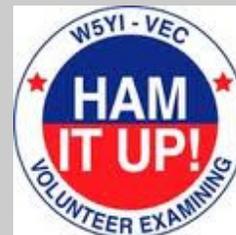
147.975 (82.5) (currently off-line)

441.725 (82.5)

927.27 (127.3)

Or
Echolink

HAM RADIO LICENSING TESTING



March 9th, 2019
9:00 AM

**THE AMERICAN
LEGION
POST 119**

4561 GREENSTONE Rd.
PLACERVILLE, CA 95667

FEES ARE \$14.00
(Subject to change)

CONTACT:
KEN VOGELE, W6KWV
530-642-9523



2018 OFFICERS BELOW

2019 OFFICERS WILL BE LISTED IN THE JANUARY CIRCUIT

First Class Postage

Post Office
Will Not
Deliver
Without
Proper
Postage

El Dorado County Amateur Radio Club
PO Box 451
Placerville, CA 95667

Club Information 2018

President	Jay Harmor	KE6GLA		jharmor@comcast.net
Vice President	Jordan Heichman	WC6J		radon@jordan-h.com
Treasurer	Nancy Harmor	KG6PNP		nanharmor@comcast.net
Secretary	Aaron Tassin	W6CK		
Board Member	Dave Sanders	K6TQ		
Board Member	Don McCallum	AF6ND		
Board Member	Michael Picco	K6MLE		
Board Member	Phil Mosbacher	KK6YYD		
Board Member	Don Brooks	KG6YST		
Repeater Trustee	Bob Hess	W1RH	530-350-3843	w1rh@arrl.net
Newsletter Editor	Bob Hess	W1RH	530-350-3843	w1rh@arrl.net
Webmaster	Jay Harmor	KE6GLA		jharmor@comcast.net

- ◆ Meeting: Club meetings are normally held on the 4th Thursday of each month (except for June and November), 7:15 PM, at the Federated Church, 1031 Thompson Way, Placerville
- ◆ Club Nets: Tuesday evenings, 8:00 PM, on the AG6AU repeater, 147.825 MHz / 441.725 MHz / 52.78 MHz / 927.275