

CRACKLIN' STATIC



SIERRA NEVADA Amateur Radio Society

Serving the Amateur Radio Community since April 16, 1968

<http://www.snars.org>

RENO, NEVADA

NOVEMBER, 2013

PRESIDENT'S VOICE

This summer sure did disappear... We just had our Fall Swap meet at the Tamarack that was a complete success! A great turnout and we were able to put some money into the SNARS bank account.

The membership has nominated 9 people for the 2014 BOD. Two have declined nomination, the remaining seven will serve. You will receive a ballot to vote for 4 of the nominees to serve a 2 year term and 3 to serve a one year term. The announcement of that vote will be done at The December club meeting. The new BOD will take over in January, 2014.

Most of you are aware that SNARS has been asked to sponsor the 2014 Nevada State Convention. (was EMCOMM) The Board approved our taking on that assignment and a steering committee was established by me to get started.

We have reached a point where the BOD has approved a recommended site for the convention at the October Board meeting. The site will be in Virginia City. The steering committee is comfortable with the site after talking to several of the community leaders and the hotel venue in VC. We are aware this is different, but that part of its unique appeal, and should be the start of a new kind of convention.

The detail planning will start immediately. This will be an ARRL sanctioned event which gets us some assistance from the ARRL. We already have some vendor and speaker commitments.

Shortly we will be asking members to assist in the development of the convention and to assume some functional duties.

Thanks to all of you that support the club in many different ways.

SNARS meeting November 2



Jack's Restaurant, 7671 South Virginia Street starting at 0730. Breakfast will be available.

The co-chairs of the tech committee (W7DED & W6US) will talk to the club about the work on the repeater system that has been accomplished.

They will discuss the repairs, additions, new equipment and future work to be done.

Bring your questions and suggestions.



CRACKLIN' STATIC PUBLICATION

E-mail..... holden7471@msm.com

Cracklin' Static is the Newsletter of, and sponsored by the Sierra Nevada Amateur Radio Society. Opinions expressed herein are those of the editors and contributors and should not be considered as official expressions of the Club Officers, Staff or Club Members, or as endorsements by same.

Material for publication may be edited to enhance readability or to save space. We reserve the right to use whatever font size or line spacing may be required in order to publish this Newsletter.

Deadline for input to the newsletter is 1500 hours on the Sunday prior to the 1st Saturday of each month.

Cracklin' Static is e-published in Adobe PDF Format. It may be enjoyed at the SNARS web site.

Amateur Radio License Testing 2013

SIERA: Silver State Charter High School, 788 Fairview Dr.....George Uebele, WW7E ww7e@arrl.net

SNARS, Third Saturday of February, April, June, August, October and December. Testing will be at the REOC located at 5195 Spectrum Blvd., Reno
... Bill Nichols... NN7K

Elko Area: Third Saturday of January, April, July, October.
11:00AM, Northeast Nevada Regional Hospital
.....Joe Giraudo, N7JEH n7jeh@arrl.net

SNARS Repeater System Frequencies

Linked System --- Reno, Carson Area

146.610 (-) PL 123.0

443.075 (+) PL 123.0

Lovelock & Black Rock area

146.925 (-) PL 123.0

Mt Rose Linked System

147.030 (+) PL 123.0 Virginia Peak

147.150 (+) PL 123.0 Mt Rose

147.210 (+) PL 100.0 Peavine Peak

444.925 (+) PL 100.0 Peavine Peak

444.875 (+) PL 100.0 Lobdelle Peak

GSR Linked System

147.300 (+) PL 123.0 Grand Sierra Resort

444.825 (+) PL 123.0 Mt Davidson

IRLP: 7873, Echolink:WA7DG/R (581256)

Rag Chew 147.390 (+) PL 100.0 (no link)

52.580 (-) PL 114.8 (no link or features)

Packet 145.050

APRS 144.390

SNARS, P.O. Box 7727, Reno, NV 89510

Membership: \$25 Individual, \$40 Family

OFFICERS 2013

Chairperson.....	Mike Katz.....	N7MSK
Co-Chairman.....	Jim Rosima.....	KD7DPW
Vice Chair.....	Steve Woods.....	K7SJW
Co-Vice Chair.....	Don Siebert.....	N2MOO
Treasurer.....	Tony Marcin.....	N7ACM
Secretary.....	Peter DeBay.....	KE7VSR
Co-Secretary.....	Becky Harvey.....	KE7CKY
Director.....	Don Seibert.....	N2MOO
Director.....	Paul Tueller.....	K7PTT
Director.....	Ed Sloane.....	KB7ZBN
Director.....	Scott Brink.....	KC7STV
Director.....	Richard Nehrbass.....	N7TGB
Director.....	Dave Miles.....	KF7EGU
Director.....	Richard Foreman.....	KK7SL
Director.....	Pat Sheehan.....	W7DED
STAFF 2013		
By Laws Review Committee.....		KE7HLR
Call Sign Badges.....		KB7GNA
Club Public Information Officer.....		KF7IAW
Control Operators.....		K7JN
Cracklin' Static Editor.....		WB2AWQ
Digital SYSOP.....		K7JN
Elmer Coordinator.....		KE7HLQ
Meeting Greeters.....		AE7OX
History Archivist.....		KF7KTC
SK Estate Advisors.....		KB7IWT
Station Licensee for KR7ENO.....		WB2AWQ
Control Operators FOR KR7ENO.....		WB2AWQ
Station Licensee for W7TA.....		K7JN
Control Operators for W7TA.....		K7JN
Tech Committee Chairs.....	W6US & W7DED	
Chief VE Examiner.....	NN7K	
Membership Chairman.....	N2MOO	
Awards Chairman.....	KB7ZBN	
Program Chairman.....	KC7STV & KE7CKY	
Web Master.....	N7ACM & K2DMC	
FaceBook page administrator.....	KC7STV & N7AC	

The Name of the Game

By Jim Shepherd, W6US

Tones and other sounds

There are a variety of different tones and sounds use by radios for control and data. The beeps, hums and braaaaps you hear (and don't hear) as you tune across the bands is amazing.

The first experience with tones that most hams encounter is with the sub-audible tones on a FM VHF-UHF radio. To access most repeaters, you need to 'encode' a specific tone. These are known as the Continuous Tone Coded Squelch System (CTCSS) and there are about 50 different tones from 67 Hz up to 257 Hz. Various manufacturers tried to capitalize on this system, and they used their own trademarked (™) names for the same thing. Motorola used PL™ (Private Line™), GE just used Tone™, BK Relm calls it CG™ (Channel Guard™), Kenwood uses QT™ (Quiet Talk™) and you might see TG™ on E.F.Johnson radios for ToneGuard™. ToneLock™, Quiet Call™, C.Tone™, and others may also be used. They are all the exact same thing, a low level tone added to your signal (encode) or required by your receiver (decode).

You can happily encode the proper tone on the transmit on your radio and enjoy the use of the repeater systems. Problems start to occur when you start decoding on your receiver... The Ophir Hill repeater (146.61) does put a 123.0 tone on its output, so if you have the tone on both sides (receive and transmit) in your radio you are in good shape and will not hear any noise or non-toned transmission on that frequency. However, the Rose repeater, 147.150 does not have a tone on its output, and if you put a decode tone in your radio, you will be missing everything as the radio will not open the squelch and let you hear.

The tone is added to the signal to be about 15% of the total deviation of the signal. For our currently wideband system, that means that the CTCSS should be set for about 750 Hz deviation. On a narrowband system, it should be set for about 450-500 Hz deviation. If you don't know what deviation is, stay tuned, I'll cover it in a future article.

To avoid driving you crazy, all modern radios have a high pass audio filter that strips the tone off of the signal before sending it to the speaker. The same filtering is in the repeaters so that they do not try to retransmit the tone which may be distorted by the processing. If tone is needed on the output of the repeater, it is freshly generated and added to the signal.

The next set of tones you may hear are Dual Tone Multi Frequency (DTMF) tones. These are the common 12 tones

sent by your telephone and 4 additional ones usually on the column of buttons just to the right of your numeric keypad (ABCD). Each tone consists of two different frequencies that are mixed in the encoder. We use these tones primarily to remotely control equipment at the repeater sites. You will hear control operators sending these tones to unlink repeaters, control remote bases and query station telemetry. On repeaters equipped with an autopatch, users can make phone calls using the DTMF tones. Some home stations have weather stations that can be queried using a DTMF sequence to give you the current observations. These are high level tones usually set at 3000Hz deviation in a wideband system.

At Field Day this year, I was tuning across the bands, and a new ham asked "what is that whistle?" He was referring to the heterodyne caused by a carrier further down the band from the station I was copying. No, it was not part of the signal from the station I was working, just some noise from another signal generated by the difference in frequency from that signal. CW is made copyable by this difference in frequency, and most operators tune in the station so it has a tone that suits their hearing. Other things like birdies and some of the infamous interference sounds like the woodpecker abound in the non-FM world of radio.

There are 'Digital' modes, and they have a whole litany of different sounds. WB8NUT has put together a description of these modes and a short audio clip of each at <http://wb8nut.com/digital/>. Some are harsh sounds like packet, and others are almost musical with distinct tones. Listen on 145.05 to hear the packet go braaaaaap, or 14.070 for PSK—tuning up from there a few kHz, you will hear other modes.

If you happen to listen on a link from a base station link radio up to a mountain top base, you may hear a 2175 Hz burst followed by a continuous 1950 Hz tone at a lower level. There may be other short tones included at the start. These are function tones for a tone remote system and they can be used to change channels or ctcss tones on the system. I haven't seen this on the ham bands in this area, but you may hear this when you are monitoring some public safety systems. Like the CTCSS, the tone is stripped off before it is sent out on the main radio.

Finally, we get to one of my favorite tones, 1000 Hz... When you hear that on the radio system, you will know that the techs are hard at work setting levels and maintaining the equipment for you!



Received from Jim Rosima, KD7DPW, re the CARLA system:

“if you can make up a plug for the next news letter to welcome the Carla system to SNARS network, they re-installed their repeater up onto lower Peavine site, which was system 21 from Red Peak, now on lower Peavine....440.750 +. Note: it's a dual PL repeater system local pl 127.3 with a single beep, pl 156.7 is a double high / low beep system wide link covering 36 repeaters all over northern California.”

Thank you, Jim Rosima, KD7DPW

Here's the opening blurb on the CARLA website: C.A.R.L.A. is a network of repeaters providing coverage across Northern & Central California and Western Nevada. It is intended to be used as a reliable communications resource during significant local, regional and wide area incidents, and is open to all licensed amateur radio operators. If you're new to C.A.R.L.A., please take a few moments to familiarize yourself with [The System](#), and review the [Usage Guidelines](#). Thanks for visiting and enjoy the system!

Here are more local links in their system:

Hawthorne 440.725+ 156.7 127.3

Reno/Tahoe 441.550+ 156.7 127.3

Carson City 443.325+ 156.7 127.3

Full details on their website. www.carlaradio.net

THE NEW HAMS & INFORMATION NET

The New Hams Q&A Net on 146.610. The net is held weekly at 1300, every Sunday afternoon.

The purpose of this net is a Q&A and information net for newly licensed hams and all hams wishing to ask question about different aspects of Ham Radio. It will give new hams in particular a venue for getting on the air in a controlled net moderated by a ham with more experience. The net will be open to any interested ham. Questions will be answered and discussed by the more experienced hams listening on the Net.

For those in the North Valleys who may be out of the range of the 146.610 try using the 443.075 (+/123). It works from Lemmon Valley.

Weekly nets on the WADG/SNARS repeater systems

Western Nevada Noon net (daily, 12:00 PM)

147.150 + 123.0, 147.210 + 100.0, 147.030 + 123.0,
444.875 + 100.0

The Morning Net (Monday – Friday at 10:00 AM)

147.300 + 123.0

Bishops Storehouse Net (Monday nights at 9:15 PM)

147.150 + 123.0, 147.210 + 100.0, 147.030 + 123.0,
444.875 + 100.0

North Western Nevada ARES Net (Tuesday nights at 7:00 PM)

147.150 + 123.0, 147.210 + 100.0, 147.030 + 123.0,
444.875 + 100.0

State SATERN Net (Tuesday nights at 8:00 PM)

147.300 + 123.0

State SKYWARN Net (Wednesday nights at 7:00 PM)

147.150 + 123.0, 147.210 + 100.0, 147.030 + 123.0,
444.875 + 100.0

Northern Nevada Preppers Group Net (Wednesday nights at 8:00 PM)

147.150 + 123.0, 147.210 + 100.0, 147.030 + 123.0,
444.875 + 100.0

State ARES Net (Thursday nights at 7:00 PM)

147.300 + 123.0

SNARS New Ham Net (Sunday afternoons at 1:00 PM)

146.610 - 123.0, 443.075 + 123.0, 146.925 – 123.0



NAME THAT RIG



(See pg 7 for the answer)

SNARS CLUB NEWS

When you need you know the latest, go to that web site and more importantly, to the SNARS Face Book page where you will have access to daily info about club events, meetings, etc. www.facebook.com/snars.w7ta

New club name badges: If you have had a call sign change recently (last two months) let Ray Foster know so he can create a badge with the correct info.

Ray Foster, KB7GNA Ray.foster@arrl.net

Lots of opportunities for Amateur Radio education in SNARS-land: Tech class, General class, Ham Crams, New Ham Workshops, VOIP Workshop, IRLP/Echolink class, and Repeater Usage and Etiquette class! Full details on the SNARS webpage, <http://snars.org/classes/>

SNARS CLUB CALENDAR

2 Nov 2013 | 0730 SNARS Breakfast Meeting

The monthly SNARS Breakfast Meeting will be held at Jack's Restaurant - So Virginia and Longley Lane in South Reno. All SNARS members and guests are welcome!

21 Nov 2013 | 1830 SNARS Board of Directors Meeting

The monthly Board of Directors meeting will be held at Washoe Regional Emergency Operations Center 5195 Spectrum Blvd, Reno. The meeting is open to all SNARS members.

6 Dec 2013 | 1600 SKYWARN Recognition Day

SKYWARN Recognition Day begins at 0000 UTC on 7 December (1600 PST on 6 Dec) and ends at 2400 UTC on 7 December (1600 PST on 7 Dec). More information will be posted as the event date nears.

7 Dec 2013 | 0730 SNARS Breakfast and Quarterly Corporate Meeting

The monthly SNARS Breakfast Meeting will be held at Jack's Restaurant - So Virginia and Longley Lane in South Reno. All SNARS members and guests are welcome!

ARES NEWS NOVEMBER

October 5 during our ARES training, Doug KA7FOO led a workshop on message handling.

On October 17th at the Regional EOC, we participated in the Local Emergency Planning Committee meeting which coincidentally was the same day as the Great Nevada Shake-Out (<http://shakeout.org/nevada/>). So at 10:17 they simulated an earthquake causing us all to Drop, Cover, and Hold On. Soon after that we activated the REOC and the ARES Resource net on 146.610 as well as an HF net on 7280, and there were 16 contacts made. Also there were 29 check-ins on 146.610 with simulated earthquake damage reports.

From October 25-31 the International Association of Emergency Managers are holding their conference here in Reno. On October 27th they held their reception at the Harrah's Auto Museum and some ARES members worked with the CERT team to post members along the route between the Silver Legacy and the museum for those IAEM attendees that wanted to walk, to help guide them safely. We setup Net Control outside the main entrance to the museum and operated simplex to maintain communications. I was introduced to approximately 15 to 20 of the attendees that were Hams.

If not, join us at the Regional Emergency Operations Center the first Saturday of each month 5135 Spectrum Blvd, Reno 89512.

Everyone is welcome. For more information go to www.wcares.us

73, Bob Miller WA6MTY Washoe County Emergency Coordinator.

The SNARS Ladies

We had 8 ladies for the October luncheon at the IHOP on South Virginia with Gary Grant, k7vy, as our guest speaker. All had a good time and Gary was quite informative.

The November luncheon will be held at the Western Village coffee shop on Wed., Nov 13th, at our usual time of 11:30 am. We will not have a speaker for this occasion but all the ladies are welcome to attend.

I am working on getting a workshop for the ladies sometime in Jan of 2014. I still do not have an agenda but am working on it.

Thanks, Yvonne Maxwell, W7YMM

A DIFFERENT KIND OF CONTEST.....

Ever been listening to 80 meters CW on an early December weekend and hear some weak, not-very-stable signal QSOs going on? What you were hearing is what Ham Radio sounded like in the early years. You probably ran across people operating in the annual Bruce Kelly 1929 QSO Party, sponsored by the Antique Wireless Association in Bloomfield, NY. In order to participate in this very unique event, you must be using a transmitter that: Is a 1929 or earlier design, uses tubes which were available in 1929 or earlier, be self-excited (no crystal control allowed), and run a maximum input of 10 watts or less.

Yours truly has participated in this fun event for some 20+ years. Never made more than a dozen or so contacts each time, and distances aren't astounding (you won't hear Conway Reef on here!) but it's a challenge, both in building and getting a 1929 transmitter to operate, and in making QSOs under less than ideal conditions. The transmitter I use most is shown here. It's built from a circuit in 1921 QST, and uses a pair of genuine 1921 UV-202 tubes (they were only made in 1921). Many of the components were also from the 1929 era – capacitor, tube sockets, meter, etc. This transmitter runs about 9 watts in, and puts out about 4 watts, typical for the period. Signal is a little buzzy though fairly stable, but accurate frequency tuning is a task, as the frequency is affected by body capacitance, little jiggles, antenna motion, and more.



Most parts for this type of transmitter can be found at any Hamfest (including the SNARS fest a couple of weeks ago), and there's still time to build one for the next event, which occurs on the first two weekends of December.

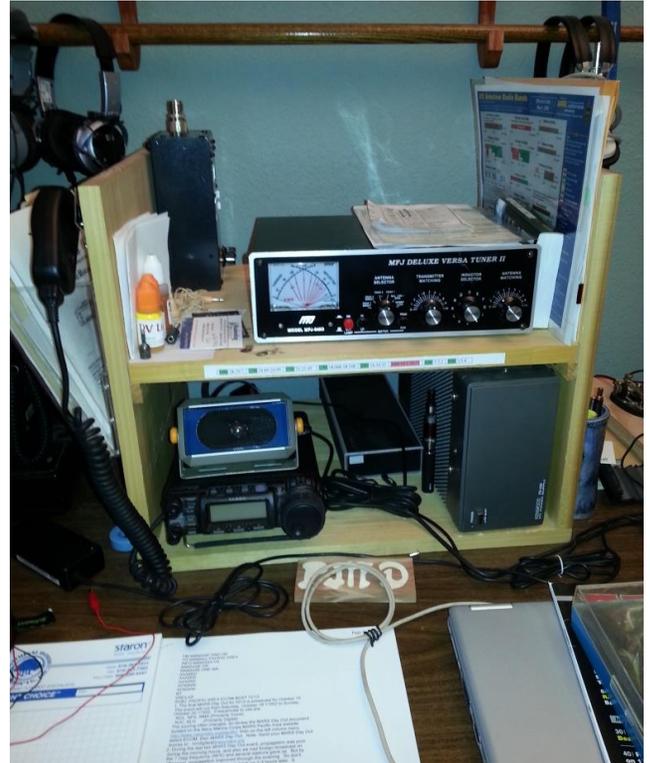
Full details can be found here:

http://www.antiquewireless.org/uploads/1/6/1/2/16129770/the_2013_bruce_kelley_1929_qso_party_info.pdf

73, Howie WB2AWQ

SNARS SHACK OF THE MONTH

Peter DeBay, KE7VSR shows us this compact yet efficient setup in his apartment, proof you don't need tons of room and a big antenna farm to get on the air.



Yaesu 857D, MFJ949D tuner, Outbacker for HF & Diamond X50 for VHF/UHF (they move outdoors to the patio to get on the air), and dedicated laptop for digi modes. Bigger is not better unless it's the antenna farm, (less to dust).



Peter's antenna "farm" awaiting the patio.

Want to have YOUR shack pictured here? Send me some photos and a list of what you run...//Howie Holden7471@msn.com

SNARS Ham Swap Meet photos....

You missed it, your bad! A real nice turnout, lots of goodies.



Name That Rig – Ten-Tec PM-1A, one of Ten Tec's first Amateur transceivers. All solid state, 1 watt output, direct conversion receive, covered 80 40 and 15 meters. Took three switches to change bands. First introduced in 1969. The rest of the Ten Tec story is one of rare phenomenal success in the U.S. Amateur equipment market.

* * * * *

BOARD OF DIRECTORS MEETING REOC, Thursday, October 19, 2013

A. Call to Order (N7MSK)

Time: 1830L

1. Board Members Present:

SNARS: N7MSK, K7SJV, KE7VSR, N7ACM, N2MOO, K7PTT, KB7ZBN

2. Guests Present: KD7DPW, KC7STV, N7TGB, K7JN, KF7EGU, W6US

B. Adoption of Agenda

1. Additions or Deletions. none

2. Vote to adopt: By: K7PTT Second: KF7EGU Motion Carried:

C. Reports

1. Chair: (N7MSK) – directed to other reports.

2. Vice Chair: (K7SJV) – none.

3. Secretary: (KE7VSR):

a. Current membership – 190

b. Other business – none

4. Treasurer: (N7ACM):

a. Bank Balances:

i. Checking \$5377.45

ii. Savings \$3235.23

iii. WADG \$3758.06

iv. Paypal \$312.29

v. TOTAL \$12,235.23

D. Committee Reports

1. W7TA, K7JN: A discussion on the suspension of Chris Christenson, Tom Barns & Kevin (last name); the suspensions were issued by WADG and by motion of the SNARS BOD to continue with that decision after the merger. On advise of Laura Smith (FCC) that SNARS needs to reissue the letters to be within the law. To date SNARS has NOT reissued those letters but this will be done within a few days (chairman). Further it was restated that the control manager and the trustee will review the repeater policy and to include a tiered severity policy, and submit for formal BOD approval; also control operators must attend training to be a control operator. Written policy for the control operators will be used for maintain a consist control over the repeaters. To that end an incident log is being instituted with follow up to the control manager and/or the trustee.
KC7STV explained the events regarding Chris on the Sunday net.
K7JN expressed that offenders to policy need to be counseled on their behavior but NOT on the air, by other means such as phone, email, or in person. Those who threaten violence should be reported to the Sheriffs' department. Others who are more inappropriate need to be counseled by the trustee.
It was also noted that those persons (not all) who use the IRLP need to identify before operating the repeater to make call(s). It was suggested that training tips need to be in Cracklin Static; KB7ZBN indicated he had a copy of such professional courtesy from the ARRL way back when and would be happy to submit it.
2. Events: KD7DPW reported that all events have rapped up for this year and the served agencies expressed their appreciation for our support. It was suggested that we send out letters of appreciation to those event(s).
3. Tech Committee, W6US: The new antenna is up at Virginia Peak. The fiber between Davidson & Ophir is in but the connectors are not done (technical tool problem) and the antenna is not up, still in need of 2 climbers to do the job.
4. Website, N7ACM: Club stuff for sale is now on the web site.
5. Facebook page, KC7STV is unable to keep up with the facebook page and has resigned that position. The chair will ask for volunteer(s) to take over this job.
6. Awards Committee, KB7ZBN: the committee will make its final decision(s) and have presentations at the 1 Dec meeting.
7. Nevada State Convention – Mike, N7MSK discussed the work of the steering committee regarding the site location for the convention. There was discussion and questions regarding why that location, problems, plans, etc. N7MSK said that the steering committee has looked over most of the questions that were raised, and that they feel very comfortable in recommending that the convention be held in Virginia City, the last weekend of May, 2014.

There are vendors that have been contacted and are interested in attending (HRO being one of them). Upon approval of the venue by the BOD, the steering committee will proceed with the detail planning, which will utilize a lot more than the 7 members of the committee.

A motion to approve holding the 2014 Nevada State Convention in Virginia City was made by Steve, K7STW and second by Richard, N7TGB. All members of the BOD voted in favor to pass the motion.

E. New Business:

2014 nominations/elections, KE7VSR: 184 ballots were mailed, 1 SK, & 5 bad addresses/emails for a total of 190. Only 7 members were nominated (and accepted) so all are elected to the board; the ballot only requires 4 individuals to be chosen for the 2 year term.

F. Other Business:

1. KE7VSR will not be available for the 1 Nov meeting (on vacation).
2. Haberdashery: K7PTT reported that they need 12 orders but only have three so far; also suggested that the stuff be published on the web site.

G. Motion to Adjourn: By: K7SJW Second: K7PTT Motion Carried:

Meeting adjourned. Time: 2000L

(EDITOR'S NOTE: The clothing order form is attached as a separate file with this newsletter!)