



SIERA BEACON



Carson Valley, NV

December 2018

"HAM radio is not a hobby. It's a way of life." - Carlos Beltran, XE1MW

Board Officer Confirmation

Because two of our Board members, Tom Tabacco KE7NCJ and Sue Cauhape KI7CTT, will be stepping down, we will be confirming new Board members and officers for 2019 during our December meeting. They are:

President	Jeff Cauhape K7BCV
Vice President	Ben Echavarria N7BBE
Secretary	Cathy Carney KI7NIR
Treasurer	Debbie Williams N7XYL

Directors:

Bob Williams K7VOC (trailer)
David Granish KI6EWK
Jim Marshall K6LR (Archivist, ARRL Liaison, Repeater Trustee for NV7CV)
Greg Moore KG7DMI (VEC for exams, Field Day Coordinator)
Subrina Vinton KI7OAL

Some of the jobs listed for the Directors can be assigned to others who may be interested. The Board is also looking for someone who can set up the coffee service at the meetings. Please let the new Board know if you want to serve the club in any way.

The 2018 Board wants to thank Sue Cauhape and Tom Tabacco for their service.

The December General Meeting will be held Saturday, December 1st, at 1 p.m., at the United Methodist Church. Cathy Carney KI7NIR talk about her fifty years of using HAM radio in Alaska. Linda Smith will bring her wonderful Christmas cookies.

Chuck Gervie KI7PGI and his NSA Presentation

When Chuck graduated from UNR with a math degree in 1964, he discovered it wouldn't land him a job right out of the gate. He was married with a child on the way and no prospects until some mysterious interrogators from an unnamed government agency interviewed him AND his wife, Marylou, at Stanford University. After a battery of psychological, personality, and full lifestyle polygraph tests, and background interviews, he waited a year to hear the results. This was back when the Cold War was hot, there was no Internet, and Seymore Cray's CDC-6600 computer was king.



Everything was analog. The rotating drum-lugs, cages, and wheels of cryptographic encryption were mostly electro-mechanical. Then Boris Hegelin produced the CX-52, a silent, electronic encryption device with no moving parts that brought electronic encryption to a higher level. Chuck was hired to work in this yeasty environment.

For three months, he studied the Cyrillic alphabet, Probability and Statistics, Coding Theory, Signal Analysis, and SIGINT and COMMINT while waiting to get his full clearance for top secret/special indoctrination. After training, he became part of an NSA engineering team that would build special-purpose computers. He said that computers can only add. For example: $C = P + K$ or Cipher = Plain Text + Key. Digital encryption was replacing analog, yet Chuck explained there's no such thing as a digital signal. All signals are essentially analog.

The NSA's mission is to encipher nuclear, rocket, and bomber codes. Chuck told us about the various agents, including people who have full deep-cover ID portfolios, and the clearance dilemmas involved. Mathematicians, for example, think differently than others. They often assume that "unclassified" information is open for public consumption when it really isn't. That could be a problem at parties.

Chuck's talk included lots of historical and technical information that, because of length, can't really be included here. He handed out a wonderful packet of information, however, that he may be willing to give to those who are interested. He also said there's a wealth of information about the Agency at www.nsa.gov and www.cia.gov.

Ham Radio Basics 101

Saturday, November 3, after months of planning, Jim Marshall taught the first Radio Fundamentals class. Seven people attended the 90-minute session, which went by quickly. One attendee brought his young grandson, who was a delightful and engaged participant. Jim drew plain diagrams on the white board, and paired them with simple descriptions, to illustrate basic concepts clearly. He interspersed the technical details with short stories of personal experiences, to flesh out the skeleton of technical explanations. He credits Amateur Radio (he earned his General Class license at age 16—at a time when Morse Code was required!) with starting him on a path leading to a lifelong career in the telecommunications industry.



This 90-minute class will be held every two weeks, with the next one scheduled for 11:00 November 17 at the same United Methodist Church where monthly SIERA meetings are held. All (and their interested children/grandchildren!) are invited.

-- **Cathy Carney KI7NIR**

(Ed. Note) Jim Marshall K6LR will be offering these classes every other Saturday at 11 a.m. in the same location as our regular meetings. There's no cost or registration. Just show up with your questions and Jim will answer them.

Robert Winkleman KI6CPW is recovering at Life Care in Reno from a series of strokes he suffered a few weeks ago. You can call him directly at 775-850-0999. He'd love to hear from you.



Radio Telescope Lecture at the Jack C. Davis Observatory

Saturday, Nov 17, there was a free lecture at the Jack C. Davis Observatory at the Carson City campus of Western Nevada College. Sue and I have often driven past the Owens Valley Radio Telescope in our travels on Highway 395 and have been curious, so this lecture was a 'must do.

The Owens Valley site is not a single telescope, but a facility with many radio telescopes set up for different projects. There was one that sticks in my mind, a project to map C-band radio noise across the entire sky visible from Owens Valley. The idea is that when the background radio noise is known and understood, this "noise" can be subtracted from more targeted projects, giving a clearer radio image. Pretty cool. The all-sky C-band mapping is done in the millimeter wavelengths. My thinking was, "Ok, so how do you work with wavelengths that short?" It seems like an impossible task.



So, here is how they do it:

- ∞ The microwave signals are collected at the feed horn of the dish and used to frequency modulate (FM) a laser beam.
- ∞ The modulated laser beam travels by fiber optic cable to the facility building, where the process is reversed with a stable microwave source, reproducing the original signal. This solves the problem of signal loss in getting it to the building.
- ∞ The signal is then split 5 ways and fed to 5 different receivers. Each receiver uses a different IF frequency so that the microwave band is divided into 5 sub-bands for further processing.
- ∞ Each receiver does a super-hetrodyne process and produces a usable signal at a lower frequency. This step is similar to the way a ham radio receiver works.
- ∞ Each sub-band is then digitized with an analog-to-digital converter (ADC) which translates the analog radio signal into a stream of numbers.
- ∞ The streams of numbers from the 5 sub-bands are then sent by fiber optic cable to Cal Tech, where they are archived in real time. This fiber optic trunk has been described as a "Digital Highway 395."
- ∞ Cal Tech then makes the data available to various research groups.

While most of the observing at the Jack C. Davis Observatory goes on at optical wavelengths, they do have a small radio telescope up and running behind the building. They hope to add four more radio telescopes in the future after they have worked out an affordable way to synchronize them so they can be used for interferometry.

NOTE: You don't have to be a student to help out at the Observatory. Interested members of the public are invited to get involved. -- **Jeff Cauhape K7BCV**

Technician's Class: Jeff Cauhape K7BCV will offer his Technician's Class again at Western Nevada College starting in January 2019. It will be one night a week, possibly Monday, from 6 to 8-ish p.m. Firmer details will appear in the Beacon at a later date. To sign up: <http://www.wnc.edu>. Jeff has updated his website for this class. Check it out for news, articles, and the class syllabus: <http://www.k7bcv-radio.tech>.





Trailer Improvements

The club trailer now contains 4x 100', 1x 50' of Belden 9913F7 coax, 1x35' 2x 25' of RG-213 coax. We've been using 2x 100' belonging to Bob K7VOC, and a single 300' run belonging to me (Greg - KG7DMI). One of Bob's 100' lengths was suspect, and failed completely at the last outing. On Nov. 3, the Board approved the purchase of new coax for the club and the replacement Bob's 100' run.

Jim K6LR got us a deal on a 500' roll of Belden 9913 and the PL-259 ends. He also

loaned us his coax stripping tool and PL-259 crimpers. They worked really well! Jeff K7BCV, Bob K7VOC, and I got together to build these new cables. We also tested each of the old cables as well as the new.

Why so much and why not less expensive coax? At our events, we've run out 200' in one direction and 300' the other direction. This gives the antenna enough spread to avoid interference between the radios. We're even able to run both stations on the same band without concern. Some special event venues may require large runs. So why not less expensive coax? Attenuation losses! Losses add up, especially at 300'. Remember 10m will be coming back. Belden 9913 is equivalent to TM LMR 400. Belden is slightly less expensive. Also, both companies make "Flex" with multi-strand center conductor. If you've ever rolled out solid core coax, you know it's great for permanent installation but you don't want to be rolling it in and out. All of our coax is "Flex" type.

It's never too early to start planning for next year. What events are *you* going to put on?

<https://qsoparty.eqth.net/index.html>

<https://www.contestcalendar.com/contestcal.html>

We've got a really good setup with our trailer. Lets get it out and use it.

-- Greg Moore

Into the Future

Post-Holiday Party: Instead of gathering at a restaurant, we will be enjoying each other's tasty home cooking with a potluck during our regular January Board and General meetings. Bring your goodies to the United Methodist Church on Centerville Rd. at **noon**, Saturday, January 5th, 2019.

ARRL Kids Day: On the first Saturday in January and the third Saturday in June, this event invites kids to experience amateur radio through their parents' or grandparents' stations. Here are the details: <http://www.arrl.org/kids-day>

Dues are Due: A new year always brings the time to pay our dues. We hope you all find SIERA's meetings, presentations, and events fun and inspiring, take advantage of the collection of Elmer's new hams who can help solve your radio problems. Your dues pay to repair and maintain our NV7CV repeater and the trailer that we can use for events and emergencies. More information will be coming about dues in January.

Pony Express: Tom Tabacco KE7NCJ is giving us all a long heads-up to get ready for the Pony Express Re-Ride, scheduled to be in Nevada from June 17-19. So mark your calendars and check your gear. More information will be forthcoming in future Beacons.



Choosing a Band

Choosing the proper band requires a Ham to process many factors. This activity can be your first chance to take into account all the theory you have studied and put it to practical use. The good news is you only have to prove it to yourself. Nobody will be evaluating how you are doing. You set your own goals.



I am primarily thinking of the HF part of the spectrum – 3 to 30 MHz, but I realize HF is not always the slice of spectrum that interests people.

So, first let's review as many as I can remember of the considerations that are in play here. Please be aware that your actual mileage may vary depending on your physical location, antenna, and transmit power. Also, I do not have the capability to monitor all the amateur bands in this article, so I am depending on information from the Internet.

First, ask yourself what modes/activities do you plan to explore? There's quite a list:

- VHF/UHF FM base and mobile chatting
- HF/VHF SSB
- Backcountry camping/off-roading/backpacking/SOTA
- Public service/disaster support/traffic handling
- Contesting
- DX'ing & award hunting
- Satellite communications
- Packet, RTTY, PSK, WSJT-X, and other experimental modes
- APRS
- Mesh Networking
- Microwave experimentation
- Weak Signal -- (VHF-DX, Meteor Scatter, EME-Moonbounce, WSPR)
- SSTV, ATV(fast scan), DTV Digital Television
- HF/VHF QRP base and portable

Each of these activities takes place in a different part of the radio spectrum. So, if you know how you want to "play radio," here's what you can expect from the available spectrum. Author's note: This list is not meant to be extensive, but I hope it will pique your curiosity and encourage you to get more information if you are interested.

2200 Meters (135kHz)

The 2200-meter band became available in the US in March of 2017. It is a secondary allocation with the limitation that stations have a maximum radiated power of 1-Watt effective isotropic radiated power. Reception on this band poses problems due to considerable natural and man-made noise and interference. QRSS mode has proven to be the most effective means of communication on this band. QRSS is a computer generated CW mode in which the receiver bandwidth is drastically reduced (1Hz) and the rate at which code is sent is slowed beyond that which would normally be readable by ear. JT65 and some other WSJT-X modes are in use from this band all the way up to

the 6cm band. Before using either this band or the 630 Meter band, stations must notify <https://utc.org/plc-database-amateur-notification-process/> the Utilities Technology Council (UTC) <http://utc.org/> that they plan to do so. If UTC does not respond within 30 days, then operation may commence.

630 Meters (472kHz)

The 630-meter band is also a secondary allocation within the greater 415-526.5kHz maritime band. In the US, this band became available in March 2017. The US band spans 472 to 479 kHz. A 5-Watt EIRP limit (except Alaska where the limit is 1 Watt) is imposed. Modes frequently heard here include CW, JT9, WSQ (weak-signal QSO), and WSPR beacons with occasional additional digital mode experiments and SSB. Propagation on this band is similar to the AM Broadcast band.

160 Meters (1.8MHz)

This band is located just above the US AM broadcast band spanning 1.8 – 2.0 MHz. As one would expect, propagation is limited to local contacts, 0 to 50 miles, assuming average band conditions during the day. Longer distance contacts are possible at night, especially around sunrise and sunset (grey line propagation) and during periods of minimal sunspots. Your actual experience may vary according to power output and type of antenna. CW, SSB, digital modes and AM can be found on this band. Interference to fixed radiolocation services must be avoided in the 1.9-2.0MHz range. The top 5kHz of this band is available for experimental modes.

80 Meters (3.5 – 3.6MHz)

This part of the band is limited to CW, RTTY and data. Aurora, D-layer absorption, and thunderstorms have a detrimental effect on this band as well as those lower in frequency. QRP activity can be found around 3560kHz and 3579.5kHz. Daytime contacts can be made out to 100 miles; nighttime can be longer. If you can hear W1AW on 3581kHz(CW) or 3625kHz(data), you can probably work the East Coast. W1AW runs 1KW into an inverted V at 60 feet.

75 Meters (3.6 – 4.0MHz)

This is the phone portion of the 80-meter band, so the propagation discussion for 80 meters applies here as well. W1AW operates on 3.99 Mhz. If you are looking for conversation, this band is a favorite for ragchewers. This band opens into the east approaching darkness and grey line stations will often come in from the southeast. Both 80 and 75 Meters are seasonal with better conditions in the winter.

60 Meters (5.3MHz)

Another fairly new acquisition for amateurs, this band became available for use in July 2003. 60 Meters is strictly a low-power band limited to 100W PEP ERP referenced to a half-wave dipole. Operation here is channelized, centered on 5.332, 5.348, 5.358.5, 5.373, and 5.485MHz. Modes permitted are USB voice, CW, RTTY, PSK31, and data such as Pactor III or Packet. Propagation on this band is similar to both 75 Meters and 40 Meters as it lies halfway between these two bands.

40 Meters (7MHz)

There is an old saying: "40 meters is always open to somewhere." If you tune through this band and don't hear anything then something is broken. Contacts are possible in the daytime up to about 1000 miles, and worldwide in the dark. Grey line propagation can rival that of 20 Meters, the "King of DX" bands. There's amateur activity 24/7 on 40 Meters in addition to international shortwave broadcast stations.

30 Meters (10.1 MHz)

The 30-meter band is one of three bands allocated to amateur radio use in 1979. The allocation is shared with fixed services, so interference to those stations is to be avoided. Power is limited to 200 Watts PEP. No phone contacts and no contesting are allowed on this band. Propagation on 30 Meters is similar to both 40 Meters and 20 Meters. Daytime contacts out to 2000 miles are not unusual and nighttime and grey line DX can be impressive.

20 Meters (14 MHz)

20 Meters is the all-around champion of DX bands, however, at the bottom of the solar cycle it may be usable in a particular direction for only a few hours a day. At the peak of the solar cycle it can be open to worldwide contacts all day and well into the night. The international QRP frequency is 14.060Mhz. SSTV can be found near 14.230Mhz. The sideband portion can be very busy, and making contacts using 100 Watts can be a challenge. CW and RTTY and data are found in the lower portion, 14.000Mhz to 14.150Mhz, and phone and image from 14.150Mhz to 14.350Mhz.

17 Meters (18.1 MHz), 15 Meters (21 MHz), 12 Meters (24 MHz)

Since we are in the low part of the sunspot cycle, I am going to combine the discussion for these three bands. For the time being, 17 Meters has the best possibility for daytime use. During the sunspot peak, these bands are not as crowded as 20 Meters and are capable of yielding impressive results. 17 & 12 Meters cannot be used for contesting.

10 Meters (28 MHz)

Ten meters is special when it comes to propagation. In some ways it mimics VHF frequencies, but it is also capable of typical F-layer propagation. In times of solar peak, a 10- to 20-watt station can rack up QSO's by the bunch. With low solar activity sporadic E, openings can support QSO's from 1500 to 3000 miles. There were several significant sporadic E openings on ten meters this past summer. Side scatter and backscatter are two exotic forms of propagation that can be experienced on this band. High power and a beam, though, are necessary to take full advantage of these forms of propagation. In addition to CW, RTTY, data modes, SSB, and SSTV, 10 Meters is also home to sub-bands for propagation beacons, satellite links, and FM repeaters.

6 Meters (50 MHz)

Welcome to the world of VHF! The frequencies from 30 to 300 MHz are classified as VHF. The 6-meter band is the lowest practical frequency for EME (moon bounce) operations. Sporadic E propagation on this band can support contacts up to 4000 miles and sometimes further. CW, SSB, AM, and data modes can be found on this band, as well as FM repeater operations, propagation beacons, and radio remote control.

2 Meters (144 MHz)

Yes, you can find CW and SSB activity on this band as well as the familiar FM repeater operation. CW and SSB operations are accomplished mostly with horizontally polarized antennas. The 2-meter band also has sub-bands for satellite, EME, Packet, propagation beacons, and experimental modes.

1.25 Meters (222 MHz)

Every mode found on 2 Meters can be found on this band except for satellite communication. According to Wikipedia: "There are pockets of widespread use of this band across the United States, mainly in New England and western states such as California and Arizona with more sporadic activity elsewhere." The 1.25-meter band is the lowest frequency available for remote control of repeaters and unattended stations.

*Geographical and power restrictions apply to all Amateur bands above 420 MHz.

70 cm (420 MHz)

The UHF band stretches from 300 MHz to 3 GHz. The 420 MHz band enjoys an increasing level of popularity due to the combined availability of inexpensive hand-helds, repurposed commercial gear, and reduced size of high gain antenna systems. This is the lowest frequency band where ATV (fast scan television) is allowed. There are plenty of FM repeaters for those who want to chat. The band is usually shared with other radio services, most commonly government radar systems, such as PAVE PAWS. Propagation on this band is typically line-of-sight although atmospheric thermal ducting is possible.

33 cm (902 MHz)

The 33-cm band is shared with industrial, scientific, and medical equipment as well as low power unlicensed devices. High gain antennas situated in high places can yield results here that are similar to the 70 cm band. VHF/UHF contests support the use of CW and SSB. ATV is popular in some parts of the country. FM repeaters are becoming more popular as equipment manufacturers have begun to supply equipment to operate on this band. But modifying commercial equipment designed for use in the 800 – 900 MHz range remains the best source for equipment.

23 cm (1240 MHz)

Amateurs occupy this band on a secondary basis. CW, SSB, narrow band FM, analog and digital television, satellite uplinks, EME, weak signal work, and FM repeaters can be found on this band.

13 cm (2300-2310 and 2390 – 2450 MHz)

Mesh networking anyone? Your home Wi-Fi probably operates in the 2400 MHz range. Some household Wi-Fi units can be modified to operate legally on this band. Sub-bands in this range support satellite links, analog and digital data, CW, SSB, weak signal, EME, and analog and digital television. FYI your microwave oven operates at a frequency in the 2.4GHz range as well.

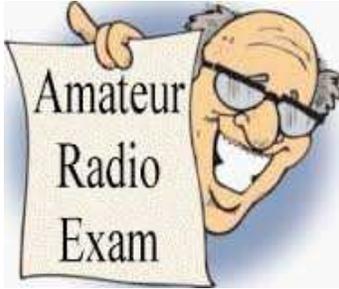
3300 – 3500 MHz, 5650 – 5925 MHz, 10 – 10.5 Ghz

These bands are all within the SHF (Super High Frequency) range. With all the spectrums available here the modes found are probably a repeat of what is found on the upper UHF bands.

For Further Discussion and Information:

I hope this discussion has inspired you to investigate further and pursue your interests. Questions and comments are encouraged and you can find a helpful answer on WT6B Brad Smith's "The Watering Hole," on Wednesday evenings at 7:30 PM on the 147.93/33 NV7CV repeater and linked through 147.84/24 NR7A. If you would like to write about your favorite band/ mode to share with the club, send it in to *The Beacon* for publication. -- **David DeAngelis K1SCN**





ARRL Licensing Exam: SIERA offers these exams on the third Saturday every other month at 9 a.m. Station 51 Fire Station at 777 South Stewart St., Carson City. Bring a photo ID, a copy of your license if you're upgrading, and \$15. Contact: Greg Moore at KG7DMI@frontier.com for more information.

The next Licensing exam: January 12.

At our November Session we came out with four new hams and one upgrade. Everyone did very well and passed with by a large margin. Steve Grundy took and passed both his Tech and his General. Mark Sprague passed his upgrade to General. As you can see by Mark's call, he only earned his Tech last month.

Congratulations to all!!

Chris Swenson	KM6YFJ - Tech
Kelly Larson	KJ7CIE - Tech
Jered Aschenbach	KJ7CIF - Tech
Bill Hooper	KJ7CIG - Tech
Steve Grundy	KJ7CIH - General
Mark Sprague	KJ7BMO - General

Also, Subrina Vinton KI7OAL earned her General License.

DCART News:

DCART held their Monday nets and monthly meeting. November is a travel and holiday time for many members. DCART members have sent their time in and spent time on nets, working on their stations and projects, mentoring other hams, doing nets at the hospitals, supporting Nevada Division of Emergency Management (DEM), and working and learning packet and Winlink.

Sheila Clement, KA7AJQ
ARES Emergency Coordinator
Alpine and Douglas Counties

Happy Birthday to:

Jeff Cauhape	K7BCV
Curt Leuck	KG7TVC
Paul Gulbro	WA6EWV
Ed Goldberg	KE7EAA
JD Fowler	AD7CD



Nets Available in Carson Valley and Beyond:

The SNARS Noon Net daily on 147.150.

Daily Carson & Eagle Valley net, 6 p.m. on 28.435 MHz USB

BARC Nightly Net, 8 pm on 146.655 pl 131.8

DCART Net, Mondays at 6:30 p.m. on 147.270.

TARA Net, Mondays at 7:30 p.m. on 147.240.

SIERA VHF Net, Tuesdays at 7:30 p.m. on 147.330.

SIERA HF Net, Tuesdays at 8 p.m. on 3982kHz.

Plumas County Net, Tuesdays at 7:30 p.m., on 145.470.

Brad Smith's (WT6B) Watering Hole, Wednesdays at 7:30 p.m. on 147.330,
"questions and answers pertaining to amateur radio."

SKYWARN at 7 p.m. Wednesdays and the **NV ARES** is 7 p.m. Thursdays. Both operate on the EchoLink conference server NV-GATE: 152566 EchoLink and can go onto your smart phones, tablets and computers.

SNARS Hospital Net, Fridays at 10:00 a.m. on 147.030 or 147.150
(SNARS Linked Repeaters: <https://snars.org>)

RARA Rural Amateur Radio Asso., Fridays at 8 p.m. on 147.180 pl 123

ARES HF Net, Saturdays at 7 a.m. on 3965kHz.

RARA, Rural Amateur Radio Association, Saturdays 7:30 a.m. on 3965kHz

New Hams Net, Sundays at 1 p.m. 146.760 pl 123

National Traffic Service Net, Sundays at 6:15 p.m. on 3945kHz

Breakfast and Lunch Gatherings

11:15 a.m., every Wednesday at Jethro's on Kimmerling in the Ranchos.

8 a.m., every fourth Saturday at the Tail Dragger Café at the Minden-Tahoe Airport.

For Sale:

Yaesu FT-1000 mp 100-watt transceiver 1.8 thru 29 Mhz. Includes all filters plus Inrad roofing filters LED light bar installed. (replaces CFL back light) 9 Mhz buffered IF output installed.

High Stability temperature compensated master Oscillator installed.

Dual receivers, offers split operation for DX contacts Internal Antenna tuner installed.

Yaesu DNR (Dynamic Noise reduction), Plus IF shift and Contour controls.

Has been my "daily driver" for 7 years. Works perfect.

Look up reviews on EHAM.

Price, \$1,500 Contact: Jim Marshall, 775-392 3734, k6lr@arrl.net



General Meeting, October 6, 2018:

Called to order: 1:00 p.m.

Minutes: Minutes read; approved by Greg Moore. Thank you, Ben Echavarria, for submitting this meeting report.

Business:

Nomination Committee: Bob Williams, Debbie Williams, and David Granish approved the nominations of Jeff Cauhape for president, Ben Echavarria for vice-president, no secretary yet, Debbie for Treasurer and no banquet coordinator at this time.

Nevada Day Parade: John Abrott called Tom Tabacco and asked for volunteers for the Nevada Day Parade. No response to that one.

Radio Basics 101 Class: Jim Marshall announced he would like to give a radio basics 101 course for anyone interested, covering whatever anyone would like to learn about radio operation. The course would be starting somewhere around Nov. 1.

Greg Moore announced that Subrina Vinton has passed her General test.

Jamie Dahl gave a presentation about SOTA, Summits on the Air.

Meeting Adjourned at 2:45 p.m.

General Meeting Minutes for November 3, 2018

Called to order: 1:05 p.m.

Introductions: Linda (Guenther's daughter), MaryLou Gervie

Treasurer's Report for November 2018:

Checking Account

Starting Balance	\$ 1768.55
Deposit:	67.00
Withdrawals:	.00
Ending Balance	\$ 1835.55

Savings Account

Starting Balance	\$ 4070.01
Dividends	.17
Ending Balance	\$ 4070.18

Grand Total \$ 5905.73

Sue Cauhape moved to approve and Brad Smith seconded.

Membership: none

Business:

Hats: The SIERA hats are gone and people were directed to find places to order hats for themselves. There are several places where they can have hats embroidered.

Repeater: All repeater equipment will be moved to a CHP tower that will replace the old building and infrastructure. This is all in the works, so members shouldn't panic about the NV7CV repeater disappearing.

Soldering Camp: Jeff Cauhape asked if anyone was interested in attending an antenna soldering camp using discarded coax from the trailer. Cathy Carney, Subrina Vinton, and Sharen Yee said they'd be interested.

Coffee Monitor: Jeff Cauhape asked if anyone would be interested in setting up the coffee table during the meetings. No one responded. This issue was tabled.

Nomination Results: The Nominating Committee met and finalized the following list Board members and positions for approval by the general membership at the December meeting: Jeff Cauhape, president; Ben Echavarria, vice-president; Cathy Carney, secretary; Debbie Williams, treasurer; Bob Williams, David Granish, Jim Marshall, Greg Moore, and Subrina Vinton, Directors.

Bob Williams offered the Board's appreciation to Sue Cauhape and Tom Tabacco, outgoing members of the Board, for their service. He also stated that the general membership has until the end of today's meeting to nominate any other candidates.

Post-Holiday Party: Jeff Cauhape announced that the Party will be a potluck provided by the members in lieu of the January Board and General meetings on January 5. It will begin at noon. Sue Cauhape and Linda Smith will be in charge of providing the paper plates, flatware, etc.

Nevada Day Parade: Thanks to all SIERA members who supported the Nevada Day Parade: Daryl and Karen Haines, John Abrott, Mel Hogan, Jeff and Sue Cauhape, Greg Moore, Subrina Vinton, Tom Tabacco, and Ben Echavarria.

Radio Basics 101 class: Jim Marshall held the first class for nearly a dozen SIERA members before the meetings. As long as interest remains, he will continue these classes every other week at the United Methodist Church starting Saturday Nov. 17 at 11 a.m.

Technician's Class: Jeff Cauhape announced he is teaching another Technician's class through Western Nevada College beginning in January, 2019. If members know of anyone who might be interested in this class, they can contact him at cauhape@protonmail.com.

Chuck Gervie gave a talk about his career with the National Security Agency.

Meeting adjourned: 2:30 p.m.

If you have photos and/or can write a short description of whatever you're doing, send it to the Beacon at scauhape2002@yahoo.com. We'd all like to hear about your adventures with amateur radio.

**Check us out on Facebook:
<https://www.facebook.com/SIERA>**

