



# SIERA BEACON



Carson Valley, NV

July 2019

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

## Pony Express Re-Ride Re-Cap

Bob Yandow K7GUU will tell us his adventures covering the Pony Express Re-Ride during **our July 6th meeting, 1 p.m., at the United Methodist Church, 1375 Centerville Rd., Gardnerville**. In fact, we hope his talk will spur others to share their experiences, including what worked, what didn't, and what we can do to improve the process.

Because of all the advances in communication technology out in the hinterlands of Nevada, Tom Tabacco KE7NCJ, who coordinated SIERA's participation this year, wants to discuss what positions we actually need. Cell phone coverage is better. The mochila carries a dependable tracker that shows where the horse, if not the rider, is. Should we hand off the coverage to HAMS in eastern Nevada and only cover western Nevada? Does the NPEA really need our services at all? These and other issues need to be decided before the next Pony comes to town. So, please come to the July meeting and express your opinions about the Pony. (By the way, Petra Keller and other riders have told the Beacon editor that our coverage is really appreciated.



Photo by Sheila Clement KA7AJQ



## **Field Day 2019**

David Granish KI6EWK led the way to a relatively smooth Field Day operation this year at the Minden-Tahoe Airport. There was a glitch in the computer software that failed to record the contacts made. It's a bit of a catastrophe, but hopefully one that our computer gurus can solve.

Iwo Jima Moment: Jeff Cauhape K7BCV and Bryce Leinen KI7NIK push the beam antenna into place against the SIERA trailer.

Other than that, all went very well. We greeted twenty guests, including Douglas County Commissioners John Engels and Wesley Rice, DeVere Henderson from the Planning Department, and Ron Sagen, who runs the 911 Call Center and is our generous supporter of DCART. He was really excited to see the SIERA emergency trailer and meet some of the DCART members. While we didn't host a BBQ or provide snack, the Taildragger Café took care of our hunger pangs. Why bring chips and watermelon when such good food is available just across the parking lot.



John Engels and DeVere Henderson watch Ben Echavarria Jeff Cauhape K7BCV, Bob Williams N7BBE make contacts in the SIERA trailer. K7VOC, Debbie Williams N7XYL,

David Granish and Julia Cameron N7EJC all brought their RVs to camp through the 24-hour event. Plenty of other members, however, trickled in through both days to rag chew or help erect antennas and talk on the radios.

When the final tally of contacts is known, the Beacon will share this information on the SIERA Facebook page and in next month's Beacon.

Ron Sagen was especially excited this off-grid station could reach radio operators as far away as Hawaii and the East Coast. And it all takes about two hours to pull together. Hey, we've been setting up this station at the airport for three years now. Practice makes perfect. And it will only get easier with each Field Day. Can't wait until next year.

---

## **Robert Nelson WA7PAD Reports on the Pony Express**

It was an interesting and informative week for our little team of four operators. We had planned all along that we would set up much as I did last year near the microwave tower on Austin Summit. I have friends in Austin and as the date got closer, I made a lot of contacts with folks there who told me that, as late as a week before the Pony Express ride, the maintenance folks for the microwave tower were using a Snow Cat to get up to the summit due to snow and mud. We



Austin Airport camp

decided that I just wouldn't try getting my truck and trailer up that road because it would be extremely difficult to turn around if we couldn't make it. Frank Kostelac, N7ZEV, has a jeep specifically outfitted for off-road work and Keith Gordon, K7KSG, has a Land Rover also with off-road equipment.

Frank suggested that we look for an alternate location and that we put up a cross band repeater on the 146.55 MHz frequency that we could operate from the more accessible areas around Austin using a simplex frequency on 70 cm. and that he and Keith attempt to put it up on the summit with a solar battery and large auto battery. That is what we did and it worked remarkably well. So well, in fact, that we are planning to put up two or three similar remote cross band repeaters next year. We would like to have one aimed and programmed for the 147.345 repeater near Fallon (which is what worked so well last year) and possibly one to the east along with the one set up for the mobiles and check points on 146.55.

Our next question was to find a location along the riders' route that could connect well with the cross band repeater on the summit. We looked at setting up at the "Campground" north of Austin and the Austin Airport. Keith ran some cross-sections of the terrain and it looked as though both would have a good line-of-sight path to the repeater. Keith, who is a commercial pilot, talked to the airport manager to see if it was possible to set up there.

The airport is not manned and he wound up talking to one of the airport commissioners. Normally, it is a no-no to put up antenna poles near airports, particularly near runways, and Keith told me that he expected a flat no, so we were amazed at the response. Keith Westengard, the Lander County Manager, told Keith that he would have to go to the Commission but that he thought we could have full use of the airport, including the lounge, the bathroom and shower, water, electricity and full use of the grounds. A day later we received word that the Commission had agreed and they gave us the code for the gate to allow entrance to the grounds.



We caravanned up from Las Vegas via Tonopah and set up at the airport. Frank and Keith with their

two vehicles (in case one got stuck) did get up to the summit and set up the repeater. From the airport, we could see the microwave tower on the summit and were able to connect with the repeater with a 1-watt handheld radio. We set up three HF antennas, a dipole cut for 3965kHz, a dipole cut for 7230kHz, and an 80-foot inverted L with an auto-tuner at the base. What surprised us was that 3965kHz Cross-band repeater on Austin Summit worked well round the clock to the Reno-Gardnerville corridor and we never used 7230kHz, although we monitored it full time.

We had a fourth HF radio that is physically located in a very low RF noise area at the north end of Las Vegas that I operate wherever I am via the internet using an LTE hotspot. Actually this radio heard the Base Stations better than the local radio at times and it proved to be very useful. We used the long wire radio for Winlink connections and it also worked very well. We were operational from Monday morning through sunrise on Wednesday.

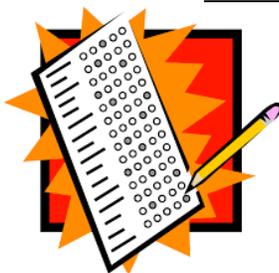
On Tuesday, near the time that the Pony Express riders passed the airport, Ray Williams, one of the airport commissioners, came out to see what we were doing and toured all of our equipment. At that time, we offered to pay for our usage of water, electricity, and just their hospitality. Keith even offered to pay a standard landing fee charged by most Fixed Base Operators for any aircraft landing, and the commissioner refused any payment. (Ed Note: the Board will discuss a thank you letter and certificate of appreciation at the July meeting.) Story and photo by Robert Nelson WA7PAD.

## Up-coming Events

**Death Ride:** Saturday July 13 in Markleeville, CA. You can listen to it on 147.330mH. Paul Gulbro WE6EWV stations himself in the TARA van as net control for this exciting bicycle tour over Monitor, Ebbetts, and Carson passes. To join the fun as a rest station radio contact, email Paul at: [wa6ewv@juno.com](mailto:wa6ewv@juno.com). Who knows? You just may meet the Chicken Man.

**NVCON:** July 19th through the 20th at Boomtown Casino Hotel. [nvcon.org](http://nvcon.org) Check out the info and schedule.

**ARRL Licensing Exam:** SIERA offers licensing exams on the third Saturday of every odd month at 9 a.m. at Station 51 Fire Station, 777 South Stewart St., Carson City. Bring your photo ID, a copy of your license if you're upgrading, and \$15. (You'll need to pay \$15 each time you take the test, so come prepared.) Contact: Greg Moore KG7DMI at [KG7DMI@frontier.com](mailto:KG7DMI@frontier.com) for more information.



### **The next Licensing exam: July 20th.**

At the June meeting, Greg Moore KG7DMI, reported that after the results of the May VE exams, SIERA has licensed more new and upgrading HAMS in 2019 than in the previous two years. His article about the May VE Exams missed the deadline for the June Beacon, but it reported such great news about the growth of SIERA's capacity to bring people in amateur radio, we're including it this month. Oh, and apologies to Robert Plant KI7OXS. We gave him the wrong call sign in the June issue of the Beacon.

## **May's VE Exam Success:**

We had a great turn out for our last session! Double the number of candidates showed up than I was expecting. Although it was one of our larger sessions, it was definitely one of the smoothest. With help from long time and experienced team members Bob Williams - K7VOC and Guenther Noder - KU8B. New team members David Thompson - AG7TX was able to get up to speed with his first VE session and Malek Davarpanah - KI7DYM his second. Long time VE Jim Sanders - AG6IF, being a New Club and VE team member joined and helped out.

As is quickly becoming the norm for our sessions, once the exams were over the group was engaged in discussions about how to get started and what to do now. The room slowly thinned out to one-on-one discussions between new hams and the VEs. There's a lot of talk about getting new hams involved. These guys are actually doing something about it!

**Speaking of New Hams/VECs:** Bryce Leinen KI7NIK just received his certificate naming him as an Extra Class VE. Congratulations, Bryce.

**Everyone earned their license or upgrade they came for. Congratulations to all!**

New Techs:

Keith Baumann - KI7GVX

Gregg Rossi - KI7GVY

Jeff Meehan - KI7GWB

Brian Sanders - KN6CIC

New Generals that took and passed both Tech and General:

Diana Moore - KI7GVY

KarIm Mekhid - KI7GWA

Upgrades to General:

Ed Boog - KJ7DHY

Anastazia Rudolph - KI7YPI

Robert Plant - KI7OXS

Sharen Yee - KG7DAO

Upgrades to Extra:

Bill Stanley - KJ7FEJ

Mike Yee - KF7UGW

Anastazia tested with us before and returned to take her upgrade. Both Bill and Mike have also tested with us before and returned for their top level upgrades.

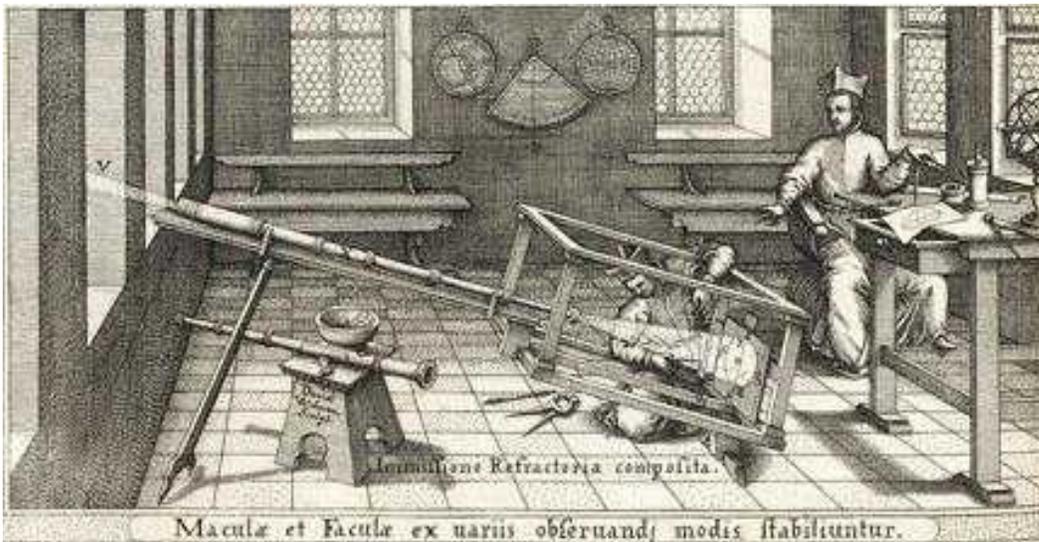
**Be sure to check the expiration date** on your license to make sure you don't miss renewing with the FCC. If it expires, you will need to take the exams all over again. Also, whenever you move, notify the FCC of your new mailing address.

Here's the link to the cvhams.com website membership listing. If your name shows up in red, you need to renew your license. This list is updated each year.

<https://www.cvhams.com/membership/SIERA%20Membership.pdf>



**Solar Minimum Primer**



Christoph Scheiner and a fellow Jesuit scientist trace sunspots in Italy in about 1625.  
- from the Wikimedia Commons

For those who have never experienced the effects of a solar minimum before, I feel obligated to provide an explanation of what can be expected. Listening to the old timers discussing current conditions, it can be understood that the newcomer can be discouraged from venturing into HF operation. Despite the often heard “conditions are lousy,” much can actually be accomplished during a solar minimum.

What makes HF operation different from VHF is that HF signals are subject to being refracted or reflected toward Earth from the ionosphere. Solar conditions and space weather are among the main factors that affect the ability of the ionosphere to send signals over long distances. That is the very short story. A more detailed discussion can be found at:

[www.arrl.org/files/file/Technology/tis/info/pdf/8501031.pdf](http://www.arrl.org/files/file/Technology/tis/info/pdf/8501031.pdf)

The difference between radio conditions at solar maximum and solar minimum is truly a night and day comparison. Ask any old timer about their experiences in 1959-60, 1970-71, 1980-81, 1992-93, 2001-03, 2011-14. What they will tell you is that conditions were very different from what we are experiencing right now. The short story (I don't want to steal anyone's thunder because I know there are many good stories out there.) is that it was not unusual to “work the world” with little more than a wet noodle (preferably soaked in salt water) for an antenna. With that information in mind, I can see how one could easily become discouraged by present conditions and retreat to another hobby until the next solar max. But, believe it or not, there is hope for those who will be operating on HF during solar minimum. It IS a scientific fact that your signal WILL exit your transmitter, enter your antenna and go SOMEWHERE. The result, though, will probably not be as impressive as one would find during solar max.

As I have mentioned in a previous article (see the December 2018 *Beacon*), you have to decide what you hope to accomplish in this hobby. To assist you in the decision making process, Jim Brown, K9YC, presents an excellent discussion with charts and test results in: <http://audiosystemsgroup.com/AntennaPlanning.pdf> He presents much more technical data than I could give you. He shows the effects of all those little compromises that need to be made to accommodate the placement of an HF antenna system. As you can imagine, the accommodations we need to make have a bigger effect on results during solar minimum than during solar max.

During solar minimum even small disturbances from solar storms and solar wind will tend to disrupt radio propagation much more intensely than during solar max. During solar max the effects from a G1 level storm will tend to dissipate much more quickly than during solar minimum. In addition, the effects of solar storming during solar minimum can be long lived due to an increase in coronal holes that generate solar winds that disrupt the earth's magnetosphere – sometimes going on for days at a time - only to be repeated a few weeks later as the sun's rotation brings them back onto the earth facing side, and will result in deep signal fades (QSB) and weaker signals in general.

“Armchair copy” (signals S9+ both ways) for SSB are possible during solar minimum, but not usually for very distant stations. Even if you are running a couple of hundred watts, getting a solid two-way contact can be a challenge. Band openings to distant stations (DX) DO happen during solar minimum, but are not usually long lived. Like a good fisherman, one needs to be patient and have a good idea where and when to look. The charts available at: <http://www.arrl.org/propagation> are always a good place to start for reliable information. Utilizing a sunrise/sunset calculator or calendar can also be a game changer. Grey line propagation (two hours either side of sunrise or sunset) can sometimes yield surprising results.

On the other hand, signals that are not propagated by skywave are not as deeply disrupted by solar storming. Actually, most new hams are not running antenna systems that are sixty feet in the air or more, therefore their antenna systems would be classified as being NVIS (Near Vertical Incidence Skywave) which refers to a skywave radio propagation path that provides a reliable signal out to a distance of about 400 miles, depending on additional variables. The optimum height above ground for an NVIS antenna is  $.22\lambda$  (wavelength). A quick calculation results in a figure of about 55-60 feet for 80 meters and 30-31 feet for 40 meters. So, if your antenna is at that height or less your results should fit the NVIS profile. The NVIS tutorial at: <http://www.arrl.org/nvis> is a good place to start your investigation for more information if you are interested.

At this point if you have concluded that it is to your advantage to try to squeeze out every possible advantage at your disposal to be successful during solar minimum, you would be correct. So if a linear amplifier is not in your future, or a 60-foot tower and a beam antenna, what else can you do to maximize the performance of your station?

I probably would not be the first one to point this out, but CW often gets through where other more complex modes won't. Yes, there will still be QSB (fading) and weak signals, but that is part of the adventure. Also, if you have been operating primarily on SSB, you will most likely be hearing/working stations that you have not heard before. So a new frontier is open to you!

The invention of weak signal digital modes has provided a sweeping change to ham radio. I'm not going to go through the entire list of available modes, as it seems that there are new ones cropping up all the time, and each one with improved abilities over earlier versions. From my personal experience, though, I can tell you that it is impressive to be able to exchange a signal report and grid square location with a station whose signal is not strong enough for you to actually hear. (And for the record, the trace on the waterfall display was not visible either!)

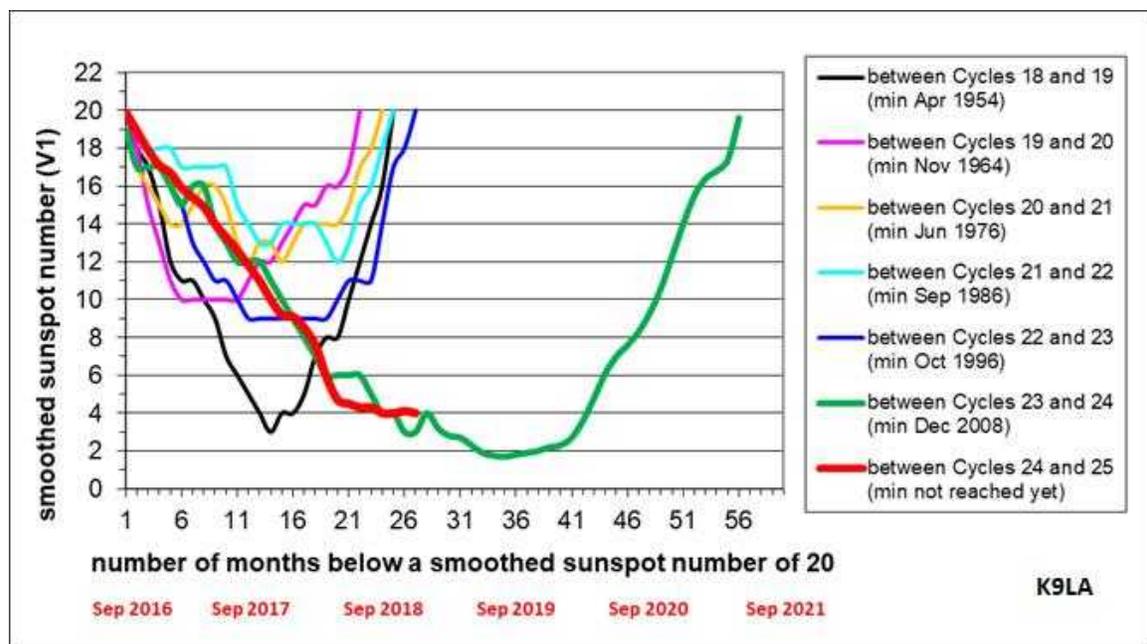
For the sake of completeness, I also need to include RTTY (radio-teletype) as a mode that can compete with CW for its ability to get through in difficult conditions. RTTY is not a new addition to amateur radio. Derived from landline teleprinters that were in use in the mid 1880's, successful electromechanical RTTY systems were in use by the military and commercial shipping by the 1930's. RTTY came to amateur radio in force in the 1950's

when World War II surplus gear became readily available. In the 1980's the invention of the personal computer made RTTY more easily accessible because you did not need to have a degree in mechanical engineering to run your teleprinter.

Out of curiosity, I dug out my old logbooks to see what I was doing during some of the previous solar minimums. I discovered that I was operating mostly the weak signal modes that were available at the time – predominantly CW and RTTY. What I discovered was that the number of completed contacts logged steadily declined until I reached the point where I just turned my attention to other endeavors. Compare that with my log for the past month. True, the number of contacts have noticeably declined since last year, but, in the first ten days of this month, I have logged (and confirmed) contacts with New Zealand, China, Korea, Japan, Indonesia, Mexico, Alberta, several Midwestern States, and Nevada (Thanks for the call, David.) The biggest thrill though was getting a solid print on three different stations from India - - I have NEVER heard India from this QTH before.

These are the factors that we can control. On the downside we don't have much control over what the sun is doing. Looking at comparisons of past cycles can give us a hint as to what to expect in the coming months. Since a picture is worth a thousand words, with the permission of the author, Carl Luetzelschwab, K9LA, I would like to share the following graphic that I found at:

[https://k9la.us/Jun19\\_What\\_to\\_Expect\\_at\\_Solar\\_Minimum.pdf](https://k9la.us/Jun19_What_to_Expect_at_Solar_Minimum.pdf)



The graphic speaks for itself. We have already surpassed the average length of a typical solar minimum, and are on track to equal or possibly exceed the figures for the previous cycle. The rest of Carl's article is well worth the read as he has much more data to share especially as to how the MUF (Maximum Usable Frequency) is affected.

For what it is worth, my advice is to take a good hard look at what you want to get out of this hobby. As a result of this information, maybe HF does not hold your interest. If the challenges of operating on HF in a solar minimum do not appeal to you, maybe it is time to explore the world of VHF/UHF. I have hardly looked at the many opportunities that VHF/UHF operating hold for the interested operator in Carson Valley. Hopefully, someone will take the reins and offer to write a piece on that topic?



## **DCART News:**

My monthly ARES reports to Sacramento Section and Nevada Section includes a whopping 622 hours. We had 182.5 hours for Alta Alpina, Pony Express Re-Ride, and Death Ride planning. In addition to our nets, our members put in time on those "individual training" hours - that includes Field day and all our own projects and studies. Each ARES group tallies the hours differently, however our total is our total.

### 2019 June Alpine/Douglas ARES Comment

DCART (Douglas County Amateur Radio Team) members' time reports reflect: Providing ham radio communications for the Pony Express Re-Ride through Nevada from Ibapah, Utah to Stateline, NV mid June; time with the Division of Emergency Management, Field Day with the SIERA emergency trailer, supporting the Alta Alpina Challenge event (mostly Alpine County, CA) from our 911 radio station, time spent at our hospitals' ham stations, the personal time spent on packet, Winlink, Winmoor, and nets. Tom Tabacco KE7NCJ oversees the Pony Express Re-Ride ham communications and put in a work week of hours. One member, W4FLL, traveled to Las Vegas for the COMT & COML classes. Another member, W7WJS passes much traffic from several nets such as the Golden Bear. The SIERA group is so closely aligned with DCART with several crossover members that the time they spend on things like Field Day and other events gives us a tremendous amount of volunteer time. Our ham radio station at our county 911 Dispatch is up and running. We have to formally program our radios and work with our packet operations yet.

Sheila Clement, KA7AJQ  
ARES Emergency Coordinator  
Alpine and Douglas Counties

The Winlink FAQ in PDF format has been updated by its author, Don Felgenhauer, K7BFL Revised June 12, 2019. Don provides answers to questions discussed on the Winlink email reflectors by users, developers and sysops.

This 100+ page document is well written and organized for easy consumption.

[https://winlink.org/content/winlink\\_faq\\_june\\_12\\_2019\\_revised\\_frequently\\_asked\\_questions\\_answers](https://winlink.org/content/winlink_faq_june_12_2019_revised_frequently_asked_questions_answers)

Greg Kruckewitt, KG6SJT  
ARRL Sacramento Valley Section  
Section Emergency Coordinator



## **BREAKFAST AND LUNCH WITH SIERA HAMS**

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

11:15 a.m. lunch every Wednesday at Jethro's on Kimmerling in Gardenerville.



## **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, ragchew and pre-check-in at 7:30 p.m.

**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.

**NV ARES Net** Thursdays at 7 p.m. Echolink conf server NV-GATE

152566 IRLP Western Reflector Ch8:9258

**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 Assn.**, Fridays at 8 p.m. on 147.180 pl 123

**ARES HF Net**, Saturdays at 7 a.m. on 3965kHz (+or - QRM).

**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

**Personal Repeater:** Dale Yanz KJ6IX has his own repeater that he invites everyone to use. It's located at 444.450MHz with a plus offset and PL 107.2. His Echolink code is KJ6IX-R node: 244875.



## **SIERA General Meeting June 1, 2019**

### **Call to order**

1:20 p.m.

### **Membership**

Twenty-five members and guests were present at the meeting, which was held at Brad Hollander's—N7RCA—annual Radio Electronics Swap Meet at 1780 Bobcat Court. To encourage members to become better acquainted with one another, President Jeff Cauhape asked that as people introduced themselves, they take a moment to share their current activities, within or outside of the ham community.

### **Treasurer's Report**

## Checking Account

Starting Balance	<u>2193.73</u>
Deposits Membership	89.00
Withdrawals	0
Ending Balance	<u>2282.73</u>

## Savings Account

Starting Balance	<u>4071.19</u>
Dividends	.17
Ending Balance	<u>4071.36</u>

**Grand Total** **6354.09**

## **Board Report**

### **New trailer computers**

Jeff shared that the Board had voted to purchase two computers for Field Day and other trailer activities.

### **Presentations:**

Jeff asked that anyone with ideas about what they would like to learn about, or what they can present in future meetings, should contact him at [cauhape@protonmail.com](mailto:cauhape@protonmail.com).

### **Opportunity for newcomers and long-timers alike**

On Saturday, June 29<sup>th</sup>, at 9:00 a.m., in Wilson Common Park Pond (located about a mile from Bowers Mansion) will be an opportunity for new and old hams alike to learn more about the practice and etiquette of using repeaters and 2-meter handhelds. Bob Williams will ask the webmaster to put more details on our website [www.cvhams.org](http://www.cvhams.org) when the planning is complete.

### **Support for Pony Express Re-Ride**

Tom Tobacco reported that the Pony Express Re-Ride may have less coverage this year due to weather. There is so much snow out of Ely that it may not be possible to get to the mountaintop.

Tom posed questions for the group, based on his experience of being part of the Re-Ride for thirty years. A quick survey of the hams present showed that at least nine out of the 44 Nevada positions needed annually for the Pony Express Re-Ride come from SIERA. The question is: to what extent do we want to stay involved, considering the need to get all places covered, the need for younger people to help, the changes in technology (including the satellite tracker carried by the pony), and the existence of the automatically updated national Pony Express hotline. It is possible that we should consider providing coverage in places without options, rather than seek to provide continuous coverage. Our website, [www.cvhams.org](http://www.cvhams.org) has the latest information on our coverage.

### **Field Day**

Come Saturday, June 22, Minden airport, in the RV parking lot. The restroom is open 24 hours. A restaurant is just across from the RV parking lot. The times are from 11:00 Saturday morning to 11:00 Sunday morning. People are needed to set up, and particularly to operate in the evenings and night. Or just come out and see what is happening!

## **Astronomy Observatory**

The Jack C. Davis Observatory is open to the public for lectures and free star parties on the 2<sup>nd</sup> and 4<sup>th</sup> Saturday of each month. The topics covered are often relevant to the interest of hams in radio propagation.

## **Adjournment**

The meeting adjourned at 2:14.

---

## **Tube Of The Month**

### **6949**

I have recently added a new large tube to the museum collection. It is an RCA 6949 from about 1958. There were several large, high power tubes that have been built, but they were often low frequency. RCA had some applications for a very high power tube that could be used into VHF. One serious problem with high power tubes is the drive requirement. In order to reduce the drive needed, they added deflection plates similar to those used on the 813 and 6146. The plates are held at filament potential and the tube is called a beam triode. Development started in the mid-1950s with the designation. A2332(\*). The tube was designed to have a dissipation of 400,000 watts and output power of 500 KW up to 75 MHz. The maximum plate voltage is 20,000 volts and maximum current is 60 amps. The filament is 7.5 volts at 1100 amps. The plate, grid and filament are all water cooled and the plate requires about 88 gallons per minute at full dissipation. The tube is 40 inches tall and weighs 140 pounds.

The military were the first to develop applications for the tube. The AN/FRT-32 was a 300 KW VHF set designed for scatter propagation. The AN/FRT-33 was a 300 KW HF set with a frequency range of 4 to 30 MHz. These sets were developed by Continental Electronics. A pair of these tubes was used for a million watts of output at the VLF site in Jim Creek, WA. As switch tubes, they were employed in the linear accelerators at Berkley and Yale.

**RCA made an attempt to market an amplifier for super power AM transmission. The BTH-250A used two 6949 tubes in an ampliphase configuration. Finding a market for this equipment was a problem as the U.S. limited AM stations to 50 KW. The only foreign buyer was station XERF in Ciudad Acuña, Coahuila, Mexico. In 1959 the equipment was installed and was heard from Antarctica to Russia. They wanted to improve their programming, so they hired a young disk jockey from Brooklyn, NY named Bob Smith. He became very popular and profits were way up. Late at night, they liked to really crank up the juice. With their new success, they came to the attention of powerful people who wanted in on the action. After a gun fight that shot up the studio, the station changed hands and Smith moved back north. In a few years, he was able to become associated with the 50 KW station XERB in Tijuana, BC. He was able to re-create the persona he had developed at XERF. Wolfman Jack was back. AH-WOOOOO.**

Visit the museum at [N6JV.com](http://N6JV.com)

Norm N6JV



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

Our Facebook page is another way to reach out to other hams and tell them about SIERA. If you have a news item to share, send it to [scauhape2002@yahoo.com](mailto:scauhape2002@yahoo.com). Also, tell your friends about SIERA and the Facebook page. The Beacon's range is local and has a month lag time. Facebook goes out to the world in a more timely manner.



**Remember, send your photos and news to:**  
**[scauhape2002@yahoo.com](mailto:scauhape2002@yahoo.com).**