THE NUGGET

The Newsletter of the Mother Lode DX/Contest Club

January 2022 **Volume 27 Number 1**

From the President – NR6Q

Happy New Year!! My name is Greg Glenn, NR6Q. I am your new club president, and it is my sincere hope that we all continue to become better contesters and work more DX as we start to see more favorable sun activity. My hope is that we will be able to have in person meetings monthly, which will only help in our efforts to keep the hobby moving forward.

As I write this document, I am pondering what has been happening over the last two years and what will happen over the next two years. Last week, a business acquaintance commented that we must start to develop plans that COVID cannot effect. I got to thinking about that statement and realized that as active amateur radio operators we do exactly that!! We still can work DX, we can still contest and we can still mentor and encourage our newest amateur radio licensees. Let's continue to keep up the great contesting efforts and get more hams more involved.

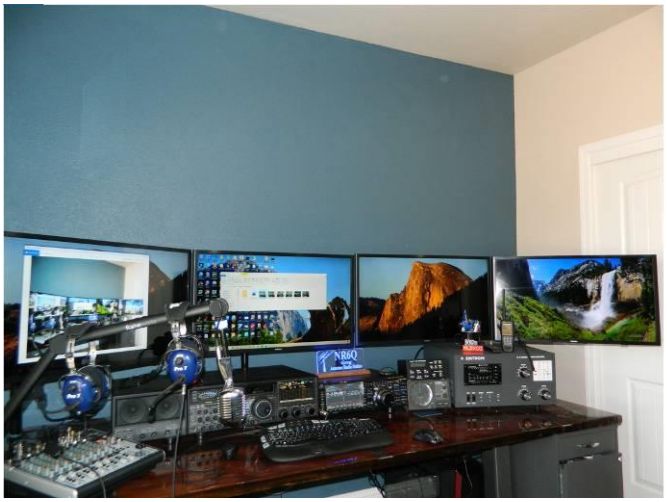
I was first licensed in 1974 as WA6JQU and upgraded to Extra class in the 1978 time frame at which time I received an original issue 2 X 1, NR6Q. I hold what was a First-Class Radio Telephone (now GROL) license. Most of my career has been involved with public safety LMR radio. I serve as a subject matter expert for the National Fire Protection Association, Standards for Emergency Services Communications section 1225; I am a Standards Technical Panel member on UL 2525, as well as other industry standards organizations. My current focus is dealing with the challenges of 'in building" LMR radio coverage for our First Responders. I have been active in amateur continuously since I was first licensed and running my first contest back in the 70s.

My station consists of a Yaesu FTDX9000D, an FTdx101D and an Emtron DX3 SP amplifier. My main low band antenna is a SteppIR DB-42 at 80 feet. I also experiment with various other specialty receive and transmit antennas.

In closing, I would like to thank the group for their confidence. I still have a lot to learn regarding the internal processes of our club, but I intend on being up to speed soon. I know that I have some big shoes to fill following Steve.

73,

Greg Glenn, NR6Q



Next Meeting

Date: February – TBD

Time: TBD

Location: TBD

Presentation: TBD

MLDXCC Treasurer - K6SZQ

MLDXCC Treasurer's Report - December 2021

11/30/2021 Opening Balance		$2,483.76
Income		$80.00
2021 Dues - Paypal	$20.00	
2022 Dues - Paypal	$60.00	
Expenses		$1.65
Paypal Fee	$1.65	
12/31/2021 Ending Balance		$2,562.11

From the Secretary – W6BRY

No notes for the month of January. There was not a meeting this month.

Brian W6BRY

CLUB Dues

2022 dues are due!

The Dues period runs from Jan 1 to Dec 31. Dues are $20.00 individual, $30.00 family

PayPal – Send to: motherlodeclub@gmail.com. Use the Friends and Family option.

Cash or Check - Given to a club officer at a meeting. Or mail to the Treasurer - Sue Allred K6SZQ, 17610 Red Mule Rd. Fiddletown, CA 95629

Club Log Standings

Overall

1	N6JV	Norm Wilson	120
2	NJ6G	Dennis Moore	112
3	K6OK	Jim Varney	75

CW

1	N6JV	Norm Wilson	27
2	WU6W	Rick Palio	11
3	K6OK	Jim Varney	8

Phone

1	NC6R	Steve Allred	16
2	K6LR	Frank Marshall	14
3	WU6W	Rick Palio	10

Data

1	NJ6G	Dennis Moore	112
2	N6JV	Norm Wilson	109
3	K6OK	Jim Varney	75

Club Log Standings are based on worked entities during the calendar year.

Member Reports

Rick, NK7I is now using the new Elecraft K4D (with a tuner for standalone, it also adds antenna ports) transceiver. IT IS AWESOME. After being on the (paid) waiting list for over 14 months, it arrived just days before Christmas. (It now costs 10% more than it did then.)

It integrates easily into the K-line station, though some apps might need updating or adjusting. Having multiple ports (and IP available) for access and control makes it possible for several apps to access it at the same time, with no conflict at all (no virtual com ports needed, no port sharing). Most things (SteppIR, apps) didn't miss a beat but it's now possible for example to run HRD, N1MM, and MMTTY at the same time, without conflict.

Because I'm in a low noise, no one nearby environment, it's difficult to quantify the improvement over the K3 (it's 'better' and does have a lower MDS, similar to a Flex), but with the greatly updated UI it is much simpler (and not, a small learning curve) to make changes and use. That will improve over time as the firmware (the heart of an SDR) is being improved often. The ergonomics (placement of controls) demands a relearning of muscle memory; things are not exactly in the same place and the knobs/buttons are small for fat (older) fingers. The front panel controls are numerous, many have multiple uses, a touch screen is used for some menu items and control. Many folks use macros in place of button pushes.

The latest firmware beta (28) adds the use of the DVR (and fixes); one of the next iterations will allow audio via Ethernet (which would allow it to be used as a streaming audio source as well as easier remote ops). A Windows based app for remote control (over IP) is also in beta. It's an exciting time.

Integrated well and matching in dimensions with the KPA1500, it's now like having a .1-1500 watt rig (with tuner if needed). It also takes up less desk space compared to the K3/P3 combination. The K4 can also use its own USB (wireless) keyboard and mouse (keyboard stashed until needed to write macros, the mouse is handy). The external display is FAR superior in display sharpness and what can be shown (HDMI only), compared to the P3 SVGA (VGA only). A larger display is planned; the current 21" is only HD, while the K4 allows full 4K resolution.

Rotor control is on the list of additions to the firmware (hopefully SteppIR management too, the KPA1500 control is probable), so the concept is one IP based app, everything in the station is controlled, with no external computer required (except to turn on the K4 power, that requires external control).

While the K4 is pure SDR, when available, the H module will be added, allowing the K3 style hybrid

heterodyne receiver (more rejection of close in LOUD signals) making the K4 more useful at places like Field Day. Although for those times, I'll take the K3 instead of tearing the station apart. That module can be switched in/out as needed.

While Idaho didn't get the amounts of snow that the Sierra did last month, shuffling it (and holidays) has taken some time away from operating (just to be able to use the driveway and escape cabin fever or run errands). Rain, wind and some warmer temps (up to 39 this week!) has reduced the piles of blower blown snow (what was 9' is now 6').

Each driveway clearing effort takes at least 90 minutes while 2 miles (!!) are walked in the driveway (365' long). Using the snow blower was chosen over the quad with a blade because it has more finesse (and was just simpler). The last larger snowfall (14") was wetter than usual (slush and some ice), it took 5 hours (! 3+ miles of walking) and that was exhausting. Even with track and hydrostatic drive, one must muscle the blower around at certain times. It's a workout.

Snow moving and restocking the porch wood pile are the main sources of exercise in winter (since I can't ski anymore). Simply staring at the gorgeous snow covered mountains could easily be a full time event; the alpenglow sunrise/sets are spectacular.

For those using Facebook, I occasionally post pictures there. I would post a pic of the shack here, but it's always messy and subject to change. One change will be replacing the 60A Astron rack mount power supply with a 40A Meanwell switcher (RF silent, for the RF gear) which is MUCH smaller (and NO NOISY FAN!). Perhaps an updated image will appear, once the station stabilizes.

A second Meanwell supply will be used to power non-RF gear, like security cameras, routers, switches, radio scanners, and other toys and things in the shack. This is to help remove wall warts and lower the noise floor even more, a project that may never end. All of my Meanwell are set to 14.2V (which also allows them to be useful for charging LiFePo4 batteries). My Raspberry Pi with the GPS HAT that is my NTP server will also migrate into the station, powered via USB on the shack computer.

My repeater will be getting a set of cans (duplexer), isolator, pre-amp and continuous duty amp (100 W) soon-ish. The budget is created and the search begins; worst case, buy new.

The repeater currently (via remote app or touch tone command) provides ARRL Audio News, AR Newsline, local weather information such as current station conditions, short and long term forecast, conditions at the local airport, NOAA alerts and much more. Those are script driven features using the Linux OS node computer (and it's my web page server).

It is also IRLP (7962) and EchoIRLP (NK7I-L, 352588, email if you want on the allowed Echolink list to connect, only me and the EDCARC repeater are on it now).

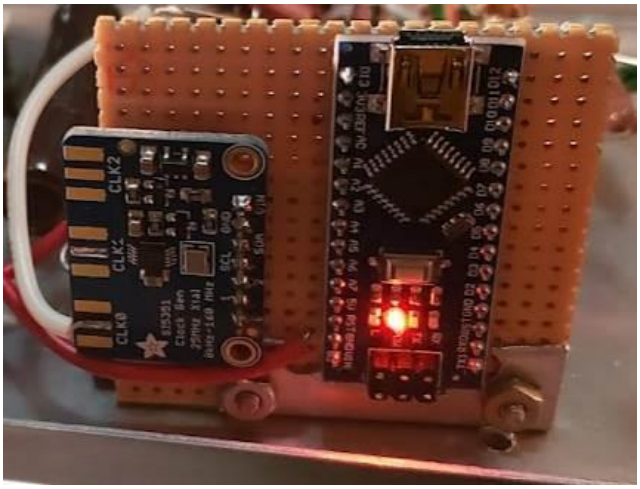
My DMR hotspot is again in service as well, under the Starlink network.

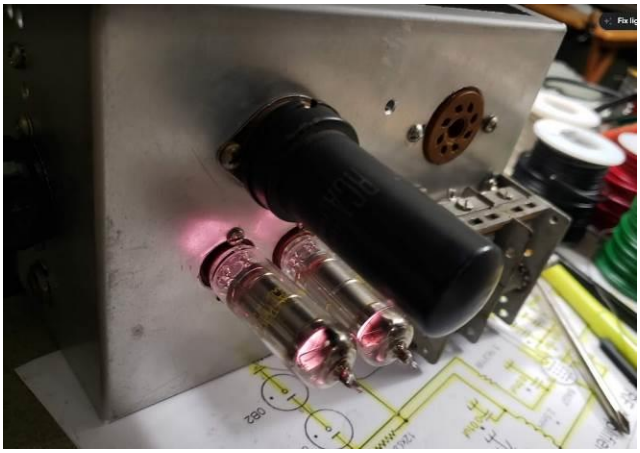
It's fun to have a variety of toys to play with and keep one mentally alert and active, including some nature photography.

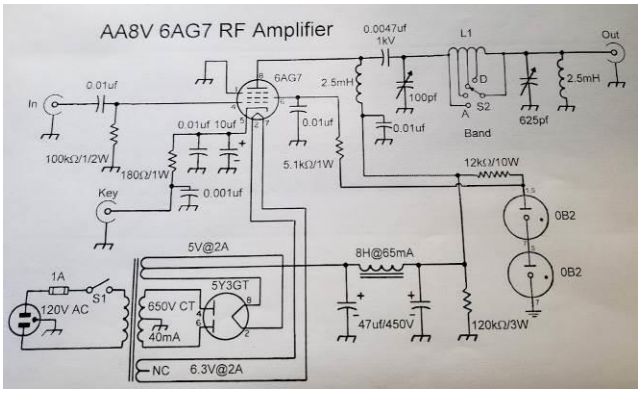
Happy New Year from Idaho!

Rick NK7I

Doug's CW/WSPR transmitter project





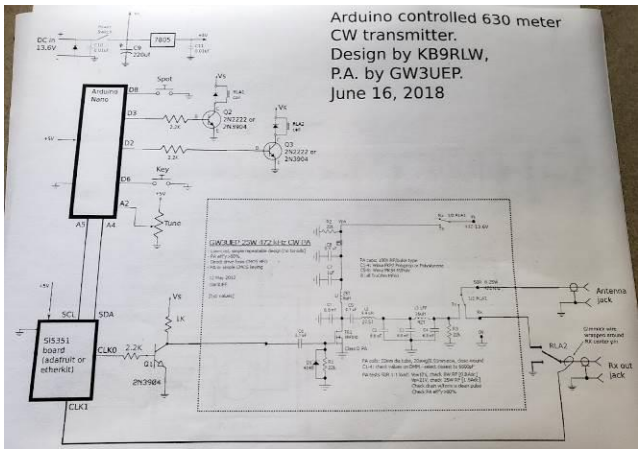


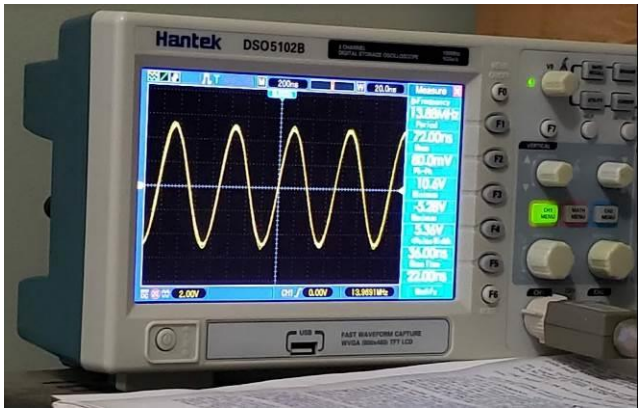
The current project on the bench is a CW/WSPR transmitter. It is a hybrid solid state/tube design. Basically it is a DDS VFO with a tube amplifier. I'm starting out simple and making it work as a CW transmitter first. After ironing out all of the bugs, I'll program it to transmit WSPR signals. WSPR (pronounced "whisper") stands for "Weak Signal Propagation Reporter". It can be used to determine how far your signal travels. It works better than FT8/4 because of the slower baud rate and longer transmit times. Minimum S/N for reception is around –34 dB on the WSJT scale (2500 Hz reference bandwidth).

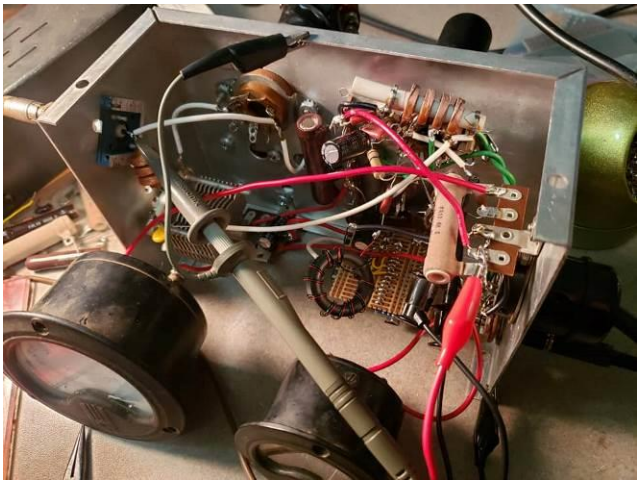
This project is built completely out of my junk box. The only items I did purchase for this project was the Arduino Nano (about $6) and the Si5351 board (around $12).

I will be combining the Arduino front half of the KB9RLW design with the AA8V 6AG7 design. Output is expected to be 3 watts. This should be a usable amount of power for WSPR, as a lot of people run powers below one watt. Fabrication is done. Now I'm in the testing phase. The only things I think I will need to add is a Real Time Clock chip and a relay or mosfet to control the keying.

It's been a fun project so far.







https://www.frostburg.edu/personal/latta/ee/6ag7amp/6ag7amp.html

http://kb9rlw.blogspot.com/2018/06/a-simple-arduino-controlled-630-meter.html

Doug WE6Z

State & Province QSO Party Calendar

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

73,

Steve / NC6R

KH7Y and I have been trying to solve a persistent 40 and 80m remote radio problem. This issue has been keeping us from using digital modes on the problem bands. The remote is a flex 6500, Elecraft KPA 500 PA & KAP 500 Antenna tuner. Our problem is the tuner seems to chatter or attempts to re-tune after each digital transmission only on 40 & 80m, higher bands and other modes are OK. If anybody out there has had a similar problem with the tuner, please contact me.

BTW: We have lots of ferrite on all the cables and the ground wire is secure.

Thanks de Rick, W6SR

ARRL Contesting Certificates

If you have participated in ARRL Contests by submitting your log, enter your call sign and see your available certificates. You can view and download them. The certificates show where you placed in the contest.

http://contests.arrl.org/certificates.php

Awards Checkers ARRL

Ken Anderson, K6TA

(DXCC, WAS, VUCC, 160M)

Rick Samoian, W6SR

Tube of the Month

527

In WWII, General MacArthur had a problem and when the General of the Army had a problem, everyone had a problem. The RADAR equipment that had been installed in Navy ships worked well and produced outputs of up to 1 million watts in pulse. The issue was that when a battleship fired its big guns, the recoil would move the ship sideways and that shock would often damage the tubes in the ring oscillators. It took several tubes to get to full power and in battle, they couldn't afford the down time. The General wanted new tubes that were more powerful and especially more rugged.

EIMAC got the message very quickly and devoted much of their development effort into a new tube. The tubes that were commonly being used by the Navy were of the VT-127A family. These tubes had thin electrode attachments and were not very rugged. EIMAC started experimenting with all the improved components that would go into a new tube. At least 150 experimental tubes were made and tested. The result of this effort was the 527 triode that was ready in late 1944. The 527 is a 300-watt dissipation tube with a 5.5 volt at 135-amp filament. The coaxial filament attachment was very

strong and the grid was attached with four heavy attachment points. The tube was tested for operation in a heavy shock environment. Four tubes in a ring oscillator would put out 1 million watts in pulse. The 527 was used in the SK, SK-1M, SR and the AN/TPS-18 systems. In about 1950, some EIMAC employees wanted to go out and start their own company. EIMAC gave them the rights to the 527 which they renamed the PL-185 and Penta Labs was formed.

Visit the museum at [N6JV.com](N6JV.com)
Norm N6JV

MLDXCC Focus Contests

The following lists all contests in which MLDXCC would appreciate your efforts.

ARRL SS CW/PH
ARRL DX Phone*
ARRL DX CW*
ARRL 10M*
ARRL 160M*
California QSO Party

*Proposed and approved at the November 12, 2016 MLDXCC general meeting.

Northern California Contest Club (NCCC) announced their focus contests at their August 2018 meeting. This list can be found in the Aug 2018 NCCC newsletter.

ARRL RTTY RU
CQ WPX RTTY
CQ WPX SSB
CQ WPX CW

The NOAA Solar Update

Click the link below to display the latest NOAA solar predictions.

http://www.swpc.noaa.gov/products/weekly-highlights-and-27-day-forecast

UPCOMING DX and DXpeditions

Click the link below to display upcoming DXpeditions.

http://www.ng3k.com/Misc/adxo.html

MLDXCC Reflector

The MLDXCC reflector is maintained at groups.io. Visit https://groups.io/g/mldxcc

We also maintain a spotting reflector at https://groups.io/g/MLDXCC-Spots

We are also on Facebook! https://www.facebook.com

UPCOMING Events

For the latest contest info, click on the following link: http://www.contestcalendar.com/contestcal.html

Classifieds

Members are requested to review their classified ads each month for accuracy and to resubmit their ads or confirm their desire to keep it running in the next issue.

The Northern California Swap
Thursday evenings at 8 PM local on the N6ICW repeater system 147.195 +123
Join Armand WB2ZEI and the group to buy, sell, or trade amateur radio related gear. Check-ins and visitors welcome.

Need QSL cards, business cards, club banners? Contact Vina K6VNA vina@sign-tek.com

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Not giving up...just making space.

Print issues of QST and CQ magazines...whole years. Offer
1994 ARRL Handbook Hard Bound offer
1995 ARRL Handbook Soft Bound offer
FT-890 'AT' w/manual & mobile bracket (AT may or may not work) $250/offer
FT-1000 MP with filters, accessories & box $995/offer (ex WZ6Z radio)
50' coax with center & end insulators for dipole...new, never outdoors- $ 60/offer
Satellite & old DirecTV dish...free
Old Novice & Tech License Guides, Operating Manual
IMAC (old - unknown condition) with kb & mouse...???
Email: k6lrn@arrl.net
Thanks & 73, Dick

FOR SALE: $200.00 - Complete CDE HAM III Series 2 antenna rotor system. The controller has the LED dial light modification and includes about 50 feet (or more) of the 8 conductor rotor cable and the original factory owner's manual. The system operates just fine.

For questions: Bill - N6GHz in Camino at (530) 409-9782. N6GHZ@ARRL.NET

FOR SALE: $100 - HP 8640B 0.1 to 512 MHz signal generator (military version). The generator performs right on with up to +20 dBm RF output (in CW mode). It has FM and AM modulation. The picture shows it at 500 MHz and 0 dBm output.

For questions: Bill – N6GHz in Camino at (530) 409-9782 N6GHZ@ARRL.NET

2021 Meeting Dates

January – none
Feb – TBD
March – 19th
Apr – 16th
May – 14th
June – 18th
July – 23rd
August – 27th
September – 17th
October – 22nd
November – 19th
Dec – TBD

Dates are arranged to accommodate major contest dates. Meeting dates are subject to change. MLDXCC traditionally holds a mid-year combined meeting with NCCC.

Area Clubs

Northern California Contest Club - https://www.nccc.cc

Lodi Amateur Radio Club - http://www.lodiarc.org

Stockton Delta Amateur Radio Club - http://www.w6sf.org

Pizza Lovers 259 -
https://www.pl259.org

El Dorado Amateur Radio Club -
http://edcarc.net

Sierra Foothills Amateur Radio Club -
http://www.w6ek.org

Redwood Empire DX Association -
http://www.redxa.com

Calaveras Amateur Radio Society
http://calaverasars.org/

Tuolumne County Amateur Radio Electronics Society (TCARES)
https://tcares.net/

Please contact the editor to have your club listed here.

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The MLDXCC Newsletter