THE NUGGET

The Newsletter of the Mother Lode DX/Contest Club

April 2022 **Volume 27 Number 4**

From the President – NR6Q

Greetings,

Covid numbers are falling; sunspots are rising so why not do a super spreader event… RF of course.

In light of these events, a group of the insane congregated at Rich Cutlers, WC6H's place to spread some RF. In general, we did very well. 48 hours on the air in the CQWPX contest. While this was not one of the MLDXCC "focus" contest it was a great time, and the camaraderie was great. Time will tell; however, I think we were one of the top US contenders.

We have lots of opportunities coming for the amateur radio community to get together and spread some RF. Field Day, CQP and Sweepstakes to name just a few. Take some time to go to a club meeting, attend a swap meet or go to a Hamfest or run a contest.

Let's get out there, win a few contests, work some new DX and spread the word about amateur radio.

Hope to see you all at future MLDXCC events.

73, Greg Glenn, NR6Q

Next Meeting

Date: May 14th

Time: TBD

Location: TBD

Presentation: TBD

MLDXCC Treasurer - K6SZQ

MLDXCC Treasurer's Report -March 2022
Read and approved at 4/16/22 meeting

2/28/2022 Opening Balance		$2,653.39
Income		$185.00
2022 Dues - Paypal	$65.00	
2022 Dues - Checking	$100.00	
2021 Dues - Checking	$20.00	
Expenses		$61.07
CQP Plaque Sponsorship	$60.00	
Paypal Fees	$1.07	
3/31/2022 Ending Balance		$2,777.32

From the Secretary – W6BRY

Mother Lode DX/Contest Club

General Meeting Minutes
April 16th, 2022
Mountain Mikes Pizza, Martell, CA

Meeting was called to order at 12:16PM by Greg Glenn NR6Q. Approximately 12 members in attendance.
Treasurer's report from Sue K6SZQ: Beginning balance of $2,653.39 with $183.93 income from dues. Current balance is $2,777.02. Norm Wilson, N6JV moved to accept the report as read. Steve Allred, NC6R seconded the motion. It passed unanimously.
Steve Allred, NC6R moved to accept the December meeting minutes that were published in the March Nugget. The motion was seconded by Rick Eversole, N6RNO and passed unanimously.
Rick Eversole, N6RNO moved to accept the March meeting minutes that were published in the March Nugget. Rick Samoian, W6SR seconded the motion and it passed unanimously.

Old Business:
There was some discussion of the proposed REDXA and MLDXCC hybrid meeting. It seems that the Fairfield/Cordelia area may be the best place so they are working on finding a location in that area.
Greg Glenn NC6R contacted Tamitha Skov the space weather girl to come do a presentation for the club on Solar events.
New Business:
Greg mentioned there may be an opportunity to have N6AA do a presentation at a future meeting.
We have a new member application from Robert Frizzell, K6XV. Robert is an Extra class and has been licensed since 1965. He was nominated by Rich Cutler, WC6H and seconded by Steve Allred, NC6R. Rick Samoian moved to approve his application which was seconded by Rick Eversole, N6RNO.
Announcements:
- TX5N - Austral Islands had some delays but should be operating this week.
- VK9NT - IOTA OC-005 is on the air until 25 April.
- 3D2RRR Rotuma Island is active
- 3YOJ Bouvet Island
- 8P1W Barbados was active in the CQ MM contest.

Steve Allred, NC6R reminded us all to participate in the DX Marathon.
April 23rd is Marconi Day.
Sue Allred K6SZQ made a motion to adjourn the meeting. Rick Eversole, N6RNO seconded the motion. The meeting was adjourned at 12:39PM.

Brian Mathews, 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	205
2	W1SRD	Steve Dyer	193
3	NK7I	Rick Bates	165

CW

1	N6JV	Norm Wilson	115
2	K6YK	John Lee	113
3	W1SRD	Steve Dyer	101

Phone

1	W1SRD	Steve Dyer	100
2	NC6R	Steve Allred	95
3	K6YK	John Lee	93

Data

1	N6JV	Norm Wilson	174
2	W1SRD	Steve Dyer	168
3	W6DR	David Ritchie	153

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

Member Reports

ATNO: 3B9FR Rodriguez Island on 17M FT4.
Doug WE6Z

Several members of the Perseverance DX Group (PDXG) will activate Raivavae Island (Austral Islands), French Polynesia, April 15 – April 29, 2022 for approximately 12 operating days. The plan is to have radios on the air continually, as propagation allows. The call sign **TX5N** was issued for this project. Team members include: Steve W1SRD, Doris K0BEE, Rob N7QT, Melanie N7BX, Heye DJ9RR, Walt N6XG and Gene K5GS. The team is planning to operate 160m – 10m (including 60m), CW, SSB and Digital.
The team will meet in Papeete, Tahiti on April 12th and fly to Raivavae on April 15th, returning to Papeete on April 29th. The team expects to make between 60,000 – 80,000 QSOs
The operating location, Tama Raivavae Resort, will provide a small bungalow for each team member and a separate building for radio operations. Tama Raivavae has hosted many past DX-peditions. Equipment will include Elecraft K3 transceivers with 500 and 1.5K watt linear amplifiers. Antennas will be verticals and a hexbeam, antenna placement will be on the beach. We expect to have some internet availability for daily log uploads to M0URX.com
This project is self-funded by the team. We welcome donations via the Donate button or with OQRS to offset equipment shipping expenses.

We are hoping that Covid doesn't interfere with the project.

TX5N DX-pedition
April 16 – April 28, 2022
CQ Zone: 32
ITU Zone: 63
IOTA: OC-114
Locator: *BG-66*

https://tx5n.net/

With another for 30 M in the queue. Only ONE operator for this entity.

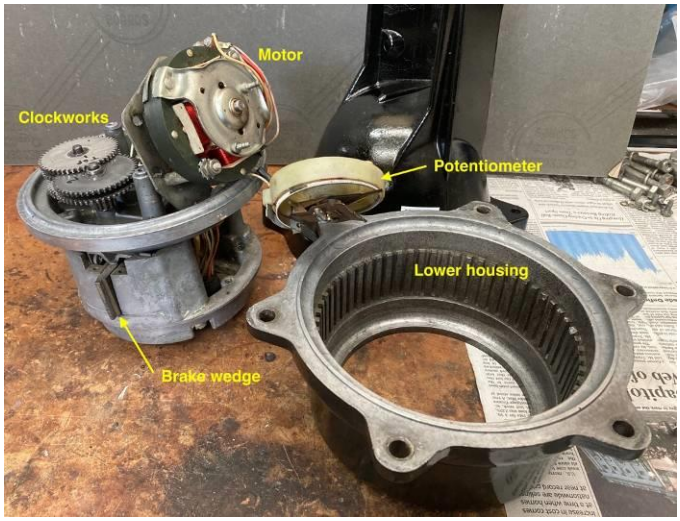
73,
Rick NK7I

Rotator Rebuilds

Gary, NA6O

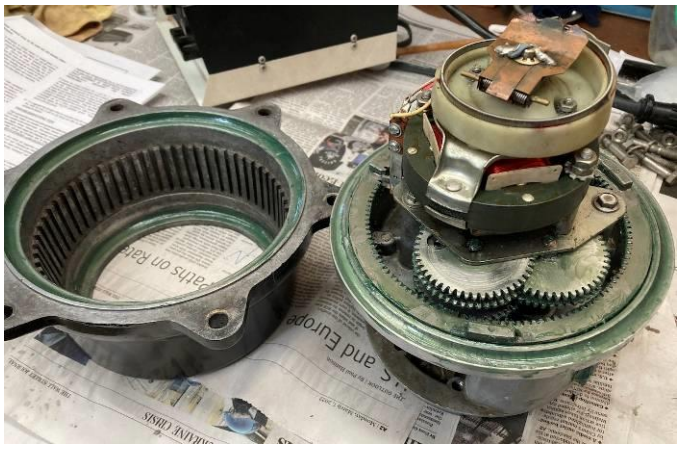
It seems that I've roped myself into taking care of a vast array of equipment at the N6RO super-station up in Oakley, and it's not all radio or electronics. We have a total of 11 rotators on site turning a variety of large HF and VHF Yagis (plus those at my own stations). Did you know that there are actually just two kinds of rotators? Those that have failed, and those that will. Wind and weather just beat these things to pieces. That means REPAIRS, and I have certainly done my share over the years. You can send a rotator out to some nice fellows who will repair them, but often you can do it yourself. Instructions and manuals are on the web, and at least some of the manufacturers, like Hy-Gain/MFJ, supply parts at reasonable cost.

For the current go-around, I had two to fix. The first was a Hy-Gain Tailtwister, or model T2X. It's the largest of the familiar bell-shaped rotators, part of the trusty and ancient line that started with the Ham-M back in the 60s. These things are like clocks inside, with a stack of gears driven by a small AC motor, a solenoid-operated brake, and with a potentiometer to indicate direction. They have numerous failure modes. Sometime the pot fails, and it has to be replaced. There's a final large ring gear, and it often needs dental work, i.e, it has missing teeth. That turns into a game of ring toss: We simply replace it. Sometimes the brake mechanism is frozen, usually from rust. Or the small gears wear out their little sleeve bearings, leaving them wobbling like penguins, making grinding noises, or simply seizing up. Again, we replace them. This rotator had three of those gears worn out, and it cost $50 or so to replace them all. The motor was also barely turning. Its bearings had dried out long ago and had all but welded themselves onto the shaft, another thing to replace. Total repair cost was $135, which isn't bad for $800 rotator.



As you take it apart, take photos and write notes on the instructions and drawings. There are always a few items that have hard-to-see features that must be oriented properly. Your main task is always cleaning and lubrication. Mineral sprits to the rescue. Get our those brushes, rags, and throw-away containers. Old grease hardens and has to be scraped off. Often things are rusty. Wire brushing usually cleans up the rest. Ball bearings are cheap, just replace those. Here is a typical set of rusty bearings. This is totally salvageable and ends up looking and working like new.

After cleaning, all the gears and bearings get a light coat of grease. I emphasize light. I've seen rebuilds where a full pound of grease has been packed in there, and the innards look like they were entombed in some kind of goo. It takes hours to scoop that disgusting mess out of there and get down to clean metal. No no, don't do that. A film of grease is all it takes, just smear it on with your fingers or a brush. Grease serves two purposes: It's a lubricant of course, but also prevents corrosion. Condensation always occurs inside these semi-sealed mechanisms and rust is never helpful to precision mechanisms. Oil is ok but it does in fact slowly evaporate, and many of these rotators are in service for decades. This particular T2X was made in 1984 and had never been serviced.



When you're all done, a rotator like this should be tested stop-to-top and then left in the North (centered) position. Put a label on it to remind the installer that it's all lined up for them. I also put on a service label with the date in case the rotator is stored for awhile.

The second rotator I worked on is one that most hams have never heard of: An AlfaSpid RAK, made by Alfa Radio in Poland. They have become very popular with owners of very large antenna arrays, and are overkill for the small tribanders and such that most of us would own. The RAK mechanism uses a double-reduction worm gear drive, so it does not need a brake. The motor is DC operated, so there is no capacitor required, nor any funny wiring to reverse it as the T2X has. For direction sensing, it uses a tiny magnetic reed switch that generates a pulse for every 1.0 degrees of rotation. Just four wires are all it takes to run this little machine, and yet it produces twice the torque of the T2X. (It also has a big brother, called the BIG-RAK, that nearly doubles the torque again.) The upshot is, this is a powerful yet very simple and robust mechanism.

After 10 years or so of turning a gigantic four-element 40m Yagi, this little fellow was tired. The mast had several degrees of slop, showing that the main gear had all but disengaged with the worm gear. We worried that it was toast, but thankfully it only needed cleaning and adjustment. The motor and other parts were just fine. The company does sell the motor assembly as a spare part, if it's ever needed.

Here's what the innards looked like with all the accumulated filth. The weather seal had been leaking badly! That big worm gear was just rattling around, very sloppy.

Here's what it looks like after cleaning. It's very difficult to pull the main gear assembly, so it was

cleaned in-place. There were loose ball bearings on the ends of the worm gear, just like the ones on a bicycle hub. A big nut and bearing cone on the left side provides the adjustment. It simply had to be dialed in to get the perfect clearance and smooth operation. Notice that I didn't go nuts with the grease. This particular grease (Prolong PSL45000) is rated for wide temperature ranges and has excellent water resistance and corrosion protection.

Here's the completed RAK. One of the old fixing bolts had rusted into place, twisted off, and had to be drilled out on the tower, a brutal job carried out by Hector, AD6D. I ground off the old mangled nut, got a new nut, and my friend Greg, KK6PXT, welded it in place, good as new. Then I bought a full set of (metric) stainless hex bolts at Fastenal. Now if only the manufacturer had used stainless screws everywhere it wouldn't have all those rusty things showing. (The latest models finally switched to stainless. Getting enough customer complaints will do that.) I sealed all the important openings with silicone glue, which should help keep things clean. Since there are only four wires, we standardized on a trailer light connector for this rotator. That allows us to replace it without any wiring hassles on the tower. Trailer connectors are cheap and with a little weatherproofing tape, they hold up very well outdoors.

Gary NA6O

State & Province QSO Party Calendar

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

73,

Steve / NC6R

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

806

I was getting serious about getting my ham license in 1959. In our small town, my father, W6LLA, and his best friend, W6LID, were possibly the first hams in town having received their calls in 1934. I had been looking at the ARRL handbook, but I had never visited a real ham shack. My father drove me across town to visit a ham friend who had a big homebrew amplifier. The amplifier was classic 1950s construction. It was built in a rack with a big butterfly capacitor and plug in coils. The tubes were RCA 806s in push pull. Once when this amplifier was driving an end fed wire using ladder line, the shingles of the house caught fire where the feeders got too close to the roof.

RCA came out with the 806 in 1937 and it was obviously an attempt to offer a clone of EIMAC's 250T. The 806 was very similar to the 250T except for the large plate and grid caps but was rated at a bit less dissipation (225 watts). The filament voltage and current were the same as the 250T as well as the amplification factor which was close to the 250T "LO" type. The 806 was made for years by several manufacturers. In spite of the long production life, I have actually only seen a few examples which may indicate that it was not as popular as the competition.

Visit the museum at 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.

Still looking for one straight section of Rohn 45 tower.
Contact Rick, W6SR
ricksamoian@outlook.com

This tower is available to anyone who will haul it away. It is in South San Jose. It is believed to be a Tristao. No claims are made. U-Haul, U-Own. If interested, please call Bruce, N6TU, at (408) 314-9047.

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

2022 Meeting Dates

January – none
Feb – none
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.

ARRL Pacific Division

Pacific Division Director
Kristen A. McIntyre K6WX
k6wx@arrl.org

Pacific Division Vice Director
Anthony Marcin W7XM
w7xm@arrl.org

East Bay Section Manager
Mike Patterson N6JGA
n6jga@arrl.org

Nevada Section Manager
John Bigley N7UR
n7ur@arrl.org

Pacific Section Manager
Joe Speroni, AH0A
ah0a@arrl.org

San Francisco Section Manager
Bill Hillendahl, KH6GJV
kh6gjv@arrl.org

Santa Clara Valley Section Manager
James Armstrong NV6W
nv6w@arrl.org

Sacramento Valley Section Manager
Dr. Carol Milazzo KP4MD
kp4md@arrl.org

San Joaquin Valley Section Manager
John Litz NZ6Q
john@litz.com

Officers of the MLDXCC

President, Greg Glenn, NR6Q
nr6q@arrl.net

Vice President, Rick Eversole, N6RNO
rick@eversoles.com

Director, Rich Cutler, WC6H
wc6h@yahoo.com

Director, Steve Dyer, W1SRD
w1srd@arrl.net

Director, Steve Allred, NC6R
sallred@volcano.net

Secretary, Bryan Mathews, W6BRY
hotelbroker@gmail.com

Treasurer, Sue Allred, K6SZQ
sueallred@volcano.net

Publicity Manager, Bob Hess, W1RH
w1rh@yahoo.com

Editor, Doug Philips, WE6Z
we6z@hotmail.com
Webmaster, Norm Wilson, N6JV
n6jv@n6jv.com

The MLDXCC Newsletter