

THE NUGGET



Mother Lode DX/Contest Club

The Newsletter of the Mother Lode DX/Contest Club

June 2024

Volume 29 Number 6

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Treasurer's Report

MLDXCC Treasurer's Report - May 2024

5/1/2024 Opening Balance \$2,459.07

Income \$50.00

2024 Dues - Paypal \$30.00

2024 Dues - Checking \$20.00

Expenses \$0.00

5/31/2024 Ending Balance \$2,509.07

Sue Allred, K6SZQ

The June MLDX/CC meeting will be at Round Table Pizza located on Missouri Flat Road in Placerville on June 29 at 11:30 AM. This is in the Missouri Flat Shopping Center. Jay, W2IJ, will give a talk on the T31A DXpedition to Central Kiribati, Kanton Island. This will also be on ZOOM. An RSVP is requested to the reflector. The club's web page has a map.



DELETED COUNTRIES

Newfoundland - Labrador

Newfoundland and Labrador was the first region on the North American continent visited by the Europeans. It was included in the tales of the Viking Sagas which indicated they landed there around 1000 A.D. It also was the first acquisition of England in the New World. Eventually it was recognized as one of the greatest sources in North America for fish and lumber. This made it a land of contention. The Basques had fishing colonies which were decimated. The French took Newfoundland exterminating all British settlers. There were several conflicts between the British, French, and Spaniards. After the end of the Revolutionary War there was a large influx of Irish migrating to North America. Many populated the coasts around the region and plied their trade, fishing. Those who migrated were mostly Catholic. This created an imbalance in the population. The British, who were Protestant at the time, were in political power in Ireland. The concern was that the Catholics (French, Irish, Portuguese and Spanish) would unite making it impossible for England to keep its foothold in the New World. The result was parliament conceding the Catholic emancipation, which in turn freed the Catholics in Newfoundland to participate in government. Since the majority were subjects of England, the region came under the rule of England. Eventually it became a self governing region in the empire, all of this because of fishing. This lasted through the 19th century and into the mid 20th century. After WWII there was referendum to make Newfoundland and Labrador part of Canada. It was agreeable by both England and Canada. The region became the tenth Canadian province on March 21, 1949, the date that Newfoundland– Labrador was deleted from DXCC List.



Thanks to the Southern California DX Club Newsletter

Some photos from the IDXC by Bob N6TV



Tube of the Month

3CX1200D7/YU-121

I have always been interested in amplifier construction as well as the transmitting tubes. I often take the opportunity to look inside new commercially built amplifiers as I like to see if there are different ways to solve the problems all builders run into. Several years ago, I was at the DX Convention in Visalia and had a chance to look into a new Henry Radio amplifier. The vendor and I got into a tube discussion and he said he had a nice tube I could add to my collection. He dug around in a box and came up with a ceramic tube marked [H-800S](#). He showed that it was damaged with a bent pin so it couldn't be sold. I was very pleased with the new addition.

I could never find any data on the H-800S. I narrowed it down to the EIMAC [3CX1200D7](#) by appearance alone. I partially bent the pin back just enough to fit into a socket and added it to the collection. A few years later I was going to [ECONCO](#) to have some big tubes tested. I brought along the H-800S and they tested it as a 3CX1200D7/YU-121 and it passed as a new tube. The H-800S must have been a special number just for this buyer. The 3CX1200D7 can be used up to 5.5 kV at 800 ma. The mu is 200 and it can be used up to 110 MHz. The filament uses 6.3 volts with a maximum of 6.6 volts at 25 amps. At less than 4 kV, grounding the grid will not exceed the maximum dissipation.

I had built a new [160-meter amplifier](#) with a single 4-1000A in grounded grid. It worked great, but that tube requires more drive than my transceiver can put out if I wanted to have an output of 1500 watts. I decided to try that H-800S in the amplifier. It uses the same socket as the 3-500Z and was easy to swap into the amplifier. The filament transformer was 6.9 volts so with a small variac, it was useable for either tube. The thoriated tungsten filament is instant on. The amplifier now has an output of 1500 watts with only about 50 watts of drive. The white ring is an air seal made on the lathe from Teflon.

Norm N6JV

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



Antenna of the Month

Gary, NA6O

June, 2024

Square Loop (Squalo)

A popular and compact antenna for 6 and 2 m is the square loop, also called a squalo. Available commercially or easily built from copper tubing, it offers an omnidirectional pattern, horizontal polarization, and a good match to 50 ohms. In principle it could be built for any band but low VHF is where it's most popular and practical. It's a nice complement to a vertical, and also handy for a "quick look around" if you only have a Yagi. In this article, we'll look at a popular design for 6m, one that I built myself in a few hours when desperate for an antenna to join an ongoing June VHF contest (Fig.. 1).



Figure 1. My emergency 6 m squalo, made of refrigerator tubing and installed on a piece of conduit.

The squalo is basically a dipole (half wavelength of course) with the ends bent around until they nearly touch. This is not to be confused with other loop designs of various lengths that are in fact contiguous closed loops. An important factor in its design is that if we do nothing special, the impedance at the feedpoint would be very low, on the order of 10-15 ohms. So some form of matching device is required to transform that up to 50 ohms.

There are many ways to provide a match including transformers, transmission line matching sections, LC networks, gamma match, beta match, and others. In this case, we will follow the lead of the most common

design for 6 m and use a modified beta match. A full description of how a beta match works is beyond the scope of this short note but is covered in detail in ARRL *Antenna Handbook*. It turns out that it's what amounts to a simple loop of wire placed across the feed point acts as a small inductor. This is also called a *hairpin* match. By adjusting the geometry of the antenna (chiefly its length), we force it to have a small effective capacitance at the feed point at the center of the desired band. When combined with our little inductor, they act like an *L network*. L networks in general are very useful in impedance transformation, and in this case it's configured to convert a lower to a higher impedance. It's just a matter of mechanical adjustment.

Figure 2 shows a good design from PA3EGH. Make it from half-inch copper tubing and fittings for best results, or bend it up from soft refrigerator tubing (kinked corners are ok). Coax attaches at the locations marked "feed point." You will need to come up with some kind of clamps to make the connections. There's a shorting strap that determines the length of the beta match loop. Adjust that carefully for lowest SWR. To change resonant frequency, either trim the ends of the antenna that go into the insulator, or try bending them apart. A piece of aluminum angle can be used to attach it to the mast, and it's pretty well balanced.

A common-mode choke is needed, as close as you can get to the feed point. Two turns through a mix 31 ferrite toroid, or a series of 5 or 6 beads or clamp-ons over the coax will work fine. This will prevent the outside of the coax from becoming part of the antenna and detuning it, along with conducting noise onto the antenna.

I ran some simulations in EZNEC with the antenna up 20 feet and the results are shown in Figs. 3 through 5. An SWR less than 2:1 is available over a 1 MHz bandwidth. Peak gain is about 1 dB less than a simple dipole in exchange for a more omnidirectional pattern. It's somewhat directional along the centerline of the antenna as shown in the azimuth pattern. For additional gain, two or more antennas can be stacked and fed via a phasing harness like the ones from M-Squared (m2inc.com). Overall, this is a simple and robust antenna that anyone can build.

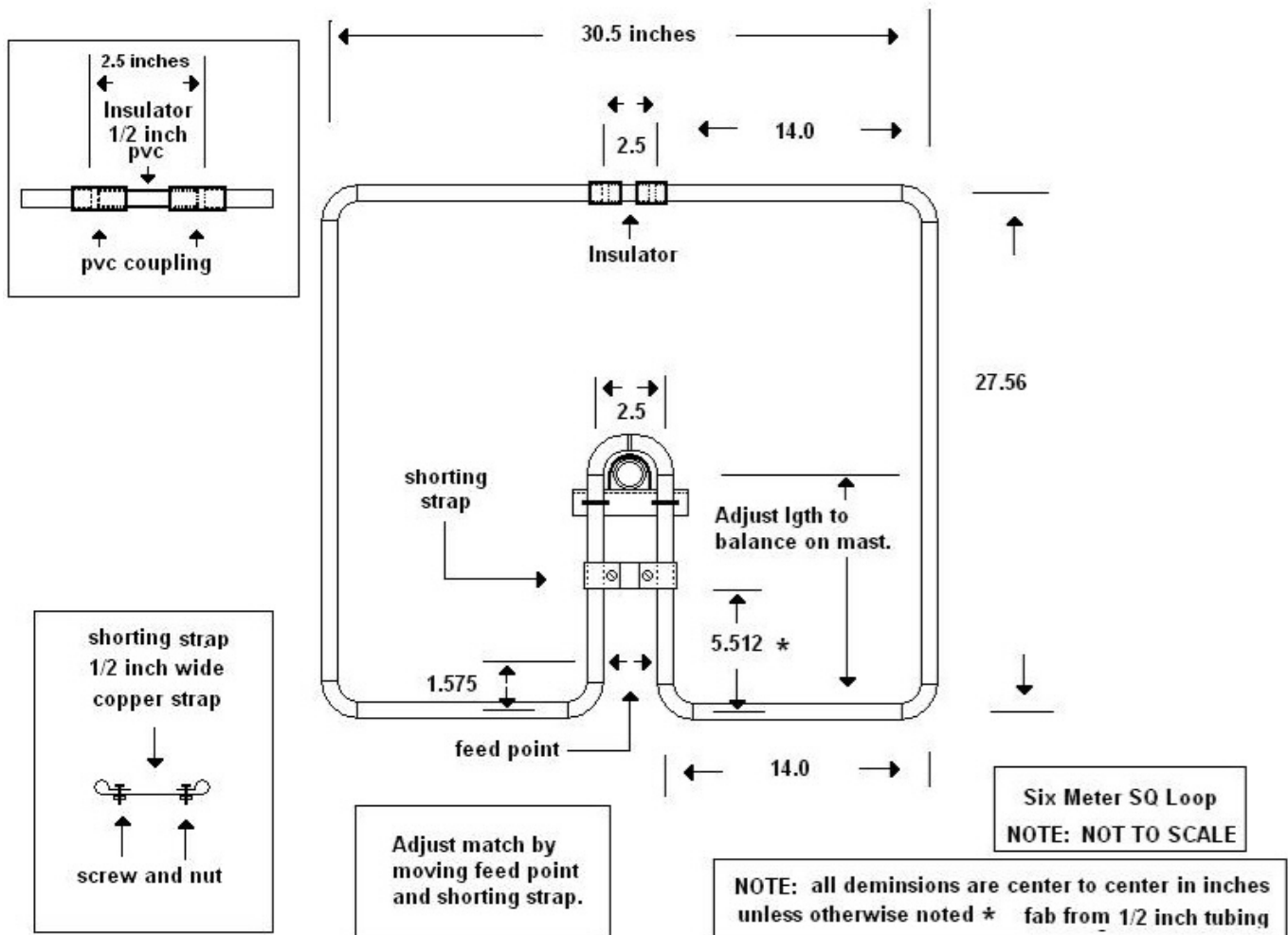


Figure 2. Design for a 6 m squalo by PA3EGH. <https://www.pa3egh.nl/homemade/antenna/>

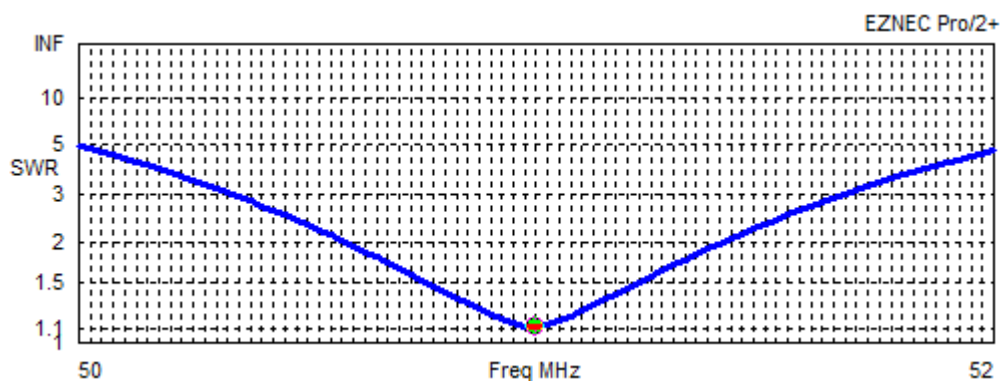


Figure 3. SWR when optimized for 51 MHz.

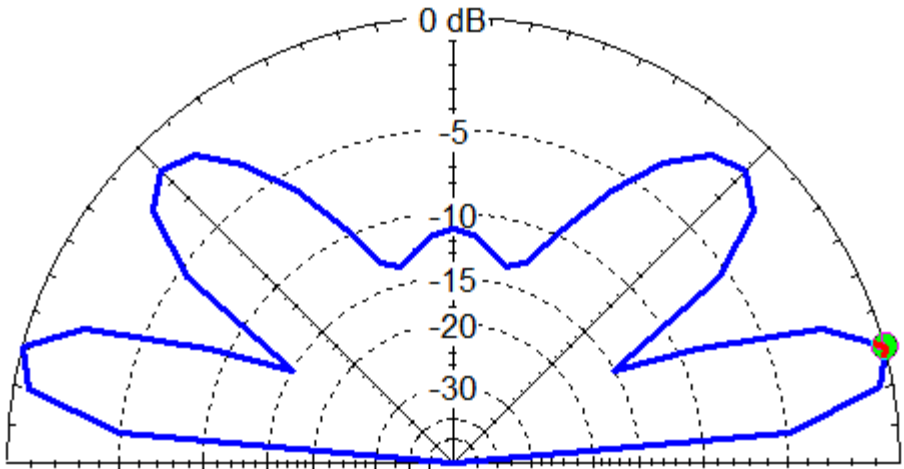


Figure 4. Pattern in elevation along centerline with the antenna at 20 ft .Outer ring is 6.75 dBi.

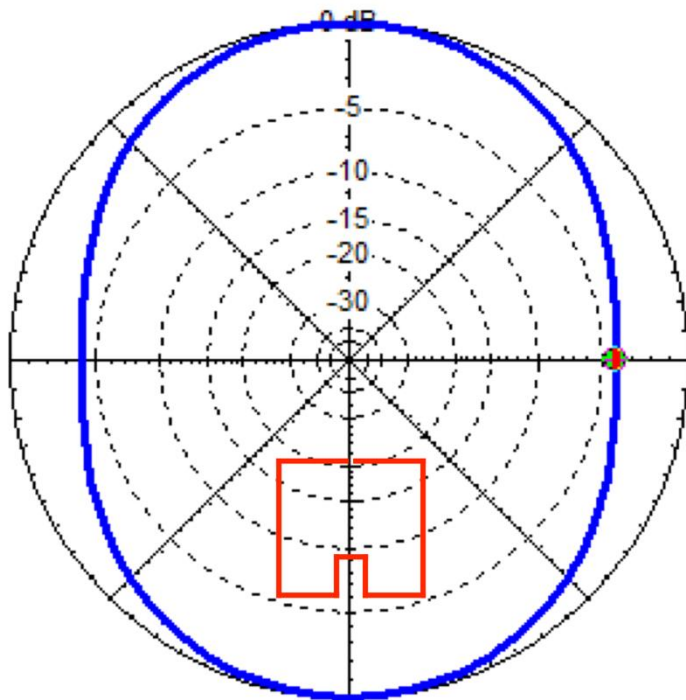


Figure 4. Pattern in azimuth at an elevation of 15 degrees. Outer ring is 6.75 dBi.

Club Log Standings 2024

Overall

1	W1SRD	Steve Dyer	218
2	NK7I	Rick Bates	214
3	W6DE	Dave Engle	210

CW

1	K6YK	John Lee	172
2	W1SRD	Steve Dyer	134
3	W6DR	Dave Ritchie	117

Phone

1	W1SRD	Steve Dyer	121
2	K6YK	John Lee	109
3	K6TQ	Dave Sanders	97

Data

1	NK7I	Rick Bates	206
2	W6DE	Dave Engle	191
3	NJ6G	Dennis Moore	181

Awards Checkers ARRL

Rick Samoian, W6SR

(DXCC, WAS, VUCC, 160M)

MLDXCC Focus Contests

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-forecas>

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

Upcoming Events

For the latest contest info. click on the following link:

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

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>

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.

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

W6SR

I have two items for sale/trade.



1. Recently I acquired a Johnson KW tuner (site unseen) from a friend. My plan was to modify it for the remote radio setup at W1RH. However, after I inspected the unit, it is way too nice to modify. It's (IMHO) collector quality, original in and out. It even has the original, working SWR meter, relay, relay power supply and directional coupler cable. But not the directional coupler. Couplers are more available than the KW tuners since they were used on the 250W tuners also. I hate to see a vintage piece of collector quality gear hacked. Anyone interested in one of these? Price, you tell me, best offer takes it.

Contact me at ricksamoian@outlook.com
de Rick, W6SR

.....
K6VVA

Antennas 4 SALE

=====
ANTENNA (“New-In-Box”) – Never Installed
=====

* RAIBEAM – 3el 20M Yagi (NIB) – Price: \$300
A “Collector’s Item” for some?

=====
ANTENNAS (USED)
=====

1. CUSHCRAFT 104CD (4el 10m Yagi) - Price: \$300 USD
Mostly New Hardware in bag.
2. 40m 4-SQUARE Antenna Components - Price: \$300 USD
Mostly Butternut aluminum sections and base coils (possibly for 80m?).
3. Force 12 Sigma 180S 80m Rotatable Dipole - Price: \$300
Supposedly “T-Bar” loading but would need to be verified. Hopefully with all pieces.

This does NOT have large in-line coils, but a heavy-duty boom to mast mounting plate.

For Pick-Up Only in the Morgan Hill/Gilroy (CA) rural area. Photos available.

4 SALE

U.S. TOWER TX-455 w/base and coax standoffs – Price: \$2,000 USD

Antenna support mast w/thrust bearing and large bolts for concrete installation included.

For Pick-Up Only in the Morgan Hill/Gilroy (CA) rural area. Photos available.

email **ONLY TO:** items4sale@k6vva.com
(include your Callsign, Name & Phone Number !!!).

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/>

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The MLDXCC NEWSLETTER

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