Eastern Iowa DX Association

An ARRL affiliated club - Established 1975

In this issue

October 2022

President's Propagation, Pontifications and Prognostics

It seems like the time between meetings gets shorter and shorter especially when one has to write an article for the newsletter. The next club meeting will be Oct 14 at the Hall Perrine center, election of next year's officers is on the agenda. Thanks too Rich W3ACO for helping with the nominating committee. It looks like Rich has filled all of the positions. The program is titled " 160 /80 meter vertical" presented by KØFLY.

I have looked at the results of the ARRL DX CW contest and found that several EIDXA members won their class in Iowa as well as the Midwest division, congratulations guys. Several others posted some pretty good scores.

It's time to do those last minute

CQ Test

QRM

Club Officers:

President:
Gayle Lawson, KØFLY

Vice President:
Joe Leto, WØIW

Secretary:
George Cooley, NG7A

Treasurer:
Mike Nowack NA9Q

Repeater Committee:
Jason Joens NRØX

Membership Committee:
Jim Spencer WØSR
Nelson Moyer KUØA

Repeater: NØDX/R
144.59 / 145.19 (tone 192.8)

www.EIDXA.org

Web Master:
Craig Fastenow KØCF

Newsletter Editor:
Bob Lee WØGXA
rclee2266@gmail.com

Facebook EIDXA

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antenna tweaks. Winter is coming and the Bouvet and Crozet Dxpeditions are getting closer to their departure dates. A large limb came down and broke off the top loading for my 160/80 vertical. Hopefully I can at least turn it into an inverted L by winter.

Terry WØAWL is doing a great job coordinating the ROMEO meetings. Remember: you don't have to be retired to attend the lunch.

We have several members who have relocated to Florida, I hope that they made it through the recent cat 4 hurricane. KØAL was visiting Iowa when the storm hit, he received word that his 80 metre 4 sq is down, but the tower and yagi are still up with no apparent damage.

Musings from the lunatic fringe

Bob WØGXA

I hope everyone had a good summer. Fall will soon be upon us and as we know, autumn is the season before antenna season. I, for one, have a goal to erect a 160m antenna before it's cold enough to need gloves. Time will tell if I succeed.

The sunspots seem to be coming back sooner than many expected. Should make for some good DXing and contests this season.

Our next meeting includes elections for officers. Vote early and vote often!

One final note: It is harvest season so be careful on the roads!

73 Bob

Club News and Administrative Items

Meeting minutes available on EIDXA.org

NEXT MEETING

October 14, 2022
Hall Perrine Center
Social Hour 6:30 PM
Meeting & Program 7:30 PM
Meeting and location information here

Program: 160 /80 meter vertical - KØFLY

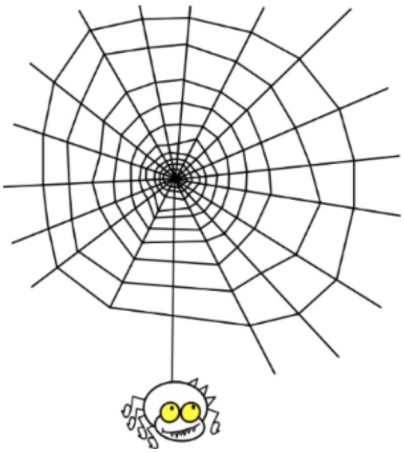
Card Checkers

We have club members who can check your QSL cards

- Glenn, WØGJ
- Mike, NA9Q

Contact info can be found here: http://www.arrl.org/dxcc-card-checker-search

Member Spotlight



Nothing to report this month. If you haven't been featured in the newsletter, let me know. We'd love to do a story.

DX News

Northern California DX Foundation Golden Anniversary NCDXF at 50 Years

Glenn Johnson, WØGJ

Note: A similar version of this article appeared in the Oct 2022 issue of QST - Ed.

NCDXF Golden Anniversary

On a warm summer evening in October 1972, four amateurs met in a small apartment above the kitchen of a Chinese restaurant in Chinatown, San Francisco, California. This was the home of Vince Chinn, K6KQN (now W6EE), where he had lived all his life. It was Vince, a Certified Public Accountant, who conceived the notion that there might be a few hams in the San Francisco Bay Area who would like to contribute to a US tax-exempt amateur radio foundation that would support DXpeditions and equip overseas amateurs. At that meeting were Chinn, Don Schliesser, W6MAV (later K6RV), John Troster, W6ISQ, and Lee Shaklee, W6BH.

Vince volunteered to draw up the papers and make all of the applications to the State of California and the Internal Revenue Service, etc. Thinking BIG, outside of San Francisco, they chose the name “Northern California DX Foundation.” They chose Lee Shaklee to be the first president.

Shaklee wrote a check for $1,000. Schliesser wrote a check for $100. Troster fished out a $10 bill and Chinn dug around in his pocket to come up with $1. The Northern California DX Foundation was started that night with $1,111. Some months later, Shaklee generously donated the seed capital in stock that still forms the principle NCDXF investment.

Merle Parten, K6DC, became secretary. Hugh Cassidy, WA6AUD, publisher of the West Coast DX Bulletin offered to help with publicity.

Bob Farrero, K6AHV (now W6RJ), helped with equipment. Bud Bane, W6WB, designed QSL cards and wrote press releases. Jim Maxwell, W6CF, was asked to help out. These first hard-working people came together to form the first NCDXF Board.

Our mission statement has changed very little over 50 years:

Provide necessary financial support for well-organized DXpeditions to desirable DXCC entities and to support advances in DXpeditioning skills, technology, and infrastructure.

Today, six of the eleven board members live outside the state of California. The NCDXF Board is responsible for overseeing all of NCDXF's activities. The Board members, and the volunteer advisors who assist them, have extensive experience in the business, legal, engineering, or academic worlds and are all active DXers. NCDXF has no paid staff. No officer, director, or advisor receives any form of compensation.

The current officers are Kevin Rowett, K6TD, President; Craig Thompson, K9CT, Vice President; Glenn Johnson, WØGJ, Secretary; and Don Greenbaum, N1DG, Treasurer.

Our current board members are Tom Berson, ND2T; Lee Finkel, KY7M; Ross Forbes, K6GFJ; John Miller, K6MM; Rich Seifert, KE1B; Ned Stearns, AA7A, and George Wallner, AA7JV.

We've come a long way since NCDXF's founding meeting in 1972. Back then, most DXpeditions were self-funded by the operators, but enclosing a few $$ with your QSL card was always appreciated. Today, we have over 1,000 active contributors in 42 countries. We have no membership per se, only contributors. Our primary source of funds comes from our loyal group of contributors who contribute year after year. We could not do what we do without them. First time contributors get a nice certificate.

In those early days, NCDXF sponsored many one-man DXpeditions and sent equipment to needy hams in rarer countries.

Today it's a whole different era. Getting permission to operate from a rare one is the main challenge. There is not much NCDXF can do to alter political structures, but by aggregating many relatively small contributions and investing our own funds, NCDXF can help fund well-organized DXpeditions to rare, expensive, and challenging DXCC entities. Formally, NCDXF is a 501(c)(3) not-for-profit corporation. Contributions from U.S. taxpayers may be tax advantaged. Over 76 clubs worldwide have contributed to NCDXF.

We have a very thorough vetting process for each and every

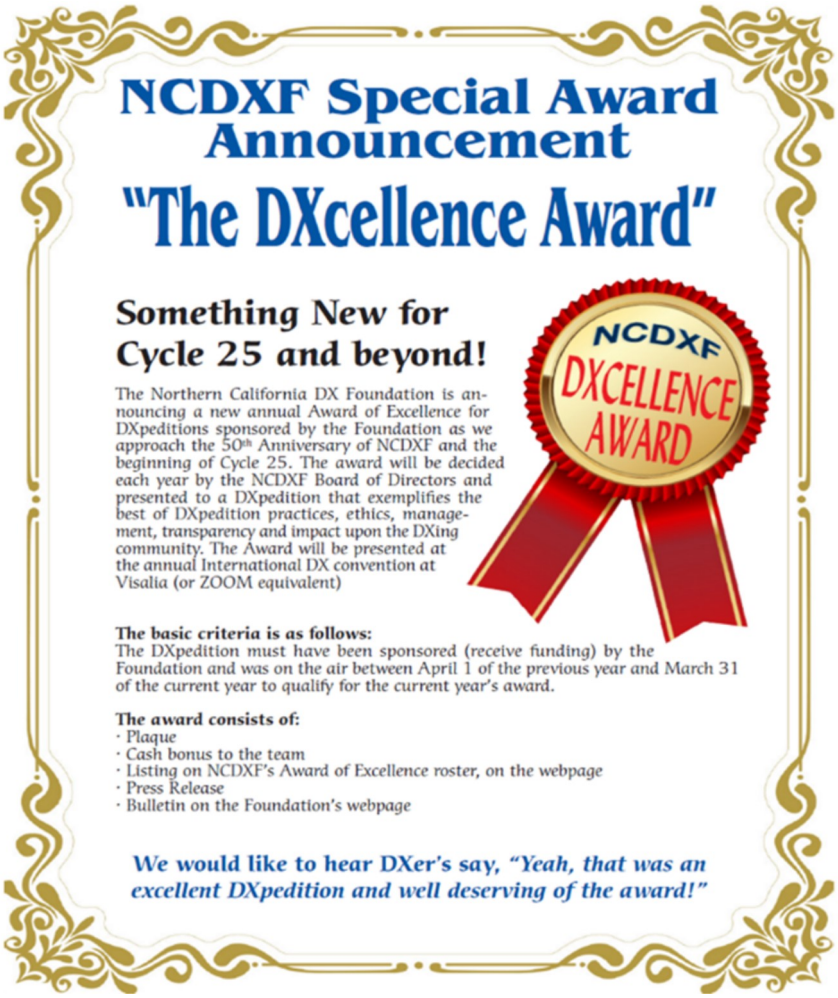
application for funding we receive. The board members have all been on many DXpeditions and most have been DXpedition leaders and know the complexities. We look for a well-designed DXpedition going to a rare and unusual location. We also consider the breadth and depth of the operating team and if there will be some effort to promote education, science, new technology, and goodwill.

Over $2 million for DXpeditions since 1972

Since 1972, NCDXF has granted over $2 million in funding for DXpeditions. For the expensive “mega” DXpeditions, NCDXF is often the “anchor” sponsor and its grant often makes the difference in whether the DXpedition goes forward. Many consider that once NCDXF contributes to a DXpedition, it has achieved the “NCDXF Good Housekeeping Seal of Approval,” and many individuals and clubs will then contribute to that operation.

The NCDXF DXcellence Award

For our 50th anniversary year, we started the “NCDXF DXcellence Award” for a DXpedition each year exemplifying the best of DXpedition practices, ethics, management, transparency, and impact upon the DXing community. Our first award was given to the S9OK DXpedition to Sao Tome. In addition to making over 100,000 QSOs that gave many DXers a new one, they made time for a humanitarian effort. With the help of Zorro Miyazawa, JH1AJT (SK), they gave computers, school supplies, and other needed items to two local schools funded by Zorro’s Foundation for Global Children.



Support for Youth Involvement

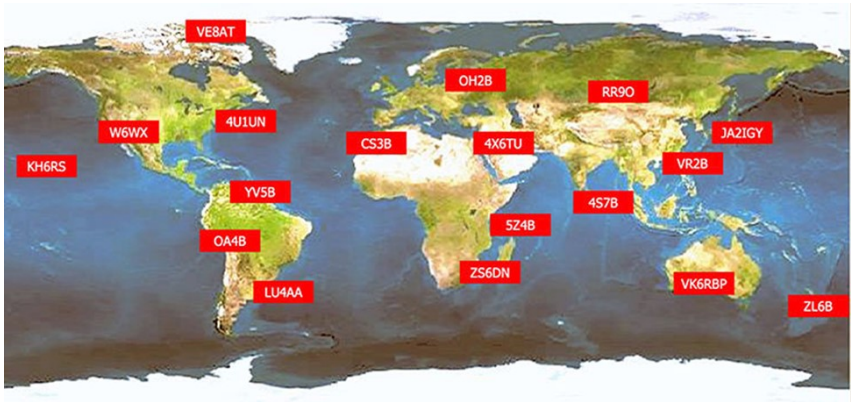
In 1997, Don Doughty, W6EEN (SK), made a substantial contribution to NCDXF and designated the funds to establish an Educational Fund. We provide scholarships for younger hams (less than age 26) attending Contest University. We also contribute to many YOTA (Youth on the Air) activities such as the annual summer camp held in the Cincinnati area for IARU Region 1.

YOTA Summer Camp 2021 at the National Voice of America Museum in West Chester, Ohio

NCDXF/IARU Beacon System

The NCDXF/IARU Beacon system is a partnership that operates a worldwide network of power-stepping HF beacons providing real-time propagation information. It all started with one beacon in a trailer near the Stanford University campus in Palo Alto, California. Now there are

18 beacons operating worldwide 24 hours/day.



This map shows the locations of the worldwide Beacon System

Radio in a Box Project

The Foundation's R.I.B. (Radio in a Box) technology project is designed to place a fully operational unmanned "DXpedition" on an island that is remotely controlled from a boat a mile or two away. The goal is help get permission for activating an entity with no on-island human infrastructure for environmentally protected places that have been nearly impossible to get permits for.

R.I.B. and antenna on an uninhabited island with "control" ship offshore.

Four 2KW generators powering four R.I.B.s with enough fuel for 48 hours.

Cycle 25 Project

We have a “Cycle 25 Project” for estate planning. These contributions are put into an endowment fund where only the earnings are used for funding our mission.

Why YOU Should Support NCDXF

DXpeditions to rare entities are becoming more expensive, a trend that we believe will continue. If you agree with the importance of NCDXF's work, and if you are not a current contributor, we hope you will become one today. With us all working together, we can continue to offer financial assistance to enable the bold and talented DXpeditioners who activate the rare ones. Just like that first meeting of four DXers in Chinatown, some are able to give a lot and others maybe not so much. Regardless, they all gave generously and unselfishly for the cause of DXing.

Since its formation, NCDXF has become the premier DX foundation in the world. We are supported by amateurs from many countries. Our ranks grow with new contributors each year, making possible NCDXF’s principal activities.

We have been criticized because the Northern California DX

Foundation name seems to relate to that one small local spot in the country, whereas our supporters are worldwide. The problem was that when we started, we didn't expect that it would grow outside the San Francisco Bay Area, let alone expand all over Northern California, North America, and the world! The growth has gone beyond the wildest dreams of those original four men meeting above a Chinese restaurant in Chinatown, San Francisco, CA, in the summer of 1972. We have come a long way in the last 50 years and the next 50 years will be better yet!

If you have questions about the Foundation or its work, please visit https://ncdxf.org/

73 and best DX!

Glenn Johnson WØGJ
NCDXF Secretary
w0gj@arrl.net

NOTE: An abbreviated version of this article will appear in the "Strays" column of QST later in 2022.

Feature Articles

Six Meter Station/ Antenna Work

Tom, NYØV

As I look through the DX Challenge and my totals by band, it became obvious that I need to focus my operating for both 160m and 6m. Sure, 80m has some opportunity too, but by in large, the best opportunity for "new ones" is on either Top Band or 6 meters.

One of my first upgrades was to sell my VL-1000 Quadra amplifier! I replaced it with an ACOM 2100 that can run full legal limit. The issue I had with the Quadra is that the solid state protection circuitry is such that as my antenna would approach 1.8:1 SWR, the power is crowbarred back to around 700 watts. I wanted to go with an amplifier that could take a bit of SWR and still push the power out. The ACOM 2100 does that with a 4CX1000 final. Moving from 700 watts to the full 1.5K gives a needed 3dB boost. That helps a lot on VHF!
The next upgrade I have made is to move from a 5 element yagi to a new 6 ele, 19ft boom yagi from InnovAntennas. I went with their LFA MAX loop fired array yagi.

I had heard of the LFA Max from hams here in the States and also when I visited Andre, V51YJ in Namibia. The antenna is designed and produced in the UK, is price competitive, and shipping was around 5 days. So I decided to give it a try.

When the antenna arrived I did find a hole where it looked like the end of the box had gotten wet. (It is the UK after all. Wet is not unusual there!) I was a bit worried but when I took inventory all the parts were in order and packed in heavy duty plastic bags. No worries.

The assembly instructions are good and so it took little time to lay it all out on the driveway and start the assembly. You do have to make sure you have metric tools. All in all the assembly went together without issue. I found the quality to be excellent throughout.

The InnovAntennas LFA MAX 6 Element 6 Meter Yagi on a 19’ boom

All that remained was to mount the DX Engineering 1:1 balun and hook up the feedpoint.

I mounted the antenna just above my SteppIR yagi. The first thing I noticed is that with the NN4ZZ tiltplate, there is a slight angle created by the hinge point of the tilt plate. On the SteppIR yagi, this was no big deal as I just rotated the yagi boom so where the elements are horizontal. However, with the LFA MAX, the boom is square. Thus when I first mounted it, the elements slanted to be perpendicular to the tilt plate! I know there is no big deal as far as performance, but my OCD just would NOT let me keep that tilt in the antenna!

The Square Boom Mounted to the Tilt Plate Creates a Tilted Antenna! My OCD did not like this situation!

The Solution: It just so happens that DX Engineering carries heavy duty steel plates for use with various U Bolt clamps. I quickly ordered several and had them in a few days. I mounted the new plates between the tilt plate and the boom and viola! A horizontal yagi. I can relax now!

With the tower telescoped down to 25', I measured the SWR and found it to be around 1.4:1, which is good enough. But, later this summer when I raised the antenna up to 72', the SWR came down to nearly 1.1:1.

The antenna was nested most of the summer at 25' while I worked on replacing the tower control box and motor. But, that's 3 wavelengths on 6 meters. I found it worked out great on 6m! I got my grid count up over 500 for VUCC and worked about 11 new DXCC entities. I can't

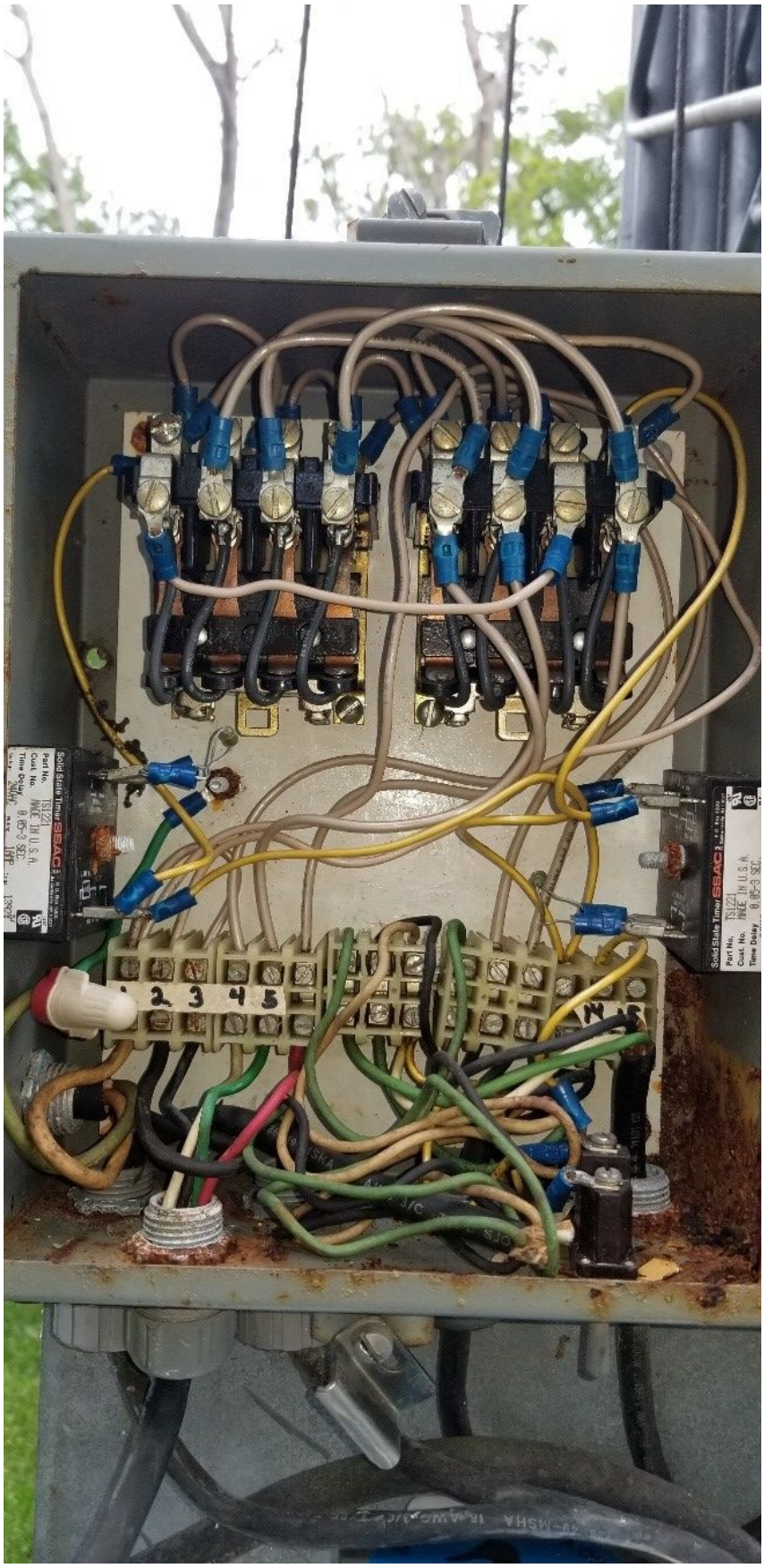
wait til next June to see what it'll do around the Solstice.

Tom, NYØV

Tower Control Update and Motor Upgrade for the LM-470

Tom, NYØV

Another project that was foisted upon me this summer was to update my tower raising/lower control and then upgrade the AC motor. I say foisted in that the old LM-470 control box had rusted and developed a short in the system. One look at the old control in the picture and you can see that father time had not been too good to the box. I picked up the LM-470 used 13 years ago and I believe it was at least 15 years old at the time.

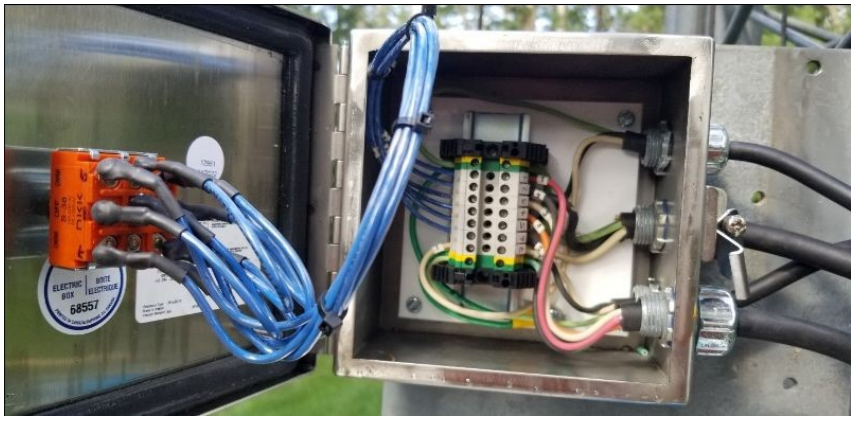


Control Box BEFORE: Note the bottom rusting out, terminal blocks off the rails.

Rather than going through it to replace the time delays, relays etc, I decided to see what Tashjian was using since they bought out Tri-Ex. I found the control box drawing and was pleasantly surprised that they

had redesigned it to eliminate the 3 second delays and the major contactor relays. They really had simplified the wiring and must have decided that there was really no use for the timers and relays. They also have moved from a 1/2hp motor to a 3/4hp motor with the same form, fit, function. I called Tashjian and asked if they would basically sell me a kit of parts and new upper and lower control limit switches. They agreed and four weeks later, I had the kit. I inquired to about the motor, but found their pricing to be too high. A quick search around the Net and I found a company in Michigan that was selling the same motor at a much better price.

As you can see from the AFTER picture, the new design is just a single terminal block and a momentary switch! The cables coming into the box are power (110vac), cable to motor, and the upper and lower limit switches wires.



Tower Control Box AFTER:

The final box and motor assembly:

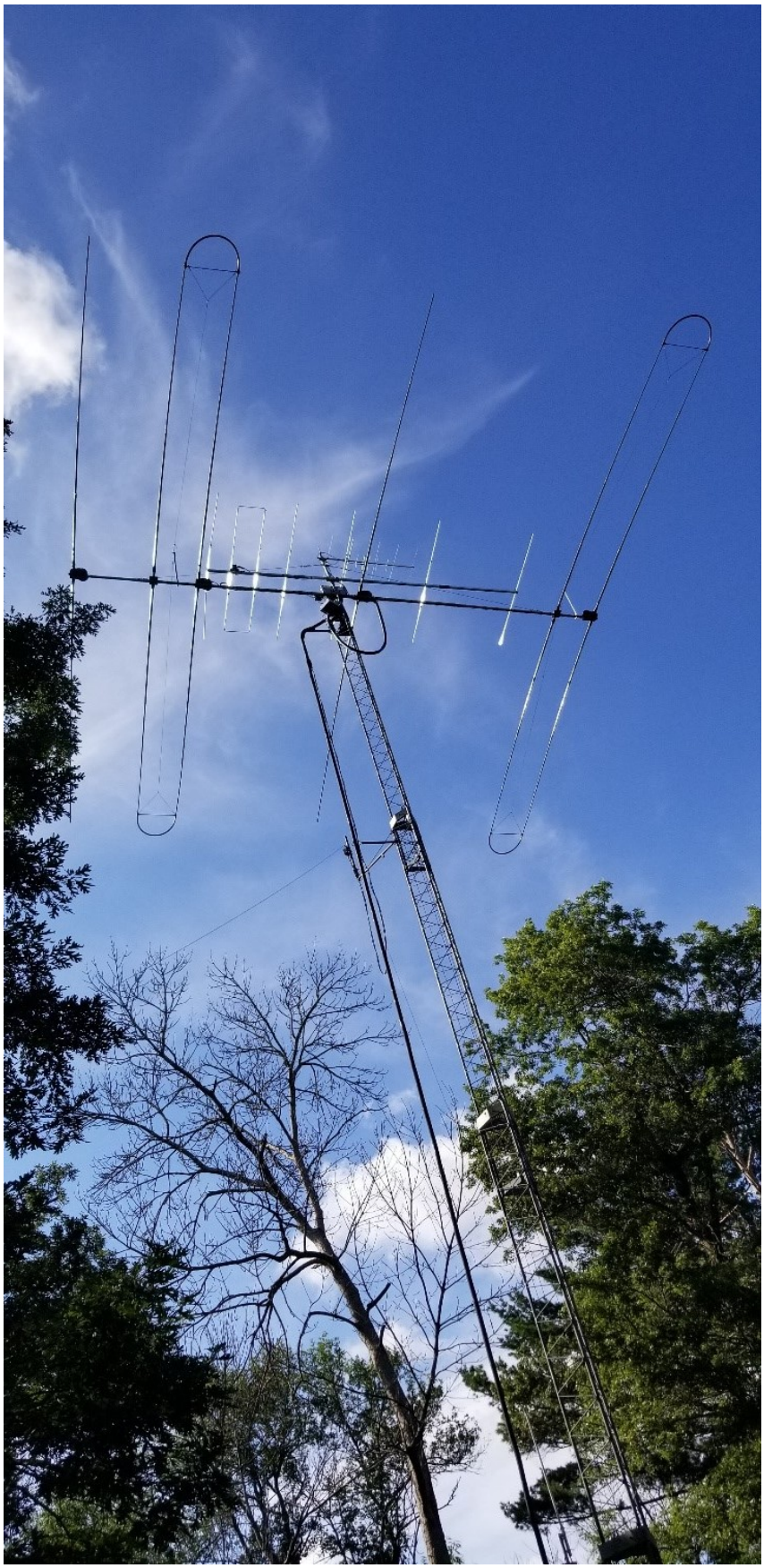
Note: This was taken prior to me tightening the belt drive and adding the cover safety shield over the motor pulley.

The upper and lower limit switches are mounted on one of the vertical bars of the tower. It was just a matter of adjusting them to have the tower automatically stop at the proper moment in the raising or lowering process. They really aren't necessary if you watch what you're doing while raising or lowering the tower! But, they are good

investment safety-wise.

The lower control limit switch:

The “moment of truth” finally came when I powered it all up and it worked great! The new 3/4hp motor runs smoothly as it raises the tower. I felt the 1/2hp motor had been a bit underpowered, especially with the 4E SteppIR, new 6E LFA 6m Yagi, the 2m/440m yagi, and the heavy duty NN4ZZ Tilt Plate.



The tower back up in the air ready for the winter DX and contest season:

Tom, NYØV

Adventures Working Mayotte Island on Six Meters

by Rod Blocksome, KØDAS

Last summer my friend Lance Collister, W7GJ, announced another annual single-man 6-meter EME DX-pedition to an exotic far flung entity – Mayotte Island. I had never heard of it but quickly located it off the east coast of Africa and north of Madagascar. His call sign would be TO7GJ during operations from Sept. 7 – 17 UTC.

We had to work him off the Moon.

A group of us have assembled a portable 6-meter EME station each year since 2016 primarily to work Lance on his many island DX visits. This "fair weather" group of EME'ers are: Jason, NRØX, Joe, K8OM, Wyatt, ACØRA, Gregg, KCØSKM, Bill, NØLNO, and myself. We also have 2-4 additional interested hams that we attempt to infect with the VHF EME "bug".

Each year is a learning experience and each year we make incremental improvements while still keeping the station simple and somewhat "portable". This year's station was installed in a used motor-home that Jason is revamping into an Emergency Comm Station. Our antenna is a refurbished 6M9KHW 9-element yagi from M2. This yagi has a 50-foot boom and is specified to have 14.8 dBi gain. It is mounted on 22-foot of Rohn 25 with a Ham IV azimuth rotator and a homebrew manual elevation mount. The feedline was 60-feet of 7/8-in. Heliax with a loss of about 0.15 dB at 50 MHz. The antenna is carefully tuned for an SWR of 1.0:1.

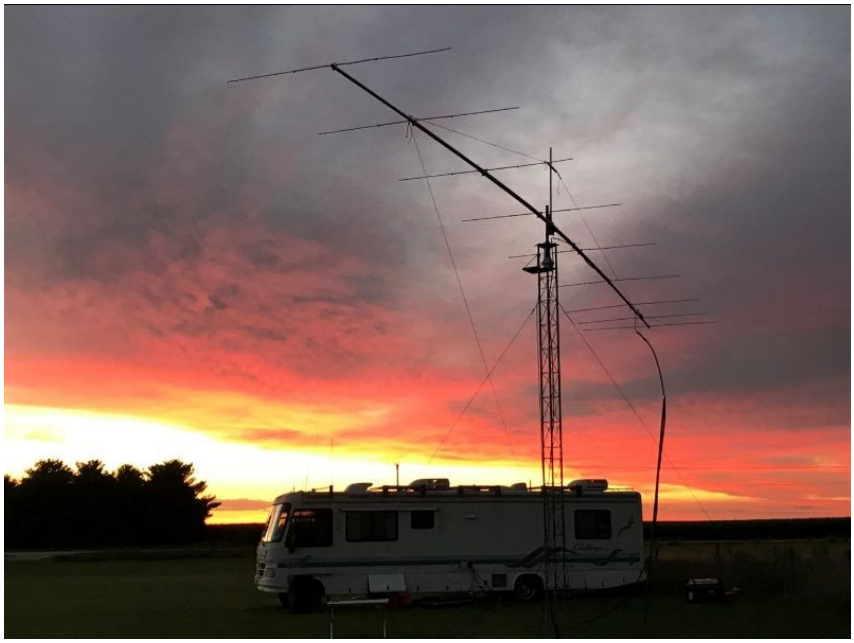
Some may question why mount it so low? Isn't higher always better? Normally yes, but in our case of being "Little Pistols" in the EME game, we chose this height to optimize our ground reflection gain. If we could cover the field in front of the antenna with smooth copper sheet, our far-field gain would theoretically increase by 6 dB due to the reflected wave combining with the direct wave giving a total of 20.8 dBi. Sea water (Lance takes advantage of this) is almost as good followed by flat, rich Iowa farm land. We think we are getting about 4 dB of ground gain when aimed at the horizon. But this year the field was growing corn when we were aimed at the rising Moon in the east. Maybe it attenuated a bit and we only got 3 dB?

Last year we used Wyatt's IC-7300 and Solid State 1kW PA with good success. But this year we reverted to "Old School" and I brought out my 8877 tube PA which I designed and built back in 1990. We drove it with one of Jason's FT-2000's augmented with an external pre-amp with a 0.5 dB noise figure. Everything is powered by Wyatt's 9.2 kW

generator.

New this year was an improved EME mode in WSJT-X called Q65. 60-second sequences are used on 6-meter EME, so the full mode descriptor is Q65-60A. It is fairly complex in all the various settings compared to the familiar JT-65 we previously used. So each evening, for a week before Lance became operational, our local group practiced using Q65 on 6 meters by attenuating our signals as much as possible. For example, I ran my FT-2000 at 5 Watts into a 30 dB attenuator thus delivering 5 mW to the antenna – real QRPpp. One evening Jason ran 1 Watt into a loop antenna laying flat on his drive-way. We worked over this 22 mile path with signals still plenty strong enough for Q65. So we figured we were 'ready to go' tackle EME with Lance.

Note: WSJT-X displays signal strength in dB for a 2500 Hz receiver bandwidth even though the detection bandwidth is much smaller – about 100 Hz for Q65-60A. It does decode signals "in the noise" or at negative SNR. But the signal reports look even farther into the noise due to this bandwidth issue. We found that we could decode signals at -32 dB and occasionally as low as -34 dB during our practice sessions.



Our 6-meter EME Station at Sunset

The first night, Sept. 8th UTC, we are ready to jump into the fray with all the "big guns" (Arrays of 4 or more long yagis). The Moon is setting for Lance as it is rising for us. This means we both will be getting ground gain as we aim at the horizon. At 0000 UTC the Moon is 126 degrees Azimuth and 4 degrees Elevation for us and 251 degrees Azimuth and 17 degrees Elevation for Lance. Experience has taught that our ground gain occurs when the Moon is between 5 degrees & 18 degrees Elevation. Sure enough, at 0043 UTC K8OM was the first of our group to work Lance. The following table shows the contacts

we copied here in Iowa that evening plus a couple from the following evening:

Date (UTC)	Time (UTC)	Station	Signal Report from Lance	TO7GJ Signal here
Sep 8, 2022	0038	N7NR	-22 dB	-23 dB
Sep 8, 2022	0043	K8OM	-16 dB	-23 dB
Sep 8, 2022	0044	K5NA	-18 dB	-23 dB
Sep 8, 2022	0050	AC0A	-32 dB	-19 dB
Sep 8, 2022	0052	ZS4TX	-29 dB	-21 dB
Sep 8, 2022	0056	K0DAS	-20 dB	-24 dB
Sep 8, 2022	0100	K5NA	-19 dB	-25 dB
Sep 8, 2022	0104	N0LNO	-18 dB	-31 dB
Sep 9, 2022	0132	N8GTI	-18 dB	-22 dB
Sep 9, 2022	0134	K4PI	-22 dB	-24 dB

We were flush with success that first night – especially with receiving signal reports from Lance right up there with the big guns. But in our celebration that followed Lance's Moonset, we discovered that Wyatt had mistyped his call as "AC**Ø**A" into WSJT-X. But not to worry, our station is performing very well and there are many more opportunities for AC**Ø**RA to work Lance.

Jason, NRØX, Adjusting the Boom Truss

My HB 6-Meter PA and PS – 1400 Watts Output

Unfortunately, it never happened. Though we tried mightily, the many variables and conditions never aligned for any more contacts with our group. We ran many tests and small tweaks to no avail. We could copy our own echoes off the Moon but could never copy/decode each other at the same time for a QSO. Look at the signal reports for the ACØA and NØLNO QSO's for examples of the wide differences between two very similar stations. Lance was running full power into a single long yagi also.

Lance reported working a total of 99 stations on EME by the end of his stay on Mayotte Island. Check his web page for a wealth of information on 6 meter DXing if any of this sparks an interest in a new DX challenge for you. Many have achieved DXCC on six meters with the advent of WSJT-X and the large number of countries now authorizing the amateur 6 meter band.

Rod KØDAS

Collegiate QSO Party @ WØIO

The University of Iowa Amateur Radio Club operated from Lake Macbride during the recent Collegiate QSO party. They put 550 contacts in the log using two stations. Thanks to Zach, KEØYKK for the pictures.

I noted a lack of CW stations :-) - Ed.

KØXAS, NØGJW, KEØYKK (left to right). Rig is an ICOM 7200

A Kenwood TS-530S in action

Member News

OBITUARY

Edward Peter Guzis

JUNE 10, 1942 – SEPTEMBER 7, 2022

A link to Ed's (W9TW) obituary is here.

Logbook

CQ Test

QRM

Giving 160m a try again this year. I had to get creative with the trees remaining on my property (I lost 42 in the derecho).

The antenna wire, highlighted here, peaks at 65'. The spruce trees are about 120' apart. The feedpoint will be on the left. When my neighbor is done in the fields, I'll erect a couple of sets of elevated radials. Bob WØGXA
