



## Eastern Iowa DX Association

*An ARRL affiliated club - Established 1975*

### In this issue July 2021

President's Message

Club News

Member Spotlight

DX News

- Bouvet ???

Featured Articles

- A new elm tree
- 40m / 30m vertical conversion
- Jurassic Journal
- Maritime DSC
- Elevated Radials

Member News

Logbook

CQ Test

### President's Propagation, Pontifications and Prognostics

It is now officially summer and most of the country is trying to get back in sync with the way the world once was. In parts of the Midwest we have not only had to deal with Covid-19 like everyone else, but we are also still trying to recover from the August 10th Derecho and, unfortunately, will be for some time. How does all of this affect the EIDXA and its members?

Fortunately, the Derecho only visited some of our members and some with more impact than others. You no doubt have seen the stats on the storm and the damage and I will not repeat the long list. One stat though hit me as an outdoor fan and a ham.

The Iowa Department of Natural Resources estimates that we lost 4.4 million trees! As a ham, think of how many wire antennas

## QRM

---

### Club Officers:

#### President:

Jim Spencer WØSR

#### Vice President:

Craig Fastenow KØCF

#### Secretary:

David Christ KØLUM

#### Treasurer:

Mike Nowack NA9Q

#### Repeater Committee:

Jason Joens NRØX

#### Membership Committee:

Jim Spencer WØSR

Tom Vavra WB8ZRL

Nelson Moyer KUØA

#### Packet Cluster:

WB8ZRL.no-ip.org:7300

#### Repeater: NØDX/R

144.59 / 145.19 (tone 192.8)

[www.EIDXA.org](http://www.EIDXA.org)

#### Web Master:

Craig Fastenow KØCF

#### Newsletter Editor:

Bob Lee WØGXA

[rclee2266@gmail.com](mailto:rclee2266@gmail.com)



Facebook EIDXA

now have no place to hang. In my case I lost seven trees, all the big ones, and no longer have a place to hook an antenna. The horizontal end of my 160L will be a big problem for the next 30 years while a new tree is growing. I had great hopes for 160 and FT8 but I need a new approach now. The 80 and 40 inverted vee's are also missing a tree each but there is enough room to work around that.

My story on the vertical and the SteppIR is not great either. The vertical now is working and the beam is better but still has a high SWR. Some have asked why an old guy would put up such a complex antenna! The answer is simple. I wanted to cover all the bands and I had no way to put up another tower on my postage-stamp sized lot. And, I also had never heard of a Derecho, like most other lowans.

Ham's all over are putting up new towers and replacing or repairing antennas. As a friend pointed out, this is a much better time to work on antennas instead of waiting for winter as often is the case. It adds a little challenge to the hobby.

Hopefully, you have great plans to repair or even install new skyhooks. Remember, conditions are improving and now is the time to get ready.

Covid-19 has impacted amateur radio everywhere. You would think at first look that since we

were all forced to stay home and isolated things would be great. It turns out that a couple things prevented this great opportunity from being helpful. One was that for DXers and Contesters travel was somewhere between highly restricted and forbidden. Most DXpedition were canceled. The number of DXCC entities on the air the last couple of years was much lower than in previous years.

But that is not all. The sunspots were on vacation too. Conditions on the higher bands were really bad much of the time. Sure, 40, 80 and 160 offered possibilities and some using FT8 did really well on the low bands. If you were trying to get on the Honor Roll or even DXCC on 12 meters you were in for a big disappointment.

Another thing we lost was getting together for an eye-ball QSO or attending a ham club meeting. EIDXa meetings were switched to Zoom and I thought that went well but with a lot less participation than we have at the in-person meetings. ROMEO (Retired Old Men Eating Out), our lunches for retired EIDXa members living close to Cedar Rapids stopped entirely. Eating lunch on Zoom really doesn't work that well. A cocktail party works a little better I'm told.

Well I have some good news. We knew that Mercy Hospital would be very cautious about letting visitors into their facility until they thought Covid was under control. Two weeks ago they did start allowing community members to use their very nice conference rooms. Right now, they have two restrictions: Everyone in the building and in the meeting rooms must wear a mask. They also require that head count be limited to 75% of room capacity.

I have reserved Friday, October 1st for our fall meeting. We are still talking with them about which conference room we get. I have our normal one reserved but something is wrong with the allowed capacity. We will get something that works.

ROMEO is also moving along. We are trying to set up a meeting for July and I'm trying to question the regular Romeo members on what makes them Covid Comfortable. More should be out by the time you receive this.

Have a great summer.

73, Jim WØSR

---

Musings from the lunatic fringe

Bob WØGXA

## Elections

Summer is well underway. I, for one, have been busying myself with my 2020 list of things to do. I spent 90 days doing clean up and house repairs before running out of energy in early November. The gutters were done two weeks ago, so it's full time attention on other tasks. One of them is restoring my vertical antenna for 80m/40m. Previous editions were wire verticals in a tall elm tree. Alas, that tree was a victim of the storm. This newsletter shows my hole digging and concrete mixing prowess. In October I should have pictures of the replacement.

COVID numbers are looking good anyway you slice them. I'm ready to get back to meeting humans again face to face!

It's that time once again to elect new officers for the club. Thank you to all who volunteer to take on such a role.

Remember: Vote early and vote often!

---

### Club News and Administrative Items

#### **Minutes of the EIDXa meeting April 30, 2021**

The second quarter EIDXa meeting was held April 30, 2021 via Zoom.

The meeting was chaired by Jim WØSR.

The 21 attendees told their latest news in an opening round robin.

Rich W3ACO is working on nominations for next year. He could use the help of two additional members.

Jim NOØB is heading the program committee, He could use help even though there are only 4 programs a year. There was a discussion of possible presentations that might be available over Zoom.

Mike NA9Q presented the treasurer's report. Very little activity took place during 2020. No changes to the Hise fund. A donation was made to Mercy for the use of their meeting room. In 2021 first quarter we had dues come in and some small Internet expenses. There was a

small donation to the Hise fund.

There are 77 members on the roster. 22 are current with 2021 dues. 41 are in arrears from 2019 or 2020, 10 have not paid dues since 2018. You can get your status from Mike.

WB8ZRL not present but there are no outstanding applications.

Audit of the treasury is in process.

Terry WØAWL chairs DX funding. We did get back a portion of the donation to the aborted Bouvet expedition. W3ACO moved we make a donation to the new Intrepid Bouvet DXpedition seconded by W0SR. Motion passed. The funds will come equally from Hise fund and the general treasury. Funds will be sent when requested.

George NG7A chair of the contest committee suggests participating in the upcoming QSO parties. He noted that N1MM logging program handles all the QSO parties. Also mentioned was the Day of the YLs event. Also coming up is the CQ WPX contest.

W0SR asked if there was interest in a face to face picnic this year.

Since most if not all members are vaccinated and it will be outside the sentiment was to have the picnic. However a new site is needed as Karen had a bad fall and was a month in the hospital. Site will be discussed over the next few weeks.

Rod KØDAS mentioned that later this year there may be a celebration of the first HF contact across the Atlantic.

Sam KØAFN can still provide EIDXa baseball hats.

W0SR will find out when we can resume in person meetings. Also wondered when ROMEO can resume.

NA9Q reminded all that new regulations on RF exposure are going into effect.

A reminder for all to keep their dues up to date.

After a break a fine program on station automation was presented by WØVX.

## NEXT MEETING

October 1, 2021

Social Hour 6:30 PM

Meeting & Program 7:30 PM

Meeting and location information [here](#)

Program: (stay tuned)



### Card Checkers

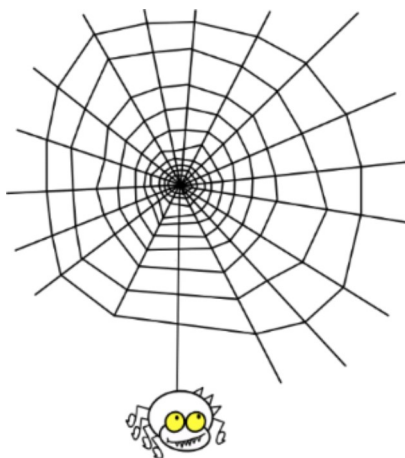
We have three club members who can check your QSL cards

- Tom, WB8ZRL
- Glenn, WØGJ
- Mike, NA9Q

Contact info can be found here:

<http://www.arrl.org/dxcc-card-checker-search>

### Member Spotlight

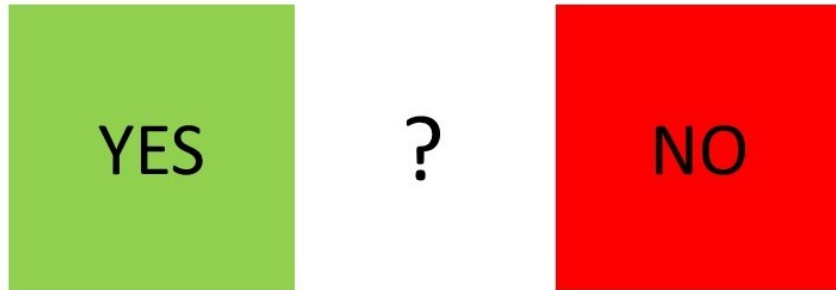


Nothing to report this month. If you haven't been featured in the newsletter, let me know. We'd love to do a story.

---

## DX News

### Bouvet



Commentary: Bob WØGXA

The on-again / off-again Bouvet news got me thinking about the DXpedition process and objective.

The DX entities are identified by geophysical and geopolitical boundaries. In other words, pursuing the DXCC award is about working a station on every spot of land around the globe. It's a measure of how well we can perform in pileups, how well our station can hear and be heard by whatever station is on the other end. The test is ours, not those of the DX station.

Do we get extra credit if it is difficult to activate a remote location? No, of course not. Do the DXpeditioners gain anything from the experience? Memories, perhaps but their role is basically giving you the DXer a chance to work that "spot of land".

So I pose this question: Why can't we deploy a remote control station onto Bouvet and have the ops stay on a ship? Putting aside the details for a moment, we have the technology to place a package on an island without a human ever setting foot on land. Is there anything wrong with that? You as a DXer still have to contact a radio on a remote spot of land. From this perspective nothing has changed.

Maybe we ought to consider it.

---

## Feature Articles

### A new "elm tree"

Bob, WØGXA

In last year's storm, I lost an 80' elm tree that served as a support for 40m/80m wire verticals. My wife asked sometime last fall, what my options were to replace the elm. This is that story...

I considered three options:

- 1) Erect a new 70' telescoping, fold-over, free-standing tower with a big beam on top
- 2) Erect a HyGain Hy-Tower
- 3) Erect DXEngineering's 8040VA Thunderbolt vertical

Living in Linn County, I knew any tower had to be new. No engineer would sign off on used towers. I'd rather erect a new garage than choice #1, so it was out.

Choice 2 and 3 were both deemed acceptable. Less costly was choice 3 and it served my needs well, so that's the route I went.

These pictures are of the installation of the support pipe in the yard. Future issues of the newsletter will document the assembly of the antenna itself.

I placed the antenna in an area of the yard not easily seen from the house, not near any trees or future trees and still leaving enough space for a radial field with a 104' diameter.

Antenna requires some light guying for winds over 50mph. The figure below shows the installed mounting pipe and three of the four guy rope anchors.



Starting at the end: The mounting pipe is in the center of the picture.

The antenna is mounted on a 3" diameter galvanized pipe with 1/4" sidewalls.

The pipe is centered in a 2'x2' hole, set in 4' of concrete and a six inch gravel bed at the bottom.





Pipe is held in place before the pour.

I had a lot of nightmares about the concrete setting when the pipe wasn't plumb, so I came up with a means to hold it in place and allow free access to pour concrete.

Picture above shows the pipe is held with two brackets, fastened to some boards. These boards are clamped using C-clamps to stakes. The C-clamps allowed me to make fine adjustments for plumb.





A close-up of the brackets used to hold the pipe.

The rest was easy... Mix, dump, repeat. Twenty-eight bags, two at a time.





Finished the pour - Waiting for it to cure

Stay tuned for more updates...

---

## Dual Band 40m / 30m vertical

Rich, W3ACO

I have a 40 Meter vertical made by Zero-Five, It's a rugged antenna with a substantial mounting base. It works very well and I made DXCC with it years ago. I wanted to use it on 30 Meters as well while keeping the 40 Meter capability and without changing the physical dimensions.



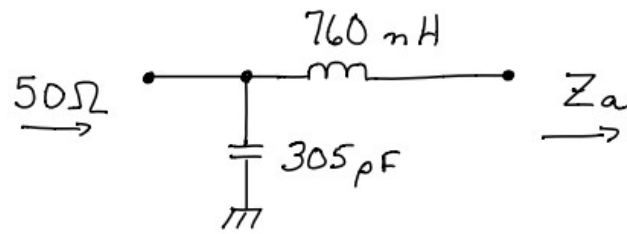


The antenna is about 100 feet away from my shack, fed with LMR400. I decided to use a remote relay arrangement at the base of the vertical to switch between 40 meters and 30 meters. Switching would be controlled by putting 12 volts DC on the center of the coax for 30 meter and 0 volts DC for 40 meters.

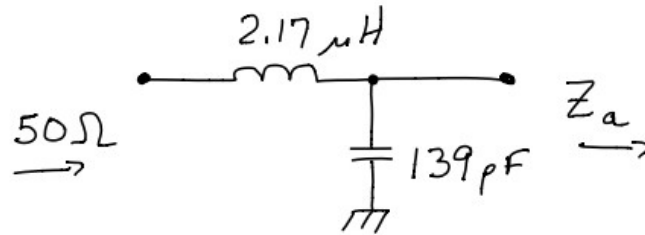
I measured the impedance of the antenna connecting to the short jumpers that feed the vertical. At 7.15MHz, impedance is  $34 - j11$  ohms. At 10.125 MHz the impedance is  $200 + j216$ .

Using this information, I calculated two matching networks.

7.15 MHz

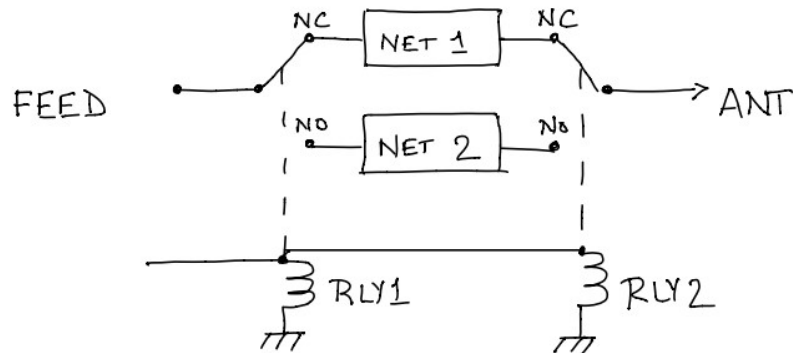


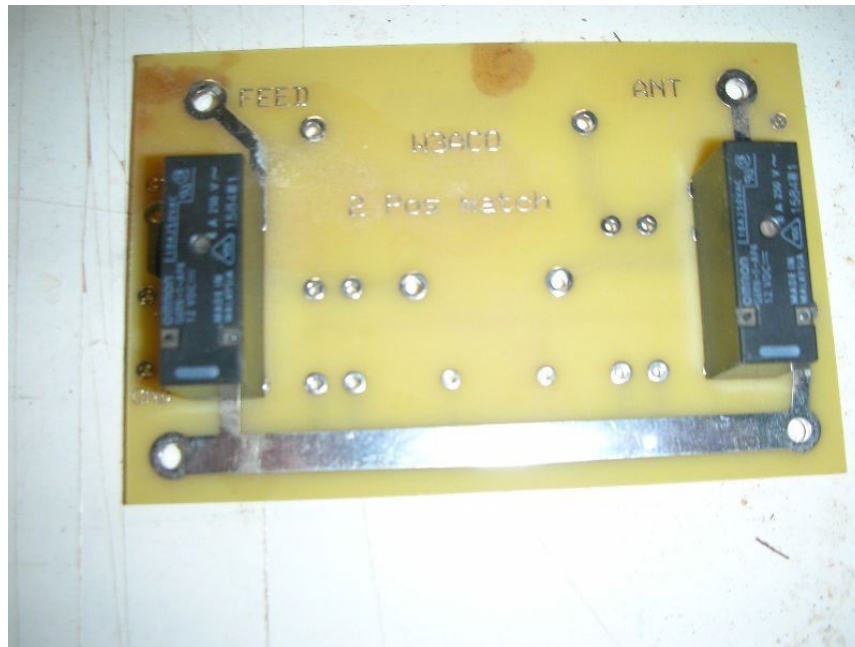
10.125 MHz



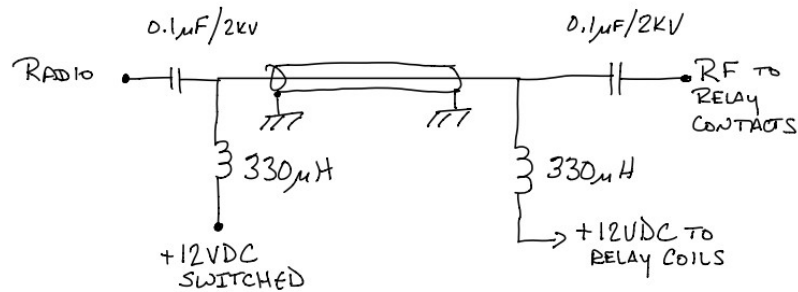
0 volts is 40 meters, 12 volts is 30 meters

Relays used were Omron 12 VDC coil, SPDT with 8 amp contacts.





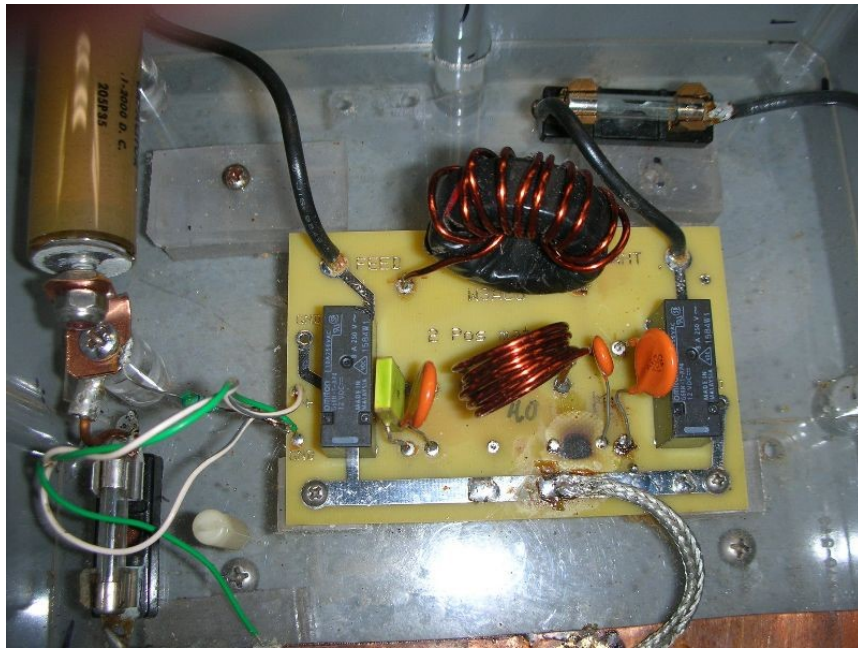
I made a PC board using PC express.



I added the control voltage extraction circuit which consists of a 330 uhy inductor and a 0,1 uf/2000 volt series capacitor. The same circuit is used in the shack to switch bands.

The inline fuses help protect against a nearby lightning stroke and also provide a place to measure impedances.





Enclosure is 8" by 8" by 4" deep. Lowes and Menards both carry this type of box.

Results: 40 Meters, SWR < 1.5 across the band.  
30 Meters, SWR < 1.3 across the band.



Rich, W3ACO

## **Jurassic Journal**

- A look back in time -

Tom Vavra WB8ZRL

### During the summer of 2001

From my log:

T32 -- Christmas Island Kiribati. The call T32Z, one of the most common callsigns, was active. I was unable to get information on who was running the pileups.

FP -- FP/NN9K, Pete, was active from St-Pierre-Miquelon. From the Quad Cities, Pete was a long time EIDX member.

PYØT -- PY1LVF and PY1VOY signed PT0T from Trindade. The DXpedition was only a few days long, typical to match the Brazil Navy visits to the Island. Some 4000 QSOs were made.

H4Ø -- Roberto, EA4DX logged 7800 QSOs as H4ØDX from Temotu and then moved to the Solomons for 18200 more QSOs as H44RD.

ET -- Silvio, IV3TRK signed 9E1S from Addis Ababa, Ethiopia for about ten days. He took skeds, especially low bands, but was on the air with minimal wire antennas.

JT -- JT1CO had a big signal on 15M SSB.

EY -- EY8XX had a big signal and pileup on 15M CW.

ZK1 -- North Cooks -- Mike, KM9D/ZK1QMA and YL operator Jan, KF4TUG/ZK1TUG were active for one week.

Other 2001 activity:

KH3 -- Johnston Island KH6UW, K7ZZ, AL7KC and W7TSQ activated K3J for one week in September. Almost 20K QSOs on the normal mixture of modes and bands.

FR/T -- Jack, FR5ZU was back on Tromelin Island for one month. Plans were all bands SSB with 100 watts and a vertical.

KG4 -- Bill, W4WX used the club station, KG4DX from Guantanamo Bay during September. He concentrated on RTTY with some SSB.

TR -- Igor, UA3DJY operated TRØA during his business trip



to Libreville, Gabon.

ZL7 -- Nigel, G3TXF and Roger, G3SXW were active for ten days from Chatham Islands signing ZL7/G3TXF and ZL7/G3SXW.

---

## From the summer of 2011

Numbers for the summer of 2011 were SFI from 35 to 190 (one day in September), and an A-index between 2 and 83.

From my log:

STØ -- South Sudan became a country in July and within two weeks STØR was on the air. QSO count was 121,286 with 27,990 unique callsigns.

TY -- DXpedition to Grand Popo - Benin. For 10 days in August by DxCoffee team: Salvador EA3QS-C31CT, Fabrizio IW3SQY, Giorgio IZ4AKS, Franco IZ8GCE, Antonello IT9YVO and Les SP3DOI. Almost 29K QSOs.

T8 -- Ulf, DL5AXX will be active as T88UE and T8XX from Palau during September including the CQ WW RTTY Contest.

3D2(R) -- Hrane, YT1AD, led another multi-national DXpedition to Rotuma with the call 3D2R.

Other happenings:

JX -- Jan Mayen. SQ8X, SV2KBS, HB9ASZ, NI1L, SM0MDG, SO9C, SQ9DIE, and TF3ZA worked about 18K of the deserving as JX5O.

---

## Maritime DSC

Jeff WØODS

Hi all! I'm pleased to announce a change in career, bringing with it new challenges and some interesting DX opportunities. You may remember that early in my career I was a Radio Officer aboard US flagged cargo ships. The opportunity came up to sail once again, and I availed myself of it. As of May, I am no longer engineering for Collins

Aerospace. I'll be sailing on what I hope is eventually a reduced schedule of around 4 months a year as my retirement job.

The industry has changed considerably since my last tour. Gone are the days of the Morse operator monitoring 500kHz CW for distress signals. It's been replaced by the Global Maritime Distress and Safety Service (GMDSS), which relies on satellite communications backed up by HF data protocols.

One of those protocols is called Digital Selective Calling (DSC). You may be familiar with ALE, Automatic Link Establishment, as used by the military (MIL-STD-188-141) and its civilian FS-1045 counterpart, Maritime DSC is a less sophisticated protocol in that it still relies on the operator for choice of frequency. It will, however, pass a brief message and designate a channel and mode for follow-on communications. Upon receipt of a DSC message, both the transmitting station and the receiving station will be automatically re-tuned to the designated follow-on channel.

There is a free PC-based decoder for the protocol. I've been toying with it at home prior to my first voyage in mid-July to get a feel for operations. The protocol is two-tone FSK with 170Hz spacing.

Generally in the commercial world we use USB and a 1700Hz offset to the center of the tone pairs. This software follows the same convention. Your dial frequency will be 1.7kHz lower than the published frequencies in Table 1. I've had the best luck using a filter bandwidth of 400 to 450 Hz, fast AGC.

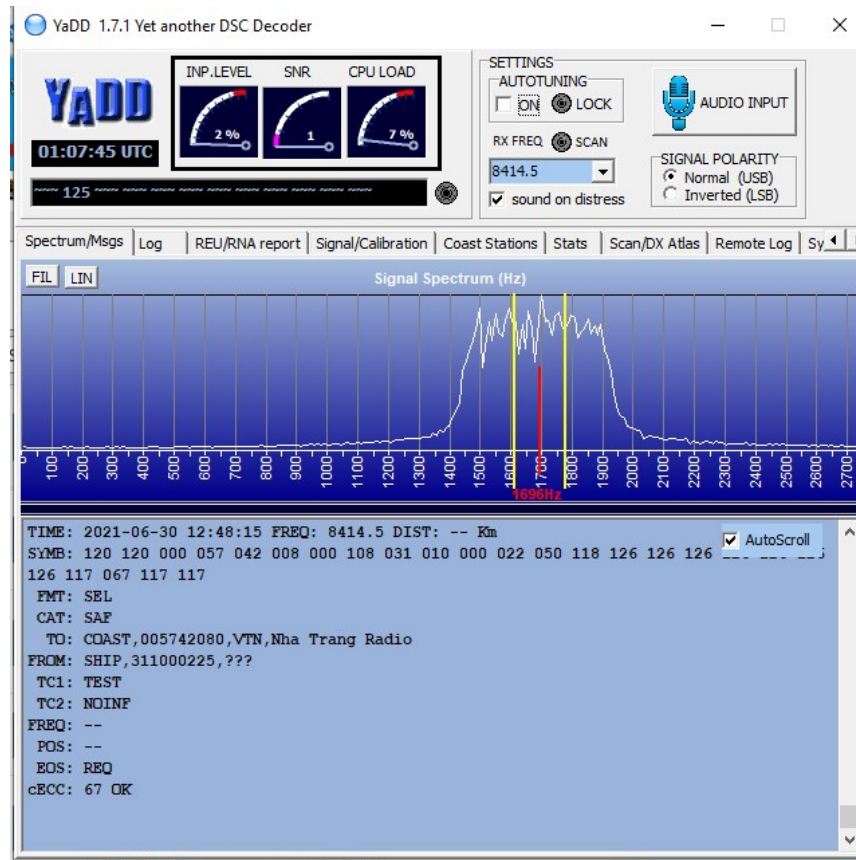
DSC Distress, Urgent and Safety	Follow on:	Follow on:
DSC	Voice	NBDP (FEC AMTOR)
2,187.5	2,182	2174.5
4,207.5	4,125	4177.5
6,312.0	6215	6268
8,414.5	8291	8376.5
12,577.0	12,290	12,520
16,804.5	16,420	16,695

Table 1 – Worldwide GMDSS standard distress frequencies

The software decoder is called YADD, for Yet Another DSC Decoder. The link to download it is here:

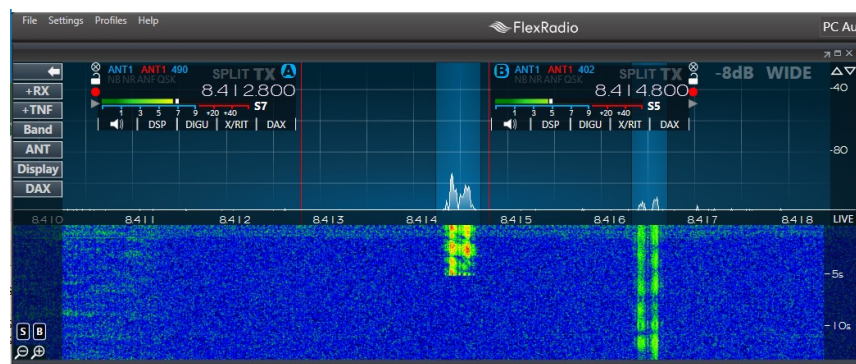
[https://www.ndblist.info/datamodes/YaDDSetup1\\_7\\_1.exe](https://www.ndblist.info/datamodes/YaDDSetup1_7_1.exe)

Here's a screenshot of it operating on the 8MHz channel 8414.5:



You can see that this was an attempt to contact Nha Trang Radio VTN by an unknown ship with the Maritime Identification Number (MID) 311000225. Regulations require active testing of the GMDSS station at least once a week by initiating a TEST call to a coast station and verifying that a response acknowledgement is received. The field "TC1: TEST" indicates that this is such a call.

Here's a screenshot from my Flex 6600 while receiving the DSC signal on 8414.5 kHz (center). The other signal shown at 8416.5kHz is NAVTEX Marine Safety broadcast from US Coast Guard Norfolk, VA broadcasting the Atlantic High Seas weather. With both signals, you can see that they are two-tone emissions and the dial frequencies are displaced 1700Hz lower than the center of the RF.



Since the Flex 6600 has four independent receivers, I assign one to the DSC Channel and another to the NAVTEX channel and let the

system run continuously. HF amateur operation simultaneously occurs on a different panadapter display and VFO slice receiver in the same SmartSDR software window.

Give it a try! It's a fun way to monitor propagation and to see some funky ship callsigns such as 3ESU6, 3FJX7, V7BU6, and 9HSZ9. I've even monitored the Australian coast station in Charleville / Wiluna Radio exchanging tests with New Zealand's Taupo Radio. 8MHz is a great place to start listening – it's always open to somewhere.

My first ship is a Matson Lines containership making a 2-week run from Tacoma to Oakland, and off to Hawaii for four stops on the island. It's bound to be educational and exciting. Since I'll officially be a Cadet on that trip, I am not anticipating any HF operation nor setting up any skeds. Next trip, I likely will.

73 de WØODS/MM

*Jeff has promised us a series of newsletter articles.*

*Until then: Bon Voyage - Ed.*

---

## Elevated Radials for Low-band

Jeff WØODS

Inverted-L and vertical antennas are the mainstay of low-band DXers for transmitting. They can be engineered to produce excellent low-angle radiation while being inexpensive and easy to install. These properties are all contingent on the presence of an adequate counterpoise. Like an iceberg, 90% of the low-band antenna is below the feedpoint.

My home counterpoise for the past decade or so has consisted of about 45 conventional wire radials, supplemented with four 50' long chicken wire rolls. The entire system was set up in the fall and removed in the spring. Despite my best efforts, I had not never figured out a way to lay out the radials in such a way as to prevent my lovely XYL from snagging at least one during the lawn mowing process. The complicating factor may have been that our yard is a 3-acre farmhouse spread, not the usual manicured and rolled suburban lot with smooth grade changes. She does the mowing, and I'm not about to complain. To eliminate this hazard to marital bliss, I'd been considering elevated radials for some time. Last fall, I finally gave it a try. Results are encouraging.

Briefly, elevated radials are resonant, smaller in number, and placed well clear of the earth below to avoid coupling to that lossy medium.

Higher is generally both better. Rudy Severns, N6LF, has modeled these antennas and written extensively about it

(<https://rudys.typepad.com/files/elevated-ground-systems-article-final-version.pdf>). Although he now recommends 10 to 12 elevated radials, adequate results can be obtained with as few as one ([https://k2av.com/Olinger\\_NCJ\\_article\\_on\\_FCP.pdf](https://k2av.com/Olinger_NCJ_article_on_FCP.pdf)). My installation falls in between the extremes, having four well-balanced radials. Performance is at least as strong as it was with the conventional ground-mounted radial field.

My implementation for 160m uses four equally spaced radials at 20 feet elevation, which is high enough to clear the roof of our house. As a proportion of wavelength, it's an abysmal 1/25th wave off the ground, yet still pretty high for an amateur installation. The actual wires used were previously part of the ground mounted field, and measured 125 feet long each. This is a little short, but close enough. A test setup using these wires in a dipole configuration at 10 feet above ground showed resonance at 1850kHz, putting it well within the ballpark for use as an elevated system.

Most of the interesting stuff is in the implementation. My inverted L is about 170 feet long and has always had a matching network at the base. With the elevated radials in place and the apex of the antenna moved to the very top of the 85' tree, the feedpoint impedance was measured using the popular (and highly portable!) NanoVNA. Using a network analyzer in the canopy of a tree was a new experience for me try that with your HP8753. A matching network consisting of series and shunt capacitors was quickly designed with the aid of a Smith chart, re-using the enclosure and many components of the previous match.

Since the Inverted L wire was the same length as before, the delta was minor. Only one measure-and-revise cycle was needed to achieve a satisfactory match from 1810 to 1860 kHz.

Some pictures of the finished installation follow.



Figure 1 - Feed point in the tree





Figure 2 - Close-up of the feedpoint showing radial wires



Figure 3 - View from the roof of the east and south radials





Figure 4 - East radial

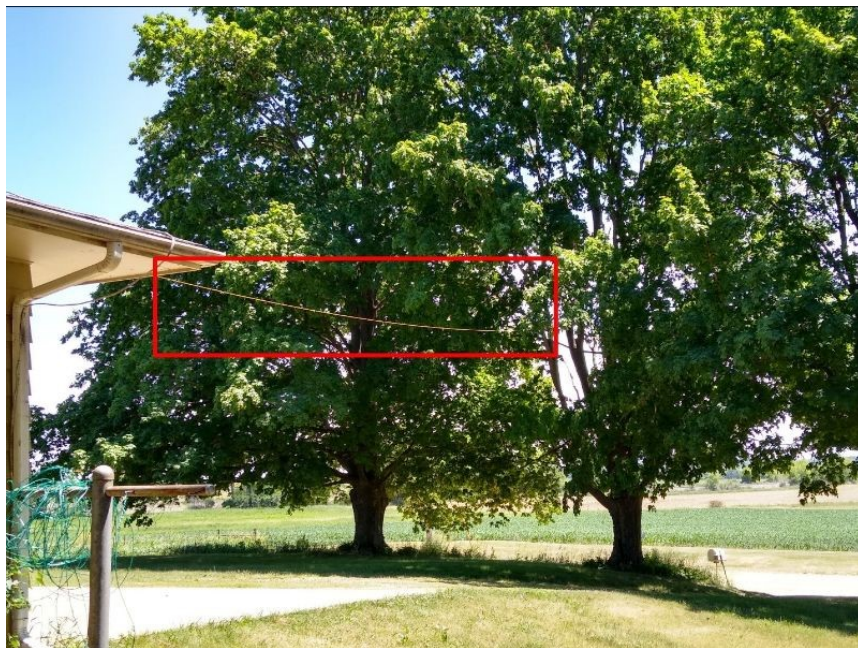


Figure 5 - South radial, after passing over the house

---

## Member News

Rich, W3ACO, reports he has just completed DXCC on 30m.  
*Congratulations! - Ed.*

---

## Logbook

Rich, W3ACO reports: "On June 29, 5T5PA, Mauritania in West Africa



was heard here in Iowa on 6 meters FT8. A few members worked him, among them, NØAV, WØGJ, K8OM, KØIS and me. Maybe this is a preview of the next solar cycle ."

*Fingers crossed - Ed.*

---

## CQ Test

---

### Upcoming Contests:

This is a great resource for upcoming contests: <https://www.contestcalendar.com/contestcal.html>

The North American QSO parties are coming up in July and August. RTTY, CW and SSB; they're fun contests accessible to all.

---

### Scores and Soapbox

---

## QRM



Copyright © 2021 EIDXA, All rights reserved.

Want to change how you receive these emails?  
You can [update your preferences](#) or [unsubscribe from this list](#)

