

Nacogdoches Amateur Radio Club

2012 CLUB OFFICERS

Pres: Rusty Sanders - KD5GEN

VP: Mike Brown - KF5KEY

Sec/Treas: Army Curtis - AE5P

MISSION STATEMENT

The Mission of the Nacogdoches Amateur Radio Club is to support and promote Amateur Radio by public service, offering training to unlicensed interested parties and licensed Amateurs, mutual support of other Amateurs, engaging events that promote Amateur radio to the general public and other Amateur radio operators, and continuing fellowship by regularly scheduled organized meetings and events.



MARCH MINUTES

The March meeting of the Nacogdoches Amateur Radio Club (NARC) was held as scheduled on March 7th. **President Rusty KD5GEN**, opened the meeting at 7:00 p.m. in the Bailey Library of Christ Episcopal Church. Eighteen members and two guests were present. Each person present introduced himself. Minutes of the previous meeting were approved as published. The Treasurer's report was not available.

Report given on the Orange Hamfest. A NARC crew consisting of AE5P, W5TV, WK5F and KF5KEY

journeyed down to Orange for the big event. Breakfast in Orange was great!

Andy KE5EXX suggested that all QSL cards received for the Shuttle Special Event Station operation be scanned and posted on the club website.

Belton is coming up April 14th with several from NARC planning to attend, followed by HamCom in June along with the June VHF contest the same weekend.

The club UHF repeater has lost audio and needs repair.

Meeting adjourned at 7:45.

OSCILLATIONS FROM THE CHAIR

Hello to all NARC members and others reading this newsletter.

Another month has passed and we now have Daylight Savings Time and spring has arrived. The rains have been most beneficial for helping to lessen our drought situation. Late winter and early spring storms have caused many deaths over our great nation. Ham operators have been quite busy in some of these areas assisting in various ways.

If you have not done so lately, it might be a good time to check out your situation. Each amateur has different levels of concern and need for readiness. If you are one that uses emergency power and back up antenna systems, this would be a good time to check out those systems. You might borrow something from the smoke detector saying

of change the time, change the battery in your smoke detectors. It would not hurt to check your systems twice a year and the time change might be a good reminder. I hope you noted that smoke detector is plural. You need smoke detectors, not smoke detector.

Have you checked to see if you have Tin Whiskers???

Looking over the various tidbits of news on the Yahoo website this morning, I came across an interesting article that could possibly affect amateur radios. The subject of tin whiskers came up regarding a satellite in space that was not functioning properly. Engineers considered the problem possibly was due to Tin Whiskers. I followed up trying to find additional information and came to the web site of NASA that attempted to explain exactly what Tin Whiskers are, how they develop, and what you can do. The link to the site is <http://nepp.nasa.gov/whisker/background/index.htm>. After attempting to

understand the article, I wonder if this might be the culprit in problems with some of our amateur radio gear. Much information is covered, such as the shapes, incubation period, growth rate, whisker length, environmental factors, and whisker prone processes. Some parts of the discussion would take a chemical engineer to understand the article. One such paragraph referencing the mechanism by which Tin Whiskers form is quoted as *"Intermetallic Formation: The diffusion of the substrate material into the tin plating (or vice versa) can lead to formation of intermetallic compounds (such as Cu_6Sn_5 for a Sn over Cu system) that alter the lattice spacing in the tin plating. The change in lattice spacing may impart stresses to the tin plating that may be relieved through the formation of tin whiskers."* Wow, what a statement. The only chemical that I know of

for sure that can cause problems in a radio is K9P.

In the latest issue of QST, I happened to notice on page 91, under the Special Events, there are a number of special events stations regarding the sinking of the Titanic. One Special Event station of particular local interest is going to be on April 21 over at Carthage. The Panola County Amateur Radio Club sponsors this event. The PCARC will be operating from the only international boundary marker located in the US. This marker was on the line that separated the United States from the Republic of Texas. I have heard of this marker and a friend in Louisiana indicated he would show me where it is located. At one time, there were a number of these markers but for some reason or other; this is the only remaining marker.

A number of years ago, there was an article in the April QST that really got me excited about a new antenna development. I

attempted to check it out on the web but kept getting dead ends. Later, I mentioned the article to AE5P and he said "April Fool"! Apparently, the good folks at QST have a little mischievous humor and insert a column with totally false information just to catch fools like me. I looked over the current April QST but did not recognize any such articles immediately. There could be one there and if you find it, let us know.

Be safe and smile. Make others wonder what is going on!

Hope to see you at the meeting!

KD5GEN- Rusty

email:

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FROM THE VICE PRESIDENT

Well, spring has finally arrived with its beautiful flowers, amazing shades of green in the new growth, the trees all putting on new leaves and tons and

tons of pine and oak pollen. When I first got into the amateur business, I never thought that pollen would have an effect on radio. No, wait...hear me out...it really does happen. It seems that the longer that I stay in East Texas, the more allergic I become to pine and oak pollen, and this spring it seems that there has been a bumper crop of both. At first you don't notice it, just new growth, then a light dusting on the cars in the mornings, until finally, everything in sight is covered with a yellowish-green haze, and we here in East Texas are once again blessed with spring.

And, so you ask, what does that have to do with amateur radio? I can truthfully say that with some of you, maybe absolutely nothing. You may be among the fortunate group who are unaffected by this annual scourge. However, if you're like me, what begins as a slight sniffle progresses to watery eyes, constant runny nose,

constant sneezing and wheezing and deep racking coughs. And if that isn't enough, your voice begins to go. At first, it's just your voice breaks every once in a while, and by simply clearing your throat, you can speak normally. As this malady progresses, your throat becomes scratchier and scratchier, more and more drainage leaves your throat raw until finally, your voice constantly breaks like a kid going through puberty. And this brings me back to pollen's effect on amateur radio....

I was looking forward to making multiple contacts in last weekend's contests. Had the logging programs all set and all the equipment tested. Turned on the power supply and fired off the rig and was set to go. I hear "CQ contest, CQ contest, CQ contest. This is W1AW in Connecticut calling CQ and bye." I hit the push to talk pedal and began to speak....or at least tried to speak. I croaked...I cleared my throat and tried again...I croaked and

broke up even worse. I quickly stopped transmitting, got a cup of coffee and a cough drop and tried again. Needless to say, it wasn't a great contest. If I did make a contact, the other ham had this funny sound to his voice as though he thought some kid had snagged his father's radio and was playing around. After about 30 minutes of frustration, I finally shut off the rig, closed down the power supply and wrote the whole weekend off as a lost cause.

I haven't been a ham long, but long enough to know that there are a lot of conditions that can affect radio transmissions. Solar flares, sunspot activity, coronal mass ejections, atmospheric ionization, meteor scatter, moon bounce, atmospheric densities, etc, etc. But I never thought that pollen could affect radio so adversely. All of the others can affect radio transmissions to some degree, but to the allergic ham, that damn pollen can just shut down your entire

station.

Now I've progressed to the point that I've lost my voice entirely! No more radio for me until the pollen abates. But every bad has a good side...my XYL is loving the silence....Hope to hear you on the air soon.

Yours in allergic misery....

KF5KEY - Mike

Email:

michaelleebrown@hotmail.com

VE TESTING

Our next VE testing is scheduled for Wednesday, April 18th at 7:00 p.m. in the Parish Hall of Christ Episcopal Church. Applicants should bring a picture ID, the original and a copy of their current Amateur license, the original of any CSCE's and \$15 to cover the cost of the exam(s). Correct change is always very much appreciated. 73 de AE5P

email: ae5p@arrl.net

CLUB NETS

Remember to join us each week for the 2-meter nets sponsored by NARC. Each **MONDAY** is the **NARC ARES/RACES** net, at 8:00 p.m. on the club's 146.84 repeater (PL 141.3). Second, on **THURSDAY** evenings at 8:00 p.m. is the **Deep East Texas Skywarn Emergency Weather Net** on the 147.32 repeater (PL 141.3). Please join us for one or both. We are always looking for folks who would like to become net control operators. If you are interested, please contact any of the existing net controls. We will be pleased to help you in any way we can.

NEXT MEETING

The next meeting will be on **Wednesday April 4th** at 7:00 p.m. in the Bailey Library of Christ Episcopal Church. The church is at the corner of Starr and Mound Streets in Nacogdoches. Because of Lent activities at the Church, we will be

meeting in the Bailey Library.

NEWEST HAMS

Please welcome our newest ham, Ted Morgan KF5PHG. Ted lives just up the street from W5FWR and passed his Tech test at our March VE session.

From that same session, congratulations are in order for Mark Maier, KDOIIZI who upgraded to Amateur Extra. Mark is on temporary assignment in our area, working on the new power plant at Sacul.

Please welcome also Eric Hostetter, KF5OOZ, who passed his Tech license at our February VE session, and Richard Chamblee KF5OPA who also

passed his Tech at the same session.

If you hear these folks on the air, please help make them feel welcome.

BASIC ANTENNAS

PART 41

by

Thomas Atchison W5TV

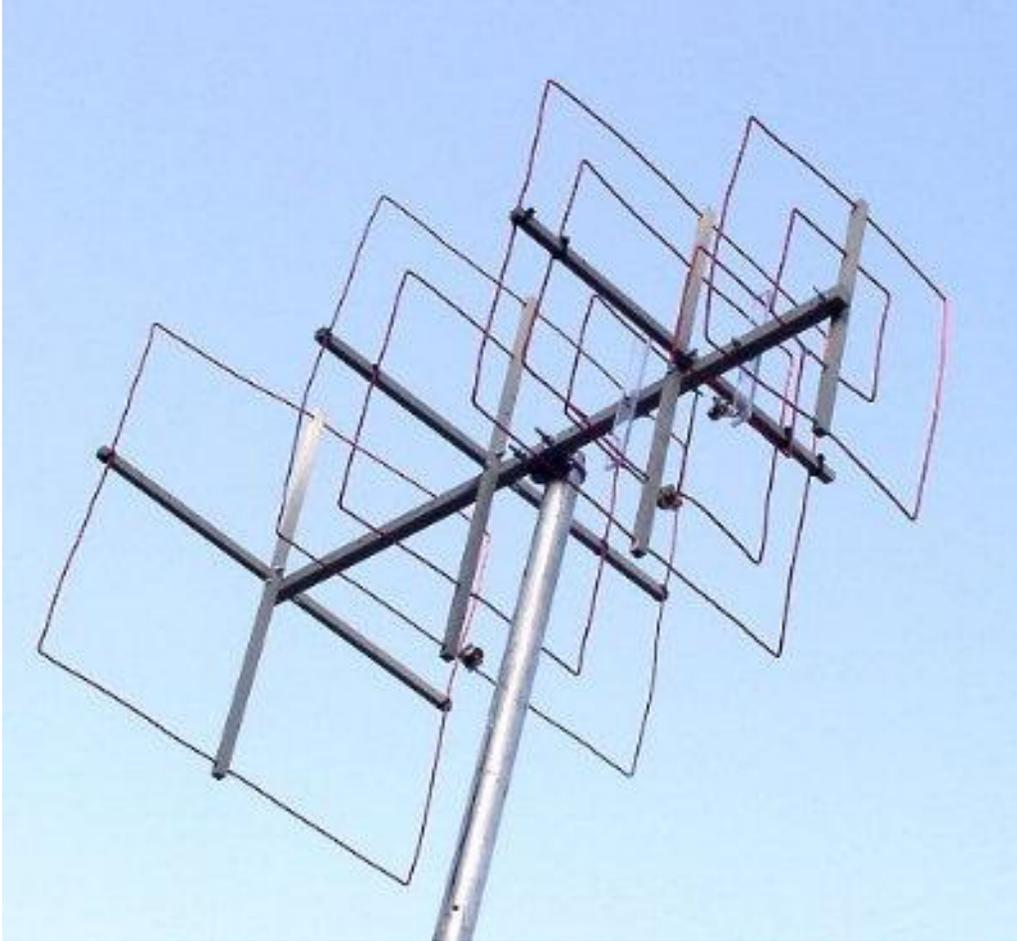
During the January 2012 VHF Contest the folks from California used a three band quad for 144, 222, and 432 MHz. This system was designed by Wayne Overbeck, N6NB, and described in an article that he posted on the web. You can find the complete article at Wayne's website with the URL

<http://commfaculty.fullerton.edu/woverbeck/n6nb.htm>.

The element dimensions are as follows: 144 MHz reflector, 87" loop; 144 driven element, 82" loop, 144 director, 76 1/2" loop; 222 MHz reflector, 56 3/8" loop (on the same spreaders as the 144 MHz driven element); 222 MHz driven element, 53 1/2" (on same spreaders as 144 MHz director), 222 MHz director, 50 1/2"; 432 reflector, 28 3/8" loop; 432 driven element, 27" loop; and 432 director, 25 1/2" loop.

The inter-element spacing is: 144 R to DE, 15 1/2", 144 DE/222 R to 432 R, 8 1/2", 432 R to 144 D/222 DE, 2 3/4", 144 D/222 DE to 432 DE, 3 1/2", 432 DE to 222/432 D, 5".

A picture of the antenna that was in Wayne's article is shown below.



I have simulated the above antenna using EZNEC. The simulated antenna is shown in Fig. 1.

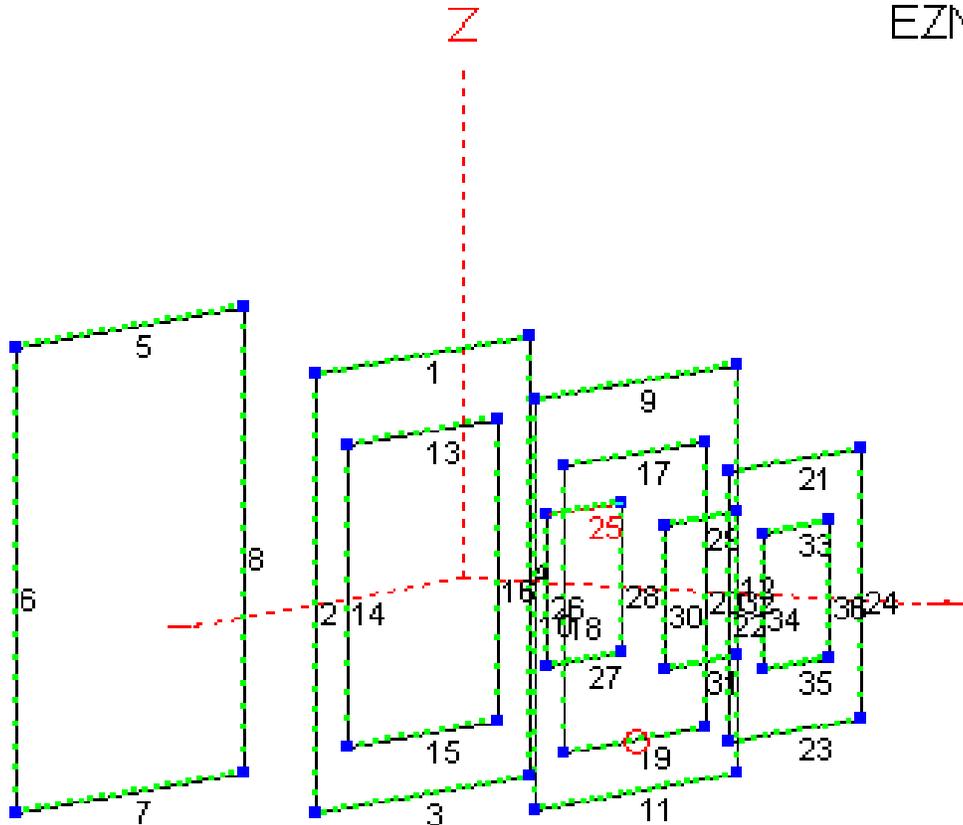


Fig. 1

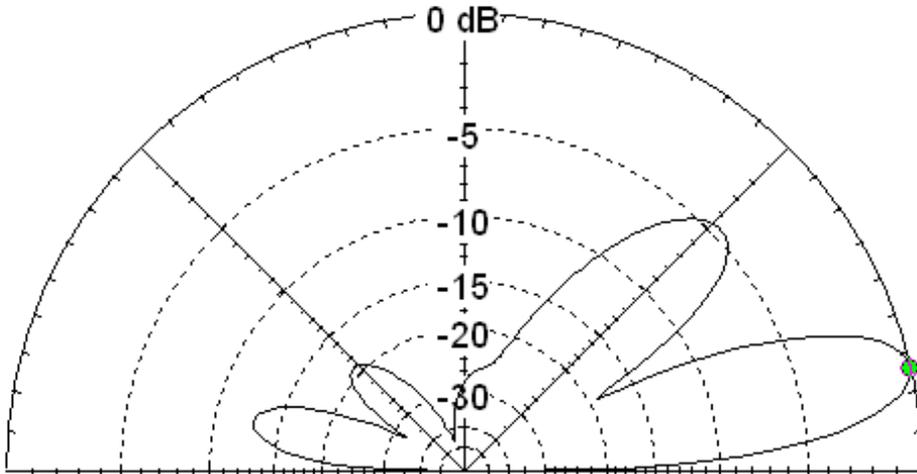
Here the 144 MHz antenna is shown with wires 1 - 12, the 222 MHz antenna is shown with wires 13 - 24, and the 432 MHz antenna is shown with wires 25 - 36. The 144 MHz antenna is fed in the center of wire 3, the 220 MHz antenna is fed in the center of wire 19, and the 432 MHz antenna is fed in the center of wire 31. In Fig. 1 you can see the feed point for the 220 MHz antenna illustrated by the red circle on wire 19.

To produce the radiation patterns below I moved the feed point to the proper antenna and ran the simulation.

The elevation radiation pattern and data for 144.1 MHz is shown in Fig. 2.

Total Field

EZNEC



144.1 MHz

Elevation Plot
Azimuth Angle 0.0 deg.
Outer Ring 13.76 dBi

Cursor Elev 13.0 deg.
Gain 13.76 dBi
0.0 dBmax

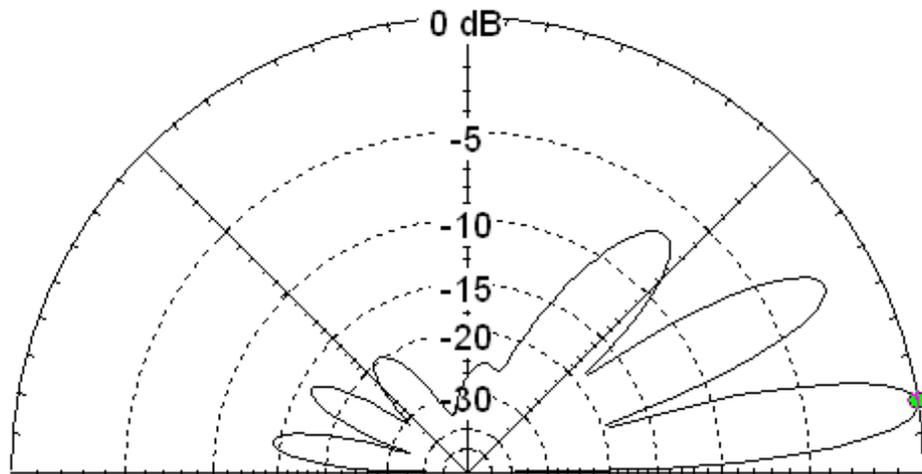
Slice Max Gain 13.76 dBi @ Elev Angle = 13.0 deg.
Beamwidth 14.1 deg.; -3dB @ 6.5, 20.6 deg.
Sidelobe Gain 9.23 dBi @ Elev Angle = 43.0 deg.
Front/Sidelobe 4.53 dB

Fig. 2

The elevation radiation pattern and data for 222.1 MHz is shown in Fig 3.

Total Field

EZNEC



222.1 MHz

Elevation Plot
Azimuth Angle 0.0 deg.
Outer Ring 14.43 dBi

Cursor Elev 9.0 deg.
Gain 14.43 dBi
0.0 dBmax

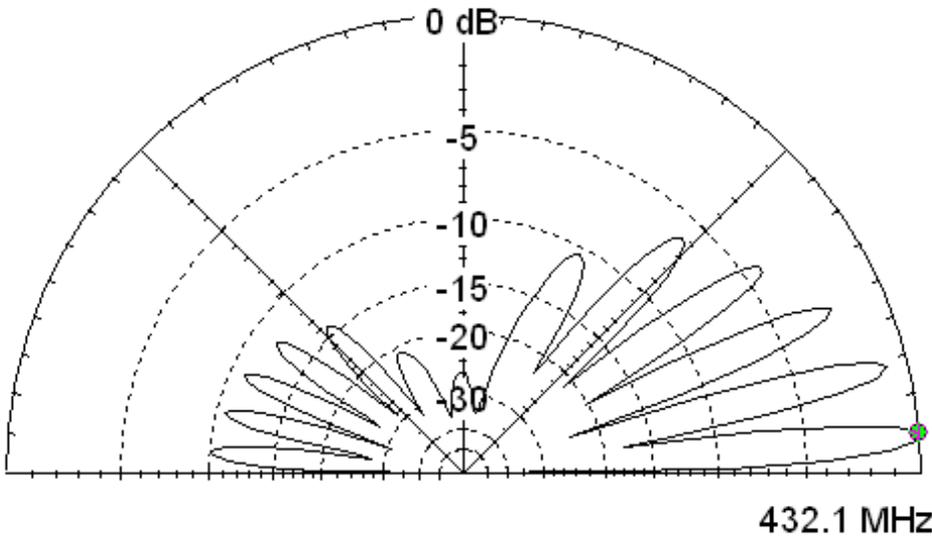
Slice Max Gain 14.43 dBi @ Elev Angle = 9.0 deg.
Beamwidth 9.1 deg.; -3dB @ 4.4, 13.5 deg.
Sidelobe Gain 12.28 dBi @ Elev Angle = 28.0 deg.
Front/Sidelobe 2.15 dB

Fig. 3

The elevation radiation pattern and data for 432 MHz is shown in Fig. 4.

Total Field

EZNEC



Elevation Plot
Azimuth Angle 0.0 deg.
Outer Ring 14.66 dBi

Cursor Elev 5.0 deg.
Gain 14.66 dBi
0.0 dBmax

Slice Max Gain 14.66 dBi @ Elev Angle = 5.0 deg.
Beamwidth 4.7 deg.; -3dB @ 2.3, 7.0 deg.
Sidelobe Gain 13.85 dBi @ Elev Angle = 14.0 deg.
Front/Sidelobe 0.81 dB

Fig. 4.

According to Wayne's article this antenna was tested on an antenna range. He states that the antenna appears to have 7-8 dB. gain over a dipole at its center frequency on each band, with a 15-20 dB. front-to-back ratio.