May 2021 Volume 05-2021

Nacogdoches Amateur Radio Club

2021 CLUB OFFICERS

Pres: Bill Rascher – KT5TE

Vice Pres:Steve Bartlett–WB5IDY

Sec/Treas: Army Curtis - AE5P

Visit our web site at

https://w5nac.com/

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 and having fun.

APRIL MINUTES

The April meeting of the Nacogdoches Amateur Radio Club (NARC) was held as scheduled on April 7th. **President Bill KT5TE** opened the meeting at 7:00 p.m. in the Nacogdoches City/County Emergency Operations Center off FM 3314. Self-introductions were made by members and guests present. Minutes of the previous meeting were approved as published. The Treasurer's report was read.

The San Jacinto Day Special Event is quickly approaching, scheduled for April 24-25. Members are asked to operate from their home stations using the special call K5T. Please advise the club Secretary of your operating plans for this event.

VE testing is scheduled for April 21. For the first time, our VE team will be able to transmit the test results to Newington, rather than have to suffer through slow US Mail. Check out the VE report later in this newsletter for more.

The evening's raffle was for "The Doctor is In, Volume 1", and was won by one of our new Hams, KI5PBV. Congratulations James.

Meeting Closed at 7:54.

Program: **Army AE5P** presented a program on

using the N1MM program for contesting. Army explained how to setup a database to store all events entered during a year, and then how to setup the program for a specific contest. Once that contest is setup, actual operation can be as easy as just two F keys if running CW or RTTY, or just entering the information as heard on SSB. Hitting the space bar will move data entry to the next sub-window, and the enter key will log the contact. Very fast, very simple.

CLUB DUES

Club dues are now due and payable to the club treasurer. Dues are just $20 for the year, and cover all licensed Amateur Radio operators within a family. Dues can be paid to the treasurer at our next meeting or can be mailed to his callbook/QRZ address. New operators who obtained their first license through the NARC VE test sessions in 2020 are exempted from paying dues for 2021.

FROM THE PRESIDENT

As of this writing, 26th of April, the weather is still cool and a perfect time to accomplish outside work. Of course, some of what I do might not be classified as work. An example would be spending a few hours each afternoon training our horses. But clearing the fence down the front along the road and back through the woods definitely is/was work.

This year has been too busy for me around the farm, so I haven't spent any time outside with my KX2. Not even from the back porch. Thus I missed parks on the air in April, but being positive maybe May will be a cooler month too and not so humid. So there is still the opportunity to head out and pitch a wire up in a tree. Field Day is two months away and by that time of year one needs to be inside by 10am, showered, and relaxing in the A/C. It is time to start the routine of having the horses up by 6 a.m. and leave the afternoons for work in the A/C of the tractor or even the radio shack. Or maybe a nap? I'm not sure I should get into that habit...

After waiting for two years for my new radio it looks like it might arrive before May is over. If all goes well I'll have my rotator replaced by the time the radio arrives. That way the Hygain TH11DX yagi will finally be put to good use. The boom on this antenna is 24' long and the longest element 37.5'. From the ground it doesn't look all that big, but boy was it a pain to get up because of its size. The longest part of our house is 48', so you can stand by the fireplace and look down the length of the 48' back porch to get some perspective of the size of that antenna. Right now it is pointed towards South America, and there is a huge difference between the vertical Titan on top of the barn and the TH11DX on a 70' tower. By

switching between the two antennas one can easily tell the difference the TH11DX makes. On the pan adapter you can see the noise floor drop, and signals are much clearer. This antenna can take 1500 watts (actually 4000 watts), but all I can do is 100 watts. Still, it will be nice to rotate that puppy for upcoming QSOs. Something to look forward to.

Hope to see you at our May 5th meeting.

73, Bill KT5TE

bill@watershipfarm.com

FROM THE VP CHAIR

HT as a Mobile

I have a 50 watt 2 meter rig in both of my trucks. Recently, I sold one and purchased a smaller Toyota Tacoma as a replacement. To my chagrin, the compact nature of this truck, coupled with all the new electronic bells and whistles, left absolutely no place to mount even a smaller form-factor radio.

I even looked at rigs with removable face plates, but still couldn't find a place to mount those without drilling something into the dash. Ouch! Not gonna happen.

One option I found for a remote face plate mount used a flexible device that resided in a cup holder. That gave me the idea to find a cup holder stand for a smaller hand held radio. I found that several vendors make these products for a few dollars.

After some Amazon magic, I had a new cup holder mount with a HT and a speaker mic. I soon added a 12 volt power adapter. I'm mobile and back on the air!

Unfortunately, that little rubber duck antenna did not do well inside my pseudo Faraday cage on wheels. Ok, time for an external antenna.

Not wanting to drill a hole in my roof for a NMO mount (nope, double nope), I was resigned to using a mag-mount. That didn't seem like a long term solution and routing a coax back to the radio was ugly and difficult. Then I found the Diamond NR770H antenna which is 1/2 wave on 2 meters, 2 5/8 wave on 70 cm, and does not require radials or a ground plane. I found a cool base mount that connects to the hood's hinge bolts and places the antenna on the passenger side near the windshield, which looks like a normal car radio antenna

at first glance. After some professional help from my installer son to feed the coax through the firewall and up to my console, I had an external antenna connected. Boom! I was now able to hit repeaters 25 miles away with 5 watts and a clear signal report.

Quick tip: you will need to use a plain end coax to fish the wire through one of your existing rubber grommets in the firewall and then under your carpet and console. Solder or crimp a new connector after you install the coax. I used LMR 240 coax with a crimp-on PL259, then a short 18" RG 316 adaptor cable with a SMA end that fits the radio. This flexible adaptor cable greatly helps keep your wires tight and compact. You can also buy battery eliminators or 12v charging cables if you don't want to bother with recharging a battery.

You can also purchase an inexpensive speaker mic to fit your brand of HT, which is almost a must if the handheld is fixed in the cup holder. Amazon and many other radio parts vendors carry microphones, most under $25.

My rig is a compromise, but on the air, is on the air and this setup is easily removable. The addition of an external antenna with some positive gain has made the radio very functional for local repeaters.

There are tons of vendors with mounts and antenna solutions. Here are some links to example components:

Cup holder mounts
https://www.lidomounts.com

Lip mounts
https://cometantenna.com

Diamond antenna & NMO connectors
https://www.theantennafarm.com

73

Steve, WB5IDY

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NOTES FROM OUR EC

April has been wet and bumpy with a scattering of tornadoes not just here but across the Red River Valley. Friend sent a picture from Vernon TX. We've had 4.1 inches at the mill. It's gray and still.

Let's start out the 2021 Hurricane Season notes a little early. Many of the weather labs are predicting another over-active hurricane season. Most are predicting 16-20 named storms, 7-10 to become hurricanes, and 3-5 to become major (Cat 3 or higher).

There are 21 names for the 2021 season hurricane season. If the list is exhausted (as has happened before), an auxiliary list will be used. The Greek alphabet will not be used this year. Apparently there was some confusion using it.

Athena Masson, a meteorologist with the

Florida Public Radio Emergency Network, noted that every coastal county in the Eastern Coast and Gulf Coast, except 2, had hurricane warnings and watches last year. Those 2 counties were in Florida.

Okay, John, what does that mean? If the 2021 season takes a page from the 2020 play book and the storms are more intense, we could see evacuee traffic from the coast and a potential for a shelter or 2 to be activated.

Those of you that have orange box go kits may want to get them out, inventory them and hot check them. Again, check your batteries. If you have WINLINK capability, test your set up and become more proficient.

I strongly encourage our membership to check into our nets on Mondays and Thursdays. Your check in might be as simple as In and Out.

Just remember, If you don't like Texas Weather, wait 10 minutes, it'll change but maybe not for the better.

Additional reading:

https://www.wuwf.org/post/forecasters-2021-expected-be-active-hurricane-season

https://en.wikipedia.org/wiki/2021_Atlantic_hurricane_season

See everyone on the nets

73 de John Chapman KC5MIB
kc5mib@arrl.net

VE TESTING

The April VE session saw four applicants, two for their Technician license. and two to upgrade to General. All four were successful.

Congratulations to **Randolf Brown, KI5POG** from Avinger, **Mark Phillips, KI5POH** from Mt. Enterprise, **Karl Kuenning, KI5PBU** now a General from Crockett, and **James McElhaney KI5PBV** now a General from Nacogdoches. Many thanks to VE's **Rusty KD5GEN, Ralph N6RH, Robert KD5FEE** and **Army AE5P**.

Of note, the pertinent data from this exam was transmitted electronically to ARRL-VEC in Newington, CT. The licenses were issued the very next day, Friday April 23. What used to require one week now takes one day!

Remember that we give VE tests the third Wednesday of EVERY month. For the latest information always check the club website at:

https://w5nac.com/ve-testing/

73 de AE5P.

email: ae5p@arrl.net

TWO METER CLUB NETS

Please join us each week for the two 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.

NEXT MEETING

Our next meeting will be Wednesday May 5th at the City/County Emergency Operations Center off FM3314. Meeting starts at 7:00; doors open at 6:30. Come early for a little socializing before the meeting.

We will have our monthly book raffle, with everyone present receiving a raffle ticket without charge. One ticket will be drawn and the winner will be given a book on a ham radio subject.

A program is possible. What subject would **you** like to see it on?

Hope to see you there.

SAN JACINTO DAY SPECIAL EVENT

The San Jacinto Day Special Event saw 3 members doing their best to make contacts under difficult band conditions.

In spite of conditions, a total of 379 contacts were logged, not too shabby.

Just think how many contacts could have been made if **more** club members had participated in the event.

The Nacogdoches Amateur Radio Club is designed for **ALL** members, but **ALL** members need to participate to make the club a success.

Field Day is coming up the weekend of June 26-27 and has been shown on our calendar of upcoming events for some time now. I sincerely hope **you** have blocked off some time that weekend to be able to participate with **your** club.

I'm sure this will be discussed at the next club meeting. There is a lot of work that needs doing to get us ready.

Your help is needed.

UPCOMING EVENTS OF NOTE

Mark your calendars for the following events coming up in the next few months. Full information on these events and much more can be found at http://www.hornucopia.com/contestcal/contestcal.html

Note that all dates shown here are local, CST dates while all contest logging uses UTC dates and times.

CQ WPX CW

May 29-30, 2021
http://www.cqwpx.com/rules.htm

ARRL JUNE VHF

June 12-13, 2021
http://www.arrl.org/june-vhf

ARRL FIELD DAY

June 26-27, 2021
http://www.arrl.org/field-day

CQ VHF CONTEST

July 17-18, 2021
http://www.cqww-vhf.com/

NAQP RTTY

July 17-18, 2021
http://www.ncjweb.com/NAQP-Rules.pdf

NAQP CW

Aug 7-8, 2021
http://www.ncjweb.com/NAQP-Rules.pdf

NAQP SSB

Aug 21-22, 2021
http://www.ncjweb.com/NAQP-Rules.pdf

Delta Loop HF Antennas

by

Thomas Atchison W5TV

The loop antenna we will discuss is a one turn coil carrying RF current. Such an antenna has its magnetic field perpendicular to the plane of the loop carrying the current. It can be any shape such as circular, rectangular, triangular or other. A loop antenna can be a large loop or a small loop. We usually call a loop antenna a large loop if the length of the antenna is approximately a wavelength at the intended frequency where it will be used. It is then called a resonant antenna. Small loop antennas are usually called magnetic loop antennas. Their length is approximately one-tenth of a wavelength.

I would like to focus this article on a large loop that consists of a wire antenna that has a total length of one wavelength and that is in the shape of a triangle in a plane perpendicular to the earth. One such antenna is shown in Fig. 1.

EZNEC

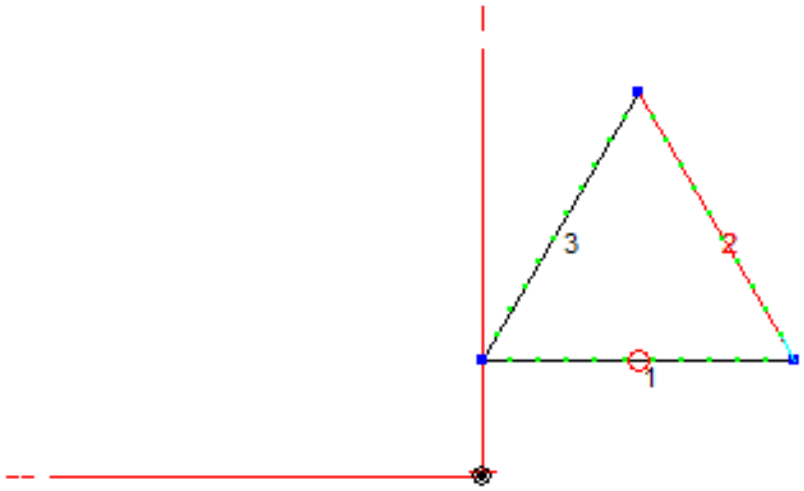
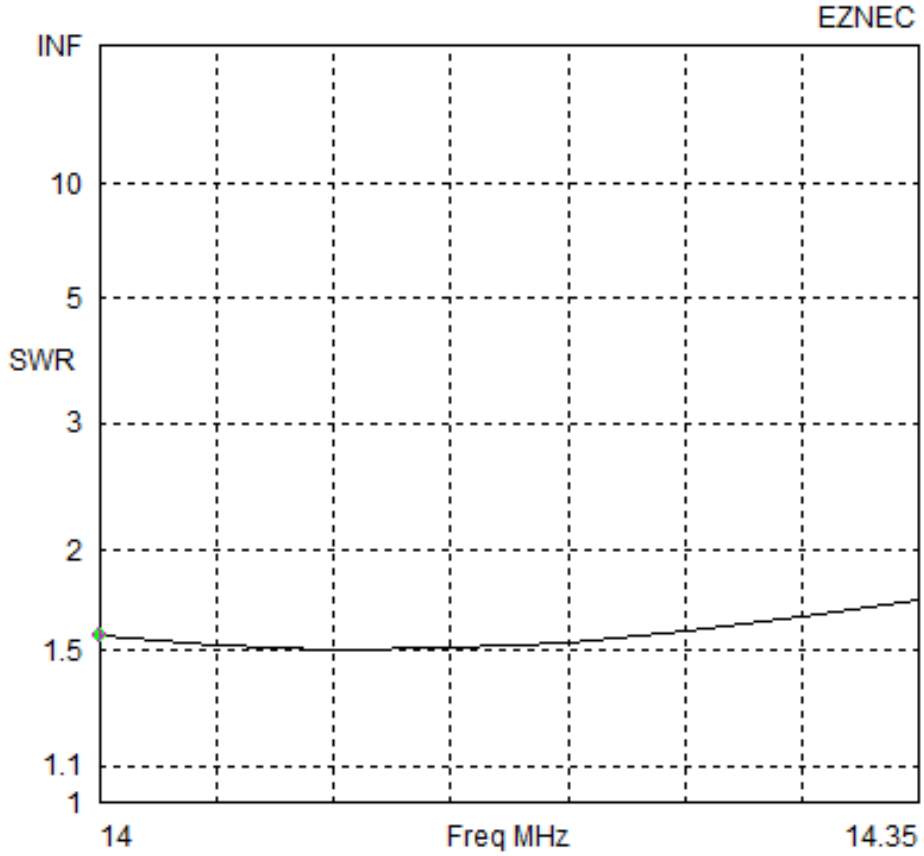


Fig. 1

In EZNEC, I used #12 copper wire with each wire length being 24.6 feet. The apex is 40 feet in the air over medium conductivity ground. The bottom wire, wire 1, is approximately 18.7 feet above the ground. The feed point is at the center of wire 1. In this case the SWR over the range from 14.0 MHz to 14.35 MHz is shown in Fig. 2 referenced to a 100 ohm load.



Freq	14 MHz	Source #	1
SWR	**1.57**	Z0	100 ohms
Z	150.7 at -10.21 deg.		
	= 148.3 - j 26.72 ohms		
Refl Coeff	0.221 at -22.82 deg.		
	= 0.2037 - j 0.08569		
Ret Loss	13.1 dB		

Fig. 2

The feed impedance of a Delta Loop is around 100 ohms so you will have to use a quarter wave length of 75-ohm coax to feed this antenna. At the end of the quarter wave matching section of 75-ohm coax, you can attach a random length of 50-ohm coax.

The elevation field pattern for this antenna is shown in Fig. 3.

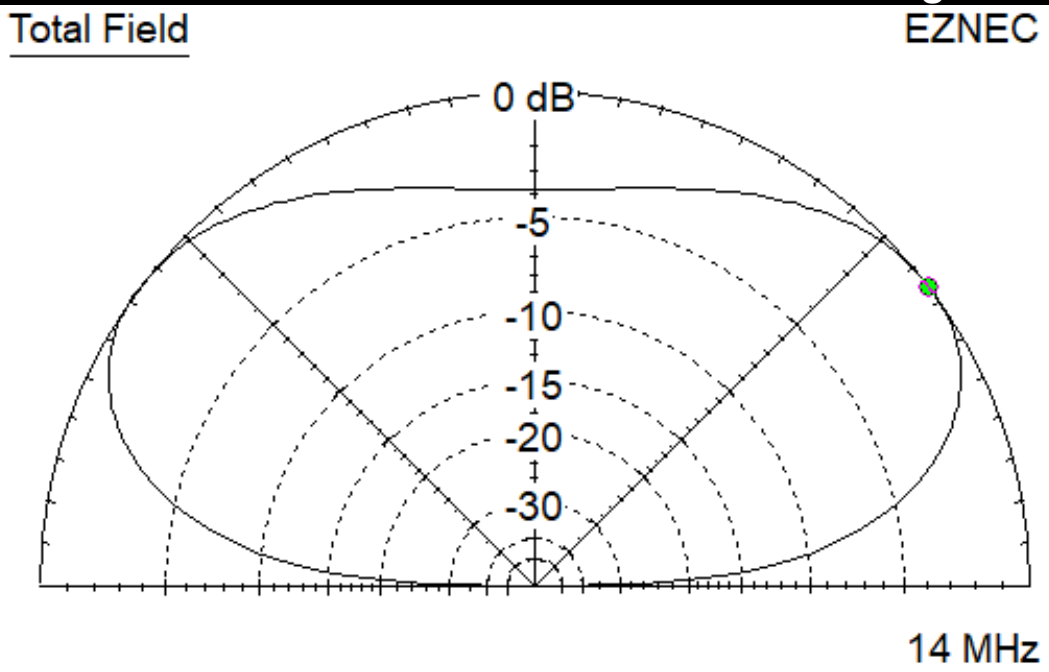


Fig. 3

The gain here is 6.17 dBi at an angle of 37 degrees and the polarization is **horizontal**.

The azimuth field at an angle of 37 degrees is shown in Fig 4.

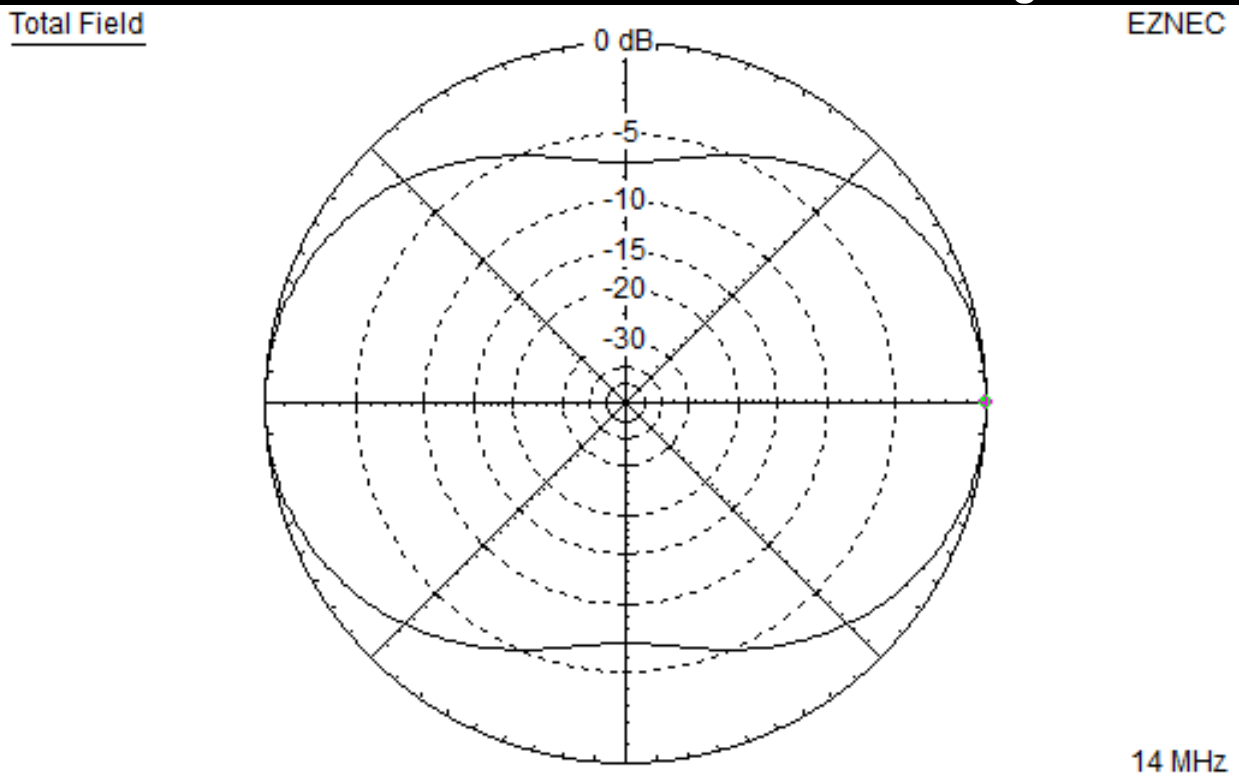


Fig. 4

We can change the polarization from **horizontal** to **vertical** by feeding the antenna at one of the lower corners instead of in the middle of the bottom wire. If we do this we get the elevation field shown in Fig. 5.

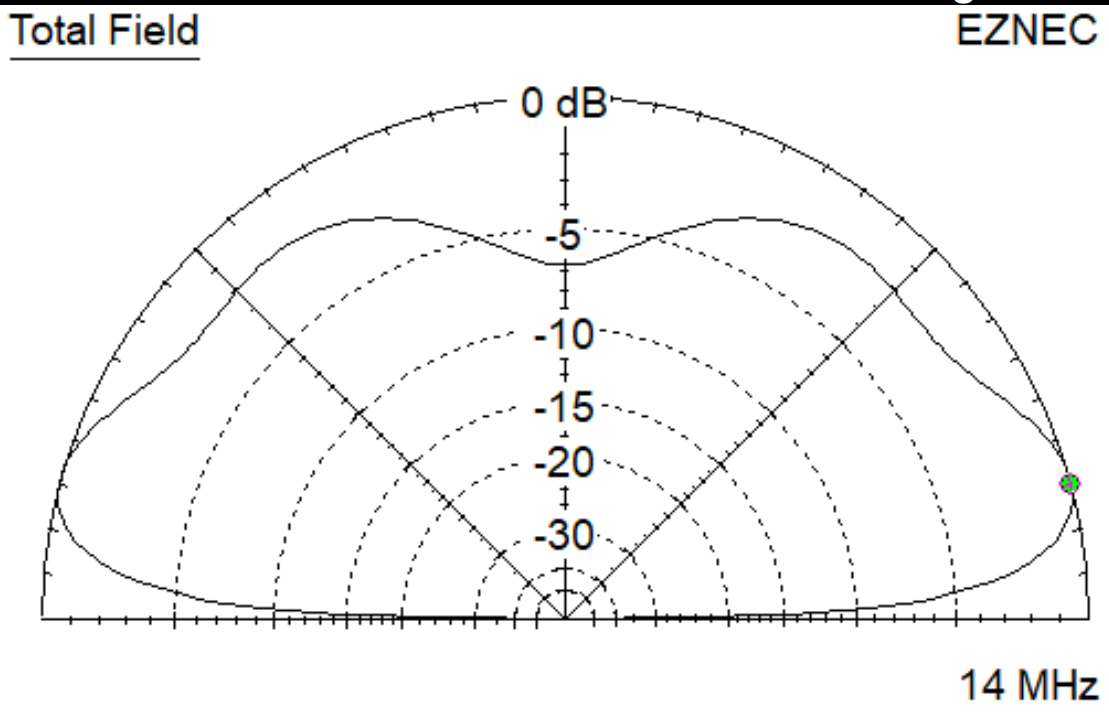


Fig. 5

Notice that the angle of maximum radiation is now at 15 degrees; however, the gain is 3.33 dBi. This lower angle of radiation makes this a better antenna system for DX.

Much information is available concerning loop antennas on the internet. This is an area which requires a lot of study to have a better understanding of how we can use loops in amateur radio. Many hams use loops as multiband antennas even though they are considered resonant antennas. One example of such a multiband antenna is in the article "A "One-Masted Sloop" for 40, 20, 15 and 10 Meters" by Rick Rogers, KI8GX, QST, April 2002, pp. 44 – 46.