

Nacogdoches Amateur Radio Club

2021 CLUB OFFICERS

Pres: Bill Rascher - KT5TE

Vice Pres: Steve Bartlett-WB5IDY

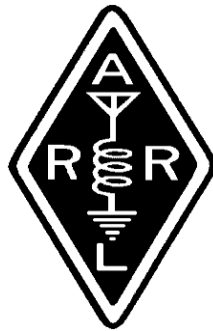
Sec/Treas: Army Curtis - AE5P

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.



MAY MINUTES

The May meeting of the Nacogdoches Amateur Radio Club (NARC) was held as scheduled on May 5th. **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 was discussed. A total of 379

contacts were made by N6RH and W5NRF. Congratulations and many thanks to both of them.

The June VHF contest is scheduled for June 12 - 13. So far, only two of our usual rovers are available and unless that changes, it looks like we will be contesting from home.

The evening's book raffle was for "The ARRL Antenna Compendium, Volume 8", and was won by Dale K5BDD. Congratulations Dale.

Meeting Closed at 7:32.

Program: **Army AE5P** led a discussion on the upcoming Field Day. Reviewing who has current possession of club equipment revealed the following:

KI5FIQ: G5RV antenna,
IC-756 PRO II
Transceiver.

W5TV: Orange Box #1.

WB5IDY: Orange Box #3,
WGD HF GoKit, 2M
Antenna and Tripod.

K5AGE: Orange Box #2.

AE5P: Everything else.

Various sub-chairmen were
appointed as follows:

Antennas: **Bill KT5TE**

Radios/Computers: **Aaron
KI5FIQ.**

Food & Drink: **Dale K5BDD.**

Publicity: **John KC5MIB.**

We are still in need of
someone to act as overall
chairman for the event. If
you would like to volunteer
before you are appointed,
please contact the
Secretary.

Remember: Chairman and
sub-Chairmen are **NOT**
expected to do all the
work. Everyone will need to
volunteer to help when
called on.

FROM THE PRESIDENT

It's June 2021 and here
at the farm we have not
made it into the 90s yet.
This is a good thing if you
are working outside doing
heavy work. Though the
humidity had been so bad
that when trenching for a
line to the fence it didn't
matter if it was raining or
not. Either way you will
get soaked to the bone.
On these wet mornings
the humidity does make it
tougher to enjoy coffee
with the laptop and radio
on the porch making a few
QSOs. With FT8 at 5
watts there is always
plenty of time to enjoy
that great cup of coffee.
With all those rainy days
at the end of May it was
time to update the radio
computer operating
system since outside work
wasn't possible. Instead
of updating openSUSE
Leap 15.2 to Leap 15.3 I
decided to try openSUSE
Tumbleweed. The
Tumbleweed distribution
is pure rolling release
version of openSUSE

containing the latest
"stable" versions of all
software, not just the
OS, instead of relying on
rigid periodic release
cycles. So far all the
changes appear to be
good, and with all of open
SUSE's interface choices
I'm able to chose one
similar to what was used
in the 1990s with various
modifications and
exceptions. I can do
change, but just because
you can do it doesn't mean
you are required to
change. More often than
not the change is to get
you to purchase again
what you have already
bought.

Field Day will be on June
26 & 27, and it looks like
we are heading in the
right direction. It will be
nice to have a good size
group sharing in the fun.
Hope to see you at our
June 2nd meeting where
we will discuss Field Day
and 2 meter antennas.

Hope to see you at our
May 5th meeting.

73, Bill KT5TE

bill@watershipfarm.com

FROM THE VP CHAIR

Tech Tips

In an effort to help our new Technician Licensees, we will be producing some periodic newsletter articles focused on information for new hams. Hopefully, this will help answer some questions that many of us have (or had) as we were starting the journey through this hobby.

So, you passed the Technician Test, congratulations. It is quite an accomplishment and required some dedication and study. It was not easy. Unfortunately, the study guides do not teach us much about the practical side of radio work that we all need to successfully enjoy this hobby. Coming to club meetings and talking with all those old salt Extra Class licensed fellows can be enlightening, but sometimes a bit

intimidating. They use a lot of terms, acronyms and jargon that simply aren't in the dictionary! Hang in there, 99 percent of fellow hams love to help you and don't consider ANY question dumb. If you get an occasional smart "donkey", just ignore them. The rest of us love to help.

Now that you have a ticket and a call sign, it's time to get on the air. Many new hams own a hand held radio (called a handy-talkie or HT when we want to sound official)! Most of these devices put out 4 to 8 watts and use a less-than-great coiled antenna in a rubber enclosure, i.e. a "rubber ducky" antenna. Depending on your distance from a repeater, you may be able to make a satisfactory connection and then the repeater does all the work to boost your signal to all the recipients. The only way to know if it works, is to try. You may be able to activate the repeater (which usually acknowledges by a Morse code call sign if it has

been idle for a bit) or a "kur-chunk" as it breaks squelch. PLEASE always identify with your call sign when you are testing the repeater. Actually, it is the law, but we all have probably made an occasional kur-chunk in silent mode. Don't hesitate to try the repeater and announce that you are "monitoring" with your call sign. If we are too, we will come back to you and you can receive a quick signal report while making a new friend. If it doesn't happen this time, just try again later. The most popular time is just before 8 am and around 5 pm while other hams with rigs in their vehicles are going to and from work.

In another article we will talk about joining weekly nets, but for today, trying to check in to a net is one of the best ways to see if you can use your HT without external antennas or power amplifiers. Your house may offer a lot of shielding for your HT antenna. If you can't hit the repeater inside, try stepping outside. It can

make a big difference. I once knew a guy that had to stand on the toolbox of his truck to get his signal out, but that is another story altogether. The FM transmission for 2 meter signals, at most all repeaters, is vertically polarized so hold your handheld with the antenna pointing up!!

Many hams quickly graduate to a more powerful radio for 2 meters by using a mobile radio, designed for a vehicle, as a base station in their shack. You can pick up a rig that has 50 watts of power for \$100 to \$200. Many are available used from ham equipment swap meets, eBay, QRZ classifieds, or a host of other places. A used rig is always a risk, but I have never personally had a bad experience buying used equipment. Yaesu, Icom, Alinco, and Kenwood are among the more popular quality radios. JUST ASK your new found ham radio friends if they know of any used VHF rigs and you will most likely be

overwhelmed with offers. I own 3 or 4 myself. Not sure why ... !!

A mobile radio will require a power supply which typically supplies about 13.8 volts. Purchase a power supply with a peak amperage rating that is 1.25 to 1.5 times more than you need for your radio. They come with and without volt and amp meters, and as solid state "switchers" or a heavy transformer style known as a "linear" supply. Both work well. Astron, Alinco, MFJ, and Samlex are quality power units but there are many more. You can expect to pay \$80-\$175 for a power supply that can comfortably run a 50 watt mobile radio.

Lastly, you will need an antenna. A vertical antenna is the most common and they can be purchased for under \$100. Best of all, you can build your own! We will talk more about antennas in the near future.

Just get on the air! Hoping to hear your new call sign soon.

73

Steve, WB5IDY

bartlett.steve58@gmail.com

NOTES FROM OUR EC

The editor just came through reminding us of the newsletter deadlines. OH, HI! Army. Just a quick note. If you have ever tried to put together a newsletter, you know how much work is involved. Trying to herd all the cats, figure out with us a unique article (thanks Dr. Tom) and piece the puzzle together. Army has been doing this for a while. Thanks Army for your yeoman's work.

Usually in June we talk about the impending start of the hurricane season. I covered some of the information last month so let's get into Hurricane Season 2021.

The last several years the season started off early (hurricane preseason like the baseball preseason

maybe). This year was no exception. Tropical Storm Ana, a sub tropical storm, formed north east of Bermuda 22 May. Because it formed outside the traditional region of the tropics is why it is listed as a sub-tropical storm. Still an ocean storm with all the usual trappings. She didn't last long. A little early, but the official start will be Tuesday, 1 June. And while we are on the weather, which one of you ordered up the May rains? Huh? The plant has received over 10 inches. I'm sure some of our local records keepers have recorded similar numbers. I thought April was the time for showers (which we did get), oh well.

It's June and Field Day, the contest that's not a contest, the field exercise that's not an exercise and a social event..., well you get it. It's a great opportunity to operate, socialize, and demonstrate our capabilities. Please sign up to help. We will again be setting up at the EOC. More details at the

meeting next Wednesday (2 June). As always, thanks to everyone who participates in our ARES/RACES and SKYWARN nets on Mondays and Thursdays.

See everyone on the nets

73 de John Chapman
KC5MIB
kc5mib@arrl.net

VE TESTING

The May VE session saw just one applicant.

Congratulations to **Darrell Thornton KI5PYQ** from Douglass, for passing his Technician exam.

Many thanks also to VE's **Rusty KD5GEN, Mike AA5HH, Robert KD5FEE** and **Army AE5P**.

Of note, the pertinent data from this exam was transmitted electronically to ARRL-VEC in Newington, CT. The license was issued the Friday after the exam. 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 June 2nd 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.

We will be discussing Field Day. Please come and volunteer to assist.

We will have a program on easy to build 2M antennas, and hope to have several examples to display and demonstrate. There is a good chance some of the antennas will be given away after the meeting.

Hope to see you there.

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.cqwpw.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 on Two Meters

by

Thomas Atchison W5TV

To follow up on the article last month I found this article on the internet: [An Indoor VHF Delta Loop \(k2zs.com\)](http://k2zs.com) . If you are connected to the internet you can do a Control-Click on the above link and it will take you to the construction article. I have modelled this antenna with EZNEC and the following show how the simulation performed.

First, the antenna will look like what we presented in the previous article as shown in Fig.1.

EZNEC

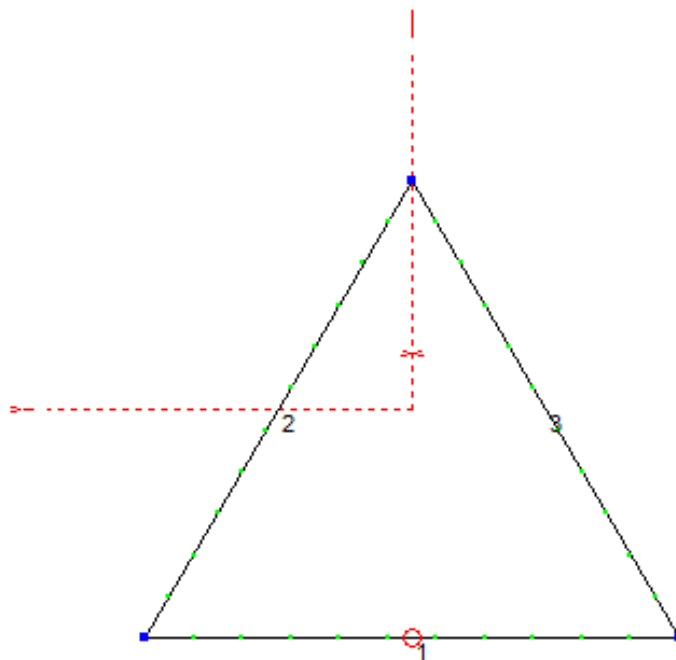


Fig. 1

We will use #12 wire with the sides of length 2.45 feet. We will feed the antenna in the middle of wire 1 (bottom wire) so the polarization will be horizontal. The antenna is placed with the bottom wire 5 feet above the ground. With a 100 ohm load we have the following SWR plot (Fig. 2).

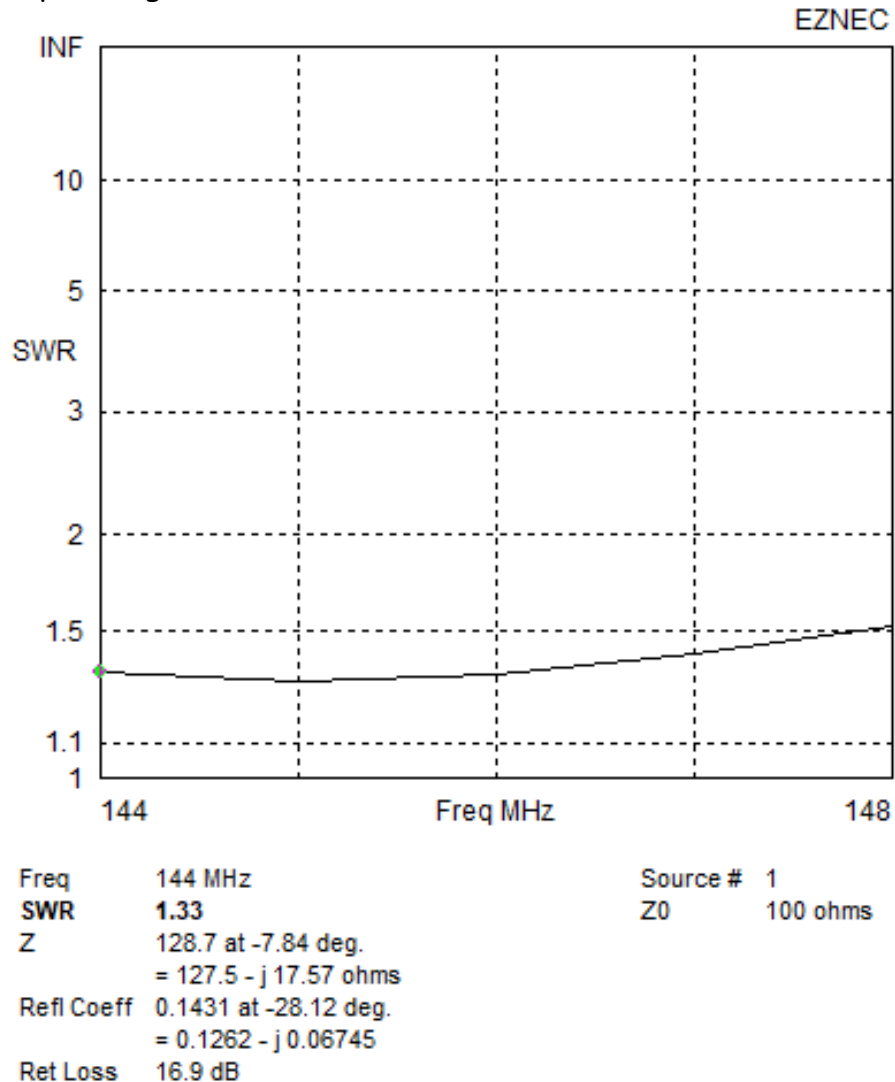


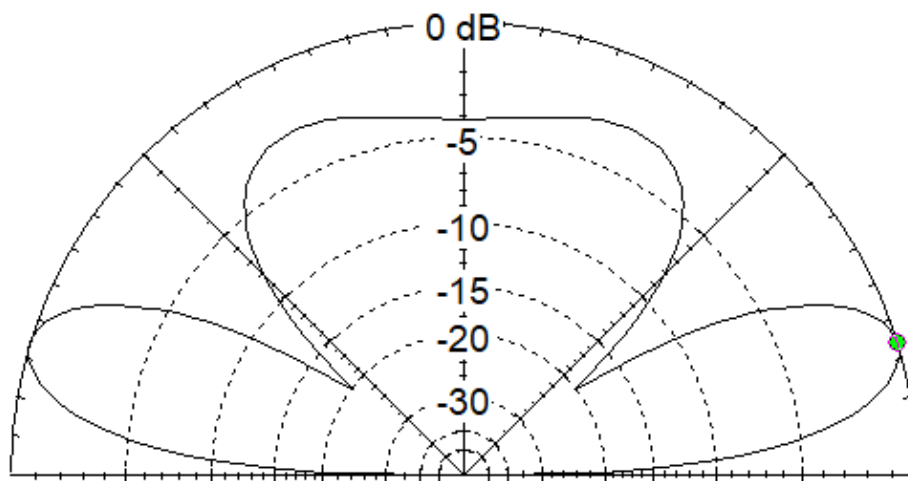
Fig. 2

Notice that the SWR is less than 1.5:1 across the 2 meter band. As I mentioned in the previous article you will need to match the output of your transmitter to this antenna. The feed point 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 plot is shown in Fig. 3.

Total Field

EZNEC



144 MHz

Elevation Plot
 Azimuth Angle 0.0 deg.
 Outer Ring 7.85 dBi

Cursor Elev 17.0 deg.
 Gain 7.85 dBi
 0.0 dBmax

Slice Max Gain 7.85 dBi @ Elev Angle = 17.0 deg.
 Beamwidth 18.2 deg.; -3dB @ 8.2, 26.4 deg.
 Sidelobe Gain 7.85 dBi @ Elev Angle = 163.0 deg.
 Front/Sidelobe 0.0 dB

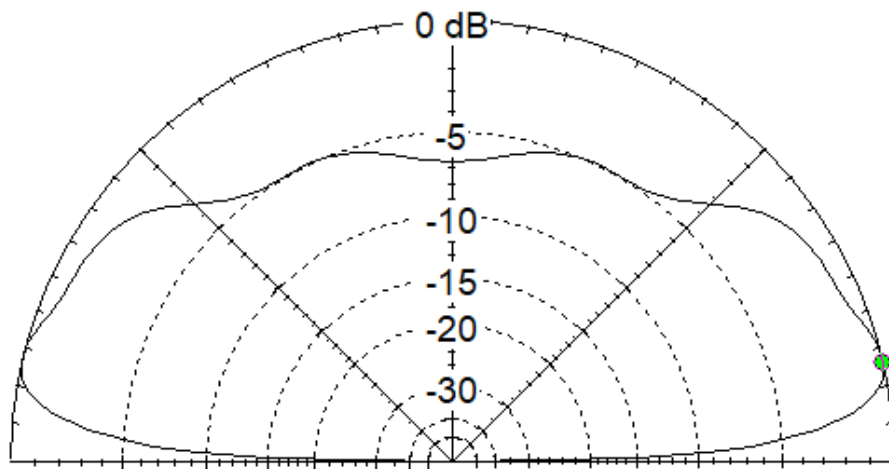
Fig. 3

Here the gain is 7.85 dBi and maximum radiation is perpendicular to the plane of the loop at an angle of 17 degrees. The radiation is **horizontally** polarized.

To achieve vertical polarization we can feed the antenna at a corner as in the article mentioned above. If we do this we get an elevation field as shown in Fig. 4.

Total Field

EZNEC



144 MHz

Elevation Plot
 Azimuth Angle 0.0 deg.
 Outer Ring 4.05 dBi

Cursor Elev 13.0 deg.
 Gain 4.05 dBi
 0.0 dBmax

Slice Max Gain 4.05 dBi @ Elev Angle = 13.0 deg.
 Beamwidth 38.4 deg.; -3dB @ 5.3, 43.7 deg.
 Sidelobe Gain 4.05 dBi @ Elev Angle = 166.0 deg.
 Front/Sidelobe 0.0 dB

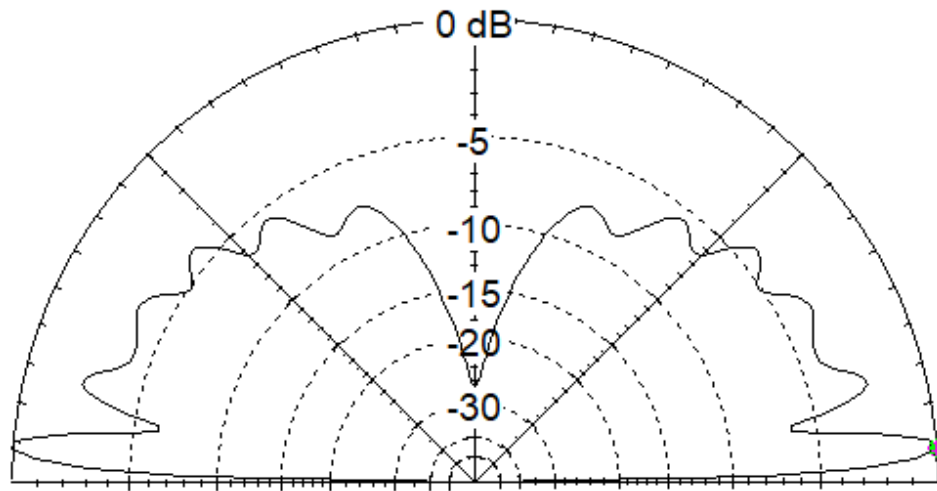
Fig. 4

Notice that the gain is now 4.05 dBi and maximum radiation is at 13 degrees and perpendicular to the plane of the antenna. The radiation is vertically polarized. This would make a good indoor antenna for use with repeaters.

If you are able to locate this antenna outside at a height of 20 feet above ground then the elevation field plot will look like the plot in Fig. 5.

Total Field

EZNEC



144 MHz

Elevation Plot
 Azimuth Angle 0.0 deg.
 Outer Ring 6.72 dBi

Cursor Elev 4.0 deg.
 Gain 6.72 dBi
 0.0 dBmax

Slice Max Gain 6.72 dBi @ Elev Angle = 4.0 deg.
 Beamwidth 5.2 deg.; -3dB @ 2.0, 7.2 deg.
 Sidelobe Gain 6.72 dBi @ Elev Angle = 176.0 deg.
 Front/Sidelobe 0.0 dB

Fig. 5

Notice the gain is now 6.72 dBi with maximum radiation at an angle of 4 degrees and perpendicular to the plane of the antenna. The radiation is **vertically** polarized.

NEXT MEETING PROGRAM

Army Curtis AE5P

At our next meeting June 2nd, I hope to have several "quicky 2M homebuilt antennas" to demonstrate. We have several new hams in our club. They just received their new callsign, and are brand new to our great hobby. Most of them live a considerable distance from 2M repeaters in town and have quickly discovered that rubber ducky antenna on a handheld transceiver doesn't always provide a full quieting signal into the repeater.

The best way to solve this problem is to use a better antenna outside your house. There are many different types of antennas that can fill the bill here and we hope to be able to show you some of them at the meeting.

Here are some links to various web sites showing some of these antennas. Consider this some 'advance reading' to get you ready for the meeting:

<https://www.jpole-antenna.com/2018/08/21/build-it-2-meter-1-4-wave-ground-plane-antenna/>

<https://www.hamuniverse.com/2metergp.html>

<https://harriscountyares.org/training/KNW/KNW-123.pdf>

<http://www.fredspinner.com/W0FMS/CheapYagi/vjbcy.html>

Many thanks to Tom W5TV for most of the links above. By all means study his article in this newsletter on a 2M delta loop which should be very easy to build.

Build or buy? Either way works, but building is certainly less expensive and gives you a great deal of satisfaction. It is not hard and you can learn a great deal in the process.

Hope to see you at the meeting.

Oh yes, did I mention that I intend to give away the antennas we demonstrate at the meeting?