

Nacogdoches Amateur Radio Club

2016 CLUB OFFICERS

Pres: John Cechin - W5FWR

Sec/Treas: Army Curtis - AE5P

Visit our web site at

<http://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 have fun.



SEPTEMBER MINUTES

The September meeting of the Nacogdoches Amateur Radio Club (NARC) was held as scheduled on September 7th. **President John W5FWR** opened the meeting at 7:00 p.m. in the Parish Hall of Christ Episcopal Church. Sixteen members and one guest were present. Each person present introduced himself. Minutes of the previous meeting were approved as published. The Treasurer's report was read.

Contests: Texas QSO Party is coming up the

weekend of September 24 - 25. Several members have indicated they intend to participate.

NPOTA - Ralph WD5RAH plans to activate the Mammoth National Monument on September 20. See his article later in this newsletter.

Special Event Stations - After discussion, the club is planning to activate Special Event Stations on February 4-5 for the Space Shuttle Columbia memorial, and April 21 for San Jacinto Day.

Piney Woods Purgatory is scheduled for Saturday October 1. Our friends in Lufkin are asking for help in providing communications support for this event.

Meeting closed at 7:45 p.m.

Show and Tell: Sept. 2015 VHF Contest Certificates were received by **AE5P**, **W5TV**, **WA5GVQ**, **WD5RAH**, and **KT5TE**. Good job gang!

Program: Tommy Gober **N5DUX** presented an outstanding program on how to operate through the Amateur Radio satellites. The entire group then moved to the parking lot where Tommy worked many stations through an overhead FM satellite pass.

MY 2 CENTS FOX WILLY ROGER

OCTOBER 2016:

October is the time that we as a club start the process of selecting club officers, remember to count the candidates e-mails.

How about this cool weather, it's almost fire place time, I can think of only a few things better

than sitting in front of a fire place with a drink in one hand and smoking my favorite pipe, how about you?

A few weeks ago I learned the true meaning of "roll out of bed", I went to roll over on my side and found out there wasn't any more bed to be had.

WHO AM I?

I am going to repeat the clues once more, maybe a little extra time will jar some brain cells, think a little harder.

1869, I was born September

1886 Graduates MIT ME

1892 Begins work at the American Projectile Co.

1895 Builds gasoline-powered tricycle

1895 Hired by Pope Manufacturing Co.

If you don't figure it out, send me a \$20 bill with your call and e-mail address on it and you will the answer in return.

The TQSO event is over for another year, now is the time for bragging, who

will walk away with the prize?

Why is it when a tree is standing tall and strong some part of it is called the trunk, but when it has fallen and laying on the ground it's called a log? Go figure.

I was in a food store one day and I saw a container of mayo light, I then checked out another container of Mayo, not light, they both weighed the same, beyond me.

Do you know where the term "don't throw the baby out with the bath water" came from?

The program came off with great success, thanks to all.

REMEMBER:

No computers.
Candle stick phones.
Party lines.

The word tree is feeling a bit better now seems like this cool weather is good for it. I reminded the

word tree that good times were ahead...

Still waiting for a good gun show to sell inventory, I think Tyler show at the end of October might be the one, more on this later.

Attention all BLUE BELL ice cream people, I heard that more trouble at the plant, beware.

Attention, the cactus plant has fallen, yes I know I told you this before, but some of us have bad memories so I thought another announcement wouldn't hurt, and I'll let you know how it burns.

This month is club officer time, this is the time to belly up to the bar boys, be the next president of our club, it's easy, even a dummy can do it, case in point, W5FWR.

PAT seems to be doing better that is good news to a lot of people, keep going PAT.

Have a safe and happy fall, no not out of bed, that's

right its fall time, it on the 22nd September, time to dig the heavy garb.

THE CRAZY CAT GUY:

We are sad in the W5FWR QTH these days, runt, I named her "PUNKIN" passed Sunday, she just wasn't strong enough I guess, at feeding time all run into the house except Fluffy, Fluffy comes in and sits on the door jam. The cats look life fish in a pond, rushing in and about, under, over and pushing each other around. Pumpkin had them all beat; she just walked under them all, but had to fight at the food dish. All I do is tip toe out and wait for all to come out and eat. I give them some dry and some wet food, when I start dumping the dry food into the dishes they all rush to start the meal, it's like a prayer we had when I was a kid, thought who eat the fastest eat the mostes, well now it's wet food time, picture this, nothing but cat heads over the dishes, how do I give them the wet, as soon I start with the wet it's

the fish pond once more, everyone is afraid of not getting a fair share. Some days there's more food on them than in them.

The other day one snow twin ran into the house and jumped onto my chair and then to the table and looked around, I think he was watching Tar Baby.

When the weather was warmer and the kittens were smaller, I placed a low rimed dish in the drive way so the kittens could drink. A few days later I saw that not just the small ones were using the new watering hole. A plan was brewing in between my ears, some years ago I purchased a bottle of Perrier water, I wanted to see what all the hype was about, one drink and down the drain it went. I liked the bottle so I kept it, can you see what ahead? That's right I use the Perrier bottle the fill the water dish, if that's not enough, I added ice to the dish, now all who see thinks that I water my cats with Perrier, good times.

"THOUSANDS OF YEARS AGO CATS WERE WORSHIPED AS GODS THEY HAVE NEVER FORGOTTEN"

DID YOU HEAR THE ONE?

SORRY, I'm out of clean jokes for now.

GREAT INVENTIONS: SORRY, no inventions this time.

DID YOU EVER THINK? Why it cost more for anything with things with less cost more? Last month I commented on food without all the additives. Makes a body wonder still.

I will now leave a lot more spaces for the others to use, don't be shy, and fill up the pages, you try it sometimes, but you can't use my Word Tree.

LIVE WELL, LAUGH OFTEN, LOVE MUCH!!!

Let me know, what do you think?

KEEP YOUR POWER DRY AND YOUR HEAD BELOW THE HORIZON.

HAPPY TRAILS

John Cechin W5FWR
Carrots4ever2@gmail.com

NOTES FROM OUR EC

It seems my column has been more of a weather/hurricane column for awhile but then that is the weather season we are in for the next 60 days or so. And Hurricane Michael just formed in the Caribbean. The hurricane season ends 30 November. Thankfully, it's been a quiet season. Maybe we'll get out of this season without a lot of difficulty.

The Piney Woods Purgatory is /was 1 October (I'm pretty sure this will be published over the weekend). If you worked the event thanks for the assistance. This is a big event and DETARC cannot get it all done by themselves. The PWP covers 3 counties and has a number of different

riding loops of varying distance up to the 100 mile loop. There are a number of resources required, not just people but also, personal and club equipment.

DETARC will be linking their .94 repeater with the .98 Alto repeater to cover the routes and all the counties. We have linked the NARC .32 repeater in previous years. The upside of linking is of course, a larger coverage area. The downside, you tie up 2 or more repeaters for a good portion of the day.

What is the repeater etiquette when a repeater or repeater system is being used for an event? If you are not working the event obviously avoid using the repeater(s). If you forget and net control reminds you the net is being used for an event, apologize, sign off and move to one of the other machines. Always listen to the repeater for a bit before transmitting, which is a good practice. During the sunrise hours, other

repeaters on the same frequency can be heard. If you hear them running an event, again avoid the frequency for a little while and honor their use of the frequency.

There are exceptions to this rule: EMERGENCY or URGENT traffic. Just wanting to check with another operator about getting burgers later does not qualify, even though your stomach is calling it an emergency.

If you are working the event, follow the protocols and directions from net control. Always remember to give your call sign at the end of your transmission or every 10 minutes whichever is sooner. Don't use your tactical or location callsign to sign out.

Again, thank you to all the hams who check into our net, and to the net control operators.

73 de John Chapman
KC5MIB
jlchapman2@juno.com

VE TESTING

Our next VE testing is scheduled for Wednesday, October 21 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 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

The next meeting will be **Wednesday October 5th at 7:00 p.m.** in the Parish Hall of Christ Episcopal Church.

VE TEST RESULTS

Jack York of Nacogdoches passed his Tech exam at the September VE testing session, and has been assigned KG5POU. Please make him welcome when you hear him on the air.

NPOTA

On Tuesday September 20th I had a chance to activate this National Monument on ham radio. As most of you know, ARRL has designated this year as "National Parks on the Air" year. Ham radio enthusiasts contact the parks to get permission to set up a mobile station at their facility and broadcast from that site. Some ham's will try to contact every NPOTA in

the nation, and they are very glad to have you activate a park or monument so they can add the park to their list of contacts. I was happy to activate MN81.

The Monument in Waco, TX commemorates and displays bone evidence of a herd of mammoths that were caught in a mud slide over 10,000 years ago. I had a chance to see it several years ago just after it was discovered and uncovered. The site is about 2 miles from my sister's house, and my brother-in-law took me over to see it. At that time, you had to walk through a field and forest to get to the site. What I saw made the hair on the back of my neck rise up. The herd had been caught in a mud slide and I could still feel the terror that they must have felt when it happened. The bones of one infant were cradled in the tusks of an adult where it was obvious that the adult was trying to lift the infant out of the pit to safety.

With regard to the details of the activation: I thought it would be fun for me to try to activate one of the parks/monuments relatively close to Nacogdoches. Two choices: 1) Big Thicket National Park south of Woodville, 2) Mammoth National Monument in Waco. I contacted both facilities and decided that the Waco site was the easiest for me to activate. It is close to my sister's house, and there is good parking for our 40' 5th wheel RV.

I have a 31' vertical telescoping antenna mounted on the rear ladder that can be extended. The RV frame acts as the ground plane. At the base of the antenna I have an ICOM AH-4 tuner that can tune the antenna from 80 through 10 meters. Inside the RV I set up the ICOM 706 to tune the antenna, and a Flex 6300 radio to make the contacts. We have a generator in the RV so we have all the comforts of

home even though we are not connected to the grid. My objective for the day was to make as many contacts as possible on 40 and 20 meters, and to make at least one satellite contact. The park's hours are from 11:00AM until 5:00PM Tuesday through Saturday. We arrived at the park at 11:15 and set up in a location specified by the ranger. It was not at the facility building per say because they were afraid my transmissions would interfere with their radios. No argument from me even though I doubted that that would actually happen. There was a good place to set up just a short distance away and still on the grounds. After setting up the radios and a quick lunch, I began transmitting on 40 meters at 7220. For the first 20 minutes or so I got no responses from anyone. I put out an email on hamlist telling the frequencies that I would be on, and within 10 minutes I had heard from three of the hams in the Nacogdoches area. I could get no other interest on 40 meters so I

switched to 14.230 on 20 meters and began broadcasting. It didn't take long before I started getting contacts. One station in California asked if it was okay for him to spot me on the internet? I said sure even though I didn't even know what that meant. Boy, did I find out in a hurry. I began to get a huge pileup. I've never worked one of these before, and was it an eye opener. It didn't take long before they began to wear me out. I just stopped for a bit, and caller's started saying "where'd he go?" Had to chuckle at this. Collected myself and got back into the fray. Calls were from coast to coast and border to border. Really a lot of fun and many were happy to record MN81 as a contact. A station in Florida told me that a station in Croatia was trying to get me. Gave me his call sign and said that he was coming into Florida load and clear. I called the station in Croatia (9A7W) and sure enough he was loud and clear. Glad to log this one.

We had to start tearing down at 4:00PM since the park closes at 5:00PM. (It takes a while to get the 5th wheel and radio system ready for travel.)

Now the satellite contact: For the last several months I have had limited success using an ELK portable antenna to try to make satellite contacts. I am fully aware that most of my problems with this antenna were operator problems, but after hearing Tommy Gober's (N5DUX) presentation at our monthly meeting and watching him make satellite contacts with an ARROW antenna I decided to try this antenna for the MN81 site. I ordered the antenna and had it delivered to my sister's house. So, at 5:00PM we moved the RV just outside the gates to the site. Satellite SO-50 was due to make a pass over the area at about 6:00PM. I set up the arrow antenna and my Kenwood TH-F6 and got ready for the satellite pass. My sister and her daughter drove over to watch. No

pressure of course. Here I was with a new antenna hoping not to embarrass myself in front of the audience. My wife, Sydney, helped me with the

iphone/compass/satellite location. (You really could do with 3 or 4 hands when making Satellite contacts). You only have a maximum of about 14 minutes on the satellite pass, so things happen fast. I had a recorder in my shirt pocket so I could go back and listen for call signs that I could later log. As the satellite came over the horizon I began listening for stations. I had a little difficulty tuning the radio to the proper frequency (due to Doppler effect) and at the same time pointing the antenna at the satellite. I now have a better way of doing this so it will not be as awkward in the future. I did however manage to make two contacts on SO-50 before it disappeared over the horizon so everyone was happy.

In the end I was very pleased to have activated

one of the National Parks in Texas. It was a very good experience for me to be able to go to a remote site, set up my RV and radios, and make contacts. The satellite experience was good also as I was able to log two contacts from the MN81 site.

de Ralph, WD5RAH

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>

CQ WW DX Contest SSB

October 29 – 30

<http://www.cqww.com/rules.htm>

ARRL Sweepstakes CW

November 5 – 7

<http://www.cqww.com/rules.htm>

[htm](#)

ARRL Sweepstakes SSB

November 19 -21

<http://www.cqww.com/rules.htm>

CQ WW DX Contest CW

November 26 - 27

<http://www.cqww.com/rules.htm>

ARRL 160 Meter Contest CW

December 2 - 3

<http://www.arrl.org/160-meter>

ARRL 10 Meter Contest CW/SSB

December 10 - 11

<http://www.arrl.org/10-meter>

Impedance Matching

by

Thomas Atchison, W5TV

In working with antennas we realize that our transmitter has an output impedance (usually 50 ohms) and the antenna we connect it to has a input impedance. If we plan to use the antenna over a range of frequencies, then the impedance of the antenna will vary according to the frequency we use. **Impedance matching** is the process of making one impedance look like another. Several different techniques can be used to accomplish impedance matching between a transmitter and an antenna. We will discuss some of these in this and future articles.

To transfer the maximum amount of power from a source (our transmitter) to a load (our antenna), the load impedance should match the source impedance. If we construct a tuned antenna, that is, an antenna that has an impedance of 50 ohms at a particular frequency, f , then we should transfer the maximum amount of power from our transmitter to the antenna, however, if we change frequencies, the amount of power transferred decreases. Because of this, many amateurs use an impedance-matching unit or an 'antenna tuner' between their transmitter and their antenna. This description seems to imply that you are 'tuning' the antenna; however, that is not the case. An antenna tuner does not alter the frequency at which the antenna is resonant, it does not reduce the SWR on the antenna feed line, and it does not reduce any feed line losses due to a mismatch. The question then becomes '**What does the antenna tuner actually do?**'

The basic function of an antenna tuner is to assist in the transfer of power from the output of the transmitter into the feed line of the antenna. If the design of the antenna tuner is such that it will provide a 50 ohm load to the transmitter then the transfer of power from the transmitter to the feed line will be maximized. From that point on we may have power lost in the feed line due to a mismatch in the delivery of power from the feed line to the antenna and we will have power lost due to heating of the conductors, both in the feed line and the antenna.

The most common impedance matching network circuits for use in systems that use coax cable are:

The low-pass L network, Fig. 1,

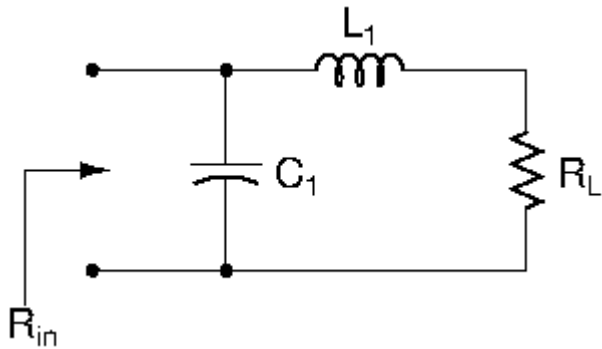


Fig. 1

The high-pass L network, Fig. 2,

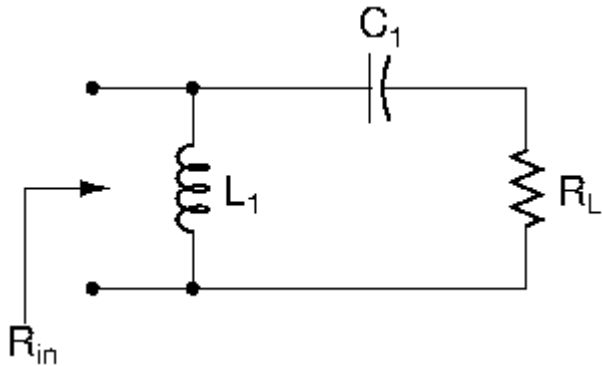


Fig. 2

The low-pass pi network, Fig. 3,

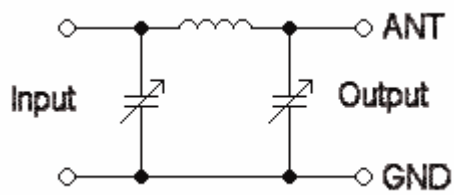


Fig. 3

The high-pass T network, Fig. 4,

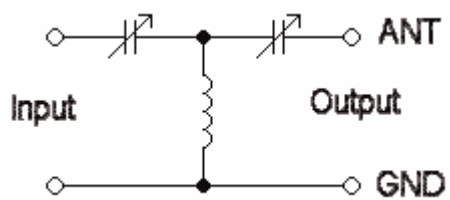


Fig. 4

The most common form of antenna tuner in recent years is some variation of a T network, Fig. 4. The T network can be thought of as two L networks back to front, Fig. 5,

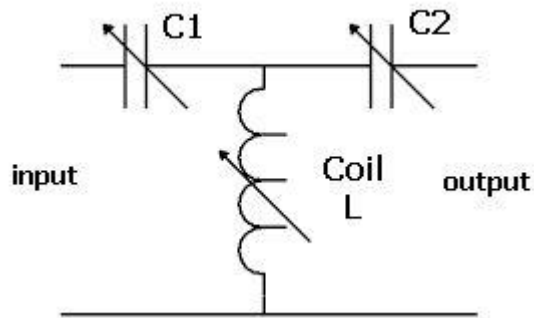


Fig. 5

The inductor, L , may be considered as two inductors in parallel to visualize the two L networks back to front. The output connected to the right side in Fig. 5 is transformed into its parallel equivalent by using the series output capacitor, $C2$. The left side L network then transforms the parallel equivalent back into the series equivalent and resonates the reactance with the input series capacitor, $C1$.

A typical tuner of this type is the MFJ Versa Tuner. It has the input capacitor, $C1$, labelled as TRANSMITTER MATCHING and the output capacitor labeled as ANTENNA MATCHING. There is also a switch labelled INDUCTOR SELECTOR that selects various taps from an inductor to provide different inductances for matching purposes. Fig. 5 is a representation of this MFJ tuner.

Tuning such a unit can be accomplished using an SWR meter between the output and the feed line. First, change the INDUCTOR SELECTOR until you have maximum noise on the receiver. Then, with low power from the transmitter, adjust $C2$ and $C1$ alternately for minimum SWR. If you can't get a low SWR you might change the INDUCTOR SELECTOR one step up or down and retune $C2$ and $C1$. If this fails, try a different antenna system!