

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.



NOVEMBER MINUTES

The November meeting of the Nacogdoches Amateur Radio Club (NARC) was held as scheduled on November 2nd. **President John W5FWR** opened the meeting at 7:00 p.m. in the Parish Hall of Christ Episcopal Church. Fourteen 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 read.

Nominating Committee Report: The Nominating

Committee reported their recommendations for 2017 Club Officers as **W5FWR** for President, **K5AGE** for Vice-President, and **AE5P** for Secretary/Treasurer. There being no further nominations from the floor, they were elected and will assume their new offices at the December Meeting.

Contests: The CQWW SSB contest was just completed, and all bands were reported open to the north and south. Club participants included **AE5P**, **W5TV** and **WD5RAH**.

Special Event Stations - NARC will sponsor two Special Event Stations next year, the first on February 4-5 for the Space Shuttle Columbia memorial using the call **K5C**, and on April 21-23

for San Jacinto Day using the call **K5J**. This was later changed to **K5T**.

General News: A new Harbor Freight store will be opening soon in Nacogdoches.

A new indoor shooting range has opened just east of town.

Meeting closed at 7:50 p.m.

PROGRAM

Roger KOYY presented a most informative program on APRS.

MY 2 CENTS FOX WILLY ROGER

DECEMBER 2016:

HOW DID YOU LIKE MY NOVEMBER COLUMN? I PUT A LOT INTO IT.

New officers have been elected and no mudslinging occurred at all I can't understand it. December, the time for Jingle Bells, Mistletoe, good food, good friends, good times, and gifts under the tree.

Speaking of gifts, I figured out what to offer up for the White Elephant at the next meeting. All who bid on them please bring some cat food, just in case, the snow twins go as a set. A short meeting and fun times are the order of the night, so hold your fun times for the Christmas party, Thank You.

How about this cool weather, it's fire place time, time to go and cut down the neighbors trees for fire wood, would any one like to volunteer to chop or give fire wood to **W5FWR**? Or for that matter, **CAT FOOD**. About a month ago I reported about "rolling out of bed", well I topped that, I was watching TV and woke up on the floor with all kinds of pains, to this day I still don't know what happened.

A few years ago the Kidney doctor told me to cut out salt and cut my sodium intake, have you ever tried to find salt free low to no sodium foods on the store shelf?

WHO AM I?

No one came up with the answer, so here are a few more clues.

His father invented the Maxim machine gun.

In 1914, he started ARRL.

If you don't figure it out this time, I give up.

The **NPQSO** event is almost over; you still have a few weeks to play.

The word tree was feeling sorry for me and gave up some words, so let me see how kind TWT is.

REMEMBER:

Floor Stick shift autos.

Hand operated windshield wipers.

Sawing without electricity.

THE CRAZY CAT GUY:

Then there were seven outside and two inside. Lou went on walk-about a few weeks ago, and with Pumpkin passing, I was down to a manageable size. Then one day I opened the door to feed the horde,

and who should appear, you guessed it, Lou was back, and it looked like he and Tuff Guy were friends. I also noticed that that Mother was back, injured and hungry. Now we are back to ten.

The Snow twins are big, fat and tiffed; they can no longer slip under the storm door to get into the house first, now everyone has to take turns to enter. This is a daily occurrence, all rush in, except Mother and Tuff Guy, all rush in look around and stands around in the door way waiting for me to feed them. When I have some scraps left over all I have to do is tap on the storm door and the Snow twins and Lou are the first to get to the door and see what's happening.

The cooler weather has awakened my giant, Rolly Polly. One day she lifted her head from her resting spot, jumped up and ran around the house, and playing more with Tar Baby. Now both of them have taken to sleeping with

me, sometimes Rolly is on the bed early.

Tar Baby is now jumping on to the cabinet to be fed, she paces back and forth waiting for me to open a can of food, when she paces back and forth she wipes my face with her tail, sometimes adding a second mustache to me. The process goes something like this, I wash out the plate, she paces, I open the can of food, she paces, I rinse off the can top and shack the excess water on her head, and then I put it aside, she paces, I tap her head with the spoon, she stands ready over the plate waiting, I scoop out some food and Tar Baby pushes the can out of the way with her head and starts to eat, scoop out the rest of the food, all the time the water is running and she keeps an eye on it between chews. That's the way I start my days.

When I go out front to collect my bills, the OS cats follow, most of the time Tigger Boy will walk with me, sometimes he will

cross in front of me and sometimes will walk between my feet, I take a step and he takes a step, and that's the way we walk to and from the mail box, try it with your cat, you don't have one....

Daisy May now comes into the house and makes herself to home, comes in eats and checks everything out and just lays around, sometimes it takes an act of congress to get her outside again, right now she's investigating the fire place. Never a dull moment.

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

DID YOU HEAR THE ONE?

Old mother Hubbert...
Sorry I can't tell you that one.....

GREAT INVENTIONS:
the auto makers have come out with a button to start the car, big deal I had

that on one of my cars in the forty's, in fact I had a car with a starter on the floor board, how many of you can say that?

DID YOU EVER THINK?

Why a cow or a goat eats mostly green grass, but they give white milk?

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

I'm writing my column over the Thanksgiving Holiday. I hope everyone had a great day with family and friends and didn't over indulge, okay maybe not too much.

November is almost over and that means the 2016 Hurricane season is almost over. Hurricane Otto seems to be the last hurricane of the regular season. It is in Central America and is forecast to dissipate by Tuesday. We have been lucky for the last few years. But we certainly shouldn't be complacent.

And now on to other things: Are your antennas and feedlines winterized and ready? Will they stay up until that cold and bright day comes when you can repair it? Winter is a good time to practice your skills on 80 and 40m or even try a new mode.

I'm going to plug a Voice of America program. If you receive QST there

was an article about Dr Kim Andrew Elliot of the VOA. He has proven a concept using various digital modes to send news articles and pictures via shortwave. It works well as long the propagation cooperates. The requirements are simple: a radio, a computer, it doesn't even have to be a high speed computer or very expensive, an inexpensive Android tablet or phone device works reasonably well and some software (ps the software is free). FLDigi is the software of choice for PCs ANDFLmsg and TIVAR are the Android equivalents. TIVAR is receive only fldigi based software. All of them can be set up "set and forget." Set up the receiver start the configured software and leave it alone.

Below are the web pages for VOA Radiogram, FLDigi, AndFlmsg and Tivar. Hold on to these pages because next month we will talk at length about NBEMS and using FLDigi and AndFlmsg.

<http://voaradiogram.net/fldigi>
<https://sourceforge.net/projects/fldigi/files/>
 AndFLmsg and TIVAR
<https://sourceforge.net/projects/fldigi/files/AndFlmsg/>

Don't forget our weekly nets, Monday is ARES/RACES, Thursday is Skywarn both meet at 8:00 p.m. local time. AND our regular meeting on the first Wednesday and I think it will also be the white elephant auction. I have yet to figure out why anyone wants a white elephant.

73 de John Chapman
 KC5MIB
jlchapman2@juno.com

VE TESTING

Our next VE testing is scheduled for Wednesday, December 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 December 7th at 6:00 p.m.** in the Parish Hall of Christ Episcopal Church. This

will be our annual Christmas Party and White Elephant Auction.

Note the earlier than normal starting time of 6:00 to accommodate eating. We will have a very short business meeting followed by our annual White Elephant Auction to benefit the club. The eating is pot luck, so bring a light dish, dessert or appetizer to share if you can. The club will provide paper goods and drinks.

This meeting is open to family and friends. Your spouse and kids are most welcome.

VE TEST RESULTS

Jack KG5POU passed his Technician exam in September, his General exam in October and his Amateur Extra exam in November. Congratulations to Jack on his achievement and we look forward to hearing him on the air.

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>

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>

ARRL RTTY Roundup

January 7 - 8, 2017
<http://www.arrl.org/rtty-roundup>

North American QSO Party - CW

Jan 14 - 15
<http://www.ncjweb.com/N AQP-Rules.pdf>

North American QSO Party - SSB

Jan 21 - 22
<http://www.ncjweb.com/N AQP-Rules.pdf>

ARRL January VHF Contest

Jan 21 - 23
<http://www.arrl.org/january-vhf>

NARC Shuttle Columbia Special Event Station

Feb 4 - 5
<http://www.w5nac.com>

CQ WW RTTY WPX Contest

Feb 11 - 12
<http://www.cqwprrtty.com/rules.htm>

ARRL International DX Contest - CW

Feb 18 - 19
<http://www.arrl.org/arrl-dx>

North American QSO Party - RTTY

Feb 25 - 26
<http://www.ncjweb.com/N AQP-Rules.pdf>

ARRL International DX Contest - SSB

Mar 4 - 5
<http://www.arrl.org/arrl-dx>

CQ WW WPX Contest - SSB

Mar 25 - 26
<http://www.cqwpix.com/rules.htm>

NARC Texas Independence Day Special Event Station

Apr 21 - 23
<http://www.w5nac.com>

CQ WW WPX Contest - CW

May 27 - 28
<http://www.cqwpix.com/rules.htm>

Impedance Matching, Part 2

by

Thomas Atchison, W5TV

In the previous article we talked about four matching networks, the low-pass L network, the high-pass L network, the pi network, and the T network. We recognized that the T network can be thought of as two high-pass L networks arranged **front to back**. Let's refer back to the low-pass pi network as shown in Fig. 1 below:

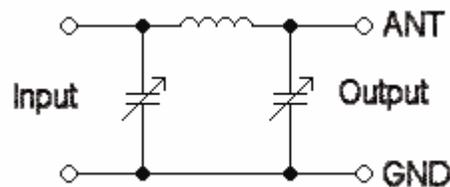


Fig. 1

This can be thought of as two low-pass L networks arranged **back to back**.

Because of this reference to L networks, it seems appropriate that we spend some time discussing L networks. A low-pass L network is shown in Fig. 2.

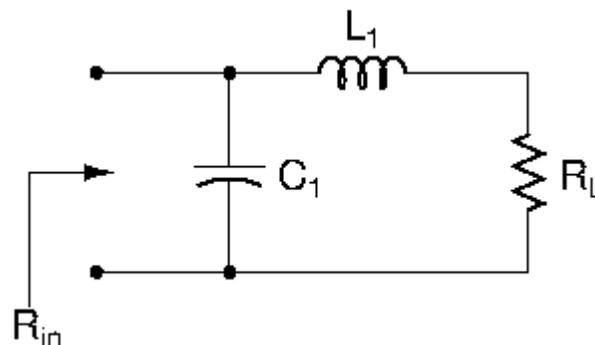


Fig. 2

A low-pass network is a network offering easy passage to low-frequency signals and difficult passage to high-frequency signals. The inductor (L_1) has an impedance that increases with increasing frequency. This high impedance in series tends to block high-frequency signals from getting to the load. The capacitor (C_1) has an impedance that decreases with increasing frequency. This low impedance in parallel with the load resistance tends to short out high-frequency signals.

All low-pass networks have a certain *cutoff frequency*. This is the frequency above which the output voltage falls below about 70% of the input voltage. This cutoff frequency is determined by the inductance and capacitance in the network. We can get into a discussion of network design later, however, for now it is important that we look at the network in general terms.

The component in parallel (in this case C_1) is referred to as the shunt component. Because C_1 occurs on the input side the network in Fig. 2, it is called a shunt input network. The shunt (or parallel component) is always connected to the higher of the two impedances so this L network will match a higher impedance (R_{in}) to a lower impedance (R_L). If we reverse this L network so the shunt capacitor is on the output side then we will match a lower input impedance to a higher output impedance. This joining of two low-pass networks back to back results in a pi network as shown above in Fig. 1.

The pi network will match both higher and lower impedances on the output. It is referred to as a low-pass pi network because it will attenuate harmonics (higher frequencies) very well. Because of this ability to reduce harmonics, the pi network matching device has been preferred in the past as a good tuner for transmitters that do not have filters in the output to reduce harmonics.

Recall the high-pass L network discussed in the previous article (Fig. 3).

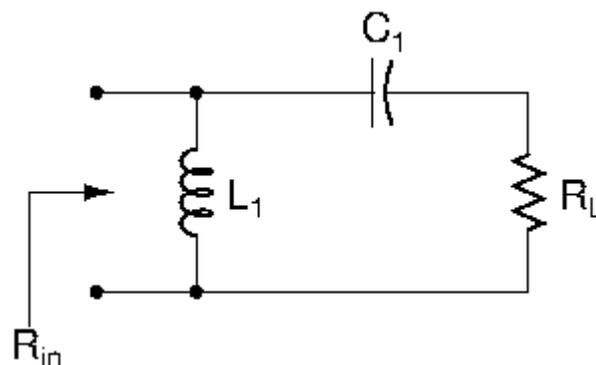


Fig. 3

In this case, the series capacitor (C_1) and the inductor (L_1) have been interchanged as compared to the low-pass network of Fig. 2. The reactance of the capacitor is very high at low frequencies so the capacitor acts like an open circuit and blocks any input signals until the cutoff frequency point is reached. At that point the reactance of C_1 has reduced so it acts more like a short circuit and passes the higher frequencies. The inductor (L_1) has a lower impedance to lower frequencies; therefore, it shorts out the

lower frequencies. As the impedance increases with higher frequencies the higher frequencies are passed on to the capacitor.

The result is that the high-pass L network does not provide good harmonic attenuation; however, most of the transmitters of today have an excellent filtering system in the output to reduce the harmonic output. This means that a high-pass L network or a high-pass T network can be safely used in a ham shack.

So far we have been thinking about placing our antenna tuner in the ham shack and matching both the transmission line and the antenna. Another possibility is to place a matching network at or near the antenna feed point. This would allow us to provide matching to a transmission line. That would certainly be desirable if we have a long transmission line so we could avoid loss in the transmission line due to a mismatch at the feed point of the antenna.

To carry this one step further, we might consider using a matching network at the shack and a quarter-wave matching section of low-loss coaxial cable at the antenna to reduce the transmission line loss. Such a combination can be used to create a much more efficient antenna system than feeding the antenna directly with coax.

Another technique for matching a feedline to an antenna utilizes wide-band toroidal transformers. These transformers can be constructed so they will operate over very wide frequency ranges to match various impedances.

Some of these techniques will be discussed in future columns.