



NARS NEWS

September 2015

The Northwest Amateur Radio Society
an ARRL Special Services Club #2120

Important Dates

Monthly club meeting:

Third Friday of each month, 7:30 pm.
Cypress Creek Christian Community
Ctr. 6823 Cypresswood Drive

Board of Directors Meeting

Tuesday, September 29, 7:30 pm.
Ponderosa Fire Station
17061 Rolling Creek Drive

VE License Exam:

Saturday, September 26, at 10:15 am.
Lone Star College Tomball Library
located at the south entrance to the
College. Official address is:
30555 St. Hwy 249.

Lunch Break—North

Sept 9, Gianna's
Sept 16, Spring Creek BBQ
Sept 23, Pei Wei
Sept 30, Panera Bread
Oct 7, Jason's Deli
Oct 14, Baker Street Pub

Lunch Break—Medical Center

Sept 9, Morningside Thai
Sept 16, Pronto Cucinino
Sept 23, Jason's Deli
Sept 30, Buffalo Grille
Oct 7, Southwell's Burger Grille
Oct 14, Marco's Mexican Bar & Grille

Tail Dragger's Lunch Bunch -

Mondays, 11 am.
Aviator's Grill, Hooks Aerodrome

Notice: NARS membership dues are
\$20 per year, renewable on anniver-
sary date.

“Everything You Always Wanted to Know about the 2015 Texas QSO Party” (TQP)

Coordinator Keith Dutson, NM5G will be making a presentation on the up-coming TQP contest, with tips on planning routes for those who want to go mobile and for those who want to follow the mobile operators for those multipliers. If you've never participated in TQP this is a great opportunity to learn what it's all about and how much fun it can be. If you're an experienced tester this is a good time to meet some of the friendly competition or find a mobile partner and see how many of the 254 counties you can drive through (at legal speed limits, of course,) in the week-end. See you there!

Texas QSO Party.... The prize. Go for it!



Breakfast

Saturday 7 a.m.

*Search continues for a permanent
Saturday morning breakfast site.
Please monitor the NARS reflector
for further info.*

President's Column

Amateur radio technology has been in transition since its inception. Spark gap transmitters gave way to vacuum tubes, and we got used to electron tube technology. Transistors were introduced along with printed circuit boards, and we got used to transistors. Integrated circuits were added to the boards to go with the transistors and other discrete components. Equipment built using through-hole discrete components gave way to SMT (Surface Mount Technology) and became the way to go with equipment getting smaller and smaller.

Along the way we heard people saying that they could not get used to the new technology and some people did stick to the old stuff. I still use a transceiver that has no tubes (It is all solid state) but it has no panoramic frequency display, has no roofing filters, and it lacks some other features of more modern transceivers. It still works fine but I am convinced that a newer rig would work better, so I am looking forward to replacing it at some point. I would also like to try using one of the SDR (Software Defined Radio) products. I am willing to learn to use all the new technology I can afford.

This hobby is so broad that there is a niche in it for all of us no matter which parts of it are of interest to us. All that we can be sure of is that the equipment involved will keep changing over time. Contesting, QRP, Antennas, Worked All States, Worked all Countries, County Hunting, CW, Phone, Digital Audio, DSTAR, ARES, Teletype, PSK31, building your own equipment, restoring boat anchors... Keep your eyes open because new opportunities are coming. Take your pick and enjoy any of the parts or all of the parts that you have time for.

73 from Brad Nelson – WD5GNI



4721 Watonga Blvd.
Houston, TX 77092
www.ofarc.org

V.E. Exams every 4th Saturday
of the month at 9:30 a.m.
Contact: John Westerlage'
N5DWI@oafrc.org for further
info.

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contact@harsradio.com

2558 E. FM 1960 Rd.
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Ham Radio Class in Northwest Houston The General Class of 2015

Preparation is now complete for the Ham Radio General Class located in Northwest Houston. This class is sponsored by Northwest Amateur Radio Society (NARS - <http://w5nc.net/>).

Ham Radio General Class Details

Purpose: obtain the FCC Amateur Radio General Class License

Lectures: 2

Dates: Saturday September 12, Saturday September 19

Times: 9:00AM-5:00 PM

Location:

Step-By-Step Christian School
1119 S Cherry St
Tomball, TX 77375

Teacher: Skip Ferguson K5LLR

Text Book: Gordon West 2015-2019 General Class Manual

License Exam Fee: \$15

- Each lecture will include a review of material in the manual, and class practice exams.
- The last lecture will have class practice exams and a final individual license exam.
- The exam session will be provided by NARS ARRL Volunteer Examiner members.

To enroll in this class, please send an email to me at keith1@dutson.net. Use Google to find a map and instructions to get to the classroom.

I have manuals for sale at \$23 each, including shipping. Let me know if you want one of these books. I recommend you arrange to get it before the class.

Thanks to teacher Robert Skip Ferguson who is a retired professor of Computer Science. Skip is volunteering his time and travel expenses from his home in Brenham.

Thanks also to Step-By-Step Christian School, for providing our classroom.

Annual K5ZTY Show-n-Tell scheduled for December 18th meeting!

The **K5ZTY Show-n-Tell** night will once again be held at our December meeting. Any projects, kits, or mods you've made to your station over the past year, we'd like to hear about it. Just three months to get your bragging rights in order. Don't wait until the last minute....

How Inductors Work

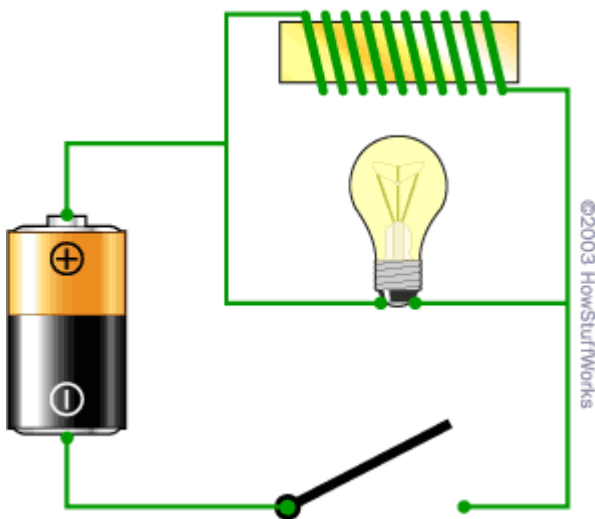
We all know this stuff because we passed the exam for General and beyond, right? Okay. Maybe we'll just settle for a little refresher course to bring you up to speed. Ready?

An inductor is about as simple as an electronic component can get -- it is simply a coil of wire. It turns out, however, that a coil of wire can do some very interesting things because of the magnetic properties of a coil.

Inductor Basics

In a circuit diagram, an inductor is shown like this:

To understand how an inductor can work in a circuit, this figure is helpful:



What you see here is a battery, a light bulb, a coil of wire around a piece of iron (yellow) and a switch. The coil of wire is an **inductor**. You might recognize that the inductor is an electromagnet.

If you were to take the inductor out of this circuit, what you would have is a normal flashlight. You close the switch and the bulb lights up. With the inductor in the circuit as shown, the behavior is completely different.

The light bulb is a **resistor** (the resistance creates heat to make the filament in the bulb glow). The wire in the coil has much lower resistance (it's just wire), so what you would expect when you turn on the switch is for the bulb to glow very dimly. Most of the current should follow the low-resistance path through the loop. What happens instead is that when you close the switch, the bulb burns brightly and then gets dimmer. When you open the switch, the bulb burns very brightly and then quickly goes out. The reason for this strange behavior is the inductor. When current first starts flowing in the coil, the coil wants to build up a **magnetic field**. While the field is building, the coil inhibits the flow of current. Once the field is built, current can flow normally through the wire. When the switch gets opened, the magnetic field around the coil keeps current flowing in the coil until the field collapses. This current keeps the bulb lit

for a period of time even though the switch is open. In other words, an inductor can **store energy** in its magnetic field, and an inductor tends to resist any change in the amount of current flowing through it.

Think About Water...

One way to visualize the action of an inductor is to imagine a narrow channel with water flowing through it, and a heavy water wheel that has its paddles dipping into the channel. Imagine that the water in the channel is not flowing initially. Now you try to start the water flowing. The paddle wheel will tend to prevent the water from flowing until it has come up to speed with the water. If you then try to stop the flow of water in the channel, the spinning water wheel will try to keep the water moving until its speed of rotation slows back down to the speed of the water. An inductor is doing the same thing with the flow of electrons in a wire -- **an inductor resists a change in the flow of electrons**.

Henries

The **capacity** of an inductor is controlled by four factors:

- The number of coils - More coils means more inductance.
- The material that the coils are wrapped around (the core)
- The cross-sectional area of the coil - More area means more inductance. The length of the coil - A short coil means narrower (or overlapping) coils, which means more inductance. Putting **iron** in the core of an inductor gives it much more inductance than air or any non-magnetic core would. The standard unit of inductance is the **henry**. The equation for calculating the number of henries in an inductor is:

$$H = (4 * \text{Pi} * \text{\#Turns} * \text{\#Turns} * \text{coil Area} * \text{mu}) / (\text{coil Length} * 10,000,000)$$

- The area and length of the coil are in meters. The term **mu** is the **permeability** of the core. Air has a permeability of 1, while steel might have a permeability of 2,000. "Elementary, Watson..."

Inductor Application: Traffic Light Sensors

Let's say you take a coil of wire perhaps 6 feet (2 meters) in diameter, containing five or six loops of wire. You cut some grooves in a road and place the coil in the grooves. You attach an inductance meter to the coil and see what the inductance of the coil is. Now you park a car over the coil and check the inductance again. The inductance will be much larger because of the large steel object positioned in the loop's magnetic field. The car parked over the coil is acting like the core of the inductor, and its presence changes the inductance of the coil. Most traffic light sensors use the **loop** in this way. The sensor constantly tests the inductance of the loop in the road, and when the inductance rises it knows there is a car waiting!

I do have to admit that I often wondered how the traffic signal system knew I was attempting a left turn and kept me in a holding pattern for what seemed to be at least fourteen minutes or more....

Now, didn't that regenerate those little grey cells of yours just a bit? That wasn't so hard. Stay tuned for more basics next month.

"What's that Dear? Yeah, I know the bird feeder needs to be refilled. You don't have to keep reminding me every six months! Nag, nag, nag...."

Saturday, August 22 VE Test Session Results at Lone Star College Tomball Library

We had 2 candidates taking 4 tests.

Element 2 tests given: 2; passed 2

Element 3 tests given: 2; passed 0

Element 4 tests given: 0; passed 0

Congratulations to:

David Wofford - new Technician

Robert Tackett - new Technician

Thanks to the VE's in attendance:

Martin Rogoff N5GPS (acting session mgr)

Ken Mitchell KD2KR

Michael Bowen N8ILU

Ron Horton KF5LFL

Robert Ferguson K5LLR

Mike Bragassa K5UO

Michael Livingston KF5MVP

Thanks also to Mike Allen W5KDH for helping with paperwork.

The next monthly session will be held Saturday, September 26 at 10:15AM at Lone Star College Tomball Library, located at the southern entrance to the College. Official address is 30555 State Highway 249. Let me know if you would like to serve at this session. Parking is in the lot to the right of the entrance.

Anyone who wants to observe and/or participate in a session is always welcome. Just let me know if you want to learn more about becoming a volunteer examiner.

73, Keith Dutson NM5G

NARS VE Session Manager



“In retrospect, the idea of a rain dance marathon wasn't such a good idea.”

A NATION UNTO ITSELF

Since the spring, enthusiastic DXers have held out hopes of receiving the gift of a new radio frontier from Czech politician Vit Jedlicka: Jedlicka created a new nation on the western bank of the Danube River and named it Liberland.

For hams, this is not just a new country but perhaps a new DXCC country. Liberland is a parcel of marshy land, three square miles in size, that went unclaimed by neither of the two nearby nations of Serbia and Croatia. In April, Jedlicka issued a proclamation that he, in fact, wanted the land that no one else did – and declared it a free and independent nation. He was then elected president by an overwhelming vote of 2-0. Liberland even raised its own flag, prompting amateur radio chat forums and blogs to do some flag-waving of their own, urging Liberland's inclusion on the official list of DXCC nations.

That may take some time, of course, but DXers are ever optimistic that Liberland will see its way through the political pileup. Until then, this former No Man's Land is going to remain a “No Hams Land,” at least for now.

(DX COFFEE, THE NY TIMES)

NARS in Rewind -- July 1997

Field Day 1997! How many of you can recall that event held in Fritsche Park. That was the site of the famous *Yohoo Shootout* between the CW and the phone ops. The losers had to drink a case of Yahoo Cola. The CW group won by a slight margin, and today they still brag on it!

Field Day was a success primarily due to Ken Harlan KA5AKG and *Jenny*, his monster of a generator. This baby provided power for our Field Days well into the late 2000's before finally dying of exhaustion (no pun intended.) A private service was held by family members only....

Walter Hock, KK5LO was coordinator then and managed to get Jerry Eversole, County Commissioner, to issue a special resolution extending best wishes to all Amateur Radio Operators.



Welcome, Congratulations and Condolences

Welcome new members,
Matthew Haws KB5MKO

NARS Resource list

General help:

Allen Majeski WA5REJ
281 528-0673 wa5rej@yahoo.com

Deral Kent K5WNO
281 548-7476 k5wno@juno.com

Al Manard N6VQO
281 292-3113 almanard@gmail.com

Digital modes:

Marty Fitzgerald W5MF
281 251-4301 fitz6@swball.net

VHF/UHF:

Brian Derx N5BA
281 251-4301

PC Programming & Ops:

Keith Dutson NM5G
281 516-1466 keith1@dutson.net

Building Electronics & kits:

Mark Tyler K5GQ
281 587-0256 k5gq@juno.com

Interference (Basic advice):

Terry Myers KQ5U
281 443-6042 tmyers1031@sbcglobal.net

Card checking for awards:

Bob Walworth N5ET—DXCC
281 292-2221 rwalworth@charter.net

Brian Derx N5BA—WAS, VUCC
281 894-5942

Bob Walworth N5ET—WAZ

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Nets

2 meter Wed. 8 pm. 146.660, tone 100
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g_whiting@sbcglobal.net

Web site

URL: <http://www.w5nc.net>
Web Master: Bill Buoy N5BIA
281 370-3510 n5bia@arrl.net

NARS Reflector

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Coordinator: Keith Dutson NM5G
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Texas QSO Party

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no5w.chuck@gmail.com

Co-coordinator: Keith Dutson NM5G
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VE Session (ARRL) Manager

Keith Dutson NM5G
281 516-1466 keith1@dutson.net

Meetings

Monthly General Membership 3rd. Friday
each month (except January) at 7:30 pm.
Cypress Creek Christian Community Ctr.
6823 Cypresswood Drive

Saturday Breakfast

Denny's 7720 Louetta Rd. 7 am.

Wednesday Lunch-11 am.

Various places. Info on front page.

NARS News is published monthly by the Northwest Amateur Radio Society. Send all articles and materials for the newsletter to:
Editor, Joe Sokolowski KD5KR, 281 353-2196 kd5kr@arrl.net Deadline for articles to appear in the next newsletter is the last day of
each month.

Northwest Amateur Radio Society is a Special Services Club affiliated with the American Radio Relay League, ARRL Club No. 2120.