



NARS NEWS

January, 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

Tuesday, January 26, 7:30 pm.
Board of Directors Meeting
Ponderosa Fire Station
17061 Rolling Creek Drive

VE License Exam:
Saturday, January 24, 8:30 a.m.
Tomball Fire Station #1
1200 Rudel Drive

Lunch Break—North

Jan 14, Sweet Tomatoes
Jan 21, BJ's Brewery & Restaurant
Jan 28, Gianna's Italian Kitchen
Feb 4, Spring Creek BBQ
Feb 11, Pei Wei Asian Diner
Feb 18, Panera Bread

Lunch Break—Medical Center

Jan 14, Silver Palace Chinese Buffet
Jan 21, Pappa's BBQ
Jan 28, Morningside Thai
Feb 4, Pronto Cucinino
Feb 11, Jason's Deli
Feb 18, Buffalo Grille

Tail Dragger's Lunch Bunch -
Mondays, 11 am.
Aviator's Grill, Hooks Aerodrome

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

**Breakfast
at Denny's
7720 Louetta Road
Saturdays 7 am.**

Annual NARS Banquet Friday, January 16th.

We hope you all had a great holiday and shared time with your relatives and friends. Now that Christmas and Hanukkah is behind us and we have disposed of the leftovers, it is time to reflect on the coming festivities before us, the coveted Awards Banquet. Mark your calendar on January 16th, 2015 as a reminder to attend the Annual Awards banquet. Catering will be provided by Pappa's BBQ.

- **When:** Friday, January 16th, 2015
- **Where:** Westador Club House, 17715 Cali Drive, Houston. just one block north of the Houston NW Medical Center.
- **Menu:** Beef Brisket, Link Sausage, BBQ Chicken, Potato Salad, Beans, TX Sliced bread, Iced tea.
- **Cost:** \$18 per person.
- There will be door prizes and who knows what else? No cash bar this year.
- Mail in your check to: NARS, P.O. Box 90387, Houston, 77290-0387 Please indicate names of those attending.

Doors open at 6 p.m., buffet dinner served at 7:15 p.m.

We will be accepting reservations until Friday, Jan 9. Please note: **Annual Banquet replaces our regular meeting for January.**

See map on page 4.



President's corner -

It has been a pleasure serving as President of NARS this year. As the song goes, "Thanks for the Memories!" I have learned a bit and had a lot of fun. I tried to learn Morse Code using the short and long electro-shock method...with only marginal success, tried to lose weight by eating lots of "WW" (weight watchers) pills...but Sheree said to turn them right side up, etc. Perhaps next year will be better.

As I look back on 2014 I am reminded of the story of the boy walking along a beach. He finds a starfish stranded on the sand and carefully places it back into the water. A man sees the boy doing this deed and asks him if he really thinks he's making a difference helping the species of starfish survive. The boy replies, "I don't know about the entire species, but at least I made a difference to that one." I hope I had made a difference to at least one someone, and can guarantee that each and every one of you have made a difference in my life.

Ron Horton (KF5LFL)

14th Annual GREATER HOUSTON HAM-FEST Sponsored by the Brazos Valley Amateur Radio Club

Radio Club with Expanded Hours! Saturday, March 28, 2015 - 8 am – 3:30 pm Fort Bend County Fairgrounds, 4200 Highway 36, Rosenberg, Texas www.houstonhamfest.org for detailed information. Hamfest Talk-in -- 146.94 (-) PL 167.9

Featured Speaker: Dr. Joe Taylor, K1JT, Nobel Laureate and originator of many programs for amateur digital modes including, WSPR and WSJT for both UHF/VHF and HF Communication.

Keynote Speaker: Norm Fusaro, W3IZ, ARRL Membership and Volunteer Programs. "Logbook of the World"

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New Element 3 (General Class) Question Pool Released

The Question Pool Committee of the National Conference of Volunteer Examiner Coordinators (NCVEC) has released the 2015-2019 Element 3 (General Class) question pool. The new question pool becomes effective for all Element 3 examinations administered on or after July 1, 2015, and it remains valid until June 30, 2019.

The question pool files are available in PDF, Microsoft Word (.doc), and ASCII text formats. Section G7A requires the use of one illustration, a schematic identified as G7-1. This drawing file is published separately. Further information can be found on the web at, www.arrl.org/news/new-element-3-general-class-question-pool-released

NARS in rewind Show-n-Tell, 1999



Show & Tell. December 1999.
Walter Hock KK5LO, with Bill Stietenroth K5ZTY and
Bill Denton W5SB in background

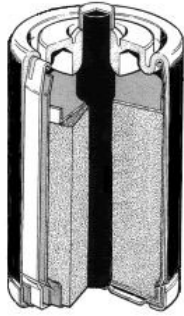
NARS 2 meter net

Held every Wednesday night at 8 pm. We will be temporarily using the Texas DX Society's repeater until ours is back in operation. Please configure your equipment for 147.36/96, Tone: 100.
All are welcome, members or not!

All you need to know about batteries, Part 3

Last month we left you off with Georges Leclanche and his improvements on the early wet cell battery. His battery had a few drawbacks though. The Leclanche cell was quite heavy and prone to breakage, but steadily improved over the years. The idea of encapsulating both the negative electrode and porous pot into a zinc cup was first patented by J.A. Thiebaut in 1881. But nothing stays the same, does it? There's always someone who turns your best ideas into yesterday's Leisure suit. Along comes

Carl Gassner who is credited as constructing the first commercially successful "dry" cell. Variations followed. Carl patented the first "dry" cell in 1887 with zinc as the container for the other elements as well as for the negative electrode. The electrolyte was absorbed in a porous material and the cell was sealed across the top. This cell was easy to handle and portable. It became the prototype for the dry battery industry. By 1889 there were at least six well-known dry batteries in circulation. Later battery manufacturing produced smaller, lighter batteries, and the application of the tungsten filament in 1909 created the impetus to develop batteries for use in flashlights.



Waldmar Jungner invented the nickel-cadmium battery in 1899. At that time, the materials were expensive compared to other battery types available and its use was limited to special applications. In 1932, the active materials were deposited inside a porous nickel-plated electrode and in 1947 research began on a sealed nickel-cadmium battery.

Rather than venting, the internal gases generated during charge were recombined. These advances led to the modern sealed nickel-cadmium battery, which is in use today. Nickel-cadmium prefers fast charge to slow charge and pulse charge to DC charge. It is a strong and silent worker; hard labor poses little problem. In fact, nickel-cadmium is the only battery type that performs well under rigorous working conditions. All other chemistries prefer a shallow discharge and moderate load currents. Nickel-cadmium does not like to be pampered by sitting in chargers for days and being used only occasionally for brief periods. A periodic full discharge is so important that, if omitted, large crystals will form on the cell plates (also referred to as memory) and the nickel-cadmium will gradually lose its performance.

Thomas Edison (1847 - 1931)

Edison began looking for a way to make batteries lighter, more reliable, and at least three times more powerful so that they could become the basis of a successful electric car. Edison and his team conducted tests of all sorts of metals and other materials, looking for those that would work best in batteries. The tests numbered in the thousands and lasted until 1903, when he finally declared his battery finished. The battery used potassium hydroxide, which reacted with the battery's iron and nickel electrodes to create a battery with a strong output that

was reliable and rechargeable.

As usual, Edison announced the new battery with great fanfare and made bold claims about its performance. Manufacturers and users of electric vehicles, which now included many urban delivery and transport trucks, began buying them. Then stories about battery failures started coming out. Many of the batteries began to leak, and others lost much of their power after a short while. The new nickel-graphite conductors were failing. Engineers who tested the batteries found that while lightweight, the new alkaline battery did not significantly outperform an ordinary lead-acid battery.

Edison shut down the factory immediately, and between 1905 and 1908, the whole battery was redesigned. Edison came up with a new design, and although the new battery used more expensive materials, it had better performance and more power. By 1910, battery production was again underway at a new factory near the West Orange, NJ laboratory. However, it was too late for the electric car. Edison's friend Henry Ford had introduced the lightweight, inexpensive Model T in 1909, which helped make the petrol engine the standard for the automobile. . Meanwhile, back at **Duracell**, along comes **Sam Ruben**.

The story of **Duracell** begins in the early 1920's with an inventive scientist named Samuel Ruben and an eager manufacturer of tungsten filament wire named Philip Rogers Mallory. Ruben came to the P.R. Mallory Company seeking a piece of equipment he needed for an experiment. But Ruben and Mallory saw an opportunity: uniting the one's inventive genius with the other's manufacturing muscle. Their partnership, which would last until 1975 with Mallory's death, was the bedrock of Duracell International.

Sam Ruben's inventions revolutionized battery technology. Amidst World War II, for instance, Ruben devised the mercury cell, which packed more capacity in less space and was durable enough for the harsh climates of wartime theaters—places where ordinary zinc-carbon batteries wouldn't hold up. The mercury cell has now been largely phased out due to environmental impact.

Lew Urry, (1927 -)

Lew Urry developed the small alkaline battery in 1949. The inventor was working for the Eveready Battery Co. at their research laboratory in Parma, Ohio. Alkaline batteries last five to eight times as long as zinc-carbon cells, their predecessors. Urry examined past failed attempts at creating an alkaline battery and experimented with different combinations, before discovering that powdered zinc was the best electrolyte. He changed the shape of the battery from a button to a cylinder, then gave a demonstration using toy cars in the company cafeteria. One car used the best battery at the time, carbon zinc, and the other contained his prototype. The car with the alkaline battery outperformed the other by a considerable margin.

Epilog

Most of today's exotic rechargeable battery systems--nickel-cadmium, nickel-metal hydride, and the variety of lithium-based cells--are 20th Century developments, products of research labs at major corporations and universities. New chemistries are no longer discovered through experimentation because the principles of battery design and operation are now well known. Today new efforts in battery design focus on making the optimal chemistries work in practical cells.

Okay, now you know enough about battery evolution to impress your friends, colleagues and maybe even your wife. (Fat chance on that one..) Have we whet your apatite? Look up batteries on the internet. There's more on battery development than you can shake a stick at! But, for now, you have just passed "**Battery evolution 101.**"

Lucky number 13

Although thirteen is supposed to be an unlucky number, the United States ignored that superstition in creating the Great Seal of the United States, which appears on the back of all \$1 bills and other documents.

An incredible number of thirteens are embedded within that seal. Its eagle has thirteen feathers and holds in its right talon an olive branch of thirteen leaves and thirteen olives; in the left talon are thirteen arrows. Also on the seal are thirteen each of stars, stripes and sections of a pyramid. Inscribed is "E-Pluribus Unim," which has thirteen letters. And.... the man who designed the seal, William Barton has thirteen letters in his name.

Hmm.... Someone has an awful lot of time on his hands.

December's "Show-n-tell Night" recap.

Every year, the Show-n-Tell entries indicate that do it yourself projects are still very much alive. This year, George Edwards K5VUU gave us an in-depth discussion on how to build your own screw driver antenna. Of course, it helps to have your own machine shop to get the job done, but at least we now know what makes this antenna work and why it's so popular amongst the mobile hams.

We had quite a few exciting entries at this event.. Terry Myers KQ5U, and Rob Nixon KD5BXZ showed off their pneumatic antenna launchers. Both had a different, but novel approach to their design. Peter Brown KE5IOV, displayed his very interesting creation of a clock constructed with multi-colored LED's using control circuitry of the next generation.

Then there was Sarah Brown KF5LFLK with her Ghost Busters Eliminator using an Adrino circuit for visual effects. Mischievous spirits of the ethereal world should take note that technology is hot on their trail. A few more tweaks here and there and she'll be ready to do battle!

Jerry Whiting and his volunteers ended the evening with a brief showing of what the Redd School students were up to these days.

Thanks to all that contributed their projects for others to admire. It gives proof that building stuff is still fun and educational. OK now, let's get started on making Show and Tell 2015 another successful program! December is but twelve months away...

(See page 5 for photos.)



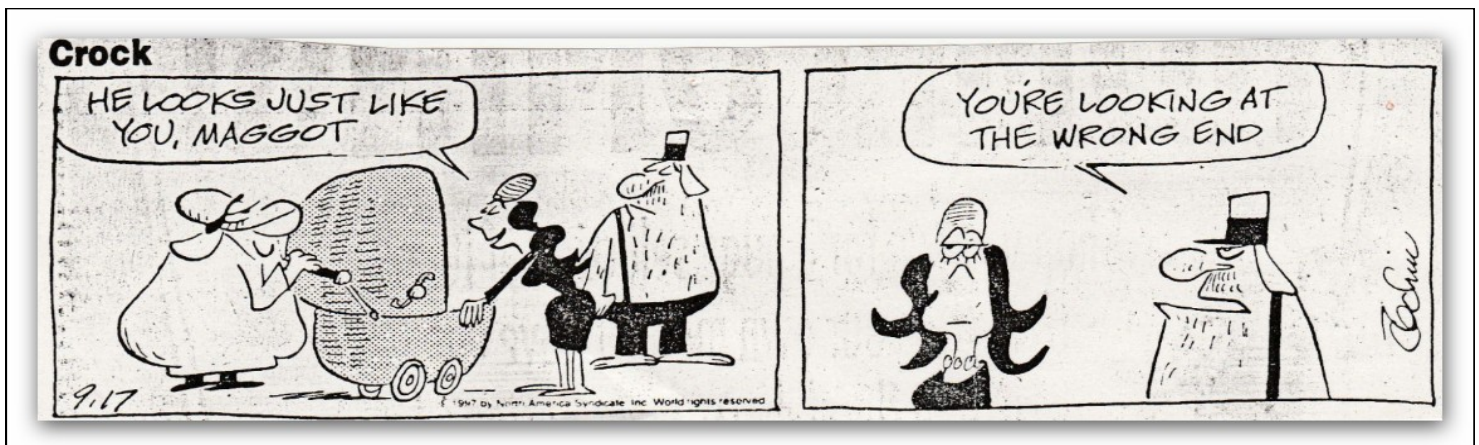
Westador Club House
17715 Cali Drive, Houston TX 77090

RADIO READING: POPULAR ELECTRONICS MAGAZINES ARCHIVE NOW ON LINE

If you are new to hobby electronics or just nostalgic for the good old days, then the name of a magazine known as popular electronics will definitely ring a bell. And now, thanks to the effort of americanradiohistory.com there is a shared archive of all the Popular Electronics magazines from 1954 to 1982.

But Popular Electronics is not the only publication you will find there. There are millions of pages and hundreds of books and magazines on radio, television, computers and much more. Its all available on the web at www.americanradiohistory.com. The direct link to the Popular Electronics archive is at tinyurl.com/popular-electronics-archive

(KB9STR)





George Edwards K5VUU on "How to make your own screwdriver antenna in 147 easy steps!"



Skip Ferguson K5LLR explaining the use of... Well, we're still not sure what Skip was talking about, but it did get our attention!



Rob Nixon KD5BXZ and his version of a wire antenna launcher



Sarah Brown KF5LFK and her prototype Ghost Busters Destroyer powered by Adrino and other assorted proprietary stuff.



Terry Myers KQ5U and his version of the wire antenna launcher, rev 2



Tom Hoherd KK5YU, Jerry Whiting KB5VGD and Brad Nelson WD5GNI describing NARS's involvement in the Redd School Project.

Welcome, Congratulations and Condolences

Welcome new members,
Jameson Wendell KG5FAY, John Paul Clark KG5FAT,
Joey Lamond KC3DYY, Dian Hughes KG5FAW & Earl Hughes KG5FAV

NARS Resource list

General help:

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

Deral Kent K5WNO
281 548-7476 k5wno@juno.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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Houston, TX 77290-0387

Nets

2 meter Wed. 8 pm. 147.36/96, tone 100
(Courtesy of Texas DX Society)
Coordinator: Jerry Whiting KB5VGD
g_whiting@sbcglobal.net

Web site

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

NARS Reflector

NARS@mailman.qth.net
Coordinator: Keith Dutson NM5G
281 516-1466 keith1@dutson.net

Texas QSO Party

Co-coordinator: Chuck Sanders NO5W
832 657-4832
no5w.chuck@gmail.com

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

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.