CQ de WA2LQO

Seventy One Years: 1944 -2015

The official independent voice of the Grumman Amateur Radio Club.

MARCH 2015 VOLUME 88 NUMBER 3

NOT A HOUSEHOLD NAME

by Ed Whitman, K2MFY

In 1964, while working as an engineer at Hazeltine Research Corp. in Plainview, I was attending Brooklyn Poly part-time for an MSEE degree. I had completed most of the course work but still had to write a thesis. This required working with an advisor to support results of my research on a specific hypothesis

I was pretty good at writing technical memos, but I had never prepared a formal comprehensive scientific document. The first step was to decide upon a topic that really interested me. As a ham, I was always interested in communications, especially antennas. I brought up this subject with some of my co-workers at Hazeltine. Some were also working for Masters degrees, while others already had them. Wheeler Labs of Great Neck was a subsidiary of Hazeltine that specialized in R & D of communications and antennas. This prestigious company was like the elite Bell Labs of New Jersey. When I graduated from CCNY, with a BEE degree, I had applied to Wheeler Labs but I didn't have the "A" grade that was required to be interviewed. My interest in Wheeler Labs, however, never wavered. Wheeler Labs' Engineering Director and Vice- President was Harold A. Wheeler. He began as Alan Hazeltine's assistant in 1924. My supervisor suggested that I contact Wheeler Labs to discuss a suitable antenna topic with their people

Much to my amazement, when I called I was immediately connected to Mr. Wheeler's office. I was told to prepare a brief outline of topics of interest for my thesis and present them to Mr. Wheeler during a personal consultation. An appointment was made for the following Saturday morning.

During the following days I prepared a summary, outlining my interest in antennas. A topic that interested me was an explanation of radiation patterns from a dipole antenna as its transmission feed line was applied at different points along its length. Early work on this topic was described in a QST article in 1929. This antenna type was named a "Windom Antenna." In 1947 investigators at Ohio State University illustrated the radiation patterns of these off-center fed (OCF) antennas with experimental results.

Armed with my papers, I arrived at Wheeler Labs on Saturday morning. A security guard told me to go down the hall to the last office. I was surprised to see how many employees were working on Saturday. I knocked on Mr. Wheeler's door and was told to enter. The small office was almost completely filled with books, awards and plaques. A bespectacled elderly man in a gray suit, vest and tie sat behind a desk. I immediately recognized Mr. Wheeler at once from pictures that hung along the office walls of Hazeltine's famous engineers and inventors.

As I sat down, I felt that I was in the presence of greatness – someone who could rank with famous inventors, such as Edison and Tesla. Here was the engineer who developed circuitry used in millions of radios from the 1930s to the present time. Mr. Wheeler patented over 126 inventions for circuits, test equipment, acoustics, antennas, television, and text book formulas. During WWII he led the work on Identification Friend or Foe (IFF) systems that were used on aircraft, surface vessels, submarines and ground stations. At the end of the war these systems continued to be used on Allied planes and ships. All told Mr. Wheeler held 180 patents and 50 awards and published over 100 papers. Wheeler was not well known to the public … not exactly a household name …. but his contributions to technology are everlasting.

In a friendly manner, Mr. Wheeler asked me to discuss my interests in my prepared topics. Mr. Wheeler

had held a ham license in the early 1920s when radio was in its infancy Thus we had a common hobby. He mentioned programs where Wheeler Labs was pursuing research grants. He agreed that the OCF antenna topic, coupled with the experimental results, would be an excellent thesis research choice. He told me to keep in touch with him as I continued my thesis research work. As I left his office, I breathed a sigh of relief, knowing that I had spent some time who was often introduced as "Mr. Radio" at IRE Award functions.

When I discussed my topic with my advisor, he found merit in it because it could be backed up with data. I titled my thesis the "Effect of Feed Point Upon a Dipole Antenna". I worked on it until January 1965. My oral presentation was not required until May 1965. During that time my advisor was willing to meet with me to discuss anything else that I wanted to include in my thesis.

In the fall of 1964 I accepted an offer to join Grumman in their Antenna and Radome group, which gave me access to useful resources. A computer programmer co-worker generated polar coordinate points from my antenna pattern formulas, which were derived from my thesis analysis. I showed my wife how to plot and connect the data points on polar coordinate paper, using several French curves. She typed the final thesis on bond paper, leaving spaces for me to enter formulas with Greek letters and math symbols. (Scientific word processors were not yet available.) This project was truly a family affair! Through the efforts of the Grumman Publications Department, I was able to make copies of the final 140 page thesis for the Brooklyn Poly staff, and the Grumman Library. This thesis prepared me for opportunities to eventually write proposals, and technical articles for magazines and journals, which indirectly helped me to qualify for jobs as a technical writer and editor.

I will never forget my meeting with "Mr. Radio" in the late winter of 1964. After sending Mr. Wheeler a copy of my thesis, I received a personal note from him, thanking me for my thesis, which he said would be a valuable addition to his library. I keep his letter as a permanent part of my research efforts. To this day our brief meeting remains a treasured memory.

PRESIDENT'S NOTE by ED GELLENDER, WB2EAV

In 1976 I also worked with Harold Wheeler, who was quite elderly by then. He once told me that people always said he is brilliant, but the reality is that he went to school so long ago that what he learned is not taught anymore. Now, he is the only one left who knows it, and sometimes it can come in very handy.

The other day there was a meeting of the ARRL NLI (NYC-LI) Section for radio club officers in Merrick, chaired by ARRL Hudson Division Director Mike Lisenco N2YBB. There were about 25 attendees including Gordon KB2UB, Karen W2ABK and myself. Here are some highlights.

In recent years there has been an explosion of HF operation via Internet or other remote control, and DXCC rules have been relaxed a bit to allow remote operation to one's own home station. This is to accommodate the fellow who needs that rare one that only comes on when he isn't home. There also has been some questionable uses of the Internet for remote control DXing, like renting someone's station in a foreign country. Such things appears to be inevitable, and rather than fight a losing battle, there is talk of going to two versions of DXCC – keeping the classic approach pure, but adding a second, more flexible alternative.

HR4969, the attempt to open up PRB-1 to cover privately held locations (i.e. restrictive homeowner's associations) ended with the last congress, and now the ARRL is working on re-starting it with the new congress. There has been a lot of bipartisan support and Mike N2YBB is working hard to make it happen this time. Unsurprisingly, he has found that focusing on the public service aspects of amateur radio carries huge clout in those districts that have benefitted from it.

The FCC has totally abandoned its enforcement efforts, and not only for amateur radio. There is a wide and growing frustration from many radio services. Two of our most active local congressmen, Steve Israel and Peter King, while miles apart on many issues, came together on this one. So far they have not gotten much traction, but they continue to plug away at getting congress to force the issue.

Ed, WB2EAV

GRUMMAN AMATEUR RADIO CLUB
MINUTES OF GENERAL MEETING 2/18/2015
By Karen, W2ABK

The meeting was opened by Gordon at 5:30 PM

TREASURER'S REPORT – Ed, WB2EAV

Finances continue to be in good shape.

REPEATER REPORT – Gordon, KB2UB

The repeaters are working. Gordon spoke to Bill, N2NFI. The 145.33 antenna is up on the tower and coax is ready. We are waiting for the weather to clear in order to move the repeater to another building. Bill is seeking a reasonable contribution.

NET REPORT – Karen, W2ABK

Thursday night net at 8:15 PM on 146.745 MHz had 2 check-ins.
Thursday night net at 8;30 PM on 145.330 MHz had 2 check-.ins.
Sunday morning net at 7:30 AM on 7.289 MHz had 1 check-in.

VE REPORT – Ed, WB2EAV

3 applicant applied to upgrade to Extra Class, 2 passed and 1 failed.
3 VEs were present: Ed, WB2EAV, Bill,WB2QGZ and Ken, KC2YRJ

THERE WILL BE NO VE SESSION IN MARCH

OLD BUSINESS

Discussing repeaters.

NEW BUSINESS

NLI Section meeting this Saturday with Mike Lisenco, N2YBB.

PROGRAM.

A relaxing social meeting with coffee and donuts.

GARC NETS: 40 Meters: 7.289 MHz at 7:30 AM EST Sundays

Net Controller: Karen, W2ABK

2 Meters (repeaters) Thursdays: 146.745 MHz (-600 kHz) at 8:15 PM
145.330 MHz (-600 kHz) at 8:30 PM. Tone for both repeaters: 136.5 Hz.

GARC Net Controller Karen, W2ABK **ARES/RACES NETS: Mondays.**

MEETINGS

General Meetings of the GARC are held on the 3rd Wednesday of each month, starting at 5:30 PM, at the Ellsworth Allen Park in Farmingdale. Driving directions and map can be obtained from http://www.mapquest.com. It is suggested that the GARC web site be checked to be certain of meeting location, which may change after this newsletter is distributed. Board meetings are held at Haypath Park on the 2nd Wednesday of each month at 12:00 Noon *Meetings may be cancelled or relocated. Check the website.*

WEBSITE

The GARC web site can be found at http://www.qsl.net/wa2lqo . Webmaster is Pat Masterson, KE2LJ. Pictures of GARC activities, archives of newsletters, roster of members, and other information about the GARC may be found there.

INTERNET LINK OF THE MONTH FOR INTERNERDS

The internet link for this month is again: Http://www.hackaday.com

This website keeps changing, so a project that was there that interested me is no longer there. I'll describe it anyway. It is a digital doorbell. It only uses the doorbell button from a traditional door bell. Pressing the button enables a video camera and microphone as well as a digital recording system. The person who rings the doorbell gets his or her face and body digitally recorded and displayed and his or her voice digitally recorded and fed to a speaker as well. Thus we have a door bell answering machine that answers the ringer with instructions as well. The stored information of who rang the doorbell when you weren't at home then can be read out remotely via a smart cell phone. I dunno if I would have a need for such an advanced doorbell. I prefer the classic type that just rings ding-a-ling and causes your dog (if you have one) to bark. Hmmm…on second thought, maybe we do need more than a ding-a-ling if it rings while we are taking a shower. Most of us use telephone answering machines. Why not doorbell answering machines? Why not a WAG Net answering machine? Nah…It wouldn't be classical! But perhaps we could then compromise by making two types of WAG awards to keep everyone happy. Can we prevent ringers from ringing for commercial purposes?

Looking at the Hackaday site reminds me that there are still many home based electronics experimenters. I was beginning to give up hope when I learned that Radio Shack was closing stores and going bankrupt. Yes.. There are still lots of experimenters and most are not hams, professional engineers or technicians. Some started as software hackers. The doorbell project used a component that was developed by Texas Instruments (TI). I signed up with TI to get their data sheets on things that would be of interest to experimenters. Parts are available from Digi-key and Mouser as well as directly from sources like TI. TI even offers free samples to active experimenters.

Tying this all together I must talk about Forrest Mims. You can look him up on Wikipedia. It was Mims who authored those little books that were sold in Radio Shack, which told about projects that could be made with analog op amp chips, TTL and CMOS digital chips and the famous 555 timer chip. Mims was not a scientist. He only held liberal arts degrees. He wrote articles for electronics magazines about do-it-yourself electronics.

At one time Mims obtained some LEDs from TI and he discovered that LEDs were not only capable of transmitting light signals but were sensitive for receiving light signals. He documented and dated his findings. When AT&T claimed that the discovery of the dual properties of LEDs was their invention, Mims challenged them in court and won! Now we can understand why TI offers samples to experimenters. There is no telling what new applications may be discovered. Ding-a-ling? DING-DONG.

PUZZLE

Last month's question was:-

What is meant by antenna gain?

A. The numerical ratio relating to the radiated signal strength of an antenna to that of another antenna.
B. The ratio of the signal in the forward direction to that of the signal in the back direction.
C. The ratio of the amount of power produced by the antenna compared to the output power of the transmitter.
D. The final amplifier gain minus the transmitter line losses (including any phasing lines present.)

Answer:- The correct answer is A.

Next month's question is:-

What is the only amateur band that does not permit the transmission of phone or image emissions?

A. 160 meters
B. 60 meters
C. 30 meters
D. 17 meters

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1 Yr. Board Member: Jack Hayne, WB2BED
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Newsletter

CQ de WA2LQO is published monthly by the Grumman Amateur Radio Club for its members and friends.
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GARC VE Exams

We normally proctor exams for all classes of ham licenses on the second Tuesday of each month, starting at 5:30 PM. The exams may be given at various locations. Ham Exams are: Element 2 – Technician, Element 3 - General, Element 4 – Amateur Extra Class. All applicants must pre-register to determine the location of a VE session by contacting Ed Gellender WB2EAV. Time and location of exams are subject to change. If there are no applicants VE sessions will be canceled. The fee for 2015 is $14 for all exams taken at one sitting. New first-time applicants should be aware that their Social Security Number will be required on the application form unless they register with the FCC for an FRN. Applicants for an upgrade should bring their present license and a photocopy of it. All applicants should bring picture ID such as a driver's license. Study material may be bought from the ARRL-VEC or W5YI-VEC http://www.arrl.org or http://www.w5yi.org. All VECs use the same Q & A pools. THERE WILL BE NO VE SESSION IN MARCH 2015.

Editorial

I want to thank all the GARC members who are keeping our club alive. Especially Jack, WA2PYK who sets up the scheduled locations for meetings and events and Karen, W2ABK, who records all meetings and acts as our WAG-net controller. All of the GARC officers play vital roles in keeping the GARC alive, running VE Sessions, managing repeaters, representing us at ARRL NLI functions, getting this NL reproduced and mailed. To tell the truth when Pat Masterson retired to Florida about 7 years ago, I thought that the GARC was going to be history. I hope to believe that "You ain't seen nothing yet."

I must admit that I am biased toward respecting productive engineers. A Newsday obituary tells of the passing of Ernest Sternglass, who died recently at the age of 91. He is remembered as one of the men who made the SSTV camera that was used on the first moon walk. He was born in Germany in 1923 and his family fled the nazis in 1938. He graduated Cornell at the age of 23 and was working at the Naval Ordnance Lab in White Oak, MD, when he wrote to Albert Einstein about a scientific matter. Einstein was so impressed that he invited Sternglass to visit him in Princeton, NJ. Although Sternglass was training to be a theoretical physicist, (eventually earning a PhD), Einstein advised him to "always keep a cobbler's job" and do useful things, meaning to be an ENGINEER, not just a theoretical researcher. He pioneered work in digital X-ray imaging machines, and set up limits on A-bomb radiation test exposure based on the known unsafe levels of X-Ray exposure. To be or not to be a cobbler that makes the shoe fit…
73 de Bob w2ilp (I Like Productivity) EE = Electrical Engineer EEE = a shoe width….

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FIRST CLASS MAIL
Do Not Delay

IT HAPPENED HERE FIRST!

The Feb 16 Newsday included a puzzle book called "Brainstormers" with a two page article entitled: *Long Island Our Story – It Happened Here First!* Included were the following important contributions to radio communication and aircraft development:

Moonwalk: The first men on the moon descend from a lunar landing module built at Grumman Bethpage.

Under the Sea: The first American submarine base, the Holland Torpedo Boat Station, located in New Suffolk.

And All the Ships at Sea: In 1901, wireless inventor Guglielmo Marconi transmits the first ship-to-shore commercial message from Babylon.

First in War: The first guided-missile tests are done in Amityville in 1917.

On the Air: The first commercial wireless station in America for ship-to-shore radio communication is erected in a Babylon shack in 1900 by Henry. J. Kellum.

Across the Pond: In 1922, RCA's first transatlantic radio-telephone transmitting station at Rocky Point.

Eye in the Sky: The first aerial traffic report comes from a Goodyear blimp operating from Holms Airport in Queens in 1936.

Lucky Lindy: Charles Lindbergh leaves from Roosevelt field bound for Paris on May 20, 1927, on the first nonstop transatlantic flight.

Staying Power: Glen Curtis flies a plane over a distance of 25 kilometers in Mineola on July 7, 1909 winning the Scientific American Trophy and a prize of $10,000 for the first sustained flight.

Breaking the Gender Barrier: In 1911 Long Island's Harriet Quimby becomes the first woman in America to get her pilot's license.

Air Mail: America's first air-mail delivery occurs in 1911, when local flier Earl Ovington carries a bag of 640 letters and 1,280 postcards 6 miles from Garden City to Mineola.

TV "rabbit ear" antenna: One of many patents for consumer electronics awarded between 1956 and 1968 to Marvin Middlemark, a self-made millionaire from Old Westbury.

MRI: Magnetic Resonance Imaging was invented by Raymond Damidian of Fonar Corp and patented in 1974.

T*here is no mention of Nicola Tesla, despite his being a household name, nor any mention of Harold Wheeler either, although he wasn't a household name.* *–w2ilp--*