

CQ de WA2LQO

Seventy Two Years: 1944 -2016

The official independent voice of the Grumman Amateur Radio Club.

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How Ham Radio Prepared Me to Become an Engineer

By Bob Wexelbaum, W2ILP

When I first arrived at The South Eastern Signal School I noticed a building that had several antenna towers near it. The towers held rotary beam antennas that looked just like HF antennas for ham bands, so I reasoned that they were probably used by a ham club. When I had arrived at Camp Gordon I was given a \$20 bill (known by the GIs as a “flying twenty”) which was a partial advance of my regular pay (this was before the “flying onion” episode I wrote about last month.). New arrivals were given the cash in order to buy necessary toilet supplies in the PX or make long distance pay-phone calls to loved ones. I didn’t make any phone calls and didn’t need any supplies so I headed straight to the building near the ham antennas and found that my observation was correct. It was The Camp Gordon Radio Club. Having an Advanced Class ham license I was able to sign up as a full member of the club. The president of the club welcomed me. I would not be permitted to operate the club’s equipment until I was checked out on its operating procedure. Most of the equipment was manufactured by Collins. There were separate receivers and transmitters for three stations for CW, Phone and RTTY operation and power amplifiers for the maximum legal limit RF output for each. I asked if there were any licensed hams who were now taking the Field Radio Repair Course. There were and I was able to check the club roster to find that several were in my 1648 barracks area.

I had passed all of the school’s phase tests in one day except for the last one which was about RTTY. Thus I was looking for someone who could help me learn about RTTY. I had a RTTY instruction manual which I could read but I needed an oral crash course to get prepared to retake the RTTY test the next day. I found a young man who could help. He held a BSEE as well as an Advanced Class ham license and was also enrolled in the 1648 course. He was an over 6 foot tall Californian. I asked him why he was taking the course when he could have easily passed all the tests. He said that he had been drafted and he thought that spending the full 6 months taking the course would be safer than getting orders to go overseas. Thus he did not volunteer to shorten his time at Camp Gordon. He said that I was foolish to rush through the course because I would receive no thanks for saving the Army training time. He was very right about that, as I found out later. His name was Roy.....

As I continue please note that I will not print the full names of most people who I have met while in military service. Although I had retained contact with some of them by postal mail, I have lost contact with most. I have lost the ham call-signs that I once tracked some hams with. Those that I did have are now probably Silent Keys.

Military RTTY at that time was coded exactly like the TTY that Western Union was using

on telegraph lines. The Military QWERTY typewriter was called a “mill” It had no shift key. Thus it was unable to transmit numerals, punctuations or small case letters. Numerals had to be spelled out and the word “STOP” was used to denote a period. Technically RTTY did differ from TTY in that it used frequency shift keying of a radio transmitter, *just as modern RTTY does*. Two RF frequencies are used to signal the “mark” and “space”, which carry the “on” and “off” states of the 5 bit coding of TTY. Roy explained it well and I passed the RTTY phase test the next day and was sent to work in the final shop. There the students were attempting to repair radio receivers that had been, not just bugged, but were almost completely destroyed because they had been subjected to many students who were just learning how to de-solder and solder and how to use pliers, small hand tools and test equipment. I managed to build a working BC-342 by taking parts that had not been completely damaged from three receivers and assembling them using new tube sockets and terminal strips. This technique was known as “cannibalizing”. Mine was the only successful project at the time and I am sad to say that no other students had succeeded to repair or construct any working units on that day. Because of my success I needed to spend only two days in the indoor shop. I was then ordered to report to the outdoor Field Shop. There was even a bigger mess there, with not many successful repairs being made. The outdoor shop used a gasoline motor generator for 60 and 400 Hz. power. It was intermittently shutting down, often long enough for soldering irons to cool off and test equipment to shut off (preventing the frequency stability that comes from leaving something powered up continuously). I slept in a tent after trying to repair radios in the dark using intermittent lighting. After about three days I received a message to report to an advisor who would discuss my future orders because it had already been acknowledged that I had completed the Field Radio Repair Course. I looked forward to seeing the “advisor”, who I expected to be like the high school “Grade Advisors” who help students get into colleges or vocational schools after graduating high school.

I was given the room number of the advisors office and I knocked on his door. After entering I saw a fat civilian, not the Military Officer I had expected. I told him that I was Private Robert Wexelbaum and he told me that he could be addressed by me as Mr. Pelt. “So you’re the wise guy I’ve been told about...Hmmm...I have to draw your orders for your next assignment.” I did not like the way he said “wise guy”. It was not complementary. It was smirked like an insult. “Where do you think you are going?” he asked. I answered that I would like to go to the Army’s Advanced Communication or RADAR School at Fort Monmouth, New Jersey. (In addition to increasing my technical capabilities; I could have travelled home easily from there.) “You ain’t never going to Fort Monmouth, Private Wexelbaum...even if you get through OCS and re-up for six more years, so forget it. I can only offer two possibilities: - You can stay here at Camp Gordon and be an instructor in our Final Shop or I can make you available to receive orders to go anywhere the Army may need you to go. What do you want? You don’t have any time to decide. You have to tell me now.” I said, “Mr. Pelt, Sir, I don’t like working here in Augusta, GA, In fact I hate the South”. I knew that it would make Mr. Pelt angry because he was probably a Southerner but I said it anyway because I felt that he could not do anything worse to me than he had already suggested. I was wrong about that. (To be continued)

PRESIDENT'S NOTE by ED GELLENDER, WB2EAV

As I'm sure I've mentioned, I am also a Boy Scout adult leader and one of the things that I have been doing for the past few years is to help run a camping event in May at a Boy Scout camp in Wading River, with about a dozen scout troops participating. I became somewhat notorious a few years ago when we had an "old west" theme and I organized a cattle bulldogging competition. With heifers in short supply on Long Island, I used a sawhorse with horns of half-inch pipe, and a braided tail. The boys had to lasso it, wrestle it to the ground, tie its legs together and brand it ... against a stopwatch. Of course we had to make some accommodations – like the branding iron being a rubber stamp on a stick. The boys really appreciated the inherent absurdity of it all, and everyone had a wonderful time. Several times an uninitiated adult would come by, stop and stare for a moment, and then burst out laughing.

This year I was asked to run some form of amateur radio event instead. It probably would be more of a demonstration than a competition, but that is open. Using the usual Field Day setup leaves me in pretty good shape (and there is even some AC power, so no generator is needed). I do have a choice of several rigs and antennas, and even a callsign - W2SSR (as in Schiff Scouting Reservation).

What I am not clear about is what kind of program would interest enough of the boys to make it worthwhile. I will have to research that over a couple of months, and if you have any ideas, let me know at wb2eav@yahoo.com

Ed, WB2EAV

GRUMMAN AMATEUR RADIO CLUB MINUTES OF GENERAL MEETING / EXECUTIVE BOARD MEETING 2/17 /2016

The meeting was called to order by Jack, WA2PYK 5:05 PM / Ed, WB2EAV 5:30 PM

TREASURER'S REPORT – Ed, WB2EAV

Finances are in good shape.

REPEATER REPORT – Gordon, KB2UB

Repeaters are working.

VE REPORT – Ed, WB2EAV

No applicants applied.

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

Board Meetings of the GARC are held on the 3rd Wednesday of each month, starting at 5:30 PM they are combined with General Meetings that start at 6:15 PM, at the Ellsworth Allen Park in Farmingdale.

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. The membership roster has not been updated to delete Silent Keys and to enter new e-mail addresses for remaining members and friends.

Making Waves Between Two Black Holes

During his lifetime Albert Einstein had admitted that he was unable to mathematically relate electromagnetic wave theory to his understanding of the force of gravity. He knew that all light and radio waves travel through space at the same velocity, but he couldn't figure out how the force of gravity, which is a function of the mass of the objects attracted to each other, travels. The question is can gravity travel at the speed of light? ... or does it need to travel at any speed? If the entire mass of a planet were to be destroyed in an instant of time, how long would it take for other planets to feel a difference in the gravitational pull of the destroyed planet?

If gravity worked in a space-limited universe, all the stars and planets would be attracted to each other and would converge onto a single Big Mass. However, this is not what we are now observing. We see an expansion of everything that was theoretically exploded out of a single mass by a Big Bang. The expansion may not be capable of continuing, unless we believe that time and space are not geometrically related to normal 3-D relationships. Or, we can reason, as Einstein did, that space and time are curved back into themselves. This was proposed in Einstein's Special Relativity theory, or that the universe is infinite in all directions so it can go on expanding forever, as it seems to be doing. I must admit that I can't understand all this theoretical stuff myself. I don't need an antenna to demonstrate the force of gravity. I can drop anything that is heavier than air to observe that force. If it was not for gravity we would all be flying like astronauts on space vehicles, where the gravitational force is close to zero because their space vehicle is not very massive. The next thing I can't understand is black holes. Theoretically black holes have the capability of attracting any mass with an infinite gravitational pull. Theoretically black holes attract electromagnetic waves. If we think of light traveling as photons, which are particles which have mass, although very little of it, they can be attracted just like space dust or anything that is massive. Are black holes black because they attract all light, or do they radiate a black force field that is the opposite of light itself? I dunno and I'm sure that lots of scientists and technical writers are stumped when they write about recent developments! Astronomers have now located a pair of black holes in space (takes two to tango?) that have been touted as a way to measure the true nature of gravity. The method being used is to have radio antennas on different parts of the Earth acting as an interferometer. The holes' relationships emit a wave that, when it reaches the interferometer at the proper angle, the Doppler shift produces a very weak audio tone which may be heard by ear and of course monitored by instrumentation. Experiments will continue using four antennas rather than the two now here on Earth. There are lots of jokes I could make about holes...but I won't because this is a serious subject, and unlike other serious relationships, it is Politically Correct to discuss it, even without parental control, among guys like me who can admit to being relatively ignorant...I think...

PUZZLE

Last month's question was:--

What is one common use for PIN diodes?

- A. As a constant current source
- B. As a constant voltage source
- C. As an RF switch
- D. As a high voltage rectifier

Answer: The correct answer is C.

This month's question is:-

What is the *skin effect*?

- A. The phenomenon where RF current flows in a thinner layer of the conductor, close to the surface, as frequency increases
- B. The phenomenon where RF current flows in a thinner layer of the conductor, close to the surface as frequency decreases
- C. The phenomenon where thermal effects on the surface of the conductor increase the impedance
- D. The phenomenon where thermal effects on the surface of the conductor decrease the impedance

GARC Officers

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Newsletter

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GARC Webmaster

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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 - Technician, Element 2, General Element 3, and Amateur Extra Class, Element 4. Time and location may be changed, and sessions may be cancelled if no applicants make appointments. The fee for 2016 is \$14. All applicants must pre-register with Ed Gellender wb2eav@yahoo.com. All new applicants should be aware that they must write their Social Security number on the application form if they have not gotten an FRN number. Applicants for an upgrade must bring both their present license and a photocopy of it. All applicants should bring picture ID such as a driver's license. Study material may be obtained from ARRL-VEC at <http://www.arrl.org>, W5YI-VEC at <http://www.W5YI.org> or other VECs. All VECs use and update the same Q&A pools.

Editorial

I always tend to leave my writing in this newsletter to the last minute in the hope that some other member might write an article or that some new news about the GARC itself might emerge. At any rate I hope that you are following my autobiography and are not getting bored by it. I can promise to have some interesting stuff in future issues that are going to be quite shocking and to answer the mystery about the reason why I was not permitted to go to Fort Monmouth, NJ after completing the Field Radio Course at Camp Gordon, GA.

The March winds may blow...and we may have snow... Be prepared...The prediction remains...The weather may change... and go out of range...Durrr...I think...

73,
Bob w2ilp (Intensely Lit Photons) ... bent or extinguished by black holes? ... theoretically anyway?

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FIRST CLASS MAIL

Do Not Delay

This space is intentionally blank.

I was going to write something here about our retiring Representative Steve Israel and about the presidential candidates...but I think it would be better if you Google it up yourselves.

--w2ilp--