



**CQ**  
de WA2LQO

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## **Who Invented the First Television?**

**By David Ledo, AB2EF**

The history of the television doesn't begin simply. It was developed slowly over the years by a number of inventors working separately all over the world.

Philo Farnsworth was born in 1906 near Beaver City, a community in southwestern Utah. He lived in a log cabin built by his grandfather, a follower of the Mormon leader Brigham Young.

As a young boy Farnsworth loved to read Popular Science magazines and many other science books. He attended high school in Rigby, Idaho and rode to school everyday on horseback. By this time, he had already converted most of the family appliances to run on electrical power.

Farnsworth was interested in electrical theory, electrical motors and the Nipkow disk television which was an electro-mechanical TV system, developed in the 1920s. At the age of fourteen, Farnsworth conceived the idea of electronic television. The moment of inspiration, according to legend, came to him while he was tilling a potato field with a horse drawn harrow. It was then that he realized that an electron beam could scan images the same way, line by line, just as you read a book.

Many accredited the work accomplished by Farnsworth as the biggest stride towards inventing the television. He demonstrated on September 7, 1927 that it was possible to transmit an electrical image without the use of any mechanical spinning disk. His invention used electrons, objects so small that they can be deflected back and forth within a vacuum tube thousands of times per second. This accomplishment represented a great lead in human knowledge that is still in use today.

Russian born Vladimir Zworin built and tested similar systems to Farnsworth's even earlier. He had an application for a patent in 1923. However, this date is disputed because Zworin held no public demonstration until two years after Farnsworth's demonstration. Nevertheless, Vladimir Zworin invented the cathode ray tube, called a kinescope in 1929, and he presented a television with all the features of a modern CRT set. Zworin also invented the iconoscope in 1923, a tube used in the first cameras. On November 18, 1929, at a convention of radio engineers, Zworin demonstrated a television receiver containing his kinescope. Zworin was transferred by Westinghouse to work for RCA in Camden, New Jersey, with a new title as a director of the electronic research laboratory. Zworin made improvements to his iconoscope. The further improvements allegedly use an imaging section which was similar to Farnsworth's patented materials. Patent litigation forced RCA to start paying Farnsworth royalties.

Because of the ingenuity of men, the television became a reality instead of a dream.

Note: The book "Tube" (David Fisher, 1996), available in many libraries, is the definitive work on the subject. Last year's play, "The Farnsworth Invention" ran successfully on Broadway, even though it inexplicably changed the ending to Farnsworth getting nothing from RCA (which is why I didn't go see it). -WB2EAV

**PRESIDENT'S NOTE by ED GELLENDER, WB2EAV**  
**January 2009**

When Northrop Grumman maintenance mounted the antenna for the Bethpage repeater about a year and a half ago, they did not do that good a job, and the whole thing fell over in November. I got them to repair the mounting and put it back up, but somehow during the process water got into the coaxial cable and ruined it. Now I am trying to do the paperwork for a formal repair job to replace the coax. Adding insult to injury this time we have to provide the new cable.

The ruined cable is RG-213/U, which maintenance insisted on using (but provided) when they did the installation. Now that I have to procure the replacement cable, my eyes glaze over with the possibilities. However, they have to do the installation without our help, and will balk at anything more difficult than a PL-259. If anybody reading this can suggest a cable that has less loss than RG-213 at 150 MHz, yet still uses PL-259s let me know. "Texas Towers" advertises something called LMR coax in QST that looks like a possibility. Gotta give them a call.

It is that time of the year for dues. Take a look at your address label to see the year that you are paid up through. If you get the newsletter by e-mail, just hit reply to ask me about your status. The usual dues are \$20 a year. Family membership is \$25 and for out-of town retirees it is \$10. We have been pretty laid back about it in the past, but we have some additional expenses lately, and I may soon have to cut some who are too far in arrears from the snail mail list.

If you prefer e-mailed newsletters, be sure to let me know, so that we can save printing and postage costs. Let me add here that we fully intend to continue mailing paper copies to all members who want them into the indefinite future.

I did a stamp collector friend of mine a favor and bought some stamps from him...He took inventory and realized that he had a small fortune tied up in excess postage. Check your newsletters for some really unusual stamps.

**GRUMMAN AMATEUR RADIO CLUB  
MINUTES OF GENERAL (Holiday Party) MEETING 12/17/2008**

By Karen, KC2OPX, secretary.

**The meeting was called to order by at 5:30 PM.**

**TREASURERS REPORT – Ed, WB2EAV**

Finances continue to be in good shape.

**REPEATER REPORT Gordon, KB2UB**

Ed believes that the coax for the Bethpage repeater needs to be replaced.

**VE REPORT – Bob, W2ILP**

One applicant passed Commercial Element 1 for a GROL. VE/CEs were AB2EF, AB2NT, KC2OPX and W2ILP. George, AB2ZW joined us as a VE in training. He has applied for VE status.

**NET REPORT- Zack, WB2PUE**

Only a few people checked into the Thursday net.

**OLD BUSINESS**

Northrop Grumman may be giving some money to our club treasury.

**NEW BUSINESS**

HRU 2009 is scheduled for January 11<sup>th</sup> at Briarcliffe College in Bethpage.

**PROGRAM**

The meeting was the holiday party at Bertucci's. About 16 people attended. There was plenty of food and deserts to celebrate the holiday season. Everyone had a good time. Happy Holidays!

**GARC NETS:**

**40 Meters: 7.289 MHz at 7:30 AM EST Sundays.**

**2 Meters (via repeaters): 146.745 MHz (-.600 kHz) at 8:15 PM EST Thursdays.**

**145.330 MHz (-600 kHz) at 8:30 PM EST Thursdays**

**[Tone for both repeaters is 136.5 Hz]**

**(ARES/RACES) Mondays**

**MEETINGS**

General Meetings of the GARC are held on the third Wednesday of each month, starting at 5:30 PM. The meetings are usually held at the Ellsworth Allen Park in Farmingdale. Driving directions and maps 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 eight days before the General Meeting.

**GARC WEB SITE**

The web site of the GARC 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 was suggested by Dave Ledo, AB2EF. Those who attended the meeting when a video about the MJF factory was shown might remember that Dave got that video from this link. That is not the only ham related video that can be selected on this web site home page. There are many interesting links here and because of time and space limits I can't talk about all of them. The web page may be updated and more stuff may be available by the time you look.

The first link that I clicked on brought me a video that was produced by members of the ham club in Melbourne, Australia (VK3 land). This is the same club that I had visited when I visited Australia. I did not get a chance to visit the radio museum there but it is shown on this video. The radio museum has a great collection of signaling devices and radios of all kinds. It has Japanese radios that were used in WW2 and many radios that were used by the Australians during WW2, the Korean War and the Vietnam War. Some of them were made in USA, including the PRC VHF back pack types.

The dangerous job of the Australian "spotters" was explained. These were the men who hid behind enemy lines in New Guinea and on islands of the south Pacific and transmitted vital intelligence information. They had to keep moving so as to prevent the Japanese from DFing them.

There was a time when Australian ham stations had to be inspected by government engineers. It was required that every ham station have a heterodyne frequency meter such as a BC-211 or BC-221. Such a unit is now in the VK radio museum. In order to get their inspections passed the VK hams would bring the same frequency meter unit from one station to another, just in time to get there before the inspector. The BC units were expensive and had hand calibrated charts and they were the only sure way to accurately check your transmitters RF frequency in the 1950s. Today we use digital frequency counters to do that job and they are a lot cheaper.

The URL address I am talking about is: -

[Http://www.amateurlogic.com/downloads.htm/](http://www.amateurlogic.com/downloads.htm/)

You can download each video as explained but I prefer to simply view them by selecting <Run> without saving them on my hard drive.

### **PUZZLE**

**Here is another cryptogram: KLO QHMI TRYE ALRE HALY KHSR GP ILX DHTT JKR JHGT**

**H TRY? PLXV. DHTTGM Y H JHGT H TRY ALREM'J QHBR GH H TRY.**

**--HZVHKHQ TGMDLTM--**

Solution to December's cryptogram: The man with the best job in the country is the vice president. All he has to do is wake up every morning and say, "How's the president?" --Will Rogers—

[I apologize for errors in December's puzzle. I think that my spell checker was trying to make corrections and it also couldn't figure out how to solve the puzzle. I'll try to double check this month, so don't give up on me.]

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December 2008  
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**CONTRIBUTING WRITERS**  
All the members of GARC (we hope!)

CQ de WA2LQO is published monthly by the Grumman Amateur Radio Club for its members and friends. Send articles and amateur equipment advertisements to: W2ILP. Articles may be sent by e-mail or postal mail. They can be in MS Word format or simply in plain text. Articles will only be edited when permission is granted by the author.

**ELECTRONIC SUBMISSIONS**  
For insertion to the WA2LQO website, information may be sent to Pat Masterson.  
Pat Masterson's e-mail address: Pat-Masterson@tampabay.rr.com  
Ed Gellender's e-mail address: Edward.Gellender@ngc.com or wb2eav@yahoo.com

## EDITORIAL

Another year has passed and there is still a Grumman Amateur Radio Club. Our 65 years of existence has been continued with traditional Field Days, nets, holiday parties and picnics. Some hams, even some members, don't attend any meetings or events but they remain interested in the hobby. There have always been hams who would rather be heard than seen. As I always say; "Ham Radio means different things to different people". To me Ham Radio means the radio experimenting that I did when I was a kid and the magic that radio seemed to be at that time. I dunno if many kids today think about radio or even the Internet as being "magic". To me Ham Radio is not just my radio transceivers, my stacks of books and magazines, my piles of radio parts that I had meant to build stuff with, long before the time that tubes became obsolete. Nope...That is not all Ham Radio means to me, because Ham Radio is the contacts, the friends and acquaintances that I have s got to know. .Sadly many are now SKs. It takes at least two to make a QSO, and more than that to run a net. People today can make friends via the Internet...but I liked the good old ham radio days when I could QSO if there was not much QRM and never be bothered by advertising pop-ups from Google or Zango.  
73,  
Bob w2ilp (Ignoring Lousy Pop-ups)

## GARC VE EXAMS

We are continuing to proctor exams for all classes of ham licenses on the second Tuesday of each month, starting at 5:00 PM.

The present exams are:-  
*The Element 1 CW exam is no longer required.*

Element 2: Technician  
Element 3: General  
Element 4: Amateur Extra Class

The fee for 2009 is \$14.00 for all exams taken in one sitting. The ARRL-VEC now charges \$15 but W5YI-VEC has decided not to change the required fee.

Applicants for upgrades should bring their present license and a photocopy of it and know their FRN number.

New, first time applicants should be aware that their Social Security number will be required on their application form, unless they register with the FCC for an FRN.

All applicants should bring picture ID such as driver's licenses.

Until further notice exams will be given at:-  
Briarcliffe College  
1055 Stewart Avenue  
Room: Long Beach #5  
Bethpage, NY  
Briarcliffe, Bethpage is located in a building that was formerly part of the Grumman complex.

All applicants should contact W2ILP to register, so as to confirm location. If no applicants apply, the exam session will be cancelled.

For any information e-mail w2ilp@optonline.net or phone- (631) 499-2214

Study material is available at the web sites of the ARRL  
<http://www.arrl.org>  
or W5YI  
<http://www.w5yi.org>  
All VECs use the same Q & A pools.

Since the beginning of the VE program the GARC has provided opportunities to take the ham exams monthly, during all 12 months of every year.

Bob Wexelbaum, W2ILP and the GARC VE team.

## GRUMMAN AMATEUR RADIO CLUB OFFICERS FOR 2008

President	Ed Gellender	WA2EAV	X02-14	516-575-0013
Vice President	Gordon Sammis	KB2UB	Retiree	631-666-7463
Secretary	Karen Cefalo	KC2OPX		631-754-0974
Treasurer	Ed Gellender	WB2EAV	X02-14	516-575-0013
2Yr Board Member	Zack Zilavy	WB2PUE	Retiree	631-667-4628
2Yr Board Member	Dave Ledo	AB2EF		
2Yr Board Member	Bob Christen	W2FPF		
1 Yr Board Member	Bob Wexelbaum	W2ILP	Retiree	631-499-2214
1 Yr Board Member	Jack Cottrell	WA2PYK	Retiree	516-249-0979
Trustee WA2LQO	Ray Schubnel	W2DKM	Retiree	

## STANDING COMMITTEE CHAIRMEN

Contact VE:	Bob Wexelbaum	W2ILP	Retiree	631-499-2214
Webmaster	Pat Masterson	KE2LJ	Retiree	813-938-4614

**GRUMMAN AMATEUR RADIO CLUB**  
**Sixty Five Years 1944 -2009**  
**P.O. Box 0644**  
**Bethpage, NY 11714-0644**

**FIRST CLASS**

**DO NOT DELAY**

#### **HRU 2009**

By this time that you receive this newsletter the Tenth Annual HRU 2009 at Briarcliffe College on January 11<sup>th</sup> will have been history. If you missed it you will have to wait until 2010 for the next one. As I write this I am also preparing for my forum at the HRU. It will be about the history of radio operator licensing. I don't know how the attendance at HRU 2009 will compare with previous years. I'll let you know in the next newsletter.

#### **2009 GARC DUES**

As our president says, "Dues are due". See his message. Dues may be mailed to:-  
Grumman Amateur Radio Club  
P.O. Box 0644  
Bethpage, NY 11714-0644

#### **VE CERTIFICATION**

We are still seeking certified VEs. Obtaining VE status from the W5YI-VEC organization is easy. It only requires filling out an application form and mailing it with a copy of your ham license. Once you are certified, please let me know by phone or e-mail and tell me your phone number and/or e-mail address, so that I can reach you if you are needed. If you have not been active as a VE with W5YI-VEC you may need to be recertified.

73,  
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