

CQ de WA2LQO

Sixty Eight Years: 1944 -2012

The official voice of the Grumman Amateur Radio Club

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COMMUNICATIONS SYSTEMS (continued from September 2012)

By Bob Wexelbaum, W2ILP

Amateur Radio Operators are unique because they do not always utilize the most efficient communications modes that are available to them. Part 97 of the FCC Rules and Regulations permits operation in many modes, each of which offer different advantages and disadvantages. Some modes would now be as obsolete as dodos if we considered efficient bandwidth usage and other technical criteria. Ham CW operators still demonstrate their skills even when commercial and military telegraphers are no longer trained or used for obvious reasons. The fact is that hams love the nostalgia of communicating in modes that no sane non-ham person would seriously consider...even for extreme emergency purposes...for basic educational purposes... or for promoting international good will! On the other hand, many of the keyboard modes used by individual ham operators are overkill because their throughput rates greatly exceed human real time typing rates. Ah...but ham radio is a hobby and some modes work best on some HF bands during some propagation conditions when others fail...That is if you want to handicap yourself into working with levels of minimum discernible signals (MDS), immersed in the ever present noise. There are hams who now continue to use Amplitude Modulation (AM) where others are using SSB, which requires half the bandwidth. These hams often use high power RF amplifiers, which unlike SSB amplifiers, are not linear. Non-linear amplifiers generate strong harmonics, which risk RFI and TVI. We must also take into account the amateurs who illegally experiment with Tesla Coils, which are no longer useful for communication, but can jam anyone who might want to communicate by radio. This proves to be a reason why some hams have gotten bad reputations, even in areas where others have worked diligently to eliminate the causes of their neighbor's complaints. Let me now define some of the modes of today and yesteryear that are still being used.

There are three ham radio modes that are considered to be "fuzzy modes". They are Slow Scan TV (SSTV), Amateur analog TV (ATV), and Hellschreiber. Commercial Facsimile (FAX) is also called a fuzzy mode. What these modes have in common is that their final displays or print-outs are recognizable by human eyes, which ultimately rely upon the human brain to process visual information, rather than a signal processing and decoding scheme that only can present some sort of alpha numeric text display. I don't know why these modes are called "fuzzy". What might be fuzzier to me is a weak 20 Meter SSB signal that I manage to receive from my attic antenna.

SSTV:

Slow Scan TV is a misnomer because it isn't TV. It is only a method of transmitting still pictures via radio. Early versions of SSTV only transmitted black and white pictures. The most recent version can transmit full color pictures. Most of the SSTV operation is now performed on a few fixed frequencies within the 20 Meter phone band. The use of SSTV became popular when western cattle raising hams wanted to send each other pictures of their prize bulls and cows... but SSTV also became a way to send QSL picture cards without paying postage. Today we can all send pictures as attachments to our e-mail and get them from digital cameras or scanners that offer better resolution than that of SSTV. There are now dedicated websites where picture QSLs are exchanged. SSTV is, however, easy and inexpensive to set up because it requires only the same connections between an SSB transceiver and a PC that are required for the most common keyboard modes. SSTV software is available free.

WINLINK 2000

WinLink 2000 evolved to fill a need that at one time was the only sure way that hams could communicate and have Internet access when traveling beyond the reach of the Internet. Today there is no need for hams or non-hams to use WinLink for Internet access. WinLink is an amateur radio HF digital network originally conceived to provide Internet access anywhere on the Globe. More than 30 HF digital stations worldwide had formed an Internet exchange network, including e-mail, binary file transfer and Global graphic WX reporting. There is unique WinLink software, in addition to PACTOR or PACTOR II protocols that is designed to transfer information between the Internet and ham HF stations. HF stations can also communicate with each other by the use of Internet forwarding. By scanning HF ham bands on a regular basis there is good probability that a clear communications channel may be found. This method involves listening on each frequency for only about two seconds. Text based e-mail can carry binary attachments such as DOC, RTF, XLS, JPG, GIF, BMP, etc. The WinLink stations operate as mailboxes, just like ISPs do. They store messages until the messages are downloaded. Graphic and text-based messages include weather downloads from a list of over 400 weather products covering the entire Globe. The software involved is called *AirMail*. An HF winLink station requires a multi-mode processor in addition to an SSB transceiver that can communicate in binary mode with PACTOR or PACTOR II. The processors that are used include SCS PTC Pro or Pro-lie, Kantronics KAM+, KAM-98 or KAM XL, and Timewave/AEA, PK-232.

CLOVER

Clover differs from other keyboard modes because, in addition to an SSB transceiver and a PC, it requires a P-38 Clover controller board or a DXP38 HF Modem. This specific hardware and Clover software is only available from HAL Communications. The software can be updated when HAL decides to make improvements. Although the HAL modem can also be used for RTTY, PACTOR and AMTOR it is relatively expensive and its cost is a reason for Clover to be unpopular for use by average hams. Clover is designed to handle high volume message traffic. It is thus mainly of interest to hams who wish to operate communication network nodes. Clover is unlike other ham keyboard modes because it establishes communication without sending a CQ message across the screen. The ham operator simply highlights CQ on a mode menu and presses enter with his mouse. Nothing appears on his screen at that time but the CLOVER controller sends out a lot of handshaking data in order to establish communication. (to be continued)

PRESIDENT'S NOTE by ED GELLENDER, WB2EAV

The end of October and the beginning of November have come close to being a nightmare for the New York City metropolitan area. First, Hurricane Sandy caused tremendous tidal flooding. Years ago I lived in high rise buildings on the lower east side of Manhattan and then Coney Island. Not only did I never experience the water rising to the point where a single drop of ocean or river water came onto land, but I never even heard of this happening in the past. Apparently this time, both areas have had significant flooding, which boggles my mind.

Then, when I was living in Queens in 1985, I clearly remember Hurricane Hugo hitting Long Island and leaving a large percentage of the population without power for a week. This time 90% of Long Island lost power for at least a while. I got my power back after 8 days and have a case of survivor's guilt because so many others still don't have power.

Now we have gasoline lines. Back in 1973 and again in 1979 we had gas lines due to disruptions in the Middle East, but I do not remember them being anywhere as long as they got this time; often over 2 hours. At least in those earlier cases we knew exactly why we were having problems; now it is not so clear. At least we now have the website gasbuddy.com which has been helping some people feel a little more in control, and things do seem to be getting better.

Then we had a Northeaster come through with predicted "wind and rain, with the possibly of a dusting of snow". Well, I had to shovel six inches of that "dusting." The worst part is that more people lost power, many for the second time.

New Jersey Governor Christie put it best: "This is like something out of the Bible. I fully expect locusts and pestilence next." Ed, WB2EAV

**GRUMMAN AMATEUR RADIO CLUB
MINUTES OF GENERAL MEETING 10/17/2012
By Karen, W2ABK**

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

TREASURER'S REPORT – Ed, WB2EAV

Finances continue to be in good shape.

REPEATER REPORT – Gordon, KB2UB

The 146.745 has problems. Signals break up even when strong.

NET REPORT – Karen, W2ABK

Thursday night net at 8:15 PM on 146.745 MHz had 1 check-in. Repeater has problems.

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 2 check-ins.

VE REPORT – Bob, W2ILP

No applicants applied; therefore the October session was cancelled.

OLD BUSINESS

We need programs for our meetings.

PROGRAM

Ray brought in a Dean Martin Roast DVD.

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

Net Controller: Eugene, W4JMX

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 third 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 a week before the General Meeting at the Bethpage Skating Rink.

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

With all of the discussions about our recent election (which might be too political to comment about here), there has been very little publicity given to a referendum passed by a majority of Puerto Ricans that would serve to ask the US Congress for statehood. Although there have always been Puerto Ricans who want statehood, there also have been those who want complete independence from the US, as well as those who like the status quo, including the right to retain Spanish as their official language. Can we add another star to our flag? Can we allow a state of the US to have Spanish as their official language and not teach English as a primary language to all of their children who attend public schools? See the following link:

<http://news.yahoo.com/puerto-ricans-opt-statehood-referendum-134423786.html>.

I had not been able to surf the Internet during to my recent loss of electrical power, but I did receive a copy of Newsday every day. I also listened to news broadcasts on AM and FM radio using a battery-operated radio. I did not know about the Puerto Rican referendum until attention was brought to the subject by a ham on QRZ when my electrical power was restored.

When I had no electrical power I cannot use the TV or the Internet for news and I thus got into reading books by candlelight (or LED flashlight) for entertainment, and to listen to radio broadcasts and read newspapers for news. During normal times I rarely listen to radio broadcasts, except for playing the car radio while driving. Radio brings back a lot of memories for me because I listened a lot during my childhood before there was any regular TV broadcasting. I also had worked part-time at a few radio stations as a studio engineer.

OUR 145.33 REPEATER DURING THE STORMS.

I worked the GARC WAG NET on the 145.33 repeater on November 1st using my Kenwood TH-205AT Handheld running on dry batteries and connected to my attic 2 Meter antenna. On November 8th my electrical power had been restored so I used my IC-706 as I usually do. Karen, W2ABK was there running the net both times but I was the only one to sign in on the 8th. I had tested my battery operated HT soon after Sandy arrived because I wanted to be sure it would work if I had a real emergency. After only one transmission, where I said that I was listening, I received a reply from a ham who was not a GARC member but was listening at our repeater frequency. I dunno if many hams were able to provide any communication that was not being provided by other providers. I hope they were of some use and I'm sure that if they were of any use.as second or third providers...or whatever, the ARRL will let us know about it.

I have some information about the present gasoline "shortage" but I won't comment about it this month because it is still a problem and I want to see how long it will persist and what we may be paying for gas in future weeks.

PUZZLE

This month I will again ask a question from the Amateur Extra Exam.

What is the best time of day for transequatorial propagation?

- A. Morning
- B. Noon
- C. Afternoon or early evening
- D. Late at night

Last Month I asked this question from the Amateur Extra Class Exam.

How many horizontal lines make up a fast scan (NTSC) television frame?

- A. 30
- B. 60
- C. 525
- D. 1080

The correct answer is C.

GARC Officers

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2 Yr. Board Member: Dave Ledo, AB2EF

2 Yr. Board Member: Jack Hayne, WB2BED

2 Yr. Board Member: George Sullivan, WB2IKT

Newsletter

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Contributing writers: All GARC members (we hope). To submit articles or ham equipment advertisements contact the editor. Articles will only be edited when permission is granted by the author.

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 5:00 PM. The exams are given at Briarcliffe College, 1055 Stewart Avenue, Bethpage, NY in room: Long Beach #5. Ham Exams are: Element 2 – Technician, Element 3 - General, Element 4 – Amateur Extra Class. All applicants must pre-register by contacting W2ILP. Time and location of exams are subject to change. If there are no applicants VE sessions will be cancelled. The fee for 2012 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.

Commercial FCC Radio Operator Exams

We are certified by the National Radio Examiners to administer exams for all classes of FCC commercial radio operator and maintainer exams. All Commercial Operator License Examiner Managers (COLEMS) use the same commercial license pools. Administrative fees vary. For information or to register contact W2ILP.

Editorial

This month I have received only one registration from a gentleman who wants to take a Technician exam on Nov.13th our next scheduled VE Session date. I plan to run the session even if there is only one applicant but I fear that other prospective applicants may not have been able to contact me when my telephone and e-mail address were inoperative due to the storms. My e-mail IN box now reads that I had 20 messages that have been unread. I can't find those messages although I retrieved others. I dunno where they might have gone.

I received an e-mail from LIMARC which said that they are cancelling their November VE Session because the location that they use is not available. Their next scheduled VE Session will be in January 2013. Perhaps we can pick up some applicants who want to be tested sooner.

See also page 6, where I comment about Sandy and the Northeaster.

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FIRST CLASS MAIL

Do Not Delay

Sandy, the Northeaster and others

The older one gets the more storms one remembers. I remember a very big storm when I was a kid living in the Bronx and how cold it got on winter nights. The coal furnace was banked after 9:00 PM and I slept under heavy blankets. I had to wake up early to go to school, and as heat came up I left my wool socks on the radiator while I ate breakfast. I remember a big hurricane when I was working in Key West, Florida as a field engineer on an ASW project involving a Sikorski SH-3 helicopter. As the storm approached, lizards suddenly tried to enter the hotel. That storm did lots of damage, breaking glass windows, knocking traffic lights off their poles, and turning over parked aircraft...but I survived. When the TV cable went out I connected a coat hanger to the TV set and received a strong signal from Communist Cuba. Then, when Hurricane Hugo struck Long Island, my XYL and I were living in Commack and the kids were young. We spent some nights in a school in East Northport because my family could not stand the cold when we lost electrical power. I was working for Grumman in Calverton at that time, and afterwards many of the guys at Calverton got together and ordered generators. I bought a 4 KW unit, put it in a shed at the back of my house, and ran a cable into my basement, but I never actually connected it to my circuit breaker box. Then, there were no storm-related blackouts for many years. I initially tested my generator and it ran OK, but when I brought it to a Field Day I couldn't get it started. I still have it but it probably is rusted beyond repair by now. That brings us to Sandy. Just as I finally got power back, the nor'easter began and I lost it again. Northern Commack was once a giant sand dune but below Jericho Turnpike it was once a forest. The guys who planned the development where I live tried to retain many of the large old trees, so they built the houses around them instead of chopping them down. Commack is not normally troubled by flooding, but falling trees short out power lines and can even wreck houses. LIPA sent us a form letter two weeks before Sandy arrived stating we should permit their workers to enter our back yards in order to trim the trees, but I never saw any. They promised that unlike previous storms, they would have a communication system in place to keep everyone informed of their progress. They did not and it was impossible to contact them for any information. My telephone was not working, and my son Mark tried to call LIPA on his cell phone. At first, his AT&T phone would only permit 911 emergency calls. We eventually reached LIPA, but you could only press buttons and could not get any information. At least living on high ground, I was not troubled by flooding. Several years ago I had a large tree removed from my back yard at my own expense. If I hadn't, it most likely would have fallen on my house.