



# QSOX



Volume XX Issue 5  
Editor: Howard; KC2OJO

May 2013

**The next Executive Board meeting and General meeting of the Larkfield Amateur Radio Club will be held on Thursday May 9th, at the Huntington Senior Citizens Center at 7:00 PM and 7:30 PM, respectively. Coffee and donuts will be available at the meeting for \$1 each.**

**The May 9th meeting is very important because at this meeting we will poll the attendees to determine how many will join us at West Hills County Park, their schedules, and whether they will be available for setup and/or returning the equipment to the storage shed. Please make every effort to come and participate in this meeting.**

**As a backup, we could use a few more volunteers to join with Neil KC2TAF, Danny KC2TFS, and Peter AA2VG who have offered to stay overnight at our Field Day site. Last year we had to cancel Field Day due to not having a sufficient overnight crew. Let's not have that happen again this year.**

**Have a spare or cast-off laptop or desktop computer? If you do please consider donating it to the club for use with one of our repeater systems. It could be used to implement a scheduler for automated voice transmissions or perhaps serve as an Internet connection for Echolink or IRLP. Please contact Howard KC2OJO with the particulars (processor, operating system, ports, etc.).**

**Reminder: The weekly Monday night Larkfield Info-Chat is held on our 147.210 MHz (PL 136.5 Hz) repeater at 8:00 PM.**

## April 11th General meeting Minutes

The meeting, Chaired by Chuck N2JIY, President, opened at 7:28 PM with the Pledge of Allegiance followed by Introductions. Chuck started the meeting with a description of the events that were affecting the Club's VE program. The VE Liaison with the ARRL was being switched to Rich W2TMA from Ed KC2E. Ed was thanked for his many years of service as VE Liaison. As a result of the changeover the Saturday April 13<sup>th</sup> VE session was being cancelled but the VE sessions would continue starting on June 8<sup>th</sup>. Chuck also informed the members present that at the Town's request he would be furnishing a list of Club members who would be authorized to work at the .210 repeater or at the storage shed.

The Treasurer, Roger W2GLE gave his report itemizing the funds in each of the Club's bank accounts and the total available.

Howard KC2OJO, the Club Secretary, stated that the minutes of the March meeting had been distributed electronically on March 25<sup>th</sup> and the hard copy version, printed by Chuck N2JIY, had been assembled and mailed by Rich KA2LHK a few days later. He stated that the mailing list had been functioning OK but Roger W2GLE had been notified by a private security company that the Club's website had been hijacked by hackers and used as a storage site for illegal activity. The problem was resolved within two days. The fact that not all Larkfield ARC members were subscribed to the mailing list was raised and a discussion of what to do (if anything) ensued. Howard indicated that he would notify via email the Club members not currently subscribed about the purposes and advantages of our mailing list and invite them to subscribe.

Steve N2PQJ gave the ARES / RACES report. In the future, meetings would be held twice a year rather than the previous four times a year. He also reported that most of the RACES members had been provided County ID identifying them as RACES members and the remainder would soon receive their IDs via U.S. mail. He also explained that only ECs and AECs have access to the Huntington Town EOC when it is opened for emergencies. Members were invited to join the weekly Monday night (7PM) nets that start on 147.210 MHz PL 136.5 and then continue on 147.420 MHz simplex followed by 28.420 MHz USB.

Bruno KC2ESI gave the repeater report and described in detail the work that had been done and was ongoing to resolve the .210 repeater problems. In particular, the multiple changes between one and two antenna operation to resolve the inter-modulation issues were described and Bruno answered numerous technical questions that were asked by the members present. Questions raised included subjects such as Echolink, IRLP, inter-modulation and the antenna installation.

There were no Good & Welfare or Membership reports and just a brief Field Day discussion.

Howard KC2OJO indicated that there were 6 participants in the last Daytimers meeting (not a usual occurrence) and Fred K2LDC reported that there had been 10 participants at the last Nighttimers session. Fred also described the work he was doing to bring together Rotary members and ham radio operators during emergencies so that supplies brought in by the Rotarians could be better distributed to those in need.

The meeting adjourned at 8:40 PM.

### **April 11th Executive Board Meeting**

The meeting started at 7:07 with Donald AB2BN, Fred K2LDC, Roger W2GLE, Chuck N2JIY, Neil KC2TAF and Howard KC2OJO in attendance.

Howard described the nature of the website problem that had occurred during the week.

Chuck provided the details of his visit to the Huntington Town Hall and the good relationship between the Huntington Town officials and our Club. He also provided the members present with an overview of the radio installation at Huntington Hospital.

Chuck announced that Rich Florio W2TMA had volunteered to serve as our VE Liaison with the ARRL to replace Ed KC2E who had served in that position for many years.

Fred reported on his efforts to combine the good efforts of the Rotarians with those of the Long Island ham radio operators to optimize the distribution of material during emergency situations such as Sandy.

The meeting adjourned at 7:38 PM.

### **Join the Larkfield ARC Email List**

Our Club uses it's emailing list (Reflector) to notify members of events, changes in schedule, hamfests and anything else that may be of interest to its members.

Each member enrolled on the Club's mailing list also has the ability to automatically reach all of the other members on the list by sending a single email to the mailing list's email address. When the member's email is received it is automatically "reflected" to all of the other members. Some members use this feature to list items they wish to sell or to warn members of items they shouldn't buy, etc.

To be added to the list please send an email to [larkfieldarc@gmail.com](mailto:larkfieldarc@gmail.com) containing your call and name with a simple statement – "please add me to the Larkfield email list". If you want to receive the email at an email address that is different from the address you are sending the email from please add that info to your request.

You may also join the E-mailing list by filling out the request form that is available at our monthly General meetings.

### **Intermodulation Distortion; What is It and Why Should I Care?**

Lately we have been hearing a lot about intermodulation and the fact that it might be desensitizing our repeaters to weak signals. However, intermodulation distortion is important in many systems, not just in repeaters. If you are really interested in high quality audio systems or interested in obtaining a really good HF or VHF receiver you will be very interested in the intermodulation distortion specifications for the audio amplifier or receiver you want to buy. If a system is perfectly linear and has a wide frequency response it is capable of taking in an electrical signal and sending it out amplified with no distortion. The small signal from an antenna or microphone can pass through a linear amplifier and then be processed to drive a loudspeaker, etc. Unfortunately, no systems are perfectly linear; all suffer from some amount of distortion, particularly when they amplify large input signals.

Continued on page 5

# Long Island Hamfair & Electronics Show

Sunday, June 2, 2013 at  
Briarcliffe College  
1055 Stewart Avenue, Bethpage, New York 11714

Over 600 outdoor tailgate spaces available!

Large Outdoor Location!

Gates open at 9:00 AM for Buyers  
Gates open at 7:30 AM for Sellers

(ends @ noon to 1 pm "ish")  
No Pre-Registration is required.



General Admission: \$6.00\*

\*children 11 and under (when accompanied by a paying adult) and non-ham  
sweethearts FREE!

Free parking for all! Door Prizes!

Food & Refreshments Available

Talk-in on W2VL, 146.85 repeater (136.5 PL, negative ' - ' shift)



Vendor info: All spaces \$10.00. Admission for each person including the main  
vendor is \$6.00 each.

Gates open 7:30 AM for vendors. Over 600 outdoor tailgate spaces available!

Bring your own table/chair/umbrella

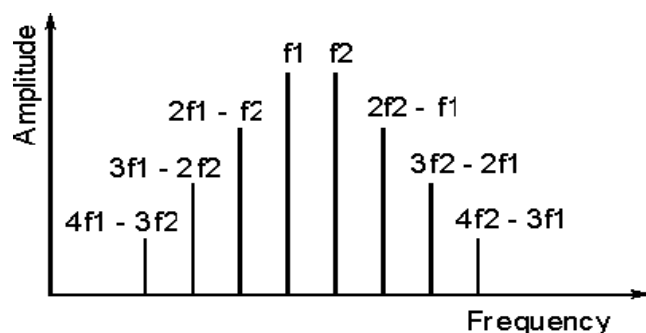
*No pornographic materials or firearms are permitted to be sold. Any vendor  
violating these rules will be asked to leave with no refund.*

For more information and directions:

<http://www.limarc.org/fest.htm>

There are two main types of amplitude distortion; harmonic and intermodulation. Harmonic distortion occurs when a signal containing one or more sine waves encounters a non-linearity; that occurs when a device outputs not only a signal proportional to the amplitude of each of the input signals but also outputs a signal proportional to the amplitude of each of the original signals squared or cubed, etc. If you still remember your trigonometry (1 % of the population?) you would know that this results in the output of a sine waves of two or three times the original frequency, etc. This harmonic distortion is definitely to be avoided in an audio amplifier but because our music has scales that are harmonically related and instruments that are rich in harmonics it can often be tolerated when it occurs in small amounts.

Intermodulation distortion occurs when there is more than one sine wave present and they interact with each other due to the non linearity. Then, new frequencies arise that are equal to the sum and difference between all of the various frequencies present (original and harmonics) and they are not usually harmonically related so that we are more sensitive to this type of distortion when it occurs in an audio system. This type of distortion is also prone to cause much mischief in communication systems because it may introduce signals that can't be filtered out.



The diagram above and the table below illustrate the frequencies generated by the intermodulation of two input signals with input frequencies equal to  $f_1$  and  $f_2$ . The table shows the frequencies generated by intermodulation for two typical areas of application; an audio amplifier and a VHF repeater. Note that the two sine waves of 10 kHz and 11 kHz shown for the audio amplifier case generate spurious frequencies below the lower of the two inputs and above the higher of the two inputs. The spacing of those frequencies is equal to the difference between the two input frequencies. The spurious frequencies for the VHF repeater case are spaced in the same pattern but much higher and farther apart in frequency. In the repeater case shown, a particular distant repeater frequency (147.51 MHz) might generate a spurious signal that falls right into the input of another repeater's receiver (147.81 MHz).

	$4f_1 - 3f_2$	$3f_1 - 2f_2$	$2f_1 - f_2$	$f_1$	$f_2$	$2f_2 - f_1$	$3f_2 - 2f_1$	$4f_2 - 3f_1$
Audio (kHz)	7	8	9	10	11	12	13	14
Repeater (MHz)	146.31	146.61	146.91	147.21	147.51	147.81	148.11	148.41

(The harmonic frequencies of  $f_1$  and  $f_2$ , integer multiples, are not shown in the illustrations.)

[ARES and the Boston Marathon — Extracts from the ARRL April 18th Letter](#)

“..... this year’s marathon will be remembered for the bombings that took place at the finish line. Despite this heinous act, professional first responders, medical volunteers from the American Red Cross that staffed the route, and Amateur Radio operators performed magnificently in the face of adversity.”

“At course net control, which was away from the bombings, ham operators controlled their nets calmly and professionally while also expressing an appropriate level of urgency. Over a dozen amateurs at the net control center pooled together to announce messages and keep status of changes along the course route as required. Many amateur operators who volunteered along the marathon route praised Net Control’s support after the bombing. “Net Control did an awesome job,” said course volunteer David Wihl, KB1VEG. “The workload was busiest after seven hours on the radio, and it didn’t let up for another couple hours.”

“Despite the total lack of warning in this situation, amateurs followed a creed I’ve long since preached since the 9/11 terrorist attacks and the mutual aid response to those attacks: ‘blessed are the flexible for they will not get bent out of shape,’” said Steve Schwarm, W3EVE.“

“Amateurs on the course did what they had to do to assure their own safety and runner safety working with the Red Cross medical people. They did an outstanding job and I was told so by Red Cross organizers as well.”

**THE LARKFIELD AMATEUR RADIO CLUB OPERATES:**

**WR2ABA HUNTINGTON REPEATER**

**2 meters**

147.210 MHz out/147.810 MHz in  
4z/136.5 Hz PL

**W2LRC HAUPPAUGE REPEATER**

**2 meters**

145.430 MHz out/144.830 MHz in  
4z/136.5 Hz PL

**W2LRC HUNTINGTON APRS**

**2 meters**

144.390 MHz In/Out

**USA EASTNET FLEXNET NETWORK**

**2 meters**

WA2PNU (0-15) Nodes 145.070 MHz  
WA2PNU (-4) Node 145.070 MHz (BBS)

---

**Members of the Larkfield Amateur Radio Club are invited to use the W2RGM Dix Hills Repeater System:**

**2 meters**

147.075 MHz out/147.675 MHz in  
4z/136.5 Hz PL

**70 centimeters**

448.500 MHz out/ 443.500 in

**LARKFIELD INFO-CHAT**

**Monday nights at 8:00 PM on the .210 Repeater (147.420 simplex if the repeater is down)  
147.210 MHz, Plus 600 kHz Offset, 136.5 PL Tone  
Any topic of interest to club members**

**The Larkfield Amateur Radio Club  
Affiliated with American Radio Relay League**

**Officers (one year terms)**

President Chuck Hartley N2JIY(2013)

Vice-President

Secretary Howard Stern KC2OJO (2013)

Treasurer Roger Rapp W2GLE (2013)

**General Directors (two year terms)**

Neil Harris KC2TAF (2013-2014)

Pat McPartland WS2A (2013-2014)

Donald Clarke AB2BN (2013-2014)

Scott Conover AC2FV (2012-2013)

Fred Kruger K2LDC (2012-2013)

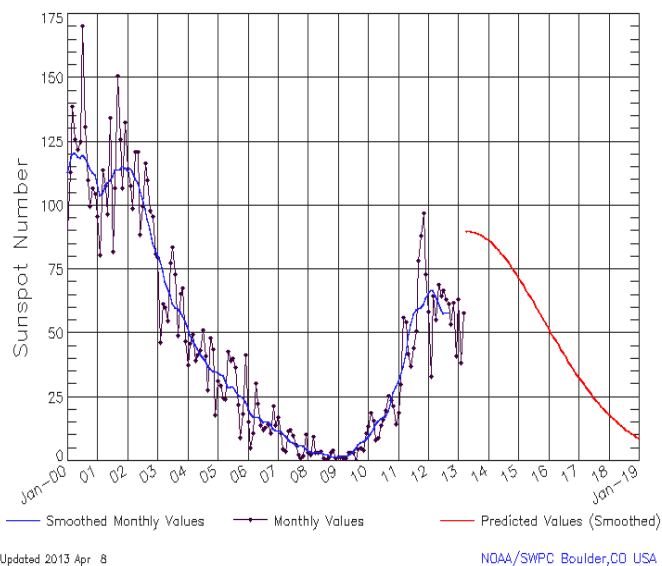
Open XXXX (2012-2013)

WA2PNU Station Trustee Roger Rapp W2GLE

WR2ABA Station Trustee Roger Rapp W2GLE

W2LRC Station Trustee Roger Rapp W2GLE

ISES Solar Cycle Sunspot Number Progression  
Observed data through Mar 2013



The monthly birthday report is being eliminated because we no longer ask for this information on the Larkfield Application or Renewal form.

**The Larkfield Amateur Radio Club wishes to thank Bruno KC2ESI, Jack K2JX, Artie KC2JFU and Richard WA2WNY for their dedication and efforts in maintaining the Club's repeaters and our packet and APRS stations. Their collective efforts and donations of equipment have kept us "on the air" and made possible the recent successful installation of our new .210 antenna within the allocated budget. Still to go, another 440 MHz repeater, 147.210 optimizing and adding IRLP to one of our repeaters.**

**General Meetings 7:30 PM**

January 10, 2013	June 13, 2013
February 14, 2013	September 12, 2013
March 14, 2013	October 10, 2013
April 11, 2013	November 14, 2013
May 9, 2013	December 12, 2013

**Board Meeting 7:00 PM**

January 10, 2013	June 13, 2013
February 14, 2013	September 12, 2013
March 14, 2013	October 10, 2013
April 11, 2013	November 14, 2013
May 9, 2013	December 12, 2013

**GOOD AND WELFARE**

**Attention members:** Our Good and Welfare Chairperson is Helene Lazarus (XYL of Arnie N2PLS). Please inform her (499-2837) of news about club members so she may make submissions to this publication.

**ARES/RACES NET**

The weekly ARES/RACES net is active, meeting every Monday evening at 1900 on 147.210. Check in! For more information contact Steve N2PQJ@arrl.net and visit www.wb2lua.com to learn of any ARES/RACES news and to help maintain your proficiency in emergency communications procedures.

**2013 DUES SCHEDULE**

**Regular Membership: \$35.00**

**Members Age 65 or older: \$25.00**

**Members Age 17 or less: \$25.00**

**Disabled Members: \$25.00**

**Living Outside Club's Operating Sphere: \$15.00**

**Add \$10.00 if you want QSX via U.S. Mail**

**Make your check payable to: LARC**

**And Mail to:**

**Larkfield Amateur Radio Club Inc.**

**PO Box 1450**

**Huntington, NY 11743**

**VE SESSION SATURDAY June 8th  
HUNTINGTON TOWN HALL  
100 MAIN ST., ROOM 114  
WALK-Ins WELCOME**

Team Liaison is Rich W2TMA. Contact is Stan N2YKT.  
Fee is \$15. All elements will be offered and exams start at  
9:00AM.

Must have 2 forms of ID, one of which includes a photo. If  
upgrading, bring an original and a copy of your license  
and an original of any CSCEs.

**The Executive Board meeting and General  
meeting will be on Thursday, May 9th at  
7:00 PM and 7:30 PM, respectively.**

**The weekly Larkfield Info Chat is on Mon-  
days at 8:00 PM on the 147.210 repeater  
(+0.6 MHz offset, 136.5 tone).**

---

**Larkfield Amateur Radio Club, Inc.  
Post Office Box 1450  
Huntington, NY 11743**