



Volume XX Issue 4
Editor: Howard; KC2OJO

April 2013

The next Executive Board meeting and General meeting of the Larkfield Amateur Radio Club will be held on Thursday April 11th, at the Huntington Senior Citizens Center at 7:00 PM and 7:30 PM, respectively. Coffee and donuts will be available at the March 11th meeting for \$1 each.

We need volunteers to join with Neil KC2TAF and Danny KC2TFS 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.). This issue of QSX and the last issue have articles on Echolink and IRLP.

Reminder: Club members are free to bring to our scheduled meetings small amounts of Ham Radio items that they want to sell. Please place items to be sold on a table in the back of the room at least 10 minutes before the meeting starts.

Larkfield members and other hams are encouraged to join in on the Monday night ARES/RACES net (7PM) and the Larkfield Info-Chat (8PM). Both are on the 147.210 repeater — 136.5 PL.

April 14 General meeting Minutes

The General meeting, chaired by Chuck N2JIY, started at 7:38 PM with the Pledge of Allegiance and Introductions. Roger the Club's Treasurer gave the financial report including the previous month's collections and the amounts contained in each of the Club's bank accounts. Howard, KC2OJO, the Club's secretary then gave his report stating that the March 14th minutes had been distributed electronically within QSX on April 24th and the hard copy edition had been printed by Chuck and distributed by Rich KA2LAH a few days later. He also reported that the website and mailing list had both operated trouble free during the month. However, the 8 PM Monday night Info-Chats had been slow lately with only two check-ins during the preceding weeks session.

Steve N2PQJ then gave the ARES/RACES report informing the members present that a meeting of the ARES/RACES group had been held during the previous week and that 10 of 15 members had been in attendance. During that meeting a significant amount of forms and other paper work was taken care of and much information passed on concerning the operation of Huntington RACES and the professionalism displayed at the EOC during Sandy and the more recent Nor'Easter and the interface with Huntington Hospital. Future meetings will be held on a twice yearly basis.

Bruno KC2ESI gave a very detailed Repeater report and filled the members in on all of the additions to the .210 repeater including a new low pass Bird filter and on the difficulties remaining. In particular, any third order intermodulation taking place would be difficult to eliminate without our modifying the site to have separate receive and transmit antennas.

Scott AC2FV gave the membership report stating that including Honored members the total membership was now at 62. Stan N2YKT gave the VE report at which time Chuck brought up the need for a new VE Liaison with the ARRL. Nighttimer and Daytimer reports were given by Fred K2LDC and Howard KC2OJO.

A brief discussion of Field Day was highlighted by the need for volunteers to stay overnight from Saturday night through Sunday morning (June 22 -23).

Chuck N2JIY mentioned that we would be having a guest speaker, Peter WB2OQQ, lecturing on satellite radio in June and Howard KC2OJO briefly described the X-Bee transceivers that he would be showing after the meeting.

The meeting adjourned at 8:10 PM.

March 14th Executive Board Mtg Minutes

Attendees were Donald AB2BN, Neil KC2TAF, Fred K2LDC, Chuck N2JIY, Scott AC2FV, Roger W2GLE and Howard KC2OJO. The meeting started at 7:03 PM with Chuck N2JIY presiding. A discussion

ensued regarding the Larkfield ARC By-Laws and the fact that the Club had a Vice-President but no President. The By-Laws clearly indicating that the Vice President should fill the vacant President position, it was unanimously decided that the Club would have it's current Vice President, Chuck N2JIY, fill the Presi-

dent's position and that the Vice President's position would then be empty.

Bruno KC2ESI reviewed for the Directors the .210 repeater issues that had been resolved and the issues that either were not yet resolved or might be the causes of the intermittent noise occasionally associated with the .210 repeater. One area being investigated is interference due to third order inter-modulation caused by one of the other transmitters that are active on the tower. Using photos, Bruno identified for the Directors several of the antennas sharing the tower with our .210 repeater.

The 2013 Field day was discussed, particularly with respect to finding an overnight crew

to staff the site between Saturday night and Sunday morning. Neil KC2TAF stated that he and his son Danny KC2TFS would stay overnight but the Directors are seeking to make sure that others will also be present to ensure safety and have a backup in case any problems arise.

Fred K2LDC reported to the Directors his findings concerning the expenses that might be incurred by hiring an accountant to update our records and filings. However, it was decided that the Directors did not have enough information to proceed at this time. Neil indicated that he would check on the Internet for the Club's Certificate of Incorporation.

The meeting was adjourned at 7:36 PM.

IRLP – Operate on the VHF and UHF Ham Bands All Over the World!

IRLP, Internet Radio Link Protocol, like Echolink, allows you to use 2 meters or 70 centimeters to operate all around the world. With your HT, base station or mobile, you can use tones to identify a repeater you want to operate on. Unlike Echolink, your connection must always start with a radio link and end with a radio link. Some hams feel that this is “the way it should be” for ham radio operation. While you don’t need any special equipment or a computer to use IRLP you do need a purchased PC board and a computer if you want to set up and operate an IRLP simplex station or IRLP repeater.

The following description, extracted from <http://www.IRLP.net> provides the general information you need to set up and understand the equipment needed to implement an IRLP equipped simplex or repeater station.

The IRLP uses a Voice-Over-IP (VoIP) streaming software called Speak Freely. Speak Freely is very similar to other VoIP software packages (such as Microsoft NetMeeting and VocalTec iPhone) with one difference... It runs under Linux.

Linux is the operating system of choice for the IRLP system as it allows the best in reliability, programmability, efficiency, and functionality. Most older IRLP nodes use Linux RedHat 7.3 or RedHat 9 as they are very stable releases and run very smooth on any P1 or better computer. *Effective March 2007 IRLP started shipping an open sourced CentOS version of Linux. This release provides greatly improved operation with more support for audio cards.*

Continued on Page 4

The concept of IRLP's use of VoIP is as follows:

Sample the audio using an analog to digital (A/D) converter. The A/D converter used by IRLP is the input source of a standard PC sound card. This creates a continuous mono 16-bit digital stream of raw audio at 8000Hz (120000 bps).

Compress the audio by downsampling the stream and using an 4-bit ADPCM algorithm to reduce the size of the stream by a factor of four (32000 bps)

Split the sample into small chunks (or packets).

Transmit the packets to the remote host using a User Datagram Protocol (UDP) stream. UDP does NOT confirm the reception of packets, so it uses a "fire and forget" method.

Receive the packets on the remote host.

Join the split packets back into a 4-bit ADPCM stream.

Uncompress the ADPCM stream back into an 16-bit raw stream of audio.

Play the raw audio stream through a digital to analog (D/A) converter (the output device of your sound card).

The control software controls the stream using carrier operated squelch (COS) or continuous tone coded subaudible squelch signals (CTCSS) to start and stop the stream. When COS is present, the computer detects it through the IRLP interface board.

The PTT is controlled by the buffer which joins the split packets back into the audio stream. The IRLP interface board receives a "transmit" signal from the computer while there are packets in the buffer, and a "unkey" command when the buffer is empty.

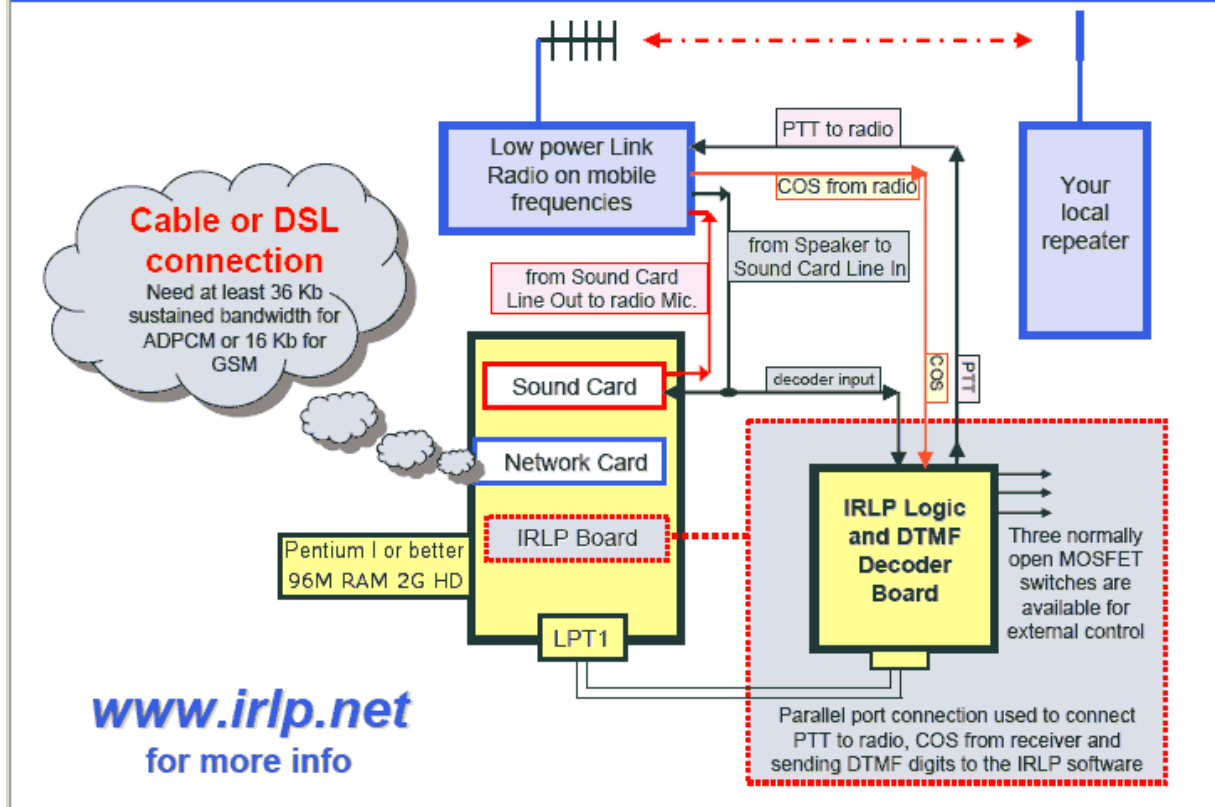
The user interfaces to the IRLP computer using DTMF signals sent over the radio. DTMF sequences are owner programmable, and can accomplish almost any function imaginable. The DTMF signals are detected on the IRLP interface board and sent directly to the computer in binary, where they are converted into numbers. A DTMF software program which I wrote then runs commands on the computer depending on the code entered.

These commands are what start and stop Speak Freely, basically establishing and breaking the link.

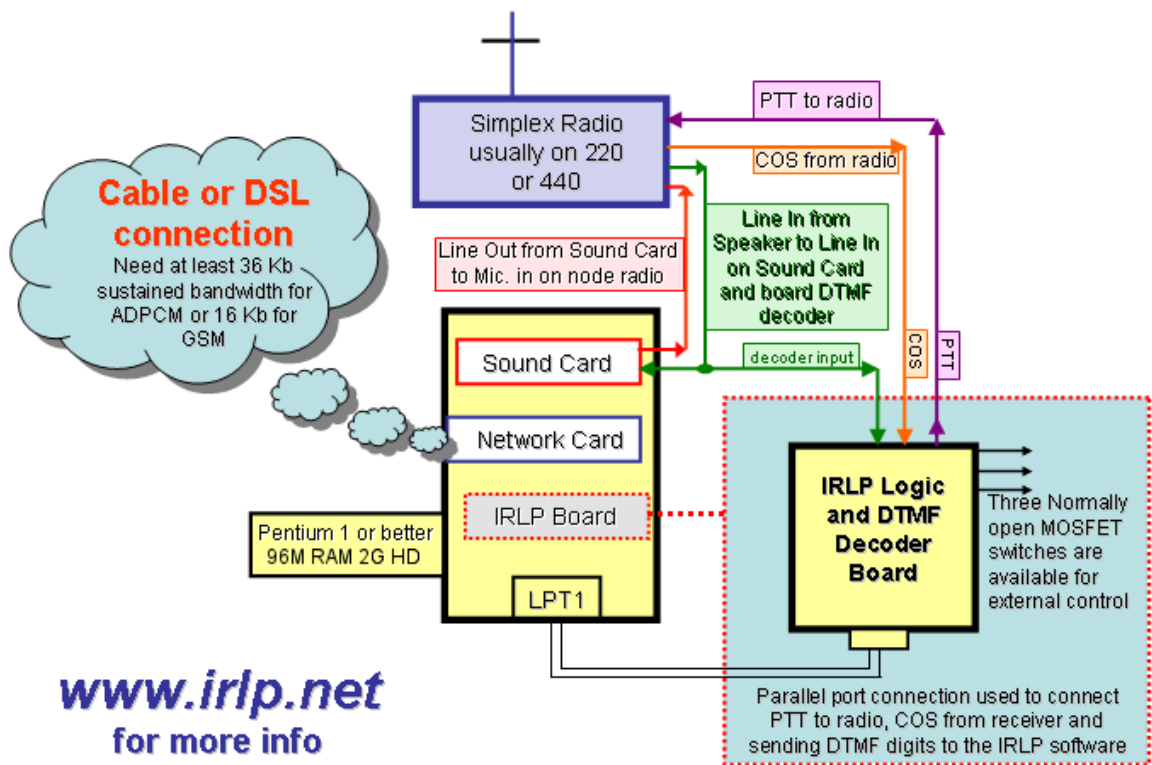
And that is, in a nutshell, how IRLP works.

[See the Block Diagrams on the Facing Page 5](#)

A Typical IRLP Node



Typical IRLP Simplex Node



Paul Cassel VE3SY

Content Extracted from www.irlp.net

Did you Know that

the National Oceanic and Atmospheric Administration (NOAA) uses WWV to broadcast geophysical alert messages from WWV at 18 minutes after the hour? The messages are less than 45 seconds in length and are routinely updated every 3 hours beginning at 0000 UT. The geophysical alerts provide information about the current and predicted solar terrestrial conditions found useful for long distance HF radio communications and other applications. The alerts use a standardized format and terminology.

Solar flux is a measurement of the intensity of solar radio emissions with a wavelength of 10.7 cm (a frequency of about 2800 MHz). The daily solar flux measurement is recorded at 2000 UTC by the Dominion Radio Astrophysical Observatory of the Canadian National Research Council located at Penticton, B.C., Canada. The value broadcast is in solar flux units that range from a theoretical minimum of about 50 to numbers larger than 300. During the early part of the 11-year *sunspot cycle*, the flux numbers are low; but they rise and fall as the cycle proceeds. The numbers will remain high for extended periods around sunspot maximum.

The A and K indices are a measurement of the behavior of the **magnetic field** in and around the Earth. The *K index* uses a scale from 0 to 9 to measure the change in the horizontal component of the geomagnetic field. A new K index is determined and added to the broadcast every 3 hours based on magnetometer measurements made at the Table Mountain Observatory, north of Boulder, Colorado, or an alternate middle latitude observatory. The *A index* is a daily value on a scale from 0 to 400 to express the range of disturbance of the geomagnetic field. It is obtained by converting and averaging the eight, 3-hour K index values.

Extracted and edited from www.noaa.gov pages

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

Larkfield ARC April Birthdays

Call

Name

AC2AZ

Robert S Benward

W2HD

Harry Dannals

N2SLB

Alan R. Geist

N2XTE

Thomas Mangan

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 QSOX 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 April 13th
HUNTINGTON TOWN HALL
100 MAIN ST., ROOM 114
WALK-Ins WELCOME**

Team Liaison is Ed KC2E. 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, April 11th at 7:00 PM and 7:30 PM, respectively.

The weekly Larkfield Info Chat is on Mondays 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**