

The Repeater Rag

Volume 30 Number 2

NEWSLETTER OF
THE DENVER RADIO LEAGUE

**A CLUB DEVOTED TO
QUALITY AMATEUR RADIO**

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DRL BOARD MEMBERS

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REPEATER LOCATIONS:

146.88Ø Warren Mountain

146.64Ø Centennial Mountain

449.6ØØ Lockheed Martin Company

145.Ø5Ø Digi - Lockheed Martin Company

Repeater Identifier: WAØKBT

DRL website: www.denverradioleague.org

or www.eoss.org/drl

*The Denver Radio League is open to all licensed
amateur radio operators. Repeater usage is
limited to properly licensed hams.*

Membership dues and renewals

**~ Please make checks (\$15) payable to
Denver Radio League or DRL ~**

Remit to: Al Cooley, NØAUS

6199 South Broadway

Littleton, Colorado 80121-8016

For information, contact Al at:

303-794-6511 or on the 146.88Ø Repeater

MEMBERSHIP MEETING

REMINDER

TUESDAY, NOVEMBER 20, 2007

7:00 TO 9:00 P.M.

BEMIS PUBLIC LIBRARY

PLEASE REMEMBER: WE MUST BE OUT
BEFORE OR BY 9:00 P.M.

WELCOME TO OUR NEW BOARD MEMBER

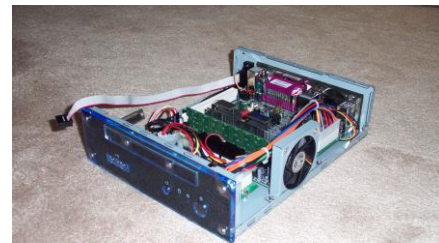
Welcome to Lisa Hurdelbrink, KØLMH, the DRL's newest board member. Lisa works as an HR Coordinator, volunteers with an ambulance company as an EMT, and is a member of Arapahoe County ARES D22. I hope you all will join with me in welcoming Lisa to the DRL board.

IRLP NODE 3345 AND ECHOLINK® NODE 343504:

Last year I volunteered to be the administrator for the DRL's EchoIRLP node. The DRL now has two Echo/IRLP nodes. The primary node is one of the newer embedded nodes and the back up node is a standard PC based EchoIRLP installation.

So, what is the IRLP and EchoLink®?

IRLP was created by David Cameron, VE7LTD, in November 1997. Mr. Cameron wanted a way to radio systems together using the internet as the backbone and Voice of IP protocol.



IRLP Embedded Node 8.5" x 11"

IRLP node is comprised of the following equipments:

- A PC computer, with Linux software running IRLP "node" software.
- A fulltime internet connection.
- A transceiver that is interfaced by cabling to the PC computer.
- Users access IRLP by radio only.

An IRLP Reflector is comprised of the following equipment:

- A PC computer, with Linux software running IRLP "reflector" software.
- A high bandwidth dedicated internet connection.

- This is generally a T1 or higher connection.
- There are no radios connected to the reflector.
- The reflector allows for multiple radio systems to be connected to it forming a single multi-user conference connection.

IRLP works either as a “node to node” or “node to reflector” connection. A “node to node” connection allows for only one radio system to connect to one other radio system. A “node to reflector” connection allows multiple radio systems to connect to the reflector computer.

How does IRLP work?

- The microphone, speaker audio, Push To Talk and Carrier Operator Squelch are connected to the PC computer’s sound card and to the IRLP interface card.
- The IRLP software acts as a gateway and converts radio audio to Voice Over IP audio and streams it to the internet to the remote IRLP connection.
- Radio audio is converted to digital audio using a converter. The IRLP software makes an 8 bit digital stream of the raw audio.
- The IRLP software uses an 8 bit compression algorithm to compress the audio stream by a factor of two.
- The compressed audio is then made into packets and formatted for transmission through the internet.
- On the receiving side, the compressed audio is decompressed into 8 bit raw audio.
- The 8 bit raw audio goes through a digital to analog converter.
- The analog audio is sent to the receiving radio and transmitted.
- There is some delay in sending and receiving the audio packets through the internet. Because of this delay we ask users to pause at least 2 seconds between transmission. This delay allows for the packets to be fully received on both ends of the connection.
- When the other station stops talking wait until you hear the local courtesy tone, this allows the local repeater to reset. For those who are long winded, the DRL 449.600 repeater’s timeout is just under 3 minutes. Should you timeout the repeater, you’ll have to wait until it resets. The IRLP connection will not be lost.

What is EchoLink®?

- EchoLink® software allows licensed Amateur Radio stations to communicate with one another over the Internet, using voice-over-IP (VoIP) technology.
- The program allows worldwide connections to be made between stations or from computer to station, greatly enhancing Amateur Radio’s communications capabilities.
- There are more than 200,000 validated users worldwide — in 162 of the world’s 193 nations — with about 3,800 online at any given time.

- The DRL operates an EchoIRLP node so that members can have the benefits of both systems.

How to use the IRLP node 3345 or EchoLink® node 343504:

- Tune your transceiver to 449.600 - with PL 100.
- To connect to an IRLP node or reflector: Monitor the air to verify it is clear. ID and dial 036 plus the IRLP node/reflector number. Pause and wait for the connection. There is a script that runs on the node that recognizes the 036 sequence and also causes the repeater to go into “IRLP” mode. The normal repeater courtesy tone sounds like the standard DRL “chirp”. The “IRLP” courtesy tone sound like and “up down bebop type” tone. Once connected wait 5 seconds to ensure you are not interfering with an existing conversation on the distant connection.
- Press your PTT and pause 2 seconds and call on the remote system. It is not necessary to call CQ on IRLP if you state your call sign, location and monitoring.
- To disconnect dial 03673.
- Since the EchoIRLP node operates in half duplex, in order to issue commands to the node the radio has to un-key. This is one good reason for pausing. Sometimes connections can be busy with traffic and it is hard to get the pause to disconnect. In that event, you can ask the other stations to pause and let you disconnect. If they won’t just leave the node connected, the node will sense no use on our end and timeout forcing the node to disconnect. If the node needs to be disconnected sooner, just let me know and I can remotely disconnect the node.
- To connect to EchoLink® dial 036*and the node or conference that you wish to connect to. Pause and wait for the connection. There is a script that runs on the node that recognizes the 036 sequence and also causes the repeater to go into “IRLP” mode. The normal repeater courtesy tone sounds like the standard DRL “chirp”. The “IRLP” courtesy tone sounds like an “up down bebop type” tone. Once connected, wait 5 seconds to ensure you are not interfering with an existing conversation on the distant connection.
- Press your PTT and pause 2 seconds and call on the remote system. It is not necessary to call CQ on IRLP, if you state your call sign, location and monitoring.
- To disconnect dial 036*73.

So why don’t you stop by and give it a try! Our friend, Mike Morgan, NØMPM, has been connecting a couple of times a week to stay in touch with his Denver friends. Mike’s EchoLink® connection is node 50219 NØMPM-L.

73!

David Markham, WØCBI

CCARC

At the Colorado Council of Amateur Radio Club's spring 2007 meeting a *Spectrum Use and New Technology* committee was formed, chaired by Bob Witte, KØNR, with the goal of looking as far into the future as possible to anticipate the coming digital age as it pertains to frequency coordination.

The CCARC's fall meeting met at Pueblo and the full 2007 report of the spectrum committee was the main topic of conversation as frequency coordination will be affected greatly as our radios move to more narrow deviation and tighter bandwidth.

Currently we have two digital narrowband technologies with different requirements, P 25 which is 12.5Khz wide and Dstar at 10Khz. As the future is upon us it was determined the CCARC should adopt policies that enable and

encourage adoption of new, more efficient digital technologies for VHF/UHF voice repeaters. Further, that the CCARC should adopt frequency use plans and repeater coordination policies that do not specifically favor one digital modulation technology over another and, in general, the channel spacing for "digital voice" technology repeaters on the VHF/UHF bands should be 12.5 kHz.

The committee presented the report to the membership of the CCARC, a vote was offered up and affirmed the adoption of the above policies.

For further information, go to www.CCARC.net, read the reports and have a look at info on the digital modes.

Tim, WBØTUB
CCARC Chairman



Wishing all of you the best of holidays and the season. Please remember that articles are needed to continue publishing the *Repeater Rag*. If you have items to share, type them up and send them to me. They will be published! We'd like to keep the Rag continuous and need your support.

73 & 88,

EILEEN ARMAGOST, WDØDGL, EDITOR