THE CODE OF THE WEST

UNIVERSITY AMATEUR RADIO CLUB
N7UW
Department 3625
LARAMIE, WYOMING 82071
March 2009
http://www.uwyo.edu/uarc

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PRESIDENT:	Doris L. Hutcheson	KD7RQX	dhutch@uwyo.edu
VICE PRES:	John W. Pearce	KE7MXO	jwpearce@gobigwest.com
SECRETARY:	John M. Harrison	KD7NAE	johnmh@uwyo.edu
TREASURER:	Suzanne Luhr	AA7AY	suz_wyo@yahoo.com
COTW EDITOR:	John M. Harrison	KD7NAE	johnmh@uwyo.edu
UW ADVISOR:	Doug Wheeler	KD7W	dwheeler@uwyo.edu

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UARC MEETING

The next meeting of the University Amateur Radio Club will be held at 7:30 pm local time on Tuesday 3 March 2009 at Village Inn Restaurant at 3225 East Grand Avenue. All radio amateurs and interested persons are invited to attend. Talk in on the UARC repeater at 146.610 MHz 600 kHz standard negative offset.

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LARAMIE AREA AMATEUR RADIO NET

The Laramie Area Amateur Radio Net meets each Sunday evening at 6:15 pm local time on the UARC repeater - 146.610 MHz with a standard negative offset of 600 kHz. The net will use 146.610 MHz simplex in case of repeater malfunction. All amateurs in Albany and surrounding counties are invited to participate.

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UARC NEWS

Volunteers are needed for communications support for the Laramie MS Walk event scheduled for Saturday 28 March 2009. 1 mile and 5 kilometer routes start at the Wyoming Student Union at 10 am. Check in at the Union starts at 9 am. Contact Doris KD7RQX if you would like to help.

Dave KC6WZP plans to have an ARES / RACES meeting on Tuesday 10 March 2009 at 7:00 pm local time. Location is still to be determined. We'll discuss on the Sunday evening 6:15 pm net.

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IRLP – Internet Radio Linking Project

Steve KE7FGB from Green River has offered the club some IRLP node equipment. IRLP is an implementation of Voice Over Internet (VOIP) on a Linux operating system as a link between amateur radio stations. Steve has a computer and IRLP radio interface board.

Here is some info from the designer of the system - David Cameron from his web site IRLP.net -

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.

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 chucks (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 sub-audible 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 an "un-key" 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.

David Cameron IRLP Designer VE7LTD www.irlp.net

UARC Meeting Minutes for 3 February 2009

President Doris KD7RQX called the meeting to order at 7:34 pm local time at the Village Inn restaurant on East Grand Avenue. In attendance were John KD7NAE, Scott K7ANW, Fred KD7LLF (visiting from Cheyenne), Pam KE7UUD (also from Cheyenne), Foncey N0FT, Bob KE7MXP, Wayne NQ7Q, Jim KD7KMU, Mac WB7K, David KC6WZP, Paul W7MO, John KE7MXO, and Jerry N7JT.

Treasurer's report –

Repair fund -	$1000.00
UARC account -	$994.32
High Plains Roundup account -	$580.72
Phone bills due -	($43.46)
Dues received 3 Feb 2009 -	$40.00

General discussion -

John KD7NAE will verify scheduling for UARC meetings at the Wyoming Union. Consensus seems to be that most members prefer meeting at the Village Inn or other more accessible location. Food availability is also a bonus.

Fred KD7LLF reported that Weather Spotter training will be held in Cheyenne at the County Library on 22 April 2009. John Griffith of the National Weather Service will be the instructor.

There was additional discussion about the possibility of adding a 440 repeater to the Wyoming Union installation. Further discussion with George K7NOI and Chris WB7Z is needed. George has offered to donate the repeater. Mack WB7K has a 440 antenna available.

Mac brought printed copies of World Radio from their web site. Apparently World Radio will no longer be published as a printed magazine. There was discussion of the status of our UARC gift subscriptions.

John KD7NAE asked about the whereabouts of the key to the .820 repeater site on Beacon Hill. He remembers having it when he was club president.

Fred KD7LLF asked if UARC could provide communications support for the Laramie MS Walk scheduled for Saturday 28 March 2009. A sign-up sheet was started with 8 members present agreeing to help.

Dave KC6WZP announced there will be an ARES / RACES meeting the second Tuesday in March. Location and details are to be determined. Dave would like to organize a Fox hunt / direction finding exercise for this spring. There was discussion of the progress in implementing the new Wyolink radio system.

Wayne NQ7Q reported that the hat that was left at his QTH after the January Bernie / meeting has been returned to it's owner.

Meeting adjourned.

Program – Dave Roolf of Albany County Search and Rescue attended to thank UARC volunteers for their assistance with the Dead Dog Classic bicycle race. There was discussion of appropriate ways to obtain current frequency information for emergency response agencies and volunteers.

Dave inquired about donations to the club. Foncey agreed to research any FCC restrictions that would affect UARC beyond our non-profit 503C org status.

 John KD7NAE

Printed copies of COTW issues are available from John KD7NAE

Submissions to COTW are welcome from all UARC members, area hams and persons interested in amateur radio communications and activities.

Please contact

John M. Harrison KD7NAE
4431 Comanche Drive
Laramie WY 82072
email johnmh@uwyo.edu
phone 307-745-5833 home
307-766-2083 work
307-760-8154 cell phone