

W6VIO Calling



Jet Propulsion Laboratory Amateur Radio Club
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Meeting Notice

By Christopher Carson, KE6ABQ

The January General Meeting of the JPL Amateur Radio Club will be held at noon Wednesday January 9th in 238-543. There will be a presentation on IRLP (Internet Radio Linking Project) by Randy Hammock KC6HUR.

The recent addition of an IRLP Node to the JPLARC repeater system has already allowed area hams with either a "220" or "440" capable radio to talk to other hams in British Columbia, Nevada, Oregon, Hawaii, and Australia, to mention just a few places.

The January Board Meeting of the JPLARC will be held at noon on January 23rd in 233-305J. ■

December Meetings

By Jonathan Cameron, KF6RTA

General Meeting, December 12

The meeting was called to order with a quorum by Bob Dengler at 12:10. Those present included Chris Carson (KE6ABQ), Bob Dengler (NO6B), Warren Dowler (KE6LEA), Randy Hammock (KC6HUR), Walt Mushagian

Calendar of Events

January 5	[Fontana Swap Meet, A. B. Miller HS, Fontana]
January 9	General Meeting, Noon - 238-543
January 19	[CMRA Hamfest, Cal Poly, Pomona, 7 AM]
January 23	Board Meeting, Noon - 233-305J
January 26	[TRW Swap meet, Redondo Beach]
February 2	[Fontana Swap Meet, A. B. Miller HS, Fontana]
February 13	General Meeting, Noon - 238-543
February 17	[CMRA Hamfest, Cal Poly, Pomona, 7 AM]
February 23	[TRW Swap meet, Redondo Beach]
February 27	Board Meeting, Noon - 233-305J
March 2	[Fontana Swap Meet, A. B. Miller HS, Fontana]
March 13	General Meeting, Noon - 238-543
March 16	[CMRA Hamfest, Cal Poly, Pomona, 7 AM]
March 27	Board Meeting, Noon - 233-305J

(K6DNS), Scott Nolte (K6SN), Bob Polansky (N6ET), Chuck Sarture (KG6NF), Bob Stiver (KF6PSS), and Jonathan Cameron (KF6RTA).

The newest version of the budget was reviewed. It was basically balanced. Actually there was a small surplus. The board voted to accept the latest version of the budget. The general membership also voted to accept the budget. There was no dissent.

Bob Dengler mentioned his impression that the membership seems to be declining from the total count of around 100 at the beginning of his tenure. Scott Nolte estimated that the current membership count is approximately 75. Scott has the membership database in Microsoft Access and has cleaned it up significantly. It still needs to be reviewed by the members.

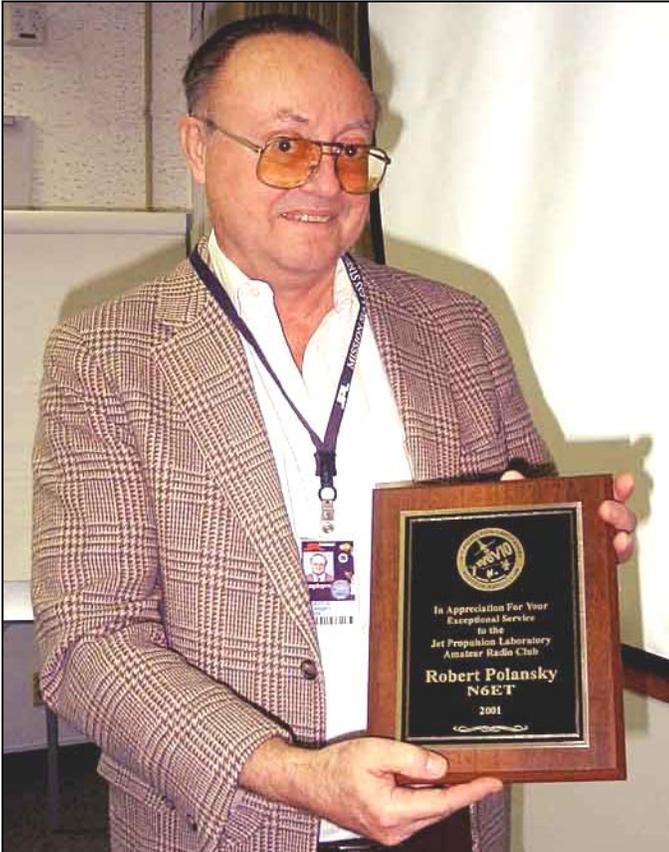
There was some discussion of how to encourage people to join up and participate in the club, including some advertising in the W6VIO Calling. Bob suggested that we can post the membership on the web so that people can easily check to see if their membership is current. We also may consider re-keying the shack to encourage people to get current with their membership

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JPL Amateur Radio Club World Wide Web Home Page:
<http://www.jplerc.org/radio>

in order to get a new key. Another way we can get more members and participation is to put together some interesting programs for the regular meetings. Several ideas were briefly discussed, including having a meeting in the new shack. Any ideas for meeting topics should be referred to Chris Carson.

Bob Polansky reviewed the status of the shack. Although there are a few items left to do, a lot of progress has been made. Nominations were opened for officers for next year. The existing officers agreed to run for office again next year and all were elected.



KC6HUR Photo

A plaque for "JPL Amateur Radio Club HAM of the Year" was presented to Bob Polansky, N6ET. Bob has done an excellent job in setting up the new shack and deserves our appreciation. Bob thanked the many members that have assisted in this project.

There was some discussion of PDF version of the new newsletter. Although there are a few kinks to work out, everyone was encouraged to accept "W6VIO Calling" via PDF files.

Bob Polansky mentioned that there is a lot of equipment in the old shack that needs to be sorted out. We may want to keep some of it, but there is much of it that should be sold or discarded. There was some concern that old manuals shouldn't be discarded without some effort to archive them. We may also want to sell some of the old stuff in the trailer. Bob will set up a meeting in January to get some sorting all these things.

Warren Dowler encouraged us to start thinking about field day. Warren found another antenna in San Diego. If we decide to buy it, we will need to take a group to go down and pickup. Field Day will also require some equipment repairs.

No Board of Directors meeting was held on December 26 due to the season and lack of personnel on lab. ■

DX News

By Bob Polansky, N6ET

Solar flux numbers have been quite high lately. This has resulted in some pretty fine band openings, especially on 40 through 10 meters.

During recent CQ WW DX Contests, we have been able to make contact with exotic stations in the far corners of the world, places like Egypt on 40 meters, India on the 10 meter long path, and Mongolia on 80 meters. Some of the locals even made contacts with Mongolia on 160 meters. I couldn't make it out of bed early enough for the latter.

Life couldn't be better. Work all the great DX before the sunspot cycle takes it rapid downhill slide. With any luck, we still have another year or two. While no major progress has been made on the W6VIO shack this month due to Christmas preparation activities, its functionality continues to be well demonstrated.

I've listed a few of the entities you should look out for during the next months. Many are needed by W6VIO. If you need to be checked out at the station, let me know and we can schedule you for checkout and a key of your own. Now for the DX News:

AFGHANISTAN - Peter, YA5T is expected to return to this war-torn country right about now. The higher power, more permanent portions of his radio station are currently in storage elsewhere. They will be moved in after the situation stabilizes a bit. I haven't seen any "spots" for YA5T that I could characterize as reliable (most are pirate operations), but I understand that his operation is all SSB and has been on 15M much of the time.

BURUNDI - 9U5X expects permission to operate within a few days. He plans on being in 9U-land through 4 January. 9U5D should be active now through 17 February. W6VIO needs 9U for an all-time new entity.

GUINEA - Look for 3XY6A (quite an unusual call!) to be creating pileups from 26 December through 5 January. His operation will be on all bands 20 through 10 meters, mainly SSB. This is another one that W6VIO needs.

NORTH KOREA - A new vertical antenna is now in the possession of Ed, P5/4L4FN, and should have been installed this last weekend. Hopefully this will permit operation on 10, 15, and 20 meters with a little better signal. No CW operation plans have surfaced yet. He is currently out of the country, but will return in mid-January. There is no update on the hoped for written permission to operate. Think good thoughts!

SAO TOME & PRINCIPE - S9LA is the call assigned for a Scandinavian operation, which will take place from 4 to 11 February. 160 through 6 meter operation with big antennas and linear amplifiers is planned. Shouldn't be any problem hearing these guys!

SOUTH GEORGIA/SOUTH ORKNEY - VP8SIG (S. Orkney) and VP8SGK (S. Georgia) are apparently the same group (I think). They are shuttling between these DX entities now through about the 6th of March. I understand their schedule is a bit variable. Look on their web site at <http://www.qsl.net/gm0hqc> for up-to-date specifics.

A short "last article of the year" this time. Season's greetings to all. More DX news next year. ■



^ ARRL Photos >

Traveling with Ham Radio: A Visit to W1AW

By Merv MacMedan, N6NO

Do you think it's too much trouble to try to operate HF when you're traveling? Unless you're traveling in your own car with a good mobile radio installation, it usually is. Too much trouble because you're flying to another state? Not to worry, there are creative ways to enjoy your hobby while traveling, without much trouble at all.

My friend Claire is originally from Connecticut but is now a full-time Californian. She invited me to her family reunion in Worcester, Mass. to spend Christmas with her four daughters and their families who would be coming from four states across the country. It turns out that the easiest way for us to get to Worcester was to fly to Hartford, CT and drive to Worcester.

I remembered that Hartford is where the ARRL Headquarters is, along with that famous Headquarters station, W1AW. So, as part of our return trip, while Claire stopped off for a luncheon with her former co-workers at Hartford Hospital on December 27, I opted for a day of hamming at W1AW nearby in Newington.

The station manager, Joe Carcia NJ1Q, was a very accommodating host and explained to me that W1AW's primary mission is to provide bulletin broadcasts and code practice. These are transmitted on daily schedules by computer control using Harris frequency-synthesized transmitters and 1 Kw solid state amplifiers.

On 20 and 40 meters, Ten-Tec OMNI V Plus transceivers have replaced the Harris transmitters for test purposes and are used with commercial Command Technology 5-KW tube amplifiers that are set to loaf along at 1300 watts output.

The antenna farm has 4 towers; the central tower is 120 feet high and has stacked fixed beams with the uppermost one at 130 feet. Half-inch or 5/8 inch hardlines feed each antenna, with RG-213 used where rotational flexibility is needed. This explains why W1AW has such a consistently good signal throughout the country.

The secondary mission of W1AW is to provide a ham radio operating experience for visitors. For this they have three studios, and each studio has an assortment of top notch commercial HF, VHF, UHF, and satellite transceivers mostly donated by their manufacturers for goodwill. CW, SSB, SSTV and digital modes are available. This is a great way to field-test a transceiver you might want to buy for your own station, under real operating conditions.

An antenna patching system allows antennas to be selected between the studios and the antennas desired. Logging is done directly on a computer running the well-known CT logging program. This way, when responding to QSLs, the W1AW QSL manager doesn't have to interpret a poorly handwritten log perhaps months after the visitor has left. By the way, DX stations can send their QSLs to W1AW via the QSL bureau, but domestic stations contacting W1AW are asked to include a Self-Addressed Stamped Envelope (SASE).



Joe set me up to operate CW in Studio 3 with a nifty Yaesu FT1000 transceiver running 200 watts. We started in the morning on 30 meters, and with the beam pointed northeast I could hear a few weak Europeans, but only faintly - it was too early. We decided to move to 20 meters which was much livelier.

A CQ brought many replies from Europe; including a Northern Ireland ham who was proud to tell me how happy he was to work the League's Headquarters station because he was an ARRL member! It turns out he was from the same town that my mother had been born in over a century ago, so we had a nice chat.

While I was operating, I could see (through the glass studio door) a visiting tour group arriving. As Joe explained the layout and history of W1AW to them, I could hear one of the visitors remark that Joe must have the all-time best job in the world - to get paid for running a ham radio station! (Of course, Joe explained that under FCC rules, while he is on duty (being paid) he cannot operate the station himself like an ordinary ham. He must be off duty and unpaid to make a casual QSO there.)

When the group began operating in an adjoining studio we had some mutual interference (which Joe explained happens rarely and was probably caused in this case by a frayed cable he had discovered the day before.) As a temporary cure, he switched me to the stacked array at 130 feet. These antennas are the ones used for bulletins, fixed towards the west. The antenna directivity was so good that from then on I never heard an-

other European, but signals from all over the US were now calling me. I worked quite a few stations signing "QRP" (low power). Most were running 5 watts or so. One guy with a perfectly readable signal told me he had homebrewed his entire 4-watt transceiver and furthermore his antenna was just an indoor loop!

Then I got a call from W4BW in Rochester, NY. The call sounded familiar, and indeed it was. A. Prose Walker used to be the head of the FCC's Personal Radio Branch in the 1970's and I had personally talked with him on the phone regarding a licensing matter years ago. Prose told me he knew all the gang at ARRL Headquarters down through the years and wished them a Happy New Year. He retired from the FCC in the 1970's and moved to Rochester. He is now 92 years old and still very active. Another nice experience.

Later, Jack, W2EUA, called me from Cape Cod. Another familiar call and a familiar fist on the key, but I couldn't quite place him. We discovered that Jack and I were very active as youngsters on 40 meter CW in the 1950's in New York (where I used to be W2JOA) and had worked (or heard) each other many times. Jack used to call CQ with a certain distinctive rhythm on his bug; that is what I had remembered, and his sending still retained that characteristic. Jack has since retired and moved to Cape Cod but fortunately he had kept his old call which triggered the memory. Another fantastic chat!

Alas, my cell phone rang and I knew this wonderful adventure must come to an end. It was Claire to tell me her co-worker luncheon was ending and she was coming to pick me up. I had spent almost W1AW's entire guest operating time for that day (10 am to 4 pm) on the air!

It was a distinct pleasure to operate from such a famous and well-maintained station. And best of all, I had this pleasure without lugging any gear around on airplanes or fighting to erect marginally-performing temporary antennas like I have done on most of my other expeditions! I can truthfully say the experience was delightful!

If you'd like to see more ARRL pictures of W1AW, you can find the station described at:

<http://www.arrl.org/news/features/2001/08/07/1/>

and the antenna farm described at:

<http://www.arrl.org/news/features/2001/07/30/1/>

By all means if you are traveling near Hartford, stop by even if just to look - it's worthwhile. You can even get a tour of the entire ARRL offices and laboratories if you wish. If you want to operate W1AW, remember to bring a photocopy of your license.

Ed. Note: Merv MacMedan has volunteered to provide occasional articles for W6VIO Calling as a contributing editor. Please let us know if this sort of article interests you. ■

JPL IRLP Node

By Randy Hammock, KC6HUR

Back in the days where we were setting up our packet stations, I had the idea of setting up some sort of Voice over IP system which could be used to connect the various NASA centers. The software was crude and not very user friendly. I decided to just wait and see what would happen later and shelved the idea.

Then, about a year ago, I heard about the Internet Radio Linking Project on a Newline rebroadcast and thought that it would be something interesting to try. An IRLP node was installed on one of the other systems I belong to and it was an immediate success. I thought to myself, "Now is the time to get this idea rolling again."

I remembered that we had an old crystal controlled 220 radio (Clegg FM-76, aka Midland 13-509) lying around not doing anything (I think I even pulled it out of the trash can once) and since it still had rocks for 224.080, I thought that it would be a good foundation on which to build the JPLARC IRLP node.

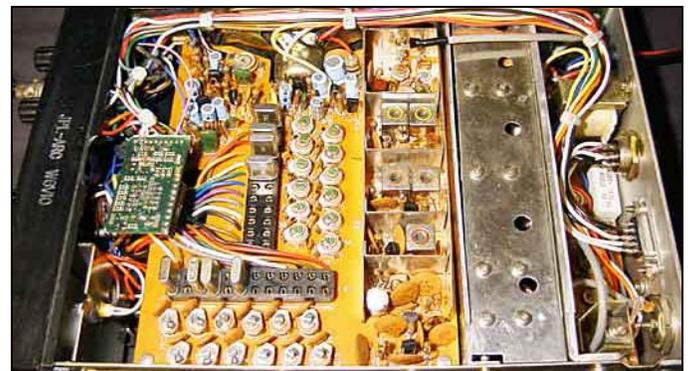
I contacted Jerry Persons to see if he would cut a slot in the back of the radio so that I could mount a DB-9 connector which would be the interface connection point for the IRLP node. The node would also require a PL tone deck, so I donated one of the Sigstone C-1116 PL boards I've had lying around for a few years. Jonathan Cameron donated a nice PC which was being replenished. I then ordered the IRLP software/hardware package which arrived from Canada in a record 5 days (just two days after the 9/11 event).

Finally, after Thanksgiving, I was able to break some time free and begin putting the pieces together. I loaded the Red Hat Linux 6.2 software onto the computer. The install went by the book and had no problems, except that I was not able to login after rebooting. This is when I discovered that I had the Caps-Lock on when the password was initially entered. So I was able to get that corrected right away. Eric Archer gave me the IP address for the node, which I then configured the system for and sent a notice to the IRLP install team that we were ready for the latest software load. Within an hour they had the software loaded into the system, so the computer was now ready to go.

Now it was time to begin the mods to the radio. Where was the Rx audio going to come from? Where was the Tx audio going to go to? Where was the PL audio supposed to be injected? Where was I going to break the PTT line so that PL board would control the Tx PTT for the Reverse Phase Keying delay?

I had just begun modifying the PL board configuration when the heating element in my temperature controlled iron burned out. So I put everything away for the night.

The next day, I bought a new soldering station and picked up where I left off and finished the PL board configuration. I pulled the wire from the mike connector for the PTT and connected the PL PTT IN lead in its place. I ran another wire from the rear IRLP connector up to the PL PTT IN so that either the radio MIC or IRLP PTT signal would provide PTT to the PL Board. The PL Board PTT OUT was connected to the Radio PTT lead which had been removed from the MIC connector.



The Clegg FM-76 has an ACC connector on the back panel which has Rx Audio Out and Tx Audio In connections, so I bridged those over to the IRLP connector along with a ground connection. I found that the Rx Audio pickup point was on the Hi-side of the volume control pot, so I removed the connections from the Hi-side of the pot, connected them to the input of the PL board hi-pass filter and connected the output of the PL board hi-pass filter to the hi-side of the pot.

After a quick chat with Bob Dengler NO6B, I was able to determine where to inject the PL audio into the transmitter. The PL DECODE OUT was connected to the IRLP connector on the rear panel which provides the COS signal for the IRLP interface.

For the radio to computer interconnect cable, I found a four-wire shielded audio cable at Radio Shack. I just cut the RCA connectors off of both ends and soldered on the appropriate connectors on each end. This was, I had a nicely bundled shielded wire set that is 6 feet long for providing the interconnect.

Monday morning the 17th, I connected the radio to the computer and power supply. Hesitantly I entered the name of the test program on the computer, hit <RETURN> and was pleased to hear the audio test tones and announcement come through the repeater. I did a quick Tx audio setup then entered the command to connect to IRLP Echo Reflector. This is an IRLP node which acts as a parrot repeater and can be used to hear what your node sounds like by recording 10 seconds of audio then playing it back to the user. I then made some quick adjustments to our IRLP send audio.

Once done, I disconnected from the IRLP Echo Reflector and connected to the Cal-Net repeater system. I raised Marshall Oldham KE6PCV and with his assistance, put in some final tweaks on our send audio. We were now ready for world-wide repeater connectivity.

With the assistance of Bob Dengler NO6B, we have made a few more tweaks to get the various levels dialed in. Bob has written some control macros for the RLC-3 controller so that we can control the IRLP Node. I have been tweaking the control scripts for the IRLP node to customize it for our needs. I think we are now ready for prime time.

Because our membership has been dropping so much over the past number of years, we have been looking at ways to spark interest in club activities. I see IRLP as one method which will hopefully fan that spark back to a full flame. To help boost interest in the club, access to the IRLP node will be restricted to club members only. As long as you are a member in good standing with the JPLARC, you will be provided the codes to access the IRLP node. When someone on a remote system connects to our node, anyone is free to talk to that person; however, only Club members will be given the codes necessary to make connections to other systems.

WR6JPL ID Contest

We need to provide three audio (.wav) files which are used to identify our system to other nodes in the IRLP network. I am putting together a contest for creating the ID files for our IRLP Node and would like to see people submit .wav files to be used for this purpose. The prize? Hearing your files played world-wide! Suggested text: "WR6JPL Jet Propulsion Laboratory Amateur Radio Club Pasadena California [link on] [link off]"

To record the audio files which identify your node to others, you must use a sound recorder. The windows sound recorder works quite well (sndrec32), although using an advanced one is much better. Some options of advanced sound recorders are Sound Forge and CoolEdit.

To start, you should download the following sample files onto your computer:

http://www.irlp.net/samples/stnXXX.wav	<--	ID file
http://www.irlp.net/samples/stnXXXon.wav	<--	Link On File
http://www.irlp.net/samples/stnXXXoff.wav	<--	Link Off File

These files should be used for reference of audio quality and level. These are actually sample files for one of the Toronto nodes (VE3RAK).

To use the Windows Sound Recorder, open it up, and click FILE, NEW. With your microphone connected, record a test file. Play it back a few times until you get a nice sound out of the recorded file.

To save, go to FILE, SAVE AS, and click the "Change" button. Under Attributes, select the TOP option (PCM 8,000 Hz, 8 Bit, Mono) and click OK. Enter the file name and save the file.

If you are using another program, ensure the final saved file is 8000Hz, 8 Bit, MONO, encoded as PCM (NOT ADPCM).

Record three files like the three samples you have that are of similar volume and quality. The files should be named like the samples, just with your NODE ID in the place of stnXXX. You must email the audio files to rhammock@sierra.jpl.nasa.gov so that I can evaluate them and pick the winner.

Keep the following in mind when making the files:

- Ensure they are not too long (no longer than 10 seconds).
- Be quick and to the point. Long ids and voice delays can get boring to listen to.

A Brief History of IRLP

The Internet Radio Linking Project was started back in November of 1997 as an attempt to use the Internet to link radio systems across Canada. The first full time link that was established ran from Vancouver, BC to Saint John, NB. The link had many problems and was shut down in March of 1998 due to the numerous computer crashes and repeater lockups it was causing, and the lack of user control over the system.

Dave Cameron VE7LTD set out to design a better way to use the same technology to perform the same task, while improving usability, user control, and sound quality. Dave's first breakthrough was to replace the existing operating system, Windows, with a more stable and versatile operating system. He chose Linux, an open source version of UNIX designed by Linus Torvalds, because of its superior networking characteristics, its reliability, and its ease of programming.

Dave also designed his own interface board to interface the radio to the computer. This allowed a large amount of delay to be removed from the system because two VOX circuits were no longer being used. He also wrote his own custom control software, and modified an existing voice-over-IP software package to accommodate the project.

The final product was a combination of hardware and software that created a nearly seamless radio link between two remote sites on the Internet. The product works so well that many people can not believe that they are talking through a link at all!

How IRLP Works in a Nutshell

IRLP uses a Voice-Over-IP (VoIP) streaming software package 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.

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 8-bit digital stream of raw audio at 8000Hz (64000 bps).

Compress the audio by down-sampling the stream and using an 8-bit uLAW algorithm to reduce the size of the stream by a factor of two (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 8-bit uLAW stream.

Uncompress the uLAW stream back into an 8-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 software 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 "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 decoder program 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.

IRLP Operating Guidelines

Common Modes

There are two connection modes for an IRLP connection. Direct one-to-one or, one-to-many via a Reflector.

Direct connect is just like it sounds where repeater (node) "A" connects direct with node "B". With this type of link the two nodes are interconnected and no other IRLP connections are

possible. While repeaters "A" and "B" are connected, anyone attempting to connect with either node will be told by a recording that - *"The node you are calling is currently connected to callsign"*; however, all local traffic on each repeater will be heard on the other repeater as well.

While Direct Connect is preferred for a city to city chat, the most common type of connection in use today is via the Denver Reflector (Ref2). A reflector is a Linux computer that is not connected to any radio but rather sits on lots of Internet bandwidth capable of allowing many repeaters to be interconnected together by streaming the received audio back to all other connected stations. At any given time there are usually 6 to 10 repeaters around the world interconnected via this Reflector. You can always check which stations are connected to the reflector by visiting <http://status.irlp.net> and looking for nodes connected to REF 2.

Reflector Use

With reflector use the first thing we must all remember is to leave a gap between transmissions. Having said that this is a good time to list the three main rules when connected to a reflector:

1. *Pause*
2. *Pause*
3. *Pause*

Due to the slight increase in delays created by multiple Tone Squelch radios in the links between the repeater and IRLP link radio, a slight change in our normal operating procedures is required with IRLP.

By leaving a pause between transmissions it...

- Allows users on other nodes a chance to check in.
- Allows other nodes time to send touch-tone commands to drop their node.

The most important guideline to remember is leaving a pause after pressing the PTT button as well as between transmissions.

Reflector Round Tables

Round tables are conversations involving more than 2 parties. Unlike a net a roundtable requires some organization to keep the conversation thread passing in an orderly fashion from party to party. Do not become intimidated if a group grows and, if mobile; do not be overly concerned if you are unable to remember all or any callsigns. Just try and remember the call and or name of the next station that you pass it to. If you are listening and wish to break into a conversation, let a cycle go by so you know the participating station are then announce your callsign during one of the "pauses". You should be recognized and then when finished with your transmission be sure to specify who you are turning it over to. If you do not specify a station to pick up the connection chaos will result as 2 or more stations may try to talk at once.

Announcing Your Presence

Announcing you are looking for a QSO or acknowledging someone else's call differs from your local repeater were you usually just give your call. With IRLP your transmission is now being heard on many repeaters around the world and others may not just be sure what your intentions may be.

To resolve this it is a good idea to give your callsign (phonetically) along with your name and your QTH and state you are monitoring for a call. Many listeners are mobile and may only pick out your prefix, your name or possibly just your QTH.

Establishing a Contact

When you hear a station that you wish to speak with always identify who your call is meant for. It is not a good idea to simply state your call but rather your call and your intentions.

Scenario: Several stations including a DX station complete a QSO and you wish to contact the DX station.

Action: VK3xxx this is Joe K9xxx in Kalamazoo Michigan. By doing this rather than just IDing with your call, you leave no question who you wish to speak with. A simple ID many times goes unanswered as neither station knows who you are calling.

Breaking into A QSO

When an existing conversation is underway and the topic of conversation is of interest, just give your callsign between breaks and the next station to take it should acknowledge you and bring you into the QSO. PLEASE do not break into an existing QSO because you want to work one of them. This is poor ham radio etiquette and on HF would result in a severe chastisement :-)

Nets on a Reflector

Nets on a reflector without prior approval of the Reflector manager are highly frowned on and will no doubt be quickly challenged by someone. A roundtable can sometimes be construed as a net so be somewhat careful if a group gets to large as it tends to monopolize the reflector.

If any wishes to organize a re-occurring net or use a reflector for a special purpose such as the Scouts annual JOTA weekend (Jam-boree On The Air), they need to contact the reflector custodians.

REF	Contact/e-mail	REF	Contact/e-mail
0	David VE7LTD	4	Daniel VE2NWT
1	Randy VE3RWN	5	Pete VK2YX
2	Nate WY0X	921	Jack WA0ERX
3	Chris VE5BAR	931	Art VE9ACP

Making a Direct Connection

First of all listen on your local machine for at least 15-30 seconds before transmitting and then ask if the repeater is currently in use. Assuming all is clear, **identify yourself** and give the node name or number you wish to call. Example: "VE3xyz for the Sydney node"—then enter the ON code for the node and release your PTT. Your local repeater should come up with a carrier as it waits for the connection to be authenticated. This can take a few seconds of dead-air so don't be concerned. When the connection is confirmed, the voice ID of the destination node will be transmitted back to you as well as your nodes voice ID to the other repeater.

NOTE: If your node is already connected to another node or reflector, a greeting will play saying; - "your node is currently connected to...ID of the connection" In this case confirm if anyone desires the connection to remain up before dropping by using the OFF code.

Once connected and after hearing the confirming voice ID, **wait** at least 15 seconds before transmitting as...

The repeater may be in use, and your entry may have occurred between transmissions.

The voice ID of your node is longer than the voice ID of their node, and the connection is not made until the ID is fully played.

Their computer may be slower, and hence take longer to process the connection than yours.

Press and hold the microphone PTT for a second and then announce your presence and your intention such as you are calling someone specifically or just looking for a QSO with another ham in that city.

If no response is heard, announce your call and your intent to drop the link and then touch-tone in the OFF code. *Not a good idea to transmit touch-tone commands without first giving your callsign. Not only is this courteous it is a regulatory issue in some countries who may be connected to the reflector.*

Some nodes are configured so you cannot connect to them if that repeater is active. In this case you will receive the message "The node you are calling is being used locally" If you receive this message, wait 5 or 10 minutes and then try again.

If you stay connected to a node and there is no activity on your repeater for 4 minutes, the connection will time out and automatically disconnect with a voice ID disconnect message on both nodes.

Connecting to a Reflector

As above, listen to your local machine for local use and then announce your intention for the Reflector before keying the ON command. When you hear the confirmation ID always WAIT at least 15 seconds before transmitting as you are most likely now connected with many repeaters and a QSO could be in progress. If after 15 seconds you hear nothing, identify yourself and indicate you are listening to the Reflector from "City and, Prov./State, Country". *With the world wide IRLP activity your local repeater now has world wide coverage thus the suggestion to better detail your QTH.*

Don't be in a hurry to hear someone come back to you. You may have to do a bid of pleading from time-to-time to unlodge someone from whatever they are currently involved with.

By default, connections to the reflectors now time out with no activity however many node owners set this period for a long period so it is not unusual for repeaters with minimal traffic to stay connected to the Reflector for extended periods of time. When or if the node times out from a Reflector connection a standard time-out greeting will precede the timeout saying, "Activity time out ... Reflector xxx, link off"

If you are new to IRLP you should always consult with your local node sponsor to confirm the local guidelines on reflector connections in your area.

If you hear or wish to engage in a prolonged rag-chew on your local repeater (long discussion of a local nature) out of courtesy to other node listeners drop the reflector.

Error Messages

From time-to-time you may receive error messages when attempting to connect with a node or reflector. The most common ones are:

- **“The node you are calling is not responding, please try again later”**

This is caused by a loss of Internet connectivity to one end of the call attempt.

- **“BEEP Error- The call attempt has timed out, the connection has been lost”**

This error occurs when a node is OFF-LINE. Some nodes such as in the UK use dial-up connections and then, only for short periods. Also there may be temporary net or node problems.

- **“The Connection Has Been Lost”**

If the Internet connection drops, this error message will be heard. I found this out when I accidentally kicked out my network cable while working around the node computer.

Do's and Don'ts

In summary there are a few do's and don'ts:

DO pause between transmissions to let other in or others to enter DTMF command.

DO identify before sending DTMF command tones.

DO hold your microphone PTT for about 1 second before talking to allow all systems time to rise.

DO NOT rag-chew on your local repeater while connected to the reflector.

DO pause for 10 seconds or when entering the reflector before talking.

DO NOT start or plan a Net without pre-authorization from the reflector owner

Sunday Nets

Every other Sunday an IRLP net is held inviting check-ins from around the world, which is an excellent chance to hear IRLP at its best. To participate in the net there must be a local net controller for your node otherwise you will only be able to monitor.

A few guidelines which will be enforced by the Central Net Controller will be

- *Do not connect your local node to the net during net times unless someone is acting as a local net controller.*
- *Do not make calls directly to other stations during the net.*
- *Above all NO local conversations during the net while connected to the reflector.*
- *Do not attempt a call unless your local net controller has you as a pre check-in.*
- *Disconnect our node if any local interference is present.*
- *Keep your check-in short and to the point. Remember that several hundred others may be waiting for a chance to check-in as well.*
- *Check the Official IRLP Net web page at for details on schedules* ■

Classified Section

Wanted:

Your want-ad or article for inclusion in a future issue of W6VIO Calling. Submit to Bill Wood, W6FXJ, 31094 Hemlock Ave, Barstow, CA 92311; or email w6fxj@earthlink.net

For Sale:

Gillette Gen-Pro 12.5 Kw Diesel Generator, 21Hp DUETZ RUGGERINI air cooled diesel, Electric start, 8 gal fuel tank, Low hrs. Can be viewed at <http://home.att.net/~n7hd/Gen.jpg>. Cost \$7800, sell for \$3100. Contact Buddy, 626-584-4645 days, 661-944-3864 eves, Lv msg.

Kenwood TM-G707A 2 meter/440 dual-band mobile (single band receive). 50 W 2 meters/35 W 440, CTCSS decoder modified to eliminate falsing problem common with all G707s & V7As. Original/only owner, asking \$260. Contact Bob at 909-396-0991 or no6b@rprrlist.w6jpl.ampr.org.

QST 1990-1994 CD-ROM set, new. \$25 (ARRL price \$39.95) Skip, W7NWY, 818-354-9674

Icom UT-40 Tone Squelch Option Board (CTCSS) for HT models 2GAT, 4GAT, 12GAT, 32AT or for mobiles 228, 448, 901, 1201, 2400 and 2500. Cost: \$80 (AES Catalog) Sale for \$40. Contact Scott Nolte, scott.nolte@jpl.nasa.gov or 818-354-9724 ■

Treasurer's Report

By Chuck Sarture, KG6NF

December, 2001

General Club Account

	Beginning of Month Balance:	\$2,192.12
Income:		
	No Income This Month	\$0.00
	Total Income:	\$0.00
Expenses:		
	2001 JPL ARC HOTY Award Plaque	\$50.00
	Total Expenses:	\$50.00
	End of Month Balance:	\$2,142.12

Emergency Communications Account

	Beginning of Month Balance:	\$2,500.00
Income:		
	No Income This Month	\$0.00
	Total Income:	\$0.00
Expenses:		
	No Expenses This Month	\$0.00
	Total Expenses:	\$0.00
	End of Month Balance:	\$2,500.00

Chuck Sarture, KG6NF
2001 Treasurer

Newsletter Deadline:

Friday, February 1 for the February issue of W6VIO Calling. Your articles, ads, photos, diagrams, letters to the editor, or technical material should be submitted to the editor via email (w6fxj@earthlink.net) or regular mail to: Bill Wood, 31094 Hemlock Ave, Barstow, CA 92311.

Jet Propulsion Laboratory

Amateur Radio Club

2002 Membership Renewal Form

Please renew your JPL Amateur Radio Club membership for 2002 (and for 2001, if you missed renewal last year) by completing the following steps:

1. Please enter your data in the following form:

Name: _____ Callsign: _____ Class: _____ Expires: _____

Lab Address: _____ Lab Extension: _____ ARRL Member? Yes: ___ No: ___

Home Address: _____ City: _____ State: _____ Zip: _____

E-mail Address: _____

2. Check the appropriate boxes below: Please add the name and call for associate members you are sponsoring in the blank space above. Note: Separate autopatch dues for 2002 have been waived.

Regular; Associate; Retired; Off-Lab \$ 10 each (\$11 If not Paid by February 28, 2002)

Immediate Family Members living at the same address with a Member above: \$5.00

Continuing Autopatch Members (No charge)

Newly Licensed Amateurs - Free for the first year

3. Return this form and your personal check for dues to: Scott Nolte, JPL Mail Stop 306-392, or the JPL ARC, PO Box 820, La Canada, CA 91012-0820. Please make checks payable to JPL-ARC

4. Please check additional action(s) desired:.

I have included an additional \$11 to bring me up to date with 2001 dues.

I want to join the autopatch Repeater. Please send me the details.

There is an error in the club records, please correct as shown above.

I no longer want to be a JPL Amateur Radio Club member or an autopatch member.

Please remove my name from your list.

Tnx and 73

Scott Nolte , N6CUV, Membership Chairman

818-354-9724



Jet Propulsion Laboratory Amateur Radio Club
PO Box 820
La Canada, CA 91012-0820

First Class Mail

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