



IRLP NodeOp Notes

NOTICE! NOTICE! NOTICE!

This page is no longer kept up to date. There are many changes taking place in IRLP and I no longer have the ability to keep up with them, both mentally, and with my web

software. I have had to make a couple of computer upgrades, and I can not afford to keep upgrading the software that allows me to do a decent job on these pages. I'm sorry if this inconveniences anyone. The web pages will remain here and are still very

useful for beginners, as well as some of us who have been doing this a few years. New items may be added from time to time when they are discovered.

NOTICE!NOTICE! NOTICE!

Sorry for this lengthy intro, but there's a lot of preliminary information up here before the [listings](#). If this is your first time on this page, [PLEASE](#) read everything between here and the "Commands and Notes" listings at least once. It will only take you a minute or two. After that, please feel free to click on the word listing above as soon as the page loads to go directly to the lookup. Thank you.

If you are a new node owner who has just installed the software, after you read this intro, please go to the section on what to do [After Installation](#). There are a couple of important items there that weren't covered in the instructions when I did mine! It may save you time and hair pulling.

Before we go anywhere with this, let me be very clear about one thing. Before you change ANYTHING on your system after a successful installation [BACK IT UP!](#) I don't mean you should back it up after you get it running. I mean you should back it up as soon as you have the software installed, period! [Rename](#)

the backup file and move it off somewhere safe. WinSCP works great for that, see the Putty and WinSCP section to find out how.

I use multiple backup methods, including the normal IRLP backup script with the resultant .tgz file stored. I store the backup on both the node drive and my Windows machine. I also copy and store a complete copy of my home directory on my Windows machine. If you have the means, a complete image of the IRLP hard drive can also be stored on the Windows machine. If you're going to modify a file, please make a copy of it with a new name, so you can go back to it if (when) you screw it up. Near the top of the list that follows this intro, is the [backup](#) command link. Please read it.

This should be obvious, but I'll say it anyway. I accept NO responsibility if you break your node, or even if things don't go as I say here! I take every precaution to be sure that the information is correct, usually testing it on my own node first, but mistakes and typos happen. Dig around at your own risk. With tools such as WinSCP, there's no excuse for you to not have a full copy of your node sitting on your Windows machine as backup. There's also the [backup](#) script for you to use.

This page is a collection of notes I gathered regarding the administration of an IRLP node as a relative newbie. They include notes on how to do things, as well as reminders of command line info. These are things I tend to forget if I don't use them often. My need to do this comes from my lack of knowledge of Linux in general, and lack of ability to remember anything longer than 5 minutes (and getting worse) as I get older. When I need a command and don't remember the exact syntax (or haven't a clue), I look it up or ask others, and add to my notes. Sometimes, you'll see an IRLP mail list quote here when appropriate. The updates are sporadic due to the time it takes to do them. I currently have a pretty good pile of notes to add, but little time to do it.

The original version of this page grew to the point that it was loading slow, so I broke several larger categories out to separate pages, and will continue to do so as things are added. Unfortunately, this hampers the ability to use your search tool, but it would take too long to load the page if it were all on one like it used to be.

Please take the time to go through the Yahoo Group archives. There's loads of info there, and it's where I get most of mine. Before you post a question to the group, take the time to go back several months to a year, to make sure it hasn't been asked before. It gets irritating answering the same questions day after day because people don't bother to read the archives before asking. I'm sure it contributes to the seemingly "bad attitude" that the RTFM bunch (and even I) displays now and

then. Check to see if someone else has asked the same question in the last several months. Also check to see if your question is answered in the [IRLP Owners FAQ](#). Be sure to read the "Unofficial Manual" in the [FILES](#) section of the [IRLP Yahoo Group](#). It's long, but it will help you if you just stick with it. If you can't find an answer here, or in those other places, write the Yahoo list and ask. More than likely, there are people who will know.

These notes are very informal and based on my original installation of RH9 and IRLP v4.03 using IRLP board version 3.0. The information carries over to later versions for the most part. My node is now CentOS.

I'll attempt to keep the list in some logical order, alphabetical when I can. Don't be afraid to use your browser's word search tool to look for key words or phrases. It's hard to know what word someone will think of when they try to look up a topic.

Also, [man command](#) will give you information on any valid Linux command. There will be much more available there, than what I'm giving you here. All you have to do is figure out all of those command line switches, etc. 😊

I hope you find something that saves you time by not having to look it up elsewhere.

abcdefghijklmnopqrstuvwxyz0123456789ABCDEFGHIJKLMNOPQRSTUVWXYZ

ENJOY!

Regular Web Page	G4EID Reflector Status Page	IRLP 3055
AGØN dot Net	(Allow for 5 minute delay of status)	IRLP 3721
		IRLP 3936
		IRLP 7976

If you view these pages on a low resolution screen, or a small browser window, be very careful of line-wrap in your browser. If you copy a long program line from these pages and it is line-wrapped, it won't work. There isn't much I can do about it. Lines get long, and the screen is going to wrap at some point.

Commands and Notes

Last tweaked November 20, 2014 23:00 Mountain

Longer sections are now being moved to separate pages for faster loading of this page.

[After Installation of Software](#) (new node owners read this)

[Audio Section](#) (now combined)

[Backup Your Node!](#)

[Bandwidth Used By A Node](#)

[CD Command](#) (change directory)

[CHMOD-CHOWN](#) (permissions and ownership) (being reworked to combine)

[Clock Setting](#)

[Command Line "Stuff"](#) (a very long article by Nate, WY0X)

[Computer Name Change](#)

[Connect Automatically](#) (connect for a net, etc.)

[Connect Time](#) (timing out during connect process)

[Connect-Disconnect Messages](#) (upload & test)

[Connects While Channel Busy](#) (how to control)

[Creating A New File](#)

[Creating A New User Account](#)

[Cron Section](#) (now combined)

[Custom Decode](#) (I like shortcuts!)

[Custom_ON and Custom_OFF](#) (what are these files and why?)

[Custom Prompt](#) (which node, which directory?)

[DHCP Change](#) (now part of lanconfig)

[DTMF Prefix](#)

[Disable Root Login](#)

[Disable Update of Specific Files](#)

[DNS Address Location](#) (now part of lanconfig)

[Duplex Control](#)

[Echo Reflector](#)

[EchoIRLP Installation](#) (W2YMM's web page)

[Editing Files](#) **Warning!**

[Enable-Disable Node](#)

[Environment File](#) (corrupted)

[File Permissions & Ownership](#) (Default at install)

[Firewalls](#) (Run my node with no firewall???)

[Grub.conf Timeout](#) (more time to read boot prompt)

[Hard Drive Space](#) (how much?)

[Help-malformed sysctl tree](#)

[History](#) (of commands entered at the command line)

[IP Address](#) (what's my public IP address?)

[IP of Remote Node](#)

[IRLP Equipment](#) (a few items)

[KC6HUR Scripts](#) (great scripts)

[LAN Configuration for IRLP](#) (DHCP or Fixed IP and other lanconfig)

[Local IP of Node](#) (now part of lanconfig)

[Locate & Slocate Commands](#) (where's that file?)

[Lockouts](#)

[Logs](#) (where they are)

[Log Error](#) (contains a bad digit (S,P,A,B,C,D))

[Lost Root Password](#) (now what do I do?)

[Moving A File](#) (mv command)

[Network Configuration](#) (now part of lanconfig)

[Node Number Swap](#) (between 2 nodes)

[Operating System Version](#) (what version am I running?)

[Password Changes](#)

[Password Lost](#) (how to recover lost root password)

[Permissions](#) (chmod)

[Personalizing the Prompt](#)

[Port Forwarding](#) (makes it work!)

[Processor Info](#) (command line query for CPU info)

[Public IP](#) (what is my outside IP address)

[Pulsecheck](#)

[Pwd Command](#) (where am I?)

[Rc.irlp, Reloading](#)

[ReadInput](#) (what's your node doing?)

[Reboot IRLP Computer](#)

[Reboot, Should I?](#)

[Reboot, how long since the last time?](#) (Uptime)

[Remote Admin via Web](#)

[Renaming A File](#)

[Repeater Controller Interfacing To IRLP](#) (Why doesn't it work?!)

[Restore Your Node From Backup](#)

[RSYNC Too Old](#) (why, what to do about it)

[Screen Blanker/Saver](#)

[Script Not Working?](#)

[Services](#) (what services are running on your system?)

[Shut Down IRLP Computer](#)

[SSHD Port Change](#)

[Status Page Info](#) (how the node status is automatically updated)

[Status Page Info](#) (information you manually supply about your node)

[SU and SU -](#) (switch user)

[Sudo](#)

[Tail/Head Command](#) (monitor logs realtime)

[TAR](#) (notes on using tar command)

[Terminal, Two At Once](#) (part of Audio Settings)

[Timeout Timer Changes and Disable](#)

[Timezone Change](#) (Mmoved? - Clock in wrong timezone?)

[TKR-820 IRLP Interface](#)

[Troubleshoot-IRLP](#) (new-ts)

[Udev Permissions Problem](#) (CentOS 4.x)

[Ventrilo Server](#) (on a node)

[Version](#) (what version am I running?)

[Updating Information on Status Page](#)

Everything below this line is linked from the above menu

DTMF Prefix

Some nodes require a dialing prefix to tell other equipment in the system to ignore the coming commands. A complex system might assign different prefixes for different pieces of equipment or different branches of linking. The ability to do this is built in to the IRLP node.

About half way down the environment file, there is a line that says `#export DTMFPREFIX=123`. That line, if it weren't rem'd out, would give the node a dialing prefix of 123. To activate the dialing prefix function, you must edit the file (carefully) to remove the # character at the beginning of the line, and change 123 to whatever you need/want your prefix to be. **Be aware that ALL dialing must have the prefix you put there, not just node numbers.** So, to place a call to node 4321 with the dialing prefix of 123, you would dial 1234321. To end the call, you would dial 12373. There's an exception. If you want to bypass the prefix for certain commands, you can create shortcuts in the custom_decode file. See that [here](#).

[BACK to last](#) [Menu](#)

Disabling Root Login

Preventing Direct Root Login

It has been suggested that you should prevent **direct remote login by user root** when using port 22 for ssh. Instead, you should login as repeater (or another user) and then `su - root`. To disable direct remote login to root, edit the `/etc/ssh/sshd_config` file. Change the line `PermitRootLogin` as below.

As root:

```
pico -w /etc/ssh/sshd_config
```

Drop down to line 36 (on mine) and find the line that might read:

```
#PermitRootLogin yes
```

That's how it reads in my file. Simply uncomment the line (remove the #) and change the yes to no. Then, Control O and

Control X to save and exit pico. You'll need to restart sshd for it to take effect.

As root:
service sshd restart

or:
/etc/init.d/sshd restart

or, just reboot the computer.

Note: If you disable remote root login, you will also disable your ability to login as root with WinSCP, which will hinder your ability to administer your node in some cases.

Also see [SSHD Port Change](#)

[BACK to last](#) [Menu](#)

Disable File Updates For Specific Files

You changed a file, and you don't want the system to automatically replace it during nightly updates.

Now and then, you might want to modify a file that's normally kept up to date by the nightly updater. For instance, there's a reflector that has an extremely long welcome message that I don't care to hear. I edited his stn####on.wav file extensively to shorten it. If I didn't do something about it, my edited file would be replaced at 0300 the next morning with his current message, losing my changes. I could also have deleted the file completely to revert back to the generic welcome message. To keep the file from being replaced, I added its name to the "exclude from update" list.

As repeater:
pico -w custom/update-file-list

Then, to exclude the file mentioned above, enter the next line, replacing #### with his node/reflector number:

```
--exclude stn####on.wav
```

Save and close the file with control-o and control-x.

[BACK to last](#) [Menu](#)

Duplex Control

Controlling your node while the other side is transmitting

How do you control your node while the other side is talking? If it's a simplex node, you can't, except via a terminal. Why would you want to? What if someone connects to your node and starts abusing it? What if you want to stop the playback of long bulletins after they've started playing?

The node ignores DTMF unless the COS is active. By default, on a version 3 board, there's a jumper that blocks the COS signal while the PTT is activated. By moving the jumper, you enable the COS signal to be passed to the IRLP software, even while PTT is keyed. This allows a full duplex radio (i.e. a repeater) to pass commands to the software. The jumper is labeled PTT LCKOUT (not a typo). Just move it from one end of the 3-pin header to the other end. If you have a version 2 board, just clip the only diode on the board.

From the archives:

Full duplex control is already optional. Just move the "PTT Lockout" jumper on the interface card. All nodes directly connected to repeater controllers or with full duplex RF links should be set this way so you can send control commands into the node while it is transmitting. Extremely handy for disconnecting from busy reflectors or locked up nodes.

[BACK to last](#)

[Menu](#)

Editing Files **Warning**

You MUST be careful when editing scripts or other files in the system to be sure that you don't inadvertently add a return or linefeed to a long line. If you use an editor that wraps a line, the file will probably not work.

Everyone develops their own preference for editors, but the one that's included in the IRLP installation (Pico) works fine for simple changes if you load it with wrap turned off. If, like me, you prefer to do all of your editing from your Windows machine, Notepad will work with word-wrap turned off. I prefer an old version of [Ultra-Edit](#) as an all around whatever kind of file editor in Windows.

Using Pico, load it like this:

```
pico -w filename
```

In Notepad, check **Format** and be sure that there's no check-mark beside **Word Wrap**.

[BACK to last](#)

[Menu](#)

File Permissions & Ownership

What were they originally?

Be careful here. **Read AND UNDERSTAND the warning** that I give right before the script lines at the bottom of this section. If you don't, you might kill your node!

Ever wonder what the default permissions and ownership were set to so you can put them back when in doubt? While looking through the reinstallation script, I found a section that sets ownership and permissions for all of the files and folders after reinstalling them. In order to be sure you have the latest information, you should pull the latest reinstall script from the servers at the time you need them. Go to the [New-Installs](#) page and look for the **re-install from backup** instructions. Scroll down in that document until you find the area that reads something like **Downloading the Reinstall Script from the Server**. Follow the instructions for downloading the reinstall script.

After you have it, use WinSCP to copy it to your PC and open it in a text editor or viewer. Scroll down near the bottom of the file and look for **#### Setting File Permissions ####**. Below that line is the script that sets file and folder permissions. I'll include what is in the current (June 9, 2005) version of the script, but PLEASE do as above and get the LATEST information from the web site in case Dave makes changes.

WARNING! You need to be careful looking at this list to notice that some things are changed more than once. For simplicity, a complete folder might be set with permissions or ownership and later a specific file or files within that folder changed (see rc.irlp and others). Be sure you understand all of what is being done. If you give the wrong ownership or permission to a file, your node may cease to work properly.

```
chmod 660 /home/irlp/audio/*
chmod 750 /home/irlp/bin/*
chmod 750 /home/irlp/scripts/*
chmod 750 /home/irlp/custom/*

chmod 750 /home/irlp
chown -R repeater.repeater /home/irlp/*
chown repeater.repeater /home/irlp
chmod 750 /home/irlp/custom/rc.irlp
chown root.root /home/irlp/custom/rc.irlp
chmod 750 /home/irlp/custom/environment
chown root.repeater /home/irlp/custom/environment
chown repeater.repeater /home/irlp/.pgp
chown -R repeater.repeater /home/irlp/.pgp/*
```

Again, get the most up to date information from the latest reinstall script. Don't rely on what is above.

[BACK to last](#)

[Menu](#)

Hard Drive Space

How much have I used, how much is left?

```
df -h
```

[BACK to last](#)

[Menu](#)

Help-malformed sysctl tree on free

What is this? Ignore it. It is known to the software author and does no harm, other than bug us by being on the screen. Get on with life!

From VE7LTD:

The problem here exists with the /dev/parport driver in the Linux kernel. The DTMF process tries to close any open "files" associated with the parallel port when it starts.

The error is harmless, and is well known to happen on ALL IRLP nodes, no matter what Linux OS it is running, as long as it is running the Linux kernel.

Since the only reason that DTMF is reset every call is to adjust the timeout values, the way this error will be fixed it to change the way that the DTMF process reads and writes files, and operates.

I have been working on this, but since this error is not fatal or harmful in any way, it has not been fixed.

Dave Cameron

[BACK to last](#)

[Menu](#)

History

List commands given at the prompt

Now and then, it would be nice to have a list of commands that have been typed at the command prompt. Simply log in as the user you wish to look at and give the command:

```
history
```

[BACK to last](#)

[Menu](#)

IP Address

What's my node's outside/public IP address?

```
telnet irlp.net 10000
```

You can also use lynx, a crude web browser on your node, to go to [whatismyip](#).

```
As root or repeater:  
lynx http://whatismyip.com
```

Be aware that the above lynx command will return a very long response (several screens. You can exit with a q command if you don't want to read it all. This web site is easiest to do from your Windows machine.

The actual LAN IP address of the node computer can be seen with the another command. For best results, you should be configured for FIXED IP on your LAN, not DHCP.

```
As root:  
ifconfig eth0
```

If you see something like 192.168.x.x, 172.x.x.x, or 10.x.x.x, you're probably looking at your LAN address (your local network). The x number can be anything from 0 to 255. It is unlikely that you'll see the 172. or 10. addresses because **most** consumer devices use the 192.168.x.x format for the user side of the firewall and leave the other two for larger organizations (corporations, etc.). None of these IPs are the IP that is used by other nodes to reach you. They are the IP that your router should be set to, to forward IRLP to your node's fixed IP address. **IF you see the 172 or 10 addressing as the OUTSIDE IP, your ISP is doing double address translation and you will have to take steps to have them give you a real public IP. The process is too complicated to be included here, but it can be done. I have at least two nodes that are in that situation. I'm not going to try to educate you on networking, not that I have the knowledge to (I don't).** 😊

[BACK to last](#)

[Menu](#)

IP of remote node

To connect to a remote node with Putty, WinSCP, or for any other purpose where you need the IP address of the far node, use stn####.ip.irlp.net in place of the IP address. Replace

with the appropriate node number you are trying to get into. Obviously, if you're connecting to your own node from within the same LAN, you would use the local IP, such as 192.168.1.50.

Note:

The section below is basically obsolete, now that Dave has the IRLP DNS available. I've left it for informational purposes.

Now and then, you might need the IP address of a node that changes IP frequently. I administer a node that changes IP address frequently. Quite often, I can't get the IP from the /custom/hosts file because it has changed since the file was updated. Normally, you can get the IP address by simply logging onto your node's computer as repeater and dialing up the node you need the IP for.

As repeater:
decode 1234

As it makes the connection, the IP address of node 1234 will be displayed to you on the screen. The problem with this is that you connect to him when you don't necessarily want or need to. Why bother the owners or users when there's no need? There is a script that will do the same thing without connecting. It is in the [files](#) area on the [IRLP Yahoo Group](#) and called [irlphost](#). Download the script and put it in the /home/irlp/custom directory (mind your ownership and permissions). Note, this is a tar file. If you have WinZip, it will extract the script for you.

See syntax example below.

As repeater:
custom/irlphost 1234

You [could](#) have put irlphost in the /scripts directory, but the files in that directory can be overwritten by automatic IRLP updates. You really should put non-stock scripts in the /custom directory.

Note: If you installed the script long ago and then upgraded to FC3, irlphost may not work. There's a newer version of irlphost posted that is modified for FC3. Just replace it and you should be good to go. Also remember (because I had this problem when pulling the newer script for FC3), the occasional Windows to Linux conversion issue with hidden characters. [See](#).

[BACK to last](#) [Menu](#)

KC6HUR Scripts

Great place for information and scripts

I noticed that [Randy's web page](#) link seemed to be missing from the files area of the IRLP Yahoo Group for awhile. For those who haven't been there, I highly recommend giving it a read.

[BACK to last](#)

[Menu](#)

Linux Version

How to do a command line version query of a node

Now and then, you might need to know how to find what version of Linux the node is running on, especially if you remotely administer several nodes and tend to forget who's running what. There's a command that will do it for you.

```
cat /etc/redhat-release
```

There's also more info using:

```
cat /proc/version
```

or:

```
uname -srv
```

or:

```
uname -a
```

[BACK to last](#)

[Menu](#)

Locate/slocate Commands

Where the heck is that file?

Locate is a really useful command for finding a file. If you don't know what directory the whizbang.xyz file is in, simply type:

```
locate whizbang.xyz
```

A very helpful tip was just sent to me by Dave, VE7MQ. Thanks, Dave. This is the kind of info I need on things that I barely understand, and this probably explains why locate has sometimes not worked for me.

The 'locate' command uses a built-in database of all files on the system. However, this database is only updated once per day, by default. Thus, a new file will not be found by 'locate' until after the daily update has occurred. To do a manual update, as root, type: 'updatedb'. [The update is triggered by one of the root crons.]

And, another tip surfaced from Jim, WW4M. Thanks, Jim.

```
As root
slocate -u
```

This command also creates a database, but is more secure.

According to man slocate:

DESCRIPTION

Secure Locate provides a secure way to index and quickly search for files on your system. It uses incremental encoding just like GNU locate to compress its database to make searching faster, but it will also store file permissions and ownership so that users will not see files they do not have access to.

[BACK to last](#) [Menu](#)

Locking out a node

Locking out a node is not to be taken lightly. To quote from the [Unofficial Manual](#): "This method should be used as a last resort, as it is not in the spirit of IRLP to lock out a node without reason. Nodes found locking out all nodes but a precious few will be asked to remove themselves from the IRLP general system and be added to a private system." However, if you feel you must, it is easily accomplished. Be aware that a lockout blocks connections both **to and from** the node you lock out.

To lock out a node or prevent connection to a reflector, create a file called **lockout_list** in the custom directory. As before, you can create the file with your favorite text editor. In the file, will be a list of nodes and/or reflectors to be locked out of your node. Nodes are listed by stnxxxx, where xxxx is the node number. Reflectors are listed as refxxxx, with xxxx being the reflector number. The following example will use pico to create a lockout for nodes 1234 and 4321, and reflector 9000. There's a carriage return after each node/reflector number.

```
As repeater:
pico -w /home/irlp/custom/lockout_list
stn1234
stn4321
ref9000
```

The -w isn't a necessity in this case (no long lines), but it's good to stay in the habit of using it for those times when it is. Save the file with **Control-O**, confirm the filename, and exit pico with **Control-X**.

If your node happens to be one that isn't allowed on reflectors because you haven't taken steps to remove carrier tails, IDs,

courtesy tones, or pulseback, you might want to lock yourself out of all reflectors. This can be done by using the keyword **ALLREF** instead of trying to list them all.

[BACK to last](#)

[Menu](#)

Moving A File

How do I move a file *directly* from one place to another?

How do I change the name of a file (rename it)?

Let's say you wanted to move a file from one folder to another. What if you wanted to rename a file? How about doing both at the same time?

For moving it, I could use WinSCP to copy a file from the first folder to the Windows machine and then reverse the process to copy it back to the desired folder. That takes a lot of time if the file is large, and is way too much work when it doesn't have to be. Here's how you can accomplish it in so little time you have to go look to see if it really worked, especially if you're used to waiting for network transfers back and forth.

Let's move a file called test1 from the scripts directory to the custom directory.

As repeater:

```
mv /scripts/file1 /custom/file1
```

How about changing a filename? Let's rename file1 to file2.

As repeater:

```
mv /custom/file1 /custom/file2
```

If I wanted to move the file from scripts to custom and rename it at the same time, I could do that too.

As repeater:

```
mv /scripts/file1 /custom/file2
```

[BACK to last](#)

[Menu](#)

Node Number Swap

(between two nodes)

Quoted from the Yahoo group:

> One of several nodes I built needs to change node numbers with another

> node. I know I must copy the pgp.keyrings over, but what else?

You need to swap two files from each node. Both are located in /home/irlp/.pgp/

The first is secring.pgp which is the actual secret portion of the key pair (and technically the only one that needs to be swapped) Plus the ascii version of public key stnXXXX.asc where XXXX is your node number. This needs to be moved simply because it is unique to your node and provides an easy way to look up the KeyID should it be necessary. There may be backup (.bak) versions of each file. You can just delete those.

In addition, you will need to swap change stn numbers in the environment file (you can edit this change in). If one of the node numbers ends in zero, be sure to note whether that node number is 3 or 4 digits long (stn473 or stn4730 as an example). It must be replaced in the environment file in the exactly the same format. The reason for this oddity is legacy node numbers were 3-digits long, but as the installs team has been doing re-installations, we have been changing 3-digit node numbers to 4-digits when creating new keys, so there are some of each.

-Dave K9DC

[BACK to last](#)

[Menu](#)

Port Forwarding

Tells the router where to send the packets

In order for IRLP to work, you need to set up your router's port forwarding properly. You need to have UDP packets on ports 2074 through 2093 forwarded to the IRLP box. That gets the audio to the node. You also need to forward TCP 15425 to the node for control. If you are going to install [remote admin via the web](#), you'll need to include 15426. Port 15427 is no longer used. If you have done the [ssh port move](#), you'll need to forward that port TCP. Be sure to SAVE the changes to your router. 😊 For more help on your router, go to [PortForward.Com](#). Also see [network configuration](#).

[BACK to last](#)

[Menu](#)

Processor Version

Command line query for CPU info

```
cat /proc/cpuinfo
```

[BACK to last](#)

[Menu](#)

Public IP

What is my outside address?

Log into your node as either root or repeater and do:
telnet www.irlp.net 10000

For most internal networking info, see the [lanconfig](#) section.

[BACK to last](#) [Menu](#)

Pulsecheck

The pulsecheck script is used to check for, and measure, a momentary COS pulse from the receiver when PTT is released on your node transmitter. This is called **pulseback**. Pulseback can/will cause you to be kicked off of a reflector. You will be blocked from connecting again until it is corrected. There's a timer in the system that helps keep it from causing a problem for people you are connected to, by not sending it down the line. Pulsecheck will key the transmitter a couple of times and check for any "noise" when PTT is released. It will then report what to set the value to in the `/home/irlp/custom/timing` file.

As repeater:
pulsecheck

or:
\$SCRIPT/pulsecheck

Here's an example from my node:

```
[repeater@3055 irlp]$ pulsecheck
LONG KEY UP (5 seconds) TEST
There was no pulse found in 3 seconds
SHORT KEY UP (half second) TEST
There was no pulse found in 3 seconds
```

You should now adjust your timing file `/home/irlp/custom/timing`. The value of the SECOND number in the file should be: 150
[repeater@3055 irlp]\$

[BACK to last](#) [Menu](#)

Pwd

Or, where the heck am I on the system?

Type:
pwd

You'll see your current directory path. Also see [cd](#).

[BACK to last](#)

[Menu](#)

rc.irlp reloading

Reloads IRLP software without rebooting the operating system.

As root:

```
/home/irlp/custom/rc.irlp
```

[BACK to last](#)

[Menu](#)

ReadInput

Monitors what your node interface is doing. See what touch-tone digits are dialed, when PTT, COS, and Auxiliary functions are active. Very useful for checking proper operation of all of those functions. Readinput is a great troubleshooting tool. Note: The readinput command will indicate decoded touchtone, even without the COS, but programs/scripts will not act on those tones. The scripts basically AND the COS and incoming TT. They both have to be there for tones to be acted on.

As repeater:

```
readinput
```

Use **Control-C** to exit the readinput program.

[BACK to last](#)

[Menu](#)

Repeater Controller Interfacing To IRLP

Why do so many people have trouble with this?

Many people get confused when connecting their node computer directly to a repeater controller. That's because the connections are backward from what they first think. The IRLP node has to be connected to emulate a radio.

It is assumed that the controller has an unused link port that would normally have a link radio connected to it. If you have a modern controller that allows configuration of the IDs, tail time, courtesy tones, etc., you'll need to be sure all of those features are turned off on the link port. You should have no ID, no tail drop time, and no courtesy tone on that port (going toward the IRLP node). In the case of some older controllers, you won't have an option to turn those on and off. In a case like that, they are usually internally configured to not have

any ID, drop time, or courtesy tone on the link. For instance, my old MCC RC100 controller has no configuration for the link port at all. The port can be turned on and off, that's it. It does leak IDs to the link port, but only during a transmission that already has the port activated. It will not bring the port up by itself. In no case is that allowed for connection to IRLP. In other words, an ID that is heard while someone is talking from your node to another is OK. But if the ID causes the node to key up the far end by itself, or to hold the far end keyed after your input goes away, it cannot be used. Specifically, it will not be allowed on a reflector. Some nodes may allow direct connection under those conditions, but that is up to the node owner and not generally allowed.

If your controller is new enough that it allows touchtone control of the repeater over the link port, you will normally want to turn that off.

Now, on to the actual connections.

Usually, the audio is done correctly because it is a little easier to understand. It is usually the logic lines (PTT and COS) that are mixed up. Think of the repeater controller as a transceiver, and the IRLP computer as another repeater controller.

First, the **controller COS/COR** connects to the **IRLP PTT**. That's because the computer needs to key the repeater controller the same way it would key a transmitter. Then, the **controller PTT** connects to the **IRLP COS**. The controller is telling IRLP to key the transmitter on the opposite end of the link.

The same thing goes for the audio. The **repeater controller link audio input port** (radio receiver) connects to the **sound card output**. The **controller link audio output** (radio transmitter port) connects to the **sound card input**.

After you get it hooked up right, recheck polarity and levels of transitions (COS/PTT, etc.). Also set audio levels.

It's even confusing when I read what I just wrote! (But it's correct.)

[BACK to last](#)

[Menu](#)

Restore From Backup

When/if you want to upgrade from say RH9 to FC3 or CentOS, you need to [backup](#) your node per the usual instructions. Make sure that you put a copy of the irlp_backup.tgz file on your Windows computer so it isn't lost during the new install.

Reinstalling your node software from the `irlp_backup.tgz` file might be possible using WinSCP to move the `.tgz` file from your Windows machine to the `/tmp` directory on the node computer, and then uncompressing the files. However, it is recommended that you follow the instructions on the [new-install](#) page instead. Locate the category that says "**Reinstall Existing Node Number from backup file**". Those instructions are supposed to be the latest available and designed to reinstall from a backup, or reinstall after upgrading the OS. Follow the instructions on that page. You will download the most up-do-date reinstall script from the IRLP servers and use it to properly restore the node software. If you added custom functions to your node, some of them may need a little massaging to work again. This is normally not needed, unless you have modified or added something on the "left side" of the `/home` directory (deeper toward the root).

[BACK to last](#) [Menu](#)

RSYNC

Why to I get this error?

If you've ever logged in via terminal mode and forced an update files command, you've probably seen this error message and wondered what was wrong with your installation. Nate, WYØX has this explanation for us.

From the IRLP group:

```
> My Rsync is old. I get a message as Follows:  
> Client is very old version of Rsync. Upgrade is recommended.
```

```
> Can any one post the pocedures on how to upgrade it to a NON  
Linux type person? Thanks
```

The error message you are seeing is because the IRLP **servers** have a newer version of `rsync` installed, but there are no known compatibility issues between the servers and the nodes which are running older versions.

You can safely ignore the errors completely. Without doing a full upgrade of OS on your node, the error will continue to show up whenever `rsync` is run and pointed at the newer versions on the servers (which we have to keep further updated than the nodes for various reasons), but it will cause no harm.

Nate WYØX

[BACK to last](#) [Menu](#)

Screen Blanker/Saver

Control over the screen blanker can be done with the `setterm` command.

```
As root:
setterm -blank 5
```

This will set the blanker timeout at 5 minutes. A range of 0-60 is accepted, so substitute the number you prefer. Zero disables the blanker.

[BACK to last](#) [Menu](#)

Script not working?

New script installed but doesn't work.

I discovered something recently that solved a few mysteries. After downloading a couple of new scripts from someone, I couldn't get them to run. Permissions and ownership were correct, they just wouldn't work. I might get a file not found, or bad interpreter error.

I use WinSCP and Ultra-Edit for looking at and editing files most of the time. I found that by adding a simple # comment line to one of the files and saving it made it work. I then took the # comment line back out and it still worked. WTF? The only thing I can figure is the old caveat that you hear from the old-timers is indeed correct. Stuff that comes through the Windows world can sometimes get modified in a way that is invisible without a hex-editor and fails to work afterward. When I loaded the script and added the comment, Ultra-Edit simply cleaned it up and then it worked. As an experiment to prove that point, I opened the second "broken" script with pico -w and resaved it (Control-O). I did not edit the file, just opened, resaved, exit. It worked. Note that just opening the file for inspection won't clean it up. You have to actually resave the file. That's why opening it in Ultra-Edit while looking for the error didn't fix it. I actually had to make a change so that the file would be rewritten. The same is accomplished in pico by Control-O without editing anything.

[BACK to last](#) [Menu](#)

Services

What services are running?

```
At the prompt:
ps auxw
```

[BACK to last](#)

[Menu](#)

su or su -

How to switch (set) users

The su command can be used to temporarily "become" another user. If you are logged in as repeater and need to do something as root, no need to exit and relog. Just su root. If you use the -, you have all rights of that user, as if you are that user. You'll log in and have access to everything in his home directory. Examples below.

As repeater:

```
su - root
```

Logs you in as root and loads the environment for user root.

As root:

```
su - repeater
```

Logs you in as repeater and loads the environment for user repeater.

To log out, simply type exit. This will take you back to where you came from (but isn't teleportation). 😊

[BACK to last](#)

[Menu](#)

Tail Command

Monitor a log in realtime

The tail command reads the last 10 lines of a file. By adding a command line switch, it will continue to output new lines as they appear in realtime.

As repeater:

```
tail /home/irlp/log/messages
```

will read the last 10 lines of the file and then exit to prompt.

But, by adding a -f switch, you can watch the node's log file activity in realtime.

As repeater:

```
tail -f /home/irlp/log/messages
```

Use **Control-C** to exit the tail program.

More than 10 lines can be read by adding another command line switch.

```
tail -f -n20 /home/irlp/log/messages
```

will read the last 20 lines of the file and then keep running to read realtime input.

Other logs can be monitored the same way
(such as system log - as root: tail -f /var/log/messages)

In case you should need it, you can read the *first* 10 lines of a file with the *head* command, same syntax as above for reading more than 10 lines.

(As repeater: head -n20 /home/irlp/log/messages to read the first 20 lines of the log)

[BACK to last](#) [Menu](#)

Troubleshoot-IRLP

There is a new troubleshoot script that does a more thorough job of checking ports to be sure they are open, as required. Also note that the new script checks for echo-irlp ports. You can just ignore that portion (Test 2c) when it comes around if you don't have e-irlp.

Make sure node is not connected to another node or a reflector.

As repeater (and demonstrating different ways to access the scripts folder):

```
./scripts/troubleshoot-irlp
```

Note the period at the beginning of that line.

or:

```
$SCRIPT/troubleshoot-irlp
```

or:

```
scripts/troubleshoot-irlp
```

or:

```
troubleshoot-irlp
```

Note: For a few months, the new script was called new-ts. The new-ts routines have now been folded into the old script. Now, you can call the old script name, just as all of the older documentation instructs you to do.

Note: If the troubleshoot script reports your environment file being corrupt, do you have echo-IRLP installed? If so, that is the cause. If echo-IRLP is not installed, you should restore it from a backup, or inspect it with an editor for errors.

Sometimes, you can correct errors created by faulty editing on a Windows computer by simply rewriting the file. See below.

As root:

```
pico -w /home/irlp/custom/environment
```

Then, save the file with control-w, save with the same name, control-o to exit. Do not edit anything while you are in the file. Just resave it and then exit. Resaving it may strip the illegal character out of the file.

[BACK to last](#)

[Menu](#)

Update Information On irlp.net Status and Info Page

Now and then, someone asks of the IRLP Yahoo Group:

```
> Where do we direct updated information about our node, most  
> specifically updating the "Public Node Access procedures,  
Coverage and  
> other info:" section of our status page?
```

If you're installing a new node, it will be obvious, because the instructions tell you just what to do. But, if you're an "old timer" at IRLP and just needing to change some of the information on the old page, you probably don't remember how to do it, and wouldn't go looking in the "[New Installs](#)" section of the web page.

If you are at the same IP address that your nodes sits on, you can use your favorite browser to change the information directly at <http://status.irlp.net:15427/updatenode>. You can also do it directly from the node console (remote or local) by using Lynx.

```
lynx http://status.irlp.net:15427/updatenode/
```

"If you cannot get on from the same IP address as the node, you can e-mail update requests to database @irlp.net, but e-mail updates will only be accepted from the current registered contact for the node."

Thanks to K9DC for reminding us of the right way to get this done.

[BACK to last](#)

[Menu](#)