

IRLP Node Software

Installation Manual

For ALL Board Versions
For CD Versions 5.00 and Higher

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1 *Introduction*

With the advent of 4 digit node numbers, we are now able to offer an automated system, which allows you to install your own node. This system is currently supports both new installs and re-installs at this time. If you are performing a re-install from a backup, please refer to the specific instruction document.

The process is simple. Just follow these easy steps, and within a few minutes you will have performed the install, and your new security key will be sent to IRLP for approval.

You are going to want to have the following information on hand before the install:

1. The callsign of the IRLP node being installed.
2. The callsign of the person which appeared on the node order form.
3. The full name of the person which appeared on the node order form.
4. Approximate order date.
5. The email address you want correspondence for this node install to be sent to.

If you already have your soundcard operating correctly, you can skip the next section.

2 *Installing Sound Card Drivers*

Since the recognition and installation of PCI based devices is usually automated, your sound card is likely already installed and working. However, it never hurts to re-run the configuration program.

NOTE: - If your soundcard uses an ISA bus slot to connect to the computer, you will need to be running CentOS 4.X (CD version 7.XX) to use your sound card.

2.1 Using the alsacnf program

Installing your soundcard drivers when is performed by using the alsacnf program. To test your soundcard, plug a pair of headphones into the line or speaker output of your soundcard before you begin the tests.

Step:

1. Log on as user root
2. Type alsacnf

The process is very automated. After pressing OK at the welcome screen, the computer will test for most common ISA cards (on CentOS 4.X and older) and all PCI based cards. This process can take several minutes. Once the script has finished the detection process, you will get a choice of detected sound cards, or a selection to probe for ISA based legacy cards.

If the sound card is shown in the list, highlight it and select OK. Skip the next paragraph about ISA cards.

If the sound card is ISA and not shown in the list, select **legacy** and press enter. It will warn about instability, choose YES to continue. Unselect any cards that you a SURE that you do not have installed, and choose OK. It will ask if you want to try all IRQ/DMA combinations, and you should select YES. Your card should be found and installed. If not, you can play around with the settings, or try a PCI sound card. If detected, continue.

You will be prompted to add entries to the /etc/modprobe.conf file. Select YES. The system will then inform you that the mixer will be adjusted, and a sample wave file will play.

That's it! Your sound card should now work for IRLP.

3 *The Install Script*

3.1 Downloading the Install Script from Server

With the advent of automated installs, the installer automatically placed a file into the /root directory called “get-irlp-files” which will automatically download and run the install or re-install programs.

To run the script, type:

```
/root/get-irlp-files
```

The script will obtain the latest IP address for the IRLP.net server, synchronize your computer clock, and download the install files. If you get any errors while running this script, please follow the directions given on your screen.

NOTE: If the get-irlp-files file does not exist, there are likely several automations that were missed during the install. To continue installing the IRLP software, please perform the steps below:

To manually download and run the script, perform the following steps:

Log in as user root, and type:

```
cd /root/  
ncftpget ftp://ftp.irlp.net/pub/install/irlp-install  
sh /root/irlp-install
```

If you receive an error like ftp.irlp.net: unknown host, this means your DNS servers are not setup correctly. Please revisit the software install “Setting up your Ethernet card”.

3.2 Running the Install Script

The script must be run as user root, as it does several modifications to the system to allow the non-privileged user “repeater” access to the parallel port and sound card. **Your node number will be generated for you based on your geographical location.**

This section will follow each possible step, and explain errors that may happen. The most important rule while installing the node is to **MAKE SURE** you **FOLLOW DIRECTIONS**. This will make sure you don't do something that may make your node unusable.

During the install process you will be asked several Yes or No questions. You will be prompted with (y/N) or (Y/n). You can type either “y” or “n” (lowercase), or if you just press enter, the capitalized choice will be chosen. (example : Pressing ENTER when you see (y/N) will answer NO)

On successful execution, you will see text explaining what the script does. Press ENTER to continue.

The script now performs a series of checks to make sure the following are installed and working correctly.

1. Supported IRLP Linux version.
2. Connection type (Ethernet, PPP).
3. Whether you are behind a firewall or not.
4. Sound Card detected correctly.
5. Existence of required awk, sed, lynx, ncftpget, and pico/nano programs.
6. Checks to make sure your hostname resolves, and if not, prompts to add a line to your hosts file.
7. Detects if your IP is assigned by DHCP behind a router and sets your IP static.

You may be asked to confirm a few things in the above checks, or the script may exit if there is a problem detected. If you installed all of the required packages for IRLP, and are running a properly installed Fedora Core 3 or CentOS system, there should be no problems. If you do run into problems you cannot solve, please contact installs@irlp.net for assistance.

You will then be prompted to enter the following information:

1. The callsign of the IRLP node being installed.
2. The callsign of the person which appeared on the node order form.
3. The full name of the person which appeared on the node order form.
4. Approximate order date.
5. The email address you want correspondence for this node install to be sent to.

Complete this information with the best accuracy you can. This way we can ensure the security of the IRLP network. Installs submitted without the proper info will be rejected. Without acceptance of the PGP key into the server, your node will not function.

Once you have confirmed the information, a call will be made to the IRLP install server to determine your node number. ALL NODE NUMBERS are now randomly generated, based on your geographical location. You will see a list of locations, each with a lowercase letter beside them. Choose the letter which best represents your location. If you make a mistake, you cannot go back, and you have to contact installs@irlp.net to reset your node number in the install server.

A randomly generated node number will now appear. Write it down somewhere safe, as it will be required for future operations. Once you press enter, you will see the following text: (of course with a different call and node number)

**** Setting up IRLP node with callsign ve7ltd and stationID stn1234 ****

If there is any problem with the install, you should be able to run irlp-install again if required. Press ENTER to continue, or CTRL-C to exit.

After this point, the script has received all the information required for the install. If something does not look right, use CTRL-C to exit, and start again. Remember that even if you run irlp-install again, you will still get the same node number, as long as your node's IP address does not change.

Once you press ENTER, the magic begins. The compressed install files will then be downloaded from the server directly, and you will be ensured the most up-to-date system.

You will see a bunch of text flashing across the screen, and you will be prompted to press ENTER once the files have been downloaded and installed. If there is an error during this step of the process, they will cause the script to exit. If after running the script a few times, you get the same error repeatedly, please report the problem to installs@irlp.net

The next step in the process involves setting up your PGP key. You will be required to enter random keys by pressing several keys at once on your keyboard to seed the random number generator. Once completed, you will hear a beep. If the key generation was not successful, you will be asked to start the key generation again. If successful, the script will continue.

The environment file is built, file permissions are set, and a final update of the filesystem is performed. This may take a while on dialup systems, or systems which installed IRLP files from CD. A few patches and checks are run.

Your node sends the key to the installation server for submission into the keyring. If you have not heard from the installers within two days, please send us an email to installs@irlp.net asking about the status of your PGP key. The email account you specified during the install is used for correspondence, so if within 48 hours you have not received a key confirmation email, there is a chance you entered the wrong email address.

The keys must be verified before installed, and this process can take from 24-48 hours. Please be patient.

Once your key is installed, you need to perform the steps in the "What to do After the Installation" document located at <http://www.irlp.net/new-install/>

You will not be able to contact any nodes and will not receive audio from the reflectors until your key is installed. Once your key is installed, you will be able to make calls to reflectors within an hour, and calls to other nodes within 24 hours. During the wait, you can use the echo reflector to test and ensure your node is operating properly.

If you have any questions or comments about this document, or the install process of your IRLP node, please contact the installs crew at installs@irlp.net