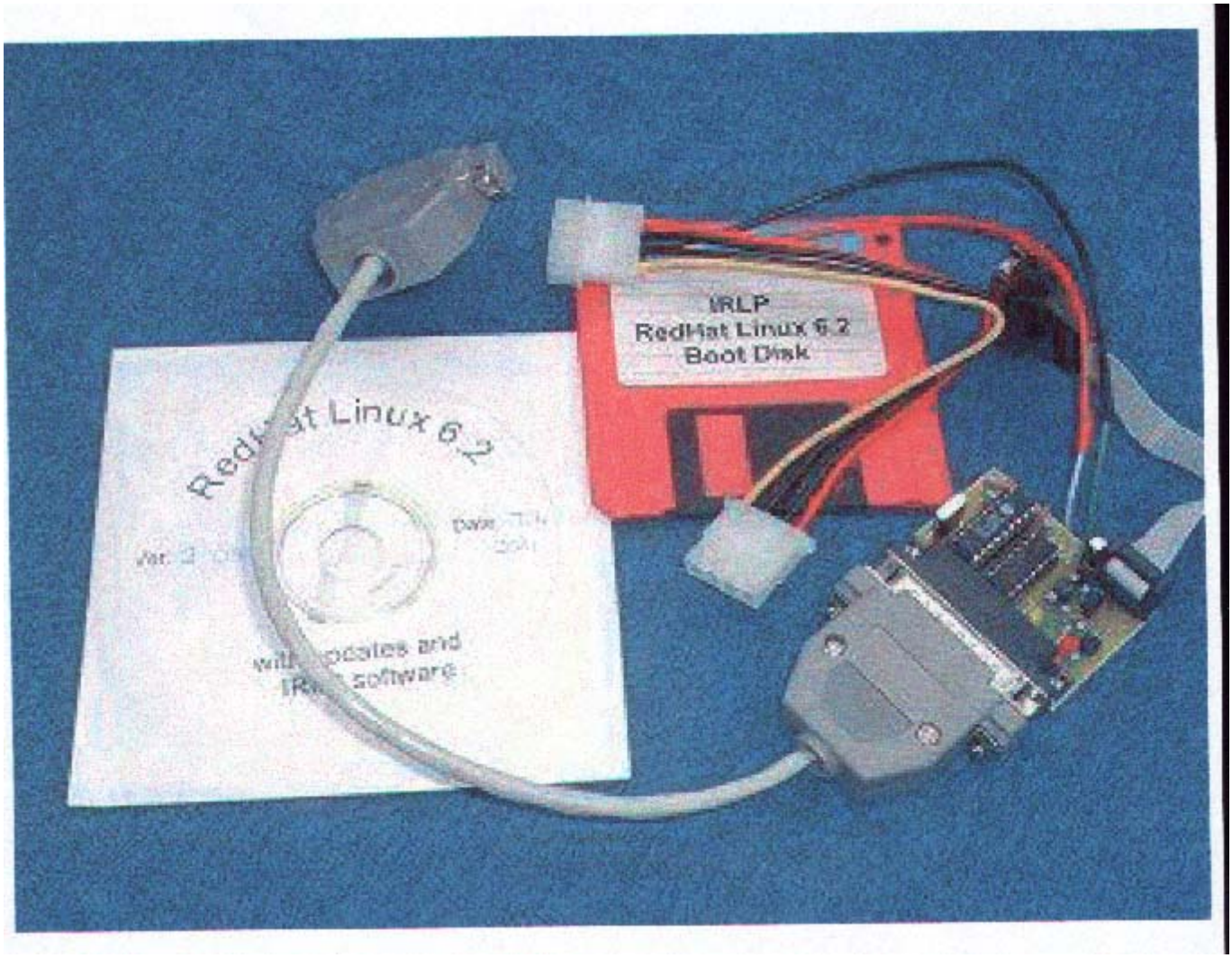
United Kingdom Internet Radio Linking Group

UKIRLP Group

UNOFFICIAL
IRLP INSTALLATION GUIDE



Compiled by Peter Goben G4BVV

Draft Document Not For General Release

Foreword by G4BVV

This document is not complete and probably never will be! It is not meant to be a replacement for the official install document, but rather to enhance it and make life a little easier for those not familiar with the Linux operating system.
There are many things that need to be included and will be when I get the time however, there seems to be a demand for release of the document at this time and therefore I have agreed to do so.
If you find any errors, think the document useful or would like anything adding please let me know.

I would to thank the following to their contribution to this document :-

- G0EPX – repeaters and link radios
- M1ERS – linksys routers and networking
- G3ZHI – testing the procedures laid down in this document
- G0HLJ – writing an article on networking without a router, this is not included in this document yet but can be viewed on the website www.ukirlp.co.uk

Finally this document is not intended for general release, but is intended for potential node owners only. Updated versions will be available on the website above but will be password protected, contact the webmaster via the webpage to be issued with the necessary password.

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Installing IRLP

Ok so you want to install IRLP and get a node going, before you start or even order your board there are a few things that you should know first.

1. IRLP runs under Redhat Linux 6.2 and it will not run under Microsoft or any other operating system, *IT MUST BE LINUX* - Linux is a free operating system and is readily available from IRLP for a minimal cost to cover copying and postage.

2. Don't be afraid of Linux it really is easy to install, in any case if you follow the steps detailed below you should have no problems, but first of all down load the following documents from the URL's indicated.

    a) http://www.irlp.net/18-newnode/install/installv2.htm
    b) http://www.irlp.net/18-newnode/install/afterinstallv2.htm
    c) http://www.irlp.net/18-newnode/install/otherdocsv2.htm

The above documents contain the instructions to install and get running Redhat Linux and IRLP but only in a text based manner, however many people have installed systems using the graphical interface, most users will be familiar with this as the end result is similar to MS Windows, however you should still download the above documents as you will still need much of the information contained in them.

Instructions for the installation of the graphical interface are given later in this document.

3. The computer used to run the irlp node is nothing special but it must conform to a minimum specification and that is: -

    - Clock speed equal or greater than 75 MHz (Pentium) or 100MHz (486)
    - Minimum 0f 16 Megs RAM (32 Megs recommended)
    - 1.44 Floppy Drive **
    - Dedicated Hard drive (IDE or SCSI) capacity 800 Mbytes or greater
    - Video Card
    - Monitor (MONO, VGA, EGA) **
    - **Creative** Sound Blaster (or Vibra) 16, AWE32 or AWE64
    - **Linux Compatible** Ethernet Adapter (only if you are on a Network)
    - **Linux Compatible** Modem (only if you are on a dialup), an external modem is ideal.
    - ***Note: - win modems will not work!!***

** Not required after the install (its up to you)

Cable Network System

If your computer is connected a cable or similar system then do ensure that your linux compatible network card is installed in the linux box before you start the software install, linux should automatically detect and load the driver module during the install, if this is a home networked system that you are setting up and are wondering how to go about it, then I can tell you that most of our members have purchased a four port linksys router which is connected after the cable modem, each port the feeds a single computer as indicated on page 6 (but you don't need a router as such – see later)
If you need help in setting up such a system then contact M1ERS, Steve on IRLP node 512 or E-mail him at stevem1ers@blueyonder.co.uk and he will be pleased to help.

How To install the "Linksys Router - BEFSR41" For IRLP

29-Apr-02 by M1ERS

1. **First put the WAN plug from the Modem into the Wan on the rear of the Linksys Router and then put your Cat 5 Cable from your network card on your windows computer to port 1 on the router, put the Cat 5 from your Networking card on the Linux Box (Node) Computer to Port 2 on your Linksys Router**

((all Cat 5 are straight though cables))

2. **Connect the power cable to the rear of the router, the power LED will illuminate green as soon as the power adapter is connected, the Diag LED will Illuminate red for a few seconds while the router goes through its diagnostic test, the LED will turn off when the self-test is complete .**

3. Turn on the power **to the Cable or DSL Modem and then press the reset button on the front of the Linksys router, hold the button in for 3 seconds or until the diag LED illuminates red, this restores the routers default setting**

4. **Now open your Browser and type in 192.168.1.1 and this will open up a Password screen on your Linksys Router (you can put a password later), for now just enter "ADMIN", this is the default password for the router.**

At the set up screen scroll down and you will see :-

"Obtain an IP Address Automatically" - look for the dot at the side of this and then go to the bottom of this screen and click Apply.

Now go to the top of this screen again and you will see "advanced tab", **click on this and look for the "MAC Clone" tab at the top of this page and** ***click on it, you will now need to put the Networking Card "Mac Address" of your windows computer into this box and click apply.***
Now you will see "forwarding" at the top of this screen, click on this.

Port forwarding can be used to set up public services on your network.

The ports required for IRLP are:-

Port 22- 23	**TCP**	**192.168.1.xxx**
Port 2074-2075	**UDP**	**192.168.1.xxx**
Port 15425-15427	**TCP**	**192.168.1.xxx**

It will look like this when you have put the ports in

And your LAN IP will look like this EG 192.168.1.101

The address will depend on which computer you are using for your IRLP Machine . you can find this information in the DHCP Screen at the top of your screen, if you are in the screen for port forwarding, go to the top and click the "set up tab" and then look for the "DHCP" tab, click this and then go to the bottom of this screen where you will see "DHCP Client Table", click this and you will see listed all of the computers on your network and

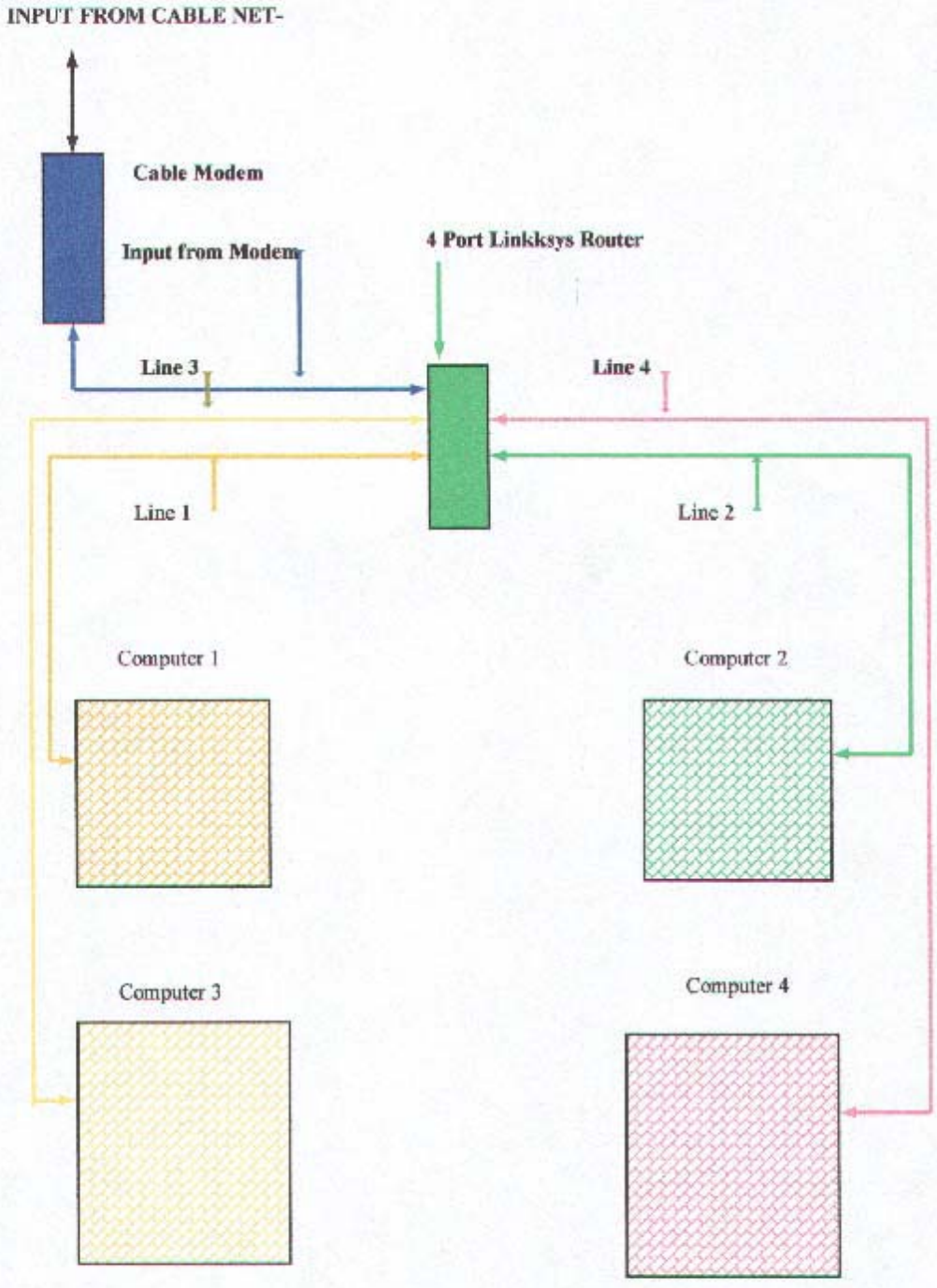
their LAN IP addresses, It will show your call sign on the one, which you are using as your IRLP Node .

When you have done all the ports and cloned your Mac AD this is all you need to do on your Linksys Router for IRLP.

If you need more help in setting up your Linksys router call UKIRLP or drop me an email to Stevem1ers@blueyonder.co.uk

Now Have Fun on your node !!
73 from ukirlp Group

Connecting up a simple Cable Network using a Linksys 4 Port Router



Radio to irlp interface

You will also need a suitable link radio with a cos output or will need to adapt the radio (the data port which is usually used for packet and which is fitted to most modern rigs can be used) the diagram of a suitable link cable is given later in this document.
If your rig does not have a data port then you will need to use the mike connector and find a way of getting audio from the rig, if you don't have a cos output, you will have to also have to find a method of converting the audio output to cos output, on some rigs you may find an audio output in the mike connector (consult your manual)

If you intend to put the node onto a repeater then other matters need to be taken into account, all hang times, courtesy beeps and call signs etc need to be prevented from accessing the irlp system, this can be achieved by using a ctss tone squelch system which drops the ctss line when the input signal of repeater is dropped, the link radio must drop the cos line to enable the squelch to drop out, many amateur radio transceivers do not drop the cos line (including my Kenwood TM-G707) and are not suitable for use with IRLP-repeaters without modification, although they are suitable for a stand alone simplex IRLP node. (See the contact list at the end of this file for further help)

The link radio used on our local repeater is a modified pmr radio Tait T199 fitted with appropriate crystals

I.R.L.P AND U.K REPEATERS – by G0EPX

The normal operation of U.K. repeaters is as follows: -

1) The operator accesses the repeater with tone burst or ctcss (tone burst is priority), When the PTT is released the logic pauses for 400mS (to allow other operators to break in) followed by "k" in Morse
2) Now the hang time 1-30 seconds (10 seconds typical) this is to allow operators who do not have tone burst or ctcss to keep the repeater going before close down.

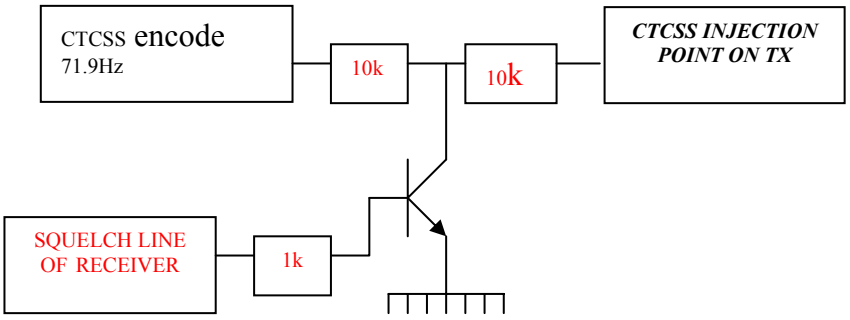
I.R.L.P The requirement for correct i.r.l.p. Operation is that when the operator releases the PTT there is no more than 500mS before the c.o.s. Line on the I.R.L.P receivers link closes, this is fine with a simplex link but when a repeater is in line more consideration is required.

What happened to GB3DV and NODE 513

The first thing was to re-program the logic so that there was no close down and the hang time was minimised (2 seconds). The first thing that happened was the local users stopped using the repeater because they had no tone burst or ctcss (not a problem just whistle at 1750hz) so using it for normal operation is difficult because of the short hang time.
When NODE 513 was connected all seemed ok until reports of long hang times (2.4 seconds) and when certain nodes were linked, lockup started to happen and a pinging effect across repeaters through the net due to the hang time (2.4 seconds).
Well we could remove all hang time, pips, close down BUT only user with ctcss would be able to use it (Not very friendly is it), As I explained before all U.K. 2m and 70cm repeaters have to have primary access by tone burst, Its also nice for a repeater to be easy and friendly to use.

The Solution using CTCSS

The first thing that we did was to enable the repeater (GB3DV) to enable the transmitter to use ctcss (71.9Hz) but only when the squelch line of the repeater was closed.
A CTCSS encoder board was fitted in the repeaters transmitter, with a transistor mute switch on it's output and controlled by the repeaters squelch line as per diagram 1.



On the first attempt we used an adjustable delay between the squelch line and the transistor but was removed later as the delay from the Internet was sufficient.

The link radio

The link radio was fitted with CTCSS encode & decode boards. The output of the CTCSS decode board was fitted to a data connector (C.O.S. line) along with line-in, lineout and PTT.

When all the system is in use and a user closes his/her PTT the repeater hears the carrier and the squelch line closes, this enables the TX ctcss and the transmitter goes to TX with ctcss enabled. The link radio hears the ctcss and the C.O.S. line is closed

When the user releasers the PTT the repeaters squelch is open so the TX ctcss is switched off and the link radio opens the C.O.S. line. The repeater my still be on transmit by the internal logic but as far as I.R.L.P goes the C.O.S. line is opened and closed with no hang time.

Note if you use this system remember always to do a pulse check and re-adjust your TIMING settings if necessary.

Installing the Software (*refer to section 2.2 of the IRLP installation document)*

The software should be installed from the Redhat 6.2 cd obtained from IRLP when you bought the IRLP Board.

This cd also has the IRLP software on it and may be required to be left in your cd drive when the **irlp installer carries out the final installation**.
If you don't have an installation disk then contact the **UKIRLP** group for a copy (the cost is the price of a blank cd plus postage), however we do encourage people to obtain a copy from IRLP in Canada when the IRLP board is purchased, as this will have the latest updates installed on it.

If your computer is capable of installing direct from a cd, then set it up to do this in your bios configuration CDROM, C, A) then insert the installation disk and boot up, If you cannot boot direct from cd then you will have to insert the cd and boot floppy and ensure that your system is set-up to boot first from floppy and then from hard drive in the bios. (A, C, CDROM)

When you have booted the cdrom, at first screen just press enter and at welcome screen also select enter.

Now we are at the language screen, select **ENGLISH** and press **enter**.

At the keyboard configuration screen select your keyboard model and for layout select **United Kingdom** and then select **ok**, at the mouse screen select your mouse or just accept the highlighted selection and click on **next.**

At the next screen select **next** you are then presented install options, click on custom and then select **next**.

The next screen is **Partitions**, we now must delete all existing partitions, in the top part of the screen ***hda1*** will be highlighted, simply click on **delete** with the mouse, when asked "***are you sure***" click on **yes** and it will be deleted, do this for all existing partitions.

We now need to **add two new partitions**, click on add and for size enter **32 MEGS**, for partition type select **LINUX SWAP,** ensure that grow to fill disk is **not** selected and then press **OK**, your swap drive will be added.

Now we must add a data partition, so click on **add**, for mount point select **/ (slash)**, for size select **500**, ensure that grow to fill disk **is** selected and for partition type select **LINUX NATIVE.**
Check that all is correct as detailed above and click on **OK**.

At the next screen ensure that check for bad blocks is selected and choose **next**, you will be presented with the LILO configuration, just accept the suggested configuration and click on **next.**

At the next screen select your time zone ***Europe/London Great Britain*** and click **next**.

Now we are at the account configuration where we need to configure accounts and passwords.

Do not forget your passwords – write them down and keep them in a safe place – ***especially the*** **ROOT *password***.

Now, first enter the root password and then re-enter the password in the confirmation box – "**root password accepted**" should appear – if not, you have made a mistake so try again until successful.

Note that a minimum of 5 characters is required and can be numeral, text or a mixture of both.

Next proceed to account name and enter "**repeater**" all in lower case, then enter a password, then confirm your password in the confirmation box, next enter your full account name (**Repeater** in this case) and then click **add**, the account name and full name will be written to the window below, if you wish at this stage you can enter an account for yourself by completing the account section and clicking add, when you have finished adding accounts click on **next.**

At the next screen ensure that only **Enable shadow password** is selected and click on **next**.

You are now invited to select the packages to install, select only the following unless you know better.

Xwindows system
Gnome Workstation
Mail/WWW/News Tools
Multimedia Support
Networked Workstation
Dialup Workstation
Network Management Workstation
Development
IRLP Typical Install

At the unresolved dependencies screen click **next** and you will then be asked to configure your monitor, if your monitor is shown in the listings please select it, if not choose generic and click next, at the following screen you are asked to select your video card, one may be selected for you, if so click on **test configuration,** the screen may go blank for a few moments and then a small window should appear asking if you can see the window, if so click on **yes**, you can at this stage accept the configuration if you wish, or you can click on "customize X configuration" and set up the X windows manually.(if the set-up asked if you want to start Xwindows automatically at boot up, answer **no** (it is preferable to start x windows manually at this stage)

Be careful if you choose manual configuration – you could damage your Monitor and Video card, if the screen goes black and/or garbled for more than 10 seconds press "cntrl – alt – backspace" all together and you should return to the previous screen.
After clicking on next, the formatting of your hard drive will take place, ***this may take some time especially if it is a large drive***, and don't forget its looking for bad blocks too, be patient, now is probably a good time to go and get that cup of tea or whatever.

Once the formatting is done the software will be loaded and you will see the progress on the screen, after this is completed you are invited to make a boot disk, please do so because if you cant boot Linux from your hard drive at some time, you may be able to do so from your boot floppy, so make a boot floppy, label it and keep it in a safe place.

OK, now we have finished installing the software you can just press enter, the system will now close down, eject your cdrom and reboot (don't forget to remove the floppy if you used one), when rebooted you will get a prompt saying "**Localhost: login**" or similar.
At the prompt type **root** and at the password prompt enter the password for the root account you chose earlier, the prompt will change to "**Localhost /root**", or similar.

Configuring the Software

Before we actually begin the configuration we need to gather a few more details to ensure the installation goes smoothly.

1. What type of internet connection do you have i.e. dialup, cable or whatever

2. Are you part of a network behind a router or/and a firewall

3. Is your internet address fixed or dynamic

Dialup or Network

Network configuration only.

After you have installed the software, if you are on a network then just follow the instructions given in the documents named **"IRLP Installation Document ver 2**", sections 2.3, 2.4 and 2.5 (which you downloaded earlier) the sections are: -

2.3 RUNNING LINUX FOR THE FIRST TIME
2.4 SETTING UP YOUR ETHERNETCARD
2.5 CONTACTING IRLP (see appendix 1 to this document re additional info required)

However, ***DO NOT*** set up another account for user repeater as this was done earlier in the install.

Dialup modem configuration only

If you are on a dialup and have carried out a graphical installation then please follow these Instructions.

Before we start up the windows for the first time it is necessary to carry out the next part of the installation in text mode, don't worry its quite straight forward.

Just follow the instructions given in the documents named "**IRLP Installation Manual ver 2", sections 2.3,** (which you downloaded earlier) the section is entitled: -

2.3 RUNNING LINUX FOR THE FIRST TIME

However, ***DO NOT*** set up another account for user repeater as this was done earlier in the install and secondly when running ***Linuxconf*** *do no*t disable **XFS** or your windows will not run.

Setting up your sound card

Having completed the above we have one more task to do in text based mode and that is to set up our Sound card.
At the login prompt type **root** and then enter the **root password,** then at the prompt type **sndconfig**, if your sound card is plug and play then sndconfig should identify and configure it.

If sndconfig cannot identify the card then a list of supported card will be presented, so select your card from the list by highlighting it and then press the ok button and press space.
You must now enter your cards Port, IRQ and DMA settings in the pop up dialog box, you may have to experiment with the settings before you get the right, once the correct settings have been found a sound test will be run to verify that your card is configured correctly (of course you must have your speakers plugged in), once your soundcard is configured correctly you can quit sndconfig and logout by simply typing *logout* at the prompt – that's it we are finished in the text based part of the install.

Now we are going to start up the Xwindows system which looks rather like MS Windows. So at the prompt type "**repeater**" all in lower case to log in and then type the *password* for **repeater** when asked, and finally type "**startx**", windows will then start up and you will then be presented with the Gnome desktop.

When it has finished loading the first thing to do is get rid of all the windows that have opened, we do this by left clicking with the mouse button on the small "X" in the top right hand corner of the windows, when you have done this you will be left only with a task bar at the bottom of the screen and the icons at the left hand side of the screen, put your cursor over the footprint icon on the left of the taskbar and select **logout,** a window will appear offering several options, select **save current setup** and then select **logout** and click

on **yes** with your left mouse button and you will be returned to the bash prompt, enter **startx** and windows will restart without the previous clutter.

Now we are going to set up our modem (***remember that win modems will not work***), if you have an external modem make sure that it is switched on and that the telephone line is connected, if the modem is in internal modem just ensure that the line is connected.

Locate the footprint icon in the taskbar, left click on it and you will be presented with the menu, move your mouse cursor over the "**Internet**" item and then onto "**Dialup Configuration Tool**" and left click on it, a window will then open up requesting the **ROOT** password, enter the *ROOT password* you chose earlier and press **enter**, now the configuration wizard will open, the first thing it will do is search for and configure your modem, you will then need to enter the details for your ISP, when you have completed the details I suggest you click on the debug button and let the modem connect to your ISP if it fails first time, then check that you have entered the correct details and try again.

Now its time to install the irlp board if you have not already done so and sort out a link cable to interface the radio to the board see sections **3.1, 3.2, 3.2.1, 3.3,and 3.4** of the **IRLP Installation Document ver 2.**

A link cable suitable for interfacing is detailed below, as shown; ***this cable is suitable only for version 2.1 boards*** and will need modifying for earlier boards.

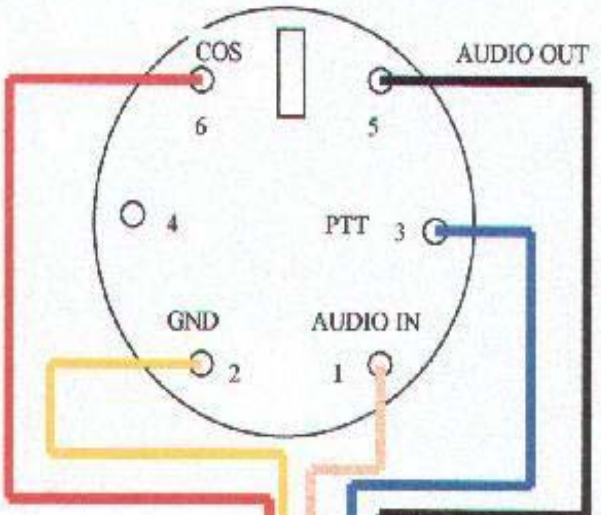
The cable can be constructed from a 6 pin mini din extension cable made for use on video's, I picked them up for £1 each at rallies, but before you buy make sure that the mini-din plus will actually fit into your rig {you may be able to trim of the plastic with a sharp knife to make it fit), my Kenwood TMG707 has rather a deep small diameter recess to the data connector and not all plugs are suitable. Please check your rig manual to ensure that the data port is wired in accordance with the pin details given in the sketch and note that the board rate must be set to 1200bd in order for it to work correctly.

Please note that it is your responsibility to ensure that this link cable is suitable for use on your equipment, the UKIRLP group cannot accept any responsibility for any damage caused to your equipment.

Now that everything is completed you can test the board by following the instructions in section 3.5, 3.5.1 and 3.5.2 of IRLP Installation document ver 2. If everything is ok then carry out the instructions in the document entitled "**What you do after the install**" which you downloaded earlier.

MINI 6 PIN DIN PLUG - DATA CONNECTOR

SOLDER SIDE

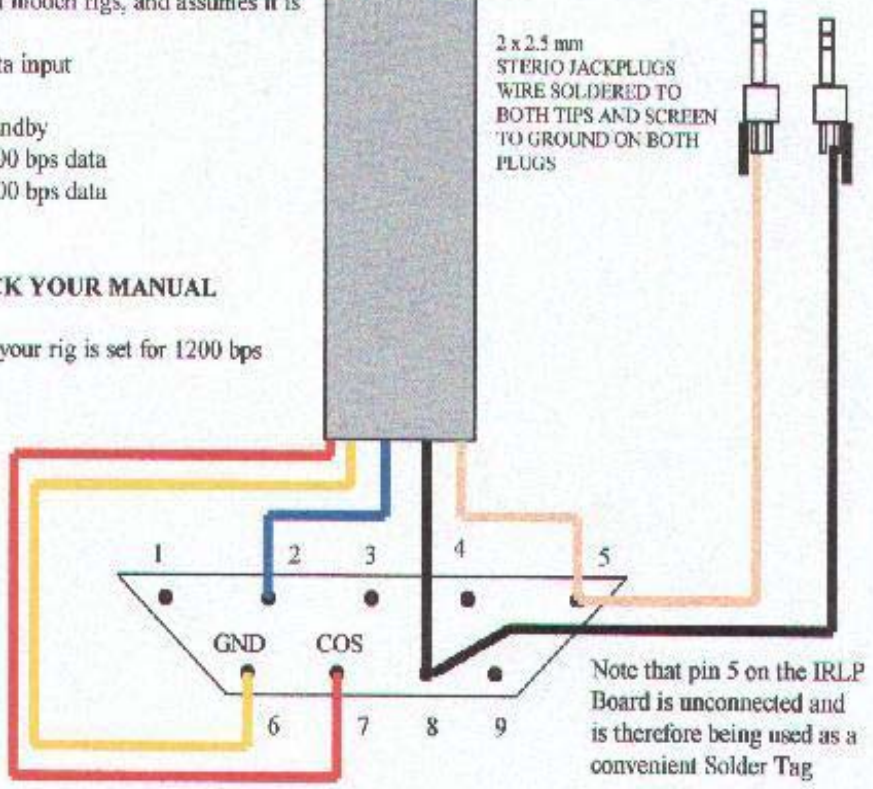


The mini din plug is wired to suit the standard data port on most modern rigs, and assumes it is wired as follows.

pin 1. Packet data input
pin 2. Ground
pin 3. Packet standby
pin 4. output 9600 bps data
pin 5. Output 1200 bps data
pin 6. Squelch.

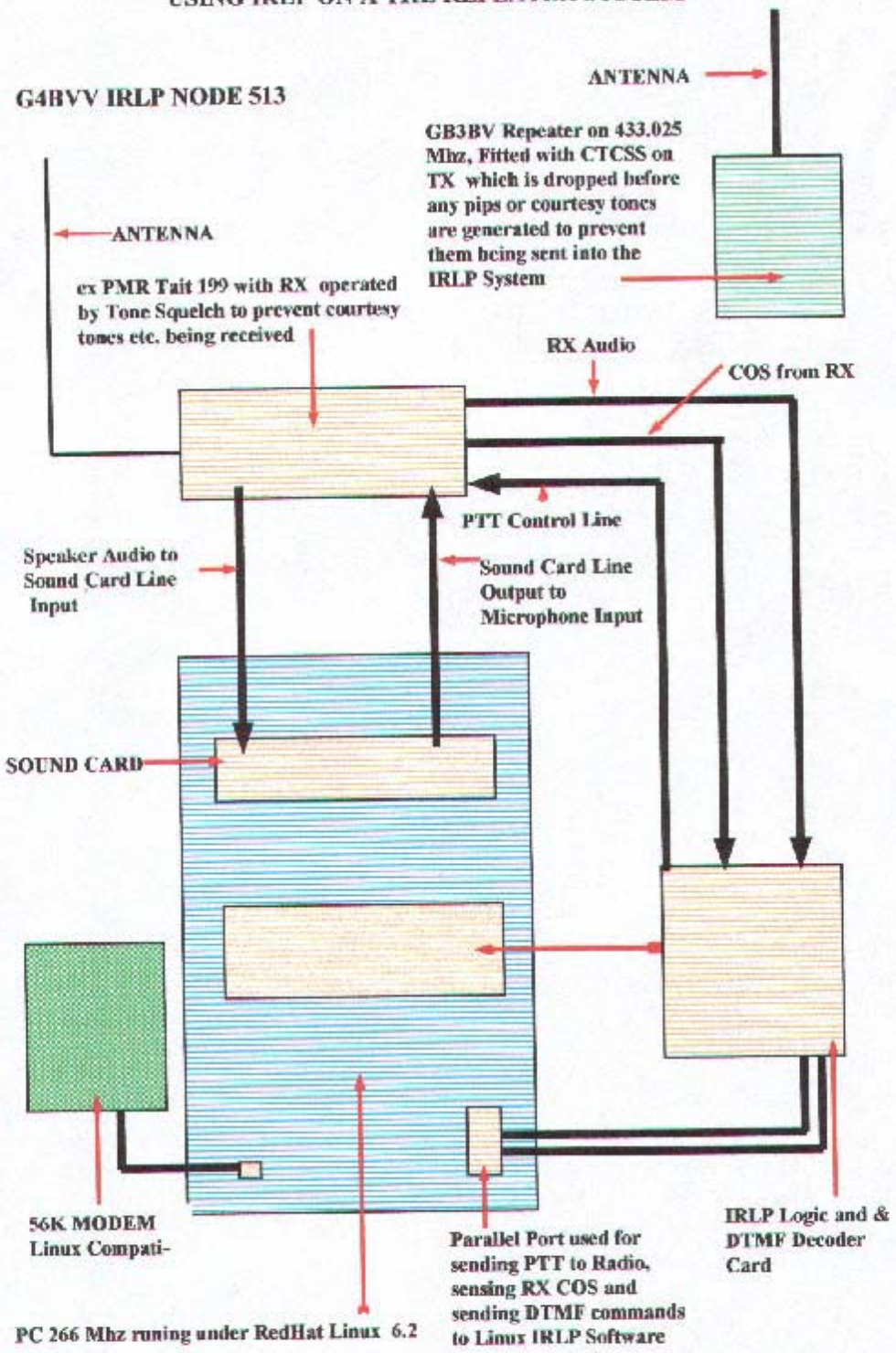
PLEASE CHECK YOUR MANUAL

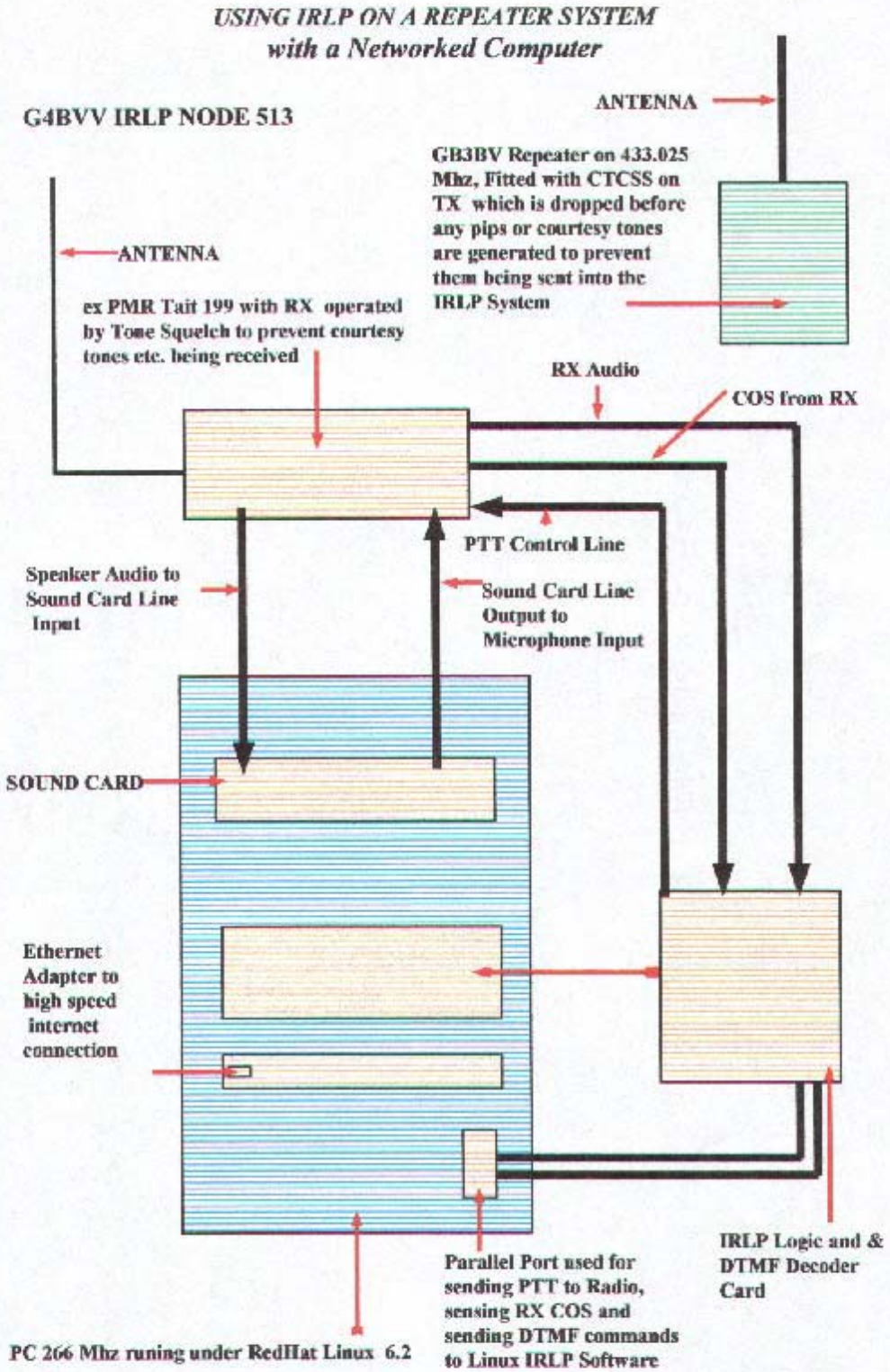
Also ensure that your rig is set for 1200 bps



DB9 IRLP CONNECTER - SOLDER SIDE

USING IRLP ON A THE REPEATER SYSTEM




USING IRLP ON A REPEATER SYSTEM
with a Networked Computer
G4BVV IRLP NODE 513
ANTENNA
GB3BV Repeater on 433.025 Mhz, Fitted with CTCSS on TX which is dropped before any pips or courtesy tones are generated to prevent them being sent into the IRLP System
ANTENNA
ex PMR Tait 199 with RX operated by Tone Squelch to prevent courtesy tones etc. being received
RX Audio
COS from RX
PTT Control Line
Speaker Audio to Sound Card Line Input
Sound Card Line Output to Microphone Input
SOUND CARD
Ethernet Adapter to high speed internet connection
IRLP Logic and & DTMF Decoder Card
Parallel Port used for sending PTT to Radio, sensing RX COS and sending DTMF commands to Linux IRLP Software
PC 266 Mhz runing under RedHat Linux 6.2

Useful Linux Commands

This document has been drawn up to assist IRLP node owners in the administration of their node, it is not a complete set of Redhat Linux commands, those who would like to know more should consider purchasing a good book on Redhat Linux 6.2 such as the O'Reilly book " learning Red Hat Linux" Please note that I am not a linux guru – these are only commands that I have picked up, mainly from emails and other documents. (**please *DO NOT* log in as root unless you are absolutely sure that you need to, because you may inadvertently cause file ownerships and permissions to change which will affect the running of your node)**

Cntrl Alt (F1 to F6) will give you a text-based window where you can issue commands.
Cntrl Alt F7 will get you back into the GUI (windows)
Cntrl Alt Backspace will safely shutdown Xwindows, you can then issue "startx" to start windows again
Cntrl Alt Del will safely reboot the system

- Windows is referred to as Xwindows in linux jargon (or Graphical User Interface – GUI)

Only shutdown the system by pressing the power on/off button - **in an emergency - when all else has failed**. `
If you can't shut down windows for some reason, first try the ***Cntrl Alt Backspace*** command, if that fails Then try pressing ***Cntrl Alt F2*** if that puts you into a text window then issue one of the following commands after logging in as root.

- ***Shutdown –r now*** this will reboot the system
- ***Shutdown –h now*** this will power down the system without rebooting

If you cant get out of windows or shutdown by any of the above methods then press ***Cntrl Alt Del*** and wait a few minutes if nothing happens then press in the power button, wait a few minutes and then turn the power back on,
The system should reboot and do a self-check and all should be ok.

If all is not ok then you will probably end up at a maintenance window asking you to enter the root password or press "Cntrl d" to reboot, so enter your root password and press enter, then at the prompt enter "**fsck /dev/hda1**" (without the quoits) and then press enter, if that doesn't work then try /hda0 to /hda6 (instead of hda1) and note the space between fsck and the /.

Once the correct partition is found fsck should repair the damage, if you are asked to choose an option during the repair, then choose the default by pressing enter each time, once it has finished you should then reboot the system by typing ***shutdown –r now*** at the prompt, the system should now re-boot and things should be back to normal.

If you need to create a new directory somewhere the command is **mkdir** (make directory), so lets say that you need to create a new directory in the /home/irlp/audio directory called "custom" in order to store custom .wav files or whatever, then do the following: -

First of all open up a terminal window (click on the monitor icon in the task bar) and then issue the command

Mkdir /home/irlp/audio/custom

Or press cntrl alt F2 and log in as repeater, and then issue the above command

The new dir will then be created.

Type logout at the prompt and then Press cntrl alt F7 to get back to your windows desktop.

Virtual Desktops

When you have windows running, if you look at the task bar you will see a square icon which is divided into four equal squares, each one of these squares represents a separate desktop and you can then run separate programs in each one, for example, the one that is hatched is your current desktop and the irlp windows stuff is running on it, if you click on the square immediately to the right of that one, then the irlp stuff seems to dissapear, you could for example run the irlp status page on there and then its only a mouse click away.

Useful IRLP commands (as user repeater)

If you are in text mode, log in as root then issue the command su – repeater then issue the following commands.

If you are in a terminal window and logged in as repeater just issue the commands.

$SCRIPT/update hosts	updates the host files (you will often get "node not responding errors" when these have not auto-updated correctly)
$SCRIPT/update files	updates files in the IRLP directory
$SCRIPT/ipupdate	updates your IP address to the server
call stnxxx	connects your node to stnxxx
end	Ends any type of IRLP connection
irlp_reset	Drops any active call, unkeys your transmitter, and sets your node idle.
Readinput .	Displays the active read/write status of the IRLP board, decodes DTMF, and shows COS and PTT – CNTRL C exits the program
$SCRIPT/enable	Enables the node from Disabled mode.
Disable	Disables the IRLP node from an enabled Mode.

Passwords

To change the root or repeater password, log in as root and do the following:-

Type ***passwd*** at the prompt and enter the new root password when requested

Type ***passwd repeater*** at the prompt and enter the new repeater password when requested

Customising Your Node

There are many useful scripts for customising your node, these can be found by looking in the Yahoo irlp node owners Group, however many of the existing scripts can be utilised by entering a simple one line script in the custom_decode file, to edit the custom_decode file press cntrl-alt-f2 and open up a text based window, log in as root and then issue the command su – repeater followed by the command pico /home.irlp/custom/custom_decode.

Now you can edit the file and enter your scripts, the one's I use are listed below.

---------- start of file ----------

```
# This is the custom decode file. Make sure all valid codes exit with "exit 1".

if [ "$1" = "904356" ] ; then "$SCRIPT"/disable ; exit 1 ; fi          # this line remotely disables your node with DTMF 904356

if [ "$1" = "71459" ] ; then "$SCRIPT"/enable ; exit 1 ; fi           # this line remotely enables your node with DTMF 71459

if [ "$1" = "73" ] ; then "$SCRIPT"/end ; exit 1 ; fi                 # this line closes down a connection

if [ "$1" = "0" ] ; then "$CUSTOM"/check_irlp ; exit 1 ; fi           # this line checks if the node is on

if [ "$1" = "1111" ] ; then exit 1 ; fi                               # this line stops the DTMF code 1111 closing the node

if [ "$1" = "88" ] ; then "$CUSTOM"/random_call ; exit1 ; fi          # this line connects to a randomly selected node

if [ "$1" = "121" ] ; then "$CUSTOM"/check_announce ; exit 1 ; fi # replays my custom voice announcement

if [ "$1" = "P45" ] ; then "$CUSTOM"/dtmfon ; exit 1 ; fi             # enables the use of DTMF tones

if [ "$1" = "S45" ] ; then "$CUSTOM"/dtmfoff ; exit 1 ; fi            # disables the use of DTMF tones

exit 0
```

---------- end of custom decode file ----------

The above file can be cut and pasted into a file called custom_decode, you can change the DTMF codes to suit your needs but if you want to use all these codes then you will need to download the following script files to your /home/irlp/custom dir and where any wav files are needed these should be placed in /home/irlp/audio/custom (see previous page)

check_irlp
random_call
check_irlp
dtmf_enable

If you need help then please call us via our nodes or give G3ZHI a call on the landline or email us. See the following contact list

UKIRLP Contact List

Publicity and Sales: -	***G3ZHI tel 01709 799911***
g3zhi@hotmail.com	***Node 513 & 521***
Linux Software Install probs: -	***G4BVV***
g4bvv@tiscali.co.uk	***Node 513***
Networking and IRLP: -	***M1ERS***
m1ers@blueyonderco.uk	***Node 512***
Repeaters & Link Radios: -	***G0EPX***
philgoben@lineone.net	***Node 513***

UKIRLP web Site: -	http://www.ukirlp.co.uk
Worldwide list of all Nodes	http://status.irlp.net
More Information about IRLP	http://www.irlp.net (follow the Links)