



Echo Ireland Online User Group



MB71CU Link



EI2IPG Repeater



MB7ILD Link

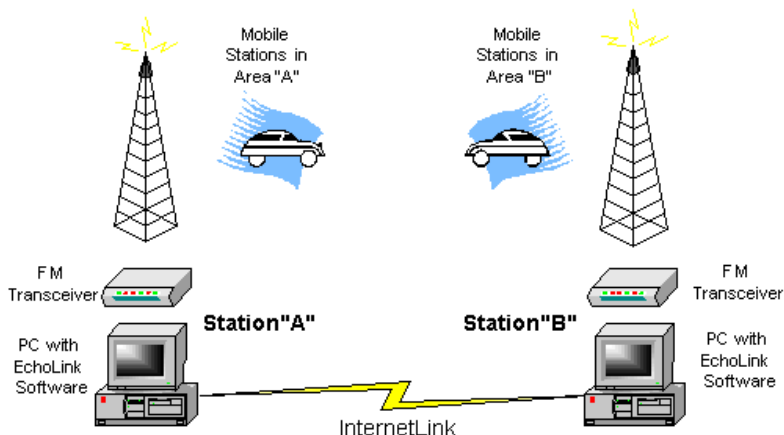


EI0IPG Repeater

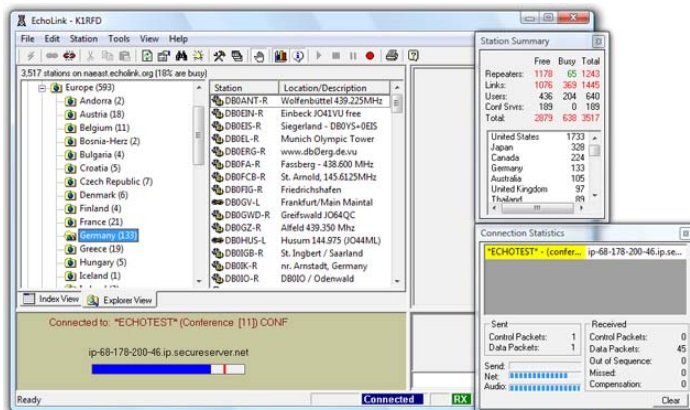
**Your guide and information pack on the EchoLink system.
Find out what it's all about and how you can join and use the gateways**

How EchoLink Works

Linking Example



EchoLink[®] software allows licensed Amateur Radio stations to communicate with one another over the Internet, using voice-over-IP (VoIP) technology. The program allows worldwide connections to be made between stations, or from computer to station, greatly enhancing Amateur Radio's communications capabilities. There are more than 200,000 validated users worldwide — in 162 of the world's 193 nations — with over 4,000 online at any given time.



Picture of the EchoLink Software

The VoIP software - takes the audio from the receiver which is then fed into the sound card - where it is converted into digital data. The PC then converts this digital information into digital packets each assigned with IP addresses for the destination node. These packets now flow through the internet to the destination PC where the packets are decoded then sent to the sound card and out to the transmitter microphone of the link radio which then transmits the audio out over the local repeater. The transmitter is keyed as soon as these TCP/IP (Internet Protocol) packets start to arrive. As soon as the data stops the link radio automatically un-keys and process reverses.

There are some excellent web sites that describe the technicalities of VoIP, as well as the licensing requirements, in much more detail so a little more time on one of the search engines will turn up a wealth of information.

Check with your Licence Issuing body in your country as you may need permission to run an RF gateway. Licensed amateurs using the PC only will be exempt and will be able to use the system after their licence details have been validated by the administrators of the software you are using.

To establish an EchoLink connection using RF Link

1. It is recommended that you first Listen Listen Listen and then identify your station on the Link/Repeater and that you are attempting an EchoLink operation.
2. Optionally, you can determine if the EchoLink gateway is operational by keying a "*" DTMF tone. The gateway node will respond with status information.
3. Key the four or five digit station code for the station or repeater that you wish to link to.
4. After a few seconds delay, the EchoLink node will respond with a "Connected" message if the link was successful. If the link was not successful, key a "#" to disconnect the gateway node.
5. Following a successful connection, announce your presence on the linked repeater by calling CQ, etc.
6. During a QSO using linked repeaters, let the repeater tail completely drop before transmitting to avoid any timeout problems.
7. At the end of the QSO, disconnect the link by keying a "#" DTMF tone. The EchoLink gateway will respond with confirmation that the link has been disconnected
8. There is about a 4 second delay when using the system so be patient.
9. Remember to always leave a 4 second gap between over's to allow all the repeaters and links to reset
10. In most cases there is a 4 minuet time out. Check out on the system you are using in case they have a shorter time out
11. Always help out other when you can especially new users.
12. When using the DTMF functions always give your call sign and let others know what you are doing.
13. Only break into an on going QSO if you have something useful to add.

DTMF Functions

Please remember that using the DTMF tones can be heard through the connected links & repeaters and can be annoying to others so keep them to a minimum also give your call sign and a brief explanation of what you are doing.

If you do move the link with DTMF tones and connect to other Repeater / Links don't forget to disconnect the repeater when you have finished using "#"

There can be about a 4 second delay when working through the internet links so don't forget to leave a good gap between calls to enable others to break in and connecting repeaters to reset.

The table below lists each of the common EchoLink DTMF commands.

Command	Description	
Connect	Connects to a station on the Internet, based on its node number.	num
Random Node	Selects an available node (of any type) at random, and tries to connect to it.	00
Random Link	Selects an available link or repeater (-L or -R) at random, and tries to connect to it.	01
Random Conf	Selects a conference server at random, and tries to connect to it.	02
Random User	Selects an available single-user station at random, and tries to connect to it.	03
Disconnect	Disconnects the station that is currently connected. If more than one station is connected, disconnects only the most-recently-connected station.	#
Disconnect All	Disconnects all stations.	73
Reconnect	Re-connects to the station that most recently disconnected.	09
Status	Announces the call sign of each station currently connected.	08
Time	Time announcements	123
Weather Conditions	Find out what the current weather conditions are	99*
Weather Forecast	Find out what the weather will be over the next 5 days	44*
Local Temperature	Find out what the local temperature is	55*
Parrot Enable	Enable the Parrot repeater	***1
Parrot Disable	Disable the Parrot repeater (If not used it will disconnect after 1 min	***0
Ireland Conference	Ireland's Conference Server	2605

There are many DTMF commands that can be used. Above is the most common used. Contact the syp of your local Gateway for more DTMF information.

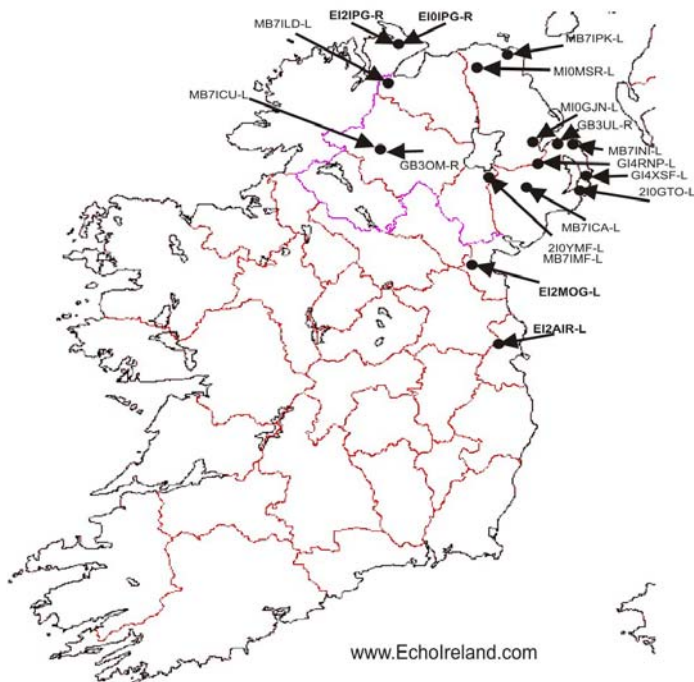
There are many stations connected to the EchoLink system at any one time and each station has a unique node number which can be entered by DTMF to connect to them. There are quite a few thousand stations from all over the world registered to the system and too many to list here so either visit the EchoLink website at www.echolink.org or simply ask the station that you are in QSO with to let you know what their node number is or the node number of the link they are using.

Accessing EchoLink From Your Computer

1. Download and install the EchoLink program from the EchoLink web site www.echolink.org. Check out the help files on installing the software
2. Verify that you have a microphone properly connected to your computer and the microphone input volume level is properly adjusted.
3. Connect to the internet and run the EchoLink user program. When you connect for the first time you will have to have your callsign verified all this information is in the FAQ on the [EchoLink web site](http://www.echolink.org).
4. Select a station or repeater to link to from the displayed EchoLink station link.
5. Once connected and after Listening to make sure the system is not in use, use the spacebar to toggle between transmit and receive.
6. When using the PC for the contact then no log book needs to be kept.

It is suggested that you first visit EchoLink web site www.echolink.org for the software and information on how to use the system. It is not hard to use and set up. This will enable you to chat with ease to the many thousands of licensed Radio hams from all over the world already using EchoLink. I have found EchoLink to be the best for my needs but you might find the other systems better for you.

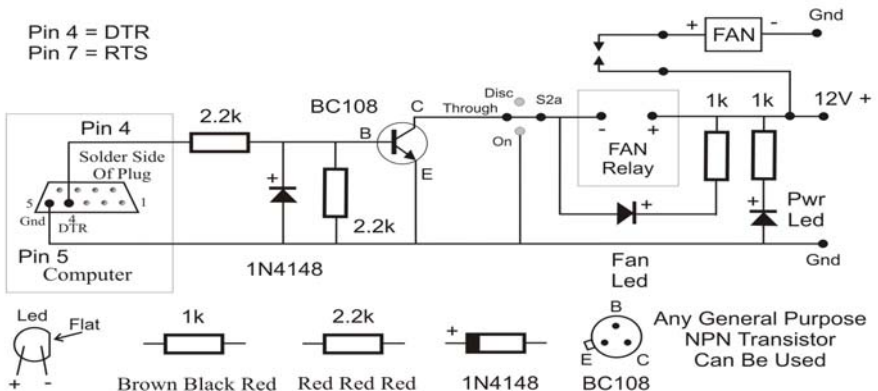
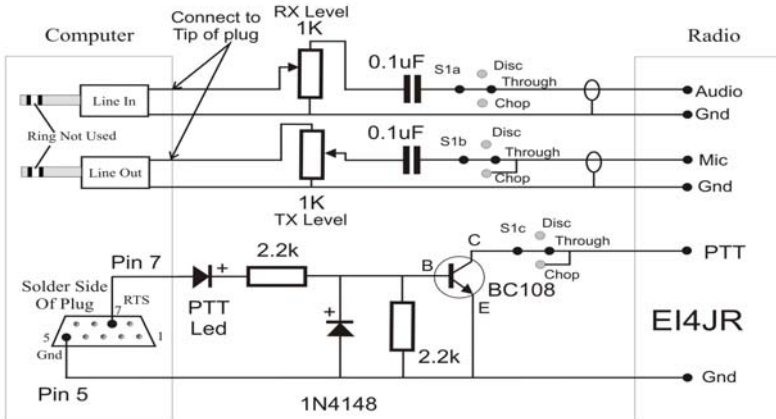
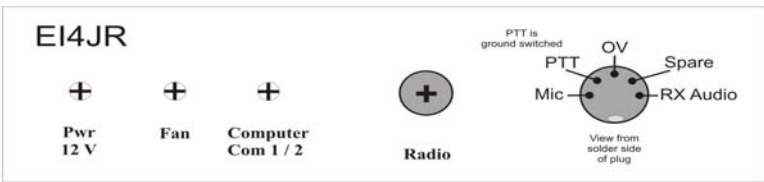
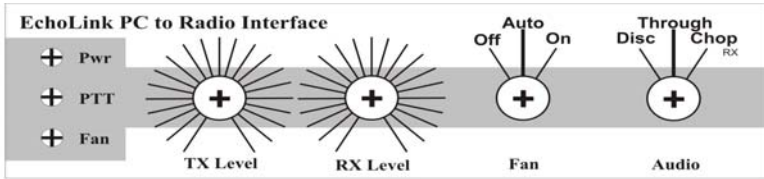
EchoLink Nodes in Ireland



EchoLink Internet Links in Ireland

Call	Node	Frequency	Access Tone	Location	Sysop
EI0IPG	29007	29.680 / 29.580 MHz	67 Hz CTCSS	Carndonagh, Inishowen County Donegal	EI2GYB
EI2IPG	7125	145.7125 / 145.1125 MHz	67 Hz CTCSS or T/Burst	Carndonagh, Inishowen County Donegal	EI4JR
EI2MOG	57007	145.2125 MHz	88.5 Hz CTCSS	Dundalk	EI2JD
MB7ICA	322087	144.8250 MHz	77Hz CTCSS	Dromara, Northern Ireland.	MI0PTK
MB7INI	1717	145.3375 MHz	77Hz CTCSS	Bangor, Northern Ireland.	GI7FOD
MB7ILD	389438	145.2875 MHz	110.9Hz CTCSS	Londonderry, Northern Ireland	GI4YWT
MB7IMF	384564	145.2375 MHz	110.9Hz CTCSS	Craigavon Armagh, Northern Ireland	2I0YMF
MB7IPK	409324	144.8375 MHz	77 Hz CTCSS	Ballycastle, Northern Ireland	MI0CRR
MB7ICU	422728	145.3375 MHz	110.9Hz CTCSS	Omagh, Northern Ireland	MI1CCU
MI0GJN	392919	430.0750 MHz	67 Hz CTCSS	Newtownabbey, Northern Ireland	MI0GJN
MI0MSR		430.0625 MHz	110.9 Hz CTCSS	Dervock, Northern Ireland	MI0MSR
GB3UL	404743	433.050 MHz	110.9Hz CTCSS	Belfast, Northern Ireland	GI3USS
GI4RNP	473396	145.2875 MHz	77Hz CTCSS	Lisburn, County Down, Northern Ireland	GI4RNP
GI4XSF	343109	144.8375 MHz	110.9Hz CTCSS	Cloughey, County Down, Northern Ireland	GI4XSF
2I0GTO	19441	145.2875 MHz	110.9Hz CTCSS	Portaferry, Northern Ireland	2I0GTO
2I0YMF	339735	430.0250 MHz	Carrier	Craigavon Armagh, Northern Ireland	2I0YMF

A Simple Radio to PC Interface that can be used for your RF gateway, SSTV, PSK31 Etc.



IRELAND

Conference Server Node 2605



The server now holding the *IRELAND* Conference

The IRELAND Conference server Node number 2605 system is permanently connected to EI2IPG and EI0IPG. Most of the gateways in Ireland have chosen to permanently connect to the Ireland conference server. There are many links from all over the world who also have a permanently connected gateway to the server. All PC Users Links, Repeater and Conferences are very welcome

Intermip backbone network now stretches from Manchester to Frankfurt, with further connectivity into Amsterdam (AMSIX & NL-ix), Paris (SFINX) and Frankfurt (DE-CIX) and provides, via there vast network of partner organisations, circuits from 2Mbps up to 10Gbps. There infrastructure comprises a heavily redundant 10 Gigabit network across nine major London data centres and 1-10Gbps connections into key London exchanges including LONAP, LINX, and LIPEX and Manchester exchange, MaNAP.

Intermip now has the capability to provide clients anything from on site IT support for Windows or Linux based networks, to full ISP facilities be it domain registration through to fully managed racks and servers and or IP transit.

The system is capable of supporting 6000 Plus concurrent users. The server has redundant power supply's and ups support providing a high quality 24x7x365 redundant conference server. www.intermip.com



MB7ICU



Located in Omagh Locator IO64KN

Transmitter / Receiver	Philips FX5000 12.5KHz - Max Dev. +/- 2.5 kHz
Output Power	7 Watts
Antenna	Diamond F22. 2 x 7/8 Collinear at 10 Mtrs above ground (SWR 1.2 to 1). 1 for RX and 1 for TX
Frequency	145.3375 MHz
Access to Link	110.9Hz CTCSS Tone
Extra Software	EchoProducer www.echoproducer.com
Computer	P4 – 2.8 Gig – 1.5 Gig Memory, On Board Sound Card
Audio Filtering	Super Dynamic Limiter
VOIP Interface	Home Brew
Location	Omagh, Northern Ireland. IO64KN
ASL	200 Mtrs
Operational Since	17th January 2008
Operation Times	24 Hours
Sysop	Ian MIICCU
Web Site	www.mi1ccu.co.uk



MB7ILD



Londonderry, Northern Ireland. IO64IX

Transceiver	Philips FX5000
Output Power	10 Watts
Antenna	Colinia
Frequency	145.2875 MHz
Access to Link	110.9Hz CTCSS Tone
VOIP Software	EchoLink
Extra Software	EchoProducer www.echoproducer.com
Computer	P3 - 773 Meg - 128Meg Memory, On Board Sound Card
Internet connection	8 Meg
VOIP Interface	Home Brew
Location	Londonderry, Northern Ireland. IO64IX
ASL	30 Mtrs
Operational Since	11th September 2008
Operation Times	24 Hours
Sysop	John GI4YWT
Web Site	www.echoireland.com



EI0IPG

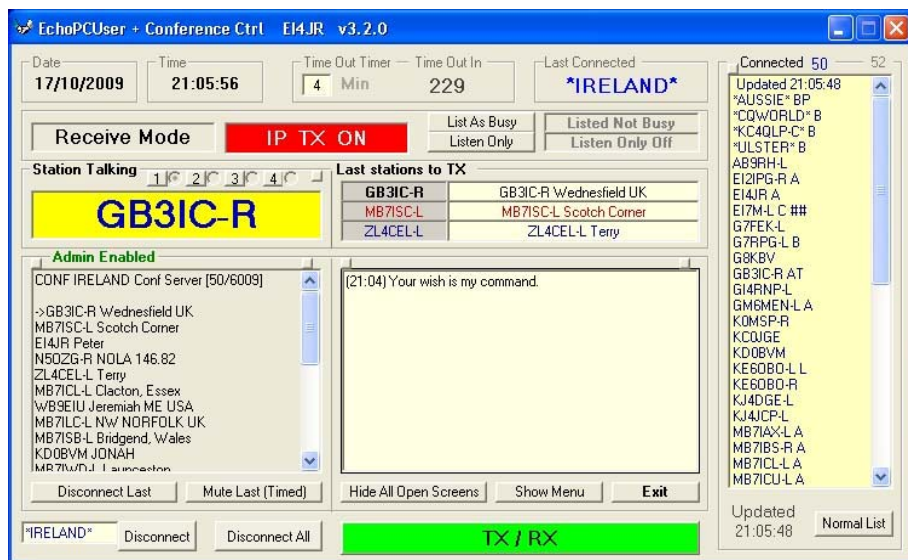


Location	IO65JG - North Donegal near Malin Head, Ireland.
Receive Frequency	29.580 Mhz
Transmit Frequency	29.680Mhz (RH3)
Repeater Shift	-100 KHz
Antenna	Solorcon Antron A 99
Feeder	RG 213 Coax
ERP	14 dB (25 Watts) ERP - <i>Currently running at 20 Watts</i>
Access Method	CTCSS 67Hz (A) ONLY
Transmitter	Yaesu FT-8900R setup for 20 Watts
Receiver	Yaesu FT-8900R
Logic	G1SLE Logic Board
Power Supply	Watson W-25AM
Coverage	Predicted Coverage North of Ireland & Europe when Sporadic E
Internet Interface	EI4JR Sound Card Interface Home~Brew Interface (Modified for COR operation)
Conference Server	*IRELAND* (Echolink Node 29007)
EchoLink Node	29007 - Licence To DX!
Keeper	Steve (EI2GYB) on behalf of the Carndonagh Amateur Radio Club
Repeater Group	Carndonagh Amateur Radio Club (CARC)
Link System	TX & RX are linked via 70 cms – Motorola GM300 UHF

E I 2 I P G



Transmitter / Receiver	Philips FX5000 12.5KHz - Max Dev. +/- 2.5 kHz
Frequency	145.7125 MHz RX 145.1127 MHz TX
Output Power	20 Watts
RX Sensitivity	With pre amp 0.12 uV Without preamp 0.2 uV
Antenna	Diamond F22. 2 x 7/8 Collinear at 10 Mtrs above ground (SWR 1.2 to1)
Access to Link	67 Hz CTCSS or 1750 Tone Burst. None req when repeater open
Logic	G1SLE Logic Click Here for more info
Duplexers	4 x Beer Barrel. RX 95dB 2dB loss & TX 95dB 2db loss
Audio Filtering	Super Dynamic Limiter
Extra Software	EchoProducer www.echoproducer.com
Time Out	Time out is set for 4 Minutes
Computer	P4 - 2 Gig - 256Meg Memory, On Board Sound Card
VOIP Interface	Opto Isolated System. Home Brew
Location	Carndonagh. Inishowen, Co. Donegal. Ireland IO65JG
ASL	15 Mtrs
Operational Since	16th May 2008
Sysop	Peter EI4JR on behalf of Carndonagh Amateur Radio Club
Email	peter @ ei4jr.com
Web Site	www.ei4jr.com and www.echoireland.com



Echo PC User software

This is a simple Free to use add on for the PC User running Windows. It is used in conjunction with the EchoLink program. The idea of the program is to provide some of the many features of EchoLink into an easy and controllable interface for the PC User. The EchoLink program must be installed for this add on to work. There are many features that can be used by normal PC users and Admin of conferences. Some of the many features include Easy to use Menu screen with visual indicators showing what is happening, Echo Friends, Text Box Chat with Graphics, Text box greetings, Conference Controller, Conference Filer, Net Scheduler, Updates within the program and much more.

Download from
www.echopcuser.com

Applying for a gateway in Southern Ireland

In Southern Ireland there are only a few RF Internet Link's licensed. Only Clubs at the moment may apply for a gateway. If you need help setting up or want more information on setting up a link please email me and I will be very happy to help. peter@ei4jr.com

The Internet Linking Operation application form is available from ComReg. At this time ComReg is only giving permission to clubs to run a gateway. I hope that your club will show some interest. The application forms are available from www.comreg.ie

Applying for a gateway in Northern Ireland

An NOV (Notice of variation) is required in Northern Ireland and applications are done on line. Only Full and Intermediate licence holders can run a gateway. For full information and application visit the DCC (RSGB) www.dcc.rsgb.org

Internet linking is one of the fastest growing areas of our hobby, with hundreds of linked systems and tens of thousands of hams using Internet links around the world. Internet linking has come a long way from the early experiments of the 1990's, which involved a lot of manual intervention, to today's range of reliable, easy to use secure systems.

Growing numbers of hams are using VoIP, or Voice Over Internet Protocol, Using their PC only or in a combination with their radios for long-distance communication spanning hundreds or thousands of miles. They're using the Internet as the relay between their base stations, handhelds and mobile transceivers

For some radio amateurs the Internet is an anathema, for others it has changed their hobby and added new dimensions to their radio interests. One such development is the 'Internet Linking' of licensed radio amateurs using VoIP technology (Voice over Internet Protocol). VoIP is not new and has been experimented with commercially for some years. The success of commercial systems was limited by the available bandwidth and modem speeds, but with the increase in broadband technology commercial systems have become much more viable.

Radio amateurs have become increasingly interested in the technology as a way of bridging long-distance communication using a combination of the Internet and VHF or UHF transceivers. Just for clarification - Internet Linking does not allow radio amateurs to access web pages via radio, rather, it acts as a conduit for voice communication over very large distances

There is a wide variety of linking systems in use. Some feature highly secure links, others feature access directly from your PC. Some systems offer DTMF control to radio users and many other features. Every system is different, and each has its following. In fact, one of the hardest things for new users of Internet linking to work out is what is fact, and what is uneducated opinion from people who have only used one or two systems, or have a strong preference for a particular secure system. (In our case EchoLink) for more information visit www.EchoIreland.com