

Working the world on VHF and UHF FM - using internet gateways

Ian Abel G3ZHI g3zhi@hotmail.com



Would you like to keep in touch with your hams friends all over the world any time of the day or night?

Moved into a retirement home where HF equipment and antennas are not allowed?

Have you had to take down your tower and beam because you can no longer maintain them?

Then why not use an internet gate way to keep in touch with hams friends around the UK and the World.

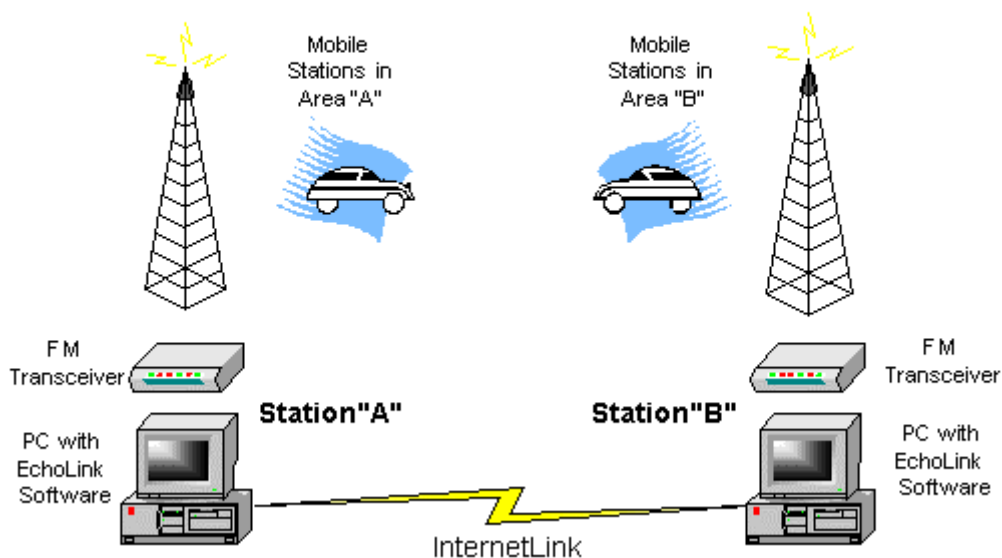
Internet gateways operate on VHF and UHF simplex channels and repeaters using FM. The quality of the audio is mostly excellent and because you are using the internet and not radio there are no problems with propagation. You can just dial up your friends whenever you wish.

Background

For nearly 10 years radio amateurs have been experimenting by connecting their VHF and UHF FM radios to the internet.

In the year 2000 after a personal request from Ian G3ZHI David Hendon G8DPQ who was the Chief Executive of the Radiocommunications Agency gave his personal permission for internet gateways to licensed in the UK.

Linking Example



Now there are around 4,000 ham radio internet gateways all over the world many available 24 hours a day.

Operating an internet gateway

Using an internet gateway is very easy.

There are 3 main gateway systems in use Echolink eQSO and IRLP

With Echolink and IRLP it is possible using a hand held radio with DTMF or a DTMF MIC on a base station to individually call a station via the gateway.

So for example on IRLP if you wanted to call a ham in Sydney Australia using your hand held you would press the PTT and press the DTMF key numbers 6 0 0 0 then release and listen.

You would hear a voice announcement telling you that the link was connected. You would then talk and carry on a QSO normally as you would if you were working a local station. When you have finished you press the PTT and the press DTMF 7 and then 3 which closes the link.

You will then hear another voice announcement informing you the link has been closed.

You should always listen first on a gateway frequency to see if it is in use. You can also send a '0' to see if it connected to anywhere.

Recently a local ham from Doncaster Kevin G8JJR visited Perth for 8 weeks and he was able to keep in touch with his friends back home in South Yorkshire by calling from there every day using his hand held working the local repeater which is connected to the IRLP network.

Echolink and eQSO can also be used from a PC computer providing the computer has a soundcard with MIC and speakers attached.

IRLP can only be used using a radio.

If you are on the internet you can see the live status pages showing which nodes are connected on all the three systems.

Much more information is available on the web sites.

Here are some examples of the information shown .

IRLP Node Status current as of 07/9/2004 06:25:05 GMT

Network Summary

1384 - Total Nodes 86 - In Use 805 - Idle 58 - Offline

Antarctica 2	
Antigua 1	Australia 71
Barbados 2	Belgium 1
Bermuda 1	Botswana 1
Canada 236	Cayman 1
Chile 1	China 1
Denmark 1	Dominica 2 1
Ecuador 1	England 57
France 1	Germany 6
Grenada 1	IRELAND 1
India 1	Jamaica 1
Japan 11	Korea, Republic of 1
Mexico 7	Netherlands 4
Netherlands Antilles 2	New Zealand 11
Norway 3	Puerto Rico 1
Saint Kitts & Nevis 1	Scotland 5
South Africa 5	Spain 1
Sweden 15	Trinidad 1 1
Trinidad and Tobago 3	USA 917

Sample IRLP Node codes and locations :

Length of current node status.

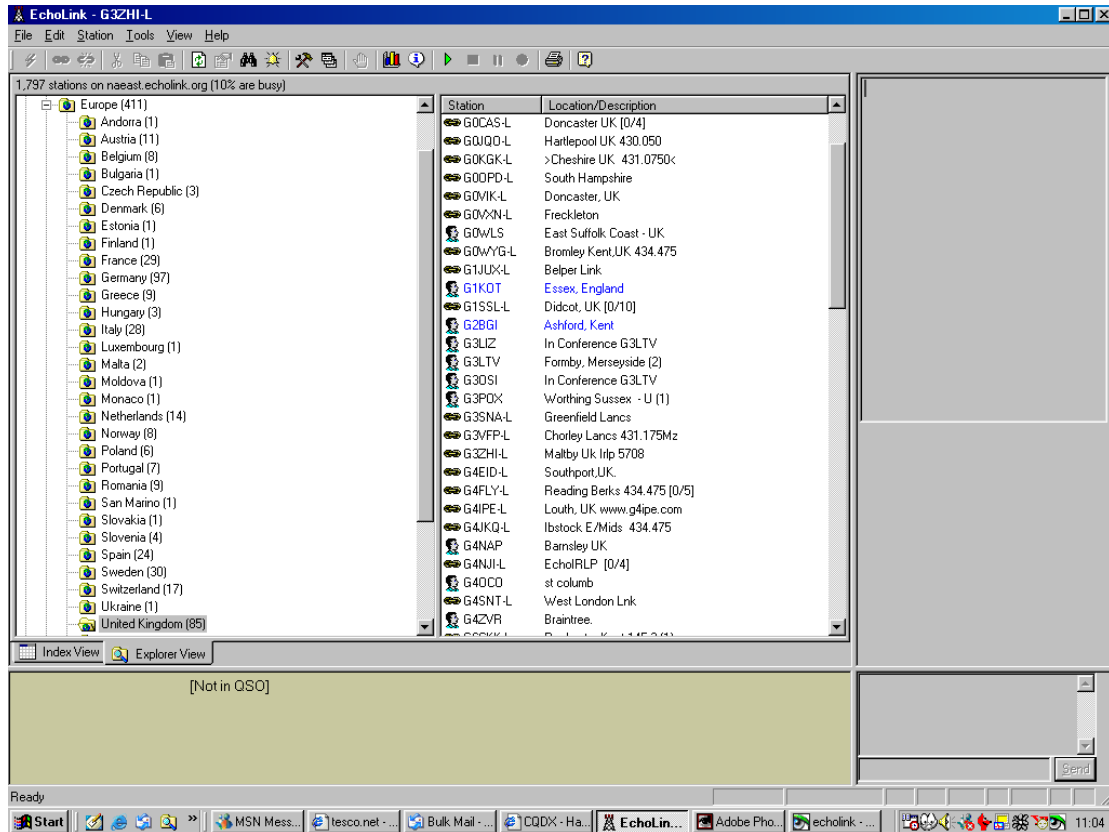
Node	Callsign	City	Prov./St.	Country	NodeFreq	CTCSS
3540	W6DXX	Palm Springs	CA	USA	445.6400	131.80
3257	WA7DG	Reno	NV	USA	147.3000	
3160	WA6RQD	Oceanside	CA	USA	446.8600	0.00
3150	WA6RQD	Oceanside	CA	USA	449.3200	141.30
3900	K6MF	San Jose	CA	USA	1286.4500	123.00 23:39
3671	K6SA	Saratoga	CA	USA	146.6550	114.8 23:39
4865	KG4ZXX	Portsmouth	VA	USA	145.6000	0.00
8310	KB5KZS	Bartlesville	OK	USA	145.7000	88.50
8274	XE3NO	Oaxaca	Oaxaca	Mexico	146.8800	103.5
2380	VE6RJO	Calgary	AB	Canada	147.5100	100.00
8710	KD5KTB	Enid	OK	USA	146.5550	97.40
7240	KB2CDY	Payson	AZ	USA	146.4200	100.00
4490	WB2CIK	West Hills	NY	USA	447.9500	114.80

4870	W1HHO	Mid Coast ME	USA	449.1250	82.50
6000	VK2RBM	Sydney NSW	Australia	147.0500	0.00
5450	GB3PZ	Manchester	England	430.9000	82.5
5400	GB3PZ	Manchester -	England	430.9000	82.50
4300	N3APP	Erie PA	USA	147.2700	141.30

Sample list of echolink nodes and locations

4Z4IZ-R HAIFA R-12 Rpt. 169676
 4Z7CCF-L Tel-Aviv 432.675Mhz
 7K1FHJ-L ohshima 432.34 128671
 7K1NAQ-L Bunkyo,Tokyo 1294.82MHz 22778
 DL9GRB-R Link to DB0DBR 159122
 DM0ZAA-L Duesseldorf 144.975 MHz 136397
 DM0ZBB-L Boeblingen (BB) 430.025 6877
 DO0SMZ-R Mainz 439.2125 MHz 100823
 DO0ZB-L Berlin 144.975 pse CQ 8222
 DO0ZFG-L DO @ 144.975 Mhz 154965
 DO1GUM-L Freiburg, Black Forest 129169
 DO1HEN-R D B ÿ S Y - HAMBURG 153627
 DO1JOH-L GER JN49MD 145,575 151037
 DS5CLX-L deagu 145.540 (1) 21440
 DV1LWQ-L In Conference *MAKILING* 130919
 E20ZGH-L In Conference *TACLUB* 177730
 EA1RCW-L FOZ 172581
 EA3RCB-R Palamos 145.300 113456
 EA4TD-L In Conference *ESPANA* 82308
 EA5RCI-L In Conference *ESPANA* 97451
 EB2CTZ-L In Conference *ESPANA* 153942
 EB2FGI-L In Conference *ESPANA* 115083
 EB4CKB-L In Conference *ESPANA* 24853
 EB8BCG-L Tenerife 145.550 MHz (1) 56868
 EB8CHG-L lanzarote pls cq 128358
 F5POE-L Forges les B 91 144.525 76584
 F6CDD-L Toulouse 145.250 100889
 G0OPD-L South Hampshire 1515
 G0WYG-L Bromley Kent,UK 434.475 3275
 G3SNA-L Greenfield Lancs 2586
 G3ZHI-L Maltby South Yorks 99045

G4IPE-L Louth, UK www.g4ipe.com 37980
 G4LCH-L Solihull UK 136330
 G6CKK-L Rochester Kent 145.2 (1) 93069



Echolink is in 200 countries and has been downloaded by 200,000 hams

Sample list of UK internet gateway frequencies and location

G4NJI	434.5250	Rotherham	IO93ij	6/3/2001 09:00
G0FSM	51.9300	Rugeley	IO92br	4/2/2003 17:44
G0JJO	430.0375	Rugeley	IO92as	18/6/2003 17:10
G0NWE	51.9400	Runcorn	IO83pi	4/2/2003 17:44
G0NWE	430.0125	Runcorn	IO83pi	4/2/2003 17:45
G0LGJ	434.5250	Scarning, Dereham	JO02lq	7/10/2003 12:14
G4YPV	430.0125	Selby	IO93lr	7/6/2003 19:27

If you don't have access to the internet at home there is free access at your local library where you can download and print the list of gateways and station numbers.

Helpful library staff will show you how to use the internet if you have not used it before.

If you want to set-up an RF gateway you need an NOV from Ofcom. You must hold an intermediate or advanced licence to do this.

If you have any questions please contact me g3zhi@hotmail.com
01709 799911 Mobile 0783 338 0578

More information can be found at

<http://www.echolink.org>

<http://www.irlp.net>

<http://www.eqso.net>

<http://www.qsl.net/g3zhi>

<http://www.gb3dx.co.uk>

<http://www.ofcom.org.uk>

<http://www.rsgb.org>

<http://www.dcc.rsgb.org/ShowGates.asp?call=ALL>

<http://www.ukirlp.co.uk>

<http://www.gb3ir.co.uk>

<http://www.eqso.info>

Ian Abel G3ZHI
52 Hollytree Ave
Maltby
Rotherham
Yorkshire
S66 8DY

G4NJI IRLP 5200 Echolink 135909
Rotherham simplex 145.2875mhz

GB3XN IRLP 5708 Echolink 153126
Langold 430.925 Mhz

Tel: 01709 799911
Mobile 0783 338 0578