



RSGB Yearbook

2003 Edition

Editor

Steve White, G3ZVW

Advertising

Jan Forde

Front Cover

Annie McVicar

Production

Mark Allgar

Published by the Radio Society of Great Britain,
Lambda House, Cranborne Road, Potters Bar,
Herts EN6 3JE.

Internet: www.rsgb.org

Tel: 0870 904 7373

Fax: 0870 904 7374

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Foreword



What a tremendous and exciting 12 months it has been since I last sat down to write this foreword.

Since the launch of the Foundation licence in January 2002 there have been over 2,000 new entrants into the hobby as well as nearly 3,000 VHF licence holders converting to the new M3 callsign. What is most encouraging is that many of the newcomers are under 21. This is good news for all of us who want to see amateur radio continue to thrive.

The *Yearbook* is a necessary tool for all active amateurs - a wealth of information at your fingertips. Once again the editor, Steve White, G3ZVW, has done a great job in making sure the information is clearly presented and as up-to-date as possible. This year you will also see changes in style and format, but I'll let him explain that in his Introduction.

I say it every year; "I believe this to be the best *Yearbook* ever". Enjoy the read.

*Peter Kirby, GOTWW
General Manager*

Introduction

Welcome to the 2003 edition of the *RSGB Yearbook*. Yet again we have produced a truly up-to-date book. Every page has been checked and updated, so you can be confident that you have the most current information to hand. Of the pages in this book, only a handful are the same as last year.

We have maintained colour sections, but replaced equipment and software reviews from *RadCom* with features that are intended to be of general interest. The practice of including re-prints of equipment and software reviews that had appeared in *RadCom* in the past 12 months is replaced by a general index of *all* reviews that have appeared in *RadCom* since 1990.

Until April 2000, callsigns were issued in strict sequence, although a call could be reserved up to six months in advance. From 1 April 2000, the RA permitted *any* callsigns to be issued in the current series (2E0, 2E1, M1, M3, M0 and M5). Thus it is no longer possible to say in which year a callsign is likely to have been allocated.

There are still many entries saying: "Details withheld at licensee's request by RLC" [the Radio Licensing Centre]. It must be emphasised that "by licensee's request" means just what it says and these entries are not within the control of the Society. There may well be a perfectly good reason for a licensee not to want his or her address publishing, but it is possible that the 'no publicity' box was ticked in error.

Style

You will notice that this year the *Yearbook* has undergone a change in its style. We have updated the typeface and adopted a clean and clear layout. At the foot of the pages there is a margin in which useful information such as contact names, addresses, phone numbers, web sites and e-mail addresses are given. On pages where the margin remains empty, readers may find it useful to write-in their own amendments, corrections, updates or notes.

Questions & Answers

Throughout the year the RSGB receives a number of standard queries about an individual's entry in the *Yearbook*. Here are the answers given:

Q: I have just gained my new licence, please include my new details in the next *Yearbook*.

A: Your details will automatically be passed on to us by the RA from the data you supply on your licence application form. There is no need to contact the Society directly.

Q: I am an RSGB member. Thank you for sending *RadCom* to my new address, but why didn't you change my *Yearbook* entry?

A: The *Yearbook* lists all UK amateurs, not just RSGB members, and so we keep the records entirely separate. Your call book address details come from the RA – did you let them know you moved?

Q: My entry shows me as being 'details withheld', but I want my full address to be listed.

A: Please write direct to the Radio Licensing Centre and ask them to release your details. The Society cannot accept direct input from licensees.

Q: You have published my address, but I would like it withheld.

A: As above, but ask the RLC to withhold it from all call book publishers.

Q: My callsign is not shown at all, please include it.

A: If a callsign is not shown in the *Yearbook* it was not licensed at the time the data was supplied to the RSGB. Sometimes, through an administrative error or misunderstanding, an amateur believes that he or she is licensed but the licensing records show that the licence has lapsed. If this is the case, speak to the RA and discuss the matter with them as it is important that you keep your licence current if you intend using it.

Information section

The Information section was, as far as possible, accurate at 1 July 2002. Obviously with a publication lasting until December 2003, changes will happen during the lifetime of the edition – so please check the various web sites or the pages of *RadCom* for details which came out after we closed for press. This particularly applies to items such as QSL sub-managers, GB2RS newsreaders, local and national clubs and societies, repeaters, beacons and the composition of the newly-formed regions and volunteer posts.

UK callsign entries

The callsigns listed in this *Yearbook* reflect the official records held at the POCM Radio Licensing Centre (RLC) on behalf of the RA. They show correspondence address, not licence address, so do not be misled into thinking that because a foreign address is quoted, the station is operating from there. The amateur concerned will have a different station address when in the UK.

The callsign data is purchased from the RLC every year and is therefore as up to date as it can possibly be at the time of going to press. Note that some call books, CDs and web sites rely entirely on updates being notified to them by individual licensees, so the information can be many years out of date. To make this book readable and compact, we case convert the data (it comes to us entirely in upper case) and make a few standard abbreviations, but *no* changes are made to the substance of any entries.

On 1 July 2002, 59,878 UK callsigns were current and are listed in this *Yearbook*. This is 2,544 more than last year and represents an increase of 4.4% in the number of callsigns listed. This reverses all the falls of the last three years.

'Withheld' entries

Should you wish your details to be withheld from publication, or released if they are not, or there is

an error in the substance of your entry, you must *write* to the Radio Licensing Centre and request them to take the necessary action. Their address is:

Radio Licensing Centre,
POCM, PO Box 885,
Bristol BS99 5LG.
Tel: 0117 925 8333

There are now several other publishers of the data, so it is vital that you contact the source of data so that it is either blocked or released in *all* call books. The Society *cannot* accept direct input regarding an individual's entry.

International listings

Amateurs sometimes ask about their entry in the *International Listings* of the Radio Amateur Call Book, sometimes known as the *DX Listings*. This is an entirely separate work published annually by an independent company. If you want to be listed in their publication, please write direct to them and not to the RSGB. Corrections are free, but they do make a small charge for special entries. Their address is: Radio Amateur Callbook Inc, 1685 Oak Street, Lakewood, NJ 08701, USA. Tel: 00 1 908 905 2961. Fax: 00 1 908 363 0338.

Acknowledgments

Last, but definitely not least, thanks (in surname order) to the contributors to this book...

Ian Abel, G3ZHI
Gordon Adams, G3LEQ
Angus Annan, MM1CCR
Roger Balister, G3KMA
Alan Betts, G0HIQ
Roger Bone
Cathy Clark, G1GQJ
John Clifford, GW4BVE
Chris Cummings, G4BOH
Rev. George Dobbs, G3RJV
Carlos Eavis, G0AKI
John Fitzgerald, G8XTJ/M3XTJ
Paul Gaskell, G4MWO
Fred Handscombe, G4BWP
Prof. Martin Harrison, G3USF
Tony Jarvis, G6TTL
Tim Kirby, G4VXE
David Lauder, G0SNO
Dave Lawley, G4BUO
Richard Limebear, G3RWL
Pete Lindsay, G4CLA
Sue Pearson, G0NLX
Stephen Purser, G4SHF
Iain Philipps, G0RDI
Barry Scarisbrick, G4ACK
David Waterworth, G4HNF
Gwyn Williams, G4FKH
John Wilson, G3UUT

...plus all the club secretaries, RSGB HQ staff (especially Brendan Callaghan for processing the callsign data and Bob Ryan for illustrations), Joe Ryan of the IRTS for the EI callsign listings, Bob Treacher for the SWL listings, and Deniz Huseyin for proof reading.

Steve White, G3ZVW, Editor

Contact names, addresses, phone numbers, web sites and e-mail addresses, or write your own amendments/corrections/updates/notes here.





GET ACCESS @ THE RSGB JOIN US FREE



Radio Society of Great Britain

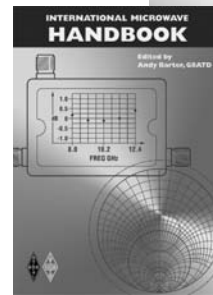
YOU CAN ACCESS ALL WE PROVIDE FOR NOTHING

JOIN US TODAY BY SIGNING THIS DIRECT DEBIT FORM AND GET THREE MONTHS FREE MEMBERSHIP. IN THREE MONTHS TIME WE WILL DEBIT YOUR ACCOUNT EITHER QUARTERLY OR ANNUALLY FOR YOUR MEMBERSHIP FEE (CURRENTLY £10.13 A QUARTER OR £40.50 FOR FULL ANNUAL MEMBERSHIP). YOU CAN CANCEL YOUR MEMBERSHIP AT ANY TIME, JUST LET US KNOW IN WRITING 14 DAYS BEFORE YOUR DIRECT DEBIT IS DUE AND YOU WILL OWE NOTHING

WHAT HAVE YOU GOT TO LOSE?



**SIGN
UP
TODAY!**



Personal Details

Callsign _____	Mr/Mrs/Dr _____
Surname _____	Initials _____ Date of Birth _____
Address _____	

Post Code _____	Tel No: _____



Instruction to your Bank or Building Society to pay Direct Debit



Please complete this form and send it to RSGB, Lambda House, Cranborne Road, Potters Bar, Herts EN6 3JE.

Annual Quarterly Monthly (please tick)

Originators' Identification No:

9	4	1	3	0	2
---	---	---	---	---	---

1. Name and full postal address of your Bank or Building Society Branch

To: The Manager
Bank or Building Society
Address

Post Code

2. Name(s) of account holder(s)

3. Branch Sort Code (from the top right hand corner of your cheque)

--	--	--

4. Bank or Building Society account Number

5. RSGB Membership number (leave blank if you do not know it yet)

6. Instruction to your Bank or Building Society

Please pay the Radio Society of Great Britain Direct Debits from the account detailed on this instruction subject to the safe guards assured by The Direct Debit Guarantee.

Signature(s)
Date



RADIO SOCIETY OF GREAT BRITAIN

WHO WE ARE AND WHAT WE DO



The society is a membership organisation that works to promote and protect amateur radio. With so many demands on the bands from other band users the RSGB works tirelessly to ensure the voice of Amateur Radio is heard. The society depends on the support of the membership to give it a credible voice in government, using this voice we endeavour to maintain the bands that the radio amateur community enjoys. By supporting the society we add your voice to those ensuring amateur radio continues – a strong society means a successful hobby.

If I join what's in it for me?

The society has worked ceaselessly in recent years to provide the best membership benefits for its members. In the last year we have added a members only web site, discounts on any book and we are now an Internet service provider - to name just three new benefits. In the coming year we intend to add even more value for your membership, we believe that we have one of the best benefit packages of any Society available to our members, some of these are listed below.

RADCOM

Receive every month a copy of the UK's leading amateur radio magazine, 100 A4 pages are packed with the latest news, reviews and advice on amateur radio - a must for everyone who is interested in radio.



MEMBERS ADS

The place to advertise your surplus radio, or to buy second user equipment is in Radcom. Members receive a special advertisement rate in the premier UK amateur radio magazine with the largest UK circulation

RSGB WEB PLUS - MEMBERS ONLY WEBSITE

A web site exclusively for members, containing hot news, searchable archive material, technical tips, special offers, free software and links.



THE RSGB.NET

The RSGB offers members free internet access at their free to sign up internet service provider site - free of charge this site allows yourcall@theRSGB.net as an e-mail address.

BOOK DISCOUNTS

RSGB Members receive a 15% discount on the Society's extensive list of some 200 amateur radio books, software, tapes, CD's, t-shirts etc.



QSL BUREAU

A service that enables you to exchange QSL (confirmation of a radio contact) cards in bulk at a fraction of the cost of posting them yourself, especially if the other person is overseas!

MEGA BOOKS

We offer 15% off ANY book and we have over 250,000 currently available to us from best-sellers to obscure titles. We have one of the best book shops available making this is a service worth the membership fee alone if you buy books regularly.



PLANNING ADVICE

A good aerial system is probably the most important part of any amateur's station. Unfortunately a good aerial is often a large aerial and this, almost certainly, will need planning permission. Our free booklet is available just to members "Planning Permission: Advice for Members" provides excellent advice on how to maximise your chances of getting this important permission. Further help on a one-to-one basis is available through the efforts of our Planning Panel.

EMC ADVICE

Our EMC Co-ordinators and Committee provide members with help in solving those elusive break through problems.

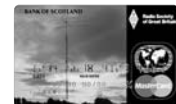


INSURANCE

We offer a variety of specialised equipment and third party liability insurance at a special low rate for members.

CREDIT CARD

The RSGB affinity card is available to our members at preferential rates (subject to status).



CONTESTS

The RSGB organises over 60 contests each year for its members. How many radio contacts can you make in the time specified? The more the better - the further the better!

AWARDS

An award to hang on your wall for making contact with different amateur radio stations. Many awards are available to RSGB members including ones for contacting 100+ different Commonwealth stations, or 30+ stations in Europe and Africa, or on the 10 GHz band, for a single contact over 150 km.

MORSE CAMPS

For those trying to gain their Morse qualifications the RSGB offers its members subsidised courses - what better way to learn. Currently a two day course only costs £15 for a member!



CAN YOU AFFORD NOT TO BE A MEMBER?
TAKE ADVANTAGE OF OUR OFFER AND JOIN US FREE!
Tel: 0870 904 7373 - www.rsgb.org

At Your Service!

The Society provides an extremely diverse range of services for its members through its blend of professional staff and management team at Headquarters, and a country-wide force of skilled, dedicated and knowledgeable volunteers. In order to get the best out of the RSGB it is important that you approach the correct part of the Society. This list is a practical guide to find the right person for your enquiry.

Society policy – RSGB National Council

The Society's affairs are directed by the National Council which is made up of the Society's Board Members and Regional Managers. The Board Members and Regional Managers are elected by the membership in a postal ballot, which is held annually.

The day to day running of the Society is devolved to the General Manager, supported by the Board Members who each hold a portfolio of responsibility. There are seven portfolios:

1. Amateur Radio Development
2. Business, Commercial and Publications
3. Membership Services and International Membership
4. Regulatory and International
5. Spectrum
6. Sport Radio
7. Technical

Board Members and their portfolio responsibilities:

President:

Bob Whelan, G3PJT

Past President:

Don Beattie, G3BJ

General Manager:

Peter Kirby, G0TWW

Honorary Treasurer:

Ken Ashcroft, G3MSW

Honorary Company Secretary:

Peter Kirby, G0TWW

Board Members:

Gordon Adams, G3LEQ - Spectrum & ARES-UK

Liz Cabban, GM0ETU - Membership Services (Clubs & International)

Richard Constantine, G3UGF - Education

Geoff Dover, G4AFJ - Sport Radio

Fred Handscombe, G4BWP - Tech. Futures

Peter Kirby, G0TWW - General Manager

Robin Page-Jones, G3JWI - Technical

Jeff Smith, M10AEX - Membership Services (Financial)

Ed Taylor, G3SQX - Amateur Radio Development

Bob Whelan, G3PJT - International & Regulatory

Ken Ashcroft, G3MSW - Honorary Treasurer

The above information is current at the time of going to print but is subject to change throughout the year.

Regional Managers are responsible for Society matters within their respective regions. Details of the Regional Structure, the Regional Man-

agers and their deputies can be found in this *Yearbook*.

Full details of National Council's and Committees' terms of reference can be found on our web site.

Society activities – committees, honorary officers, headquarters

The many different activities of the Society are run by its committees, honorary officers and HQ staff. If you wish to take advantage of one of these services or have an administrative enquiry about any one of them, contact the person(s) listed below:

Antenna planning

Booklet free to members, available from RSGB HQ or the member's web site. Planning application refused and specific advice to RSGB members: RSGB Planning Panel, via AR Dept, RSGB HQ. Planning Advisory Committee Chairman: Stephen Purser, G4SHF, QTHR. E-mail: PAC@rsgb.org.uk

Audio-Visual Library

Videos etc, for short term loan to RSGB affiliated clubs. List published in *RSGB Yearbook*. E-mail: AV.Library@rsgb.org.uk

Awards and trophies

For contest awards, refer to the appropriate contest committee (see 'Contests').

Enquiries and applications for operating awards.

HF:

Fred Handscombe, G4BWP, QTHR
E-mail: HF.Awards@rsgb.org.uk

VHF:

Tony Jarvis, G6TTL, QTHR
E-mail: VHF.Awards@rsgb.org.uk

IOTA:

See under 'IOTA'.

Trophies:

Enquiries to the General Manager's Department at RSGB HQ.
E-mail: GM.Dept@rsgb.org.uk

Band plans and operating practices

See the *RSGB Yearbook*, *RadCom* or our web site for the latest band plans. For policy, contact the appropriate committee chairman or spectrum manager.

HF Committee Chairman:

Colin Thomas, G3PSM
E-mail: HF.Chairman@rsgb.org.uk

VHF Committee Chairman:

Mike Adcock, GW8CMU, QTHR
E-mail: VHFC.Chairman@rsgb.org.uk

VHF Manager:

David Butler, G4ASR, QTHR
E-mail: VHF.Manager@rsgb.org.uk

Microwave Committee Chairman:

Julian Gannaway, G3YGF, QTHR.

Microwave Manager:

Mike Dixon, G3PFR, QTHR
E-mail: MW.Manager@rsgb.org.uk

Beacons*

List of beacons: *RSGB Yearbook*, or current data from www.keele.ac.uk/depts/por/psc.htm Application leaflet *Guide to Beacon Licensing* free from AR Dept, RSGB HQ. Policy and proposals to appropriate Beacon Co-ordinator:

HF:

Prof Martin Harrison, G3USF, QTHR

VHF:

David Butler, G4ASR, QTHR

Microwave:

Graham Murchie, G4FSG, QTHR

Book sales

For a current price list, see the RSGB web site. Orders and enquiries: Commercial Dept, RSGB HQ. Tel: 0870 904 7373 (24 hour), e-mail: sales@rsgb.org.uk

Book catalogue and secure ordering available on the web site at www.rsgb.org

Call Book

Change of address, details to be withheld or released, callsign not listed: Radio Licensing Centre (RLC), PO Box 885 Bristol, BS99 5LG.

Credit card (RSGB Affinity Card)

Application forms and details from Commercial Dept, RSGB HQ. Other enquiries: Bank of Scotland, Card Services, Pitreavie Business Park, Dunfermline, Fife, KY99 4BS.

Contests (RSGB)

See the *RSGB Yearbook* or '*Contesting Guide*' (January *RadCom*) for general rules and other issues of *RadCom* for results, DF Contest rules/dates and late changes. For queries/interpretations, contact the adjudicator mentioned in the rules for the specific contest. For policy, contact the appropriate committee chairman.

HF:

Justin Snow, G4TSH, QTHR
E-mail: HFCC.Chairman@rsgb.org.uk



VHF:

Martin Platt, G4XUM, QTHR
E-mail: VHFCC.Chairman@rsgb.org.uk

ARDF (direction finding):

Geoff Foster, G8UKT, QTHR

Deputy RSGB Regional Managers (DRRMs)

Local help, knowledge and advice: See *RSGB Yearbook* or *RadCom*.

DX Voice Bank

Five most recent tips recorded by DXers. To listen: 07626 925240, to record: 07626 910240.

EMC

(Advice on dealing with all types of radio interference.) EMC information sheets are available free of charge from RSGB HQ. They are also on the EMC Committee's web site. For specific advice from your local EMC Co-ordinator, see the *RSGB Yearbook*. To contact the EMC Committee directly, e-mail the EMC Membership Services Administrator (EMC.Committee@rsgb.org.uk) or telephone HQ for the current contact telephone number. Further information can be found on the EMC Committee web site (via www.rsgb.org/emc).

Emergency Services (ARES-UK)

Board member with special responsibility: Gordon Adams, G3LEQ. E-mail: ares-uk@boltblue.net

RAYNET talkthrough permits

Contact the Amateur Radio Dept at RSGB HQ.
E-mail: ar.dept@rsgb.org.uk

GB2RS

Schedule of news broadcasts: *RSGB Yearbook*. News for insertion (to arrive by 10.00am on the Tuesday prior to broadcast): *RadCom* Dept, RSGB HQ. Fax: 0870 904 7374. Main News e-mail: Newsdesk@rsgb.org.uk
Local News e-mail: gb2rs@rsgb.org.uk

News reader appointments and broadcast policy:

GB2RS News Manager, Gordon Adams, G3LEQ. E-mail: gb2rs@boltblue.net

General advice

How to get started, licensing queries, Foundation, Intermediate and RAE courses: AR Dept, RSGB HQ. E-mail: AR.Dept@rsgb.org.uk

History**Society Historian:**

John Crabbe, G3WFM

IEE**Liaison Officer:**

Peter Saul, G8EUX, QTHR

Insurance

(Policies tailored to amateur radio – discounted to members.) Amateur Radio Insurance Services Ltd: Freepost, 10 Philpot Lane, London EC3B 3PA. Tel: 020 7335 1647. Fax: 020 7338 0031.

IOTA

See *IOTA Directory & Yearbook* for explanation of scheme, contact points, honour roll and island list. Further details IOTA Co-ordinator, RSGB HQ. E-mail: iota.hq@rsgb.org.uk

Committee chairman:

Martin Atherton, G3ZAY

IOTA Manager:

Roger Balister, G3KMA

Licensing**Policy:**

Julian Gannaway, G3YGF

Management Committee**Chairman:**

John Butcher, G3LAS

Membership

Application forms, new members, renewals, changes of address, club details: Sales Dept, RSGB HQ. Tel: 0870 904 7373 (24 hour). E-mail: subscriptions@rsgb.org.uk

Microwave Newsletter

Editorial content: Peter Day, G3PHO and Barry Chambers, G8AGN. Subscriptions: Sales Dept, RSGB HQ. Tel: 0870 904 7373 (24 hour). E-mail: sales@rsgb.org.uk

Morse practice

Morse Practice Transmissions (GB2CW). E-mail: GB2CW@rsgb.org.uk

Morse tests*

Application forms and dates from AR Dept, RSGB HQ. Policy, new examiner appointments: David Waterworth, G4HNF, QTHR.

Intermediate Licence*

Local Instructors: *RSGB Yearbook* or contact AR Dept, RSGB HQ. Instructor appointments: Robert Snary, G4OBE, QTHR.

Packet radio*

A Guide to Data Communications Licensing in the UK from AR Dept, RSGB HQ.

Datacomms Committee:

Chairman, Iain Philipps, G0RDI, QTHR
E-mail: DCC.Chairman@rsgb.org.uk

Mailboxes:

Martin Green, G1DVU, QTHR

Site clearance applications:

Steve Morton, G8SFR, QTHR

Propagation

Week's forecast: GB2RS, explanation of terms used: *RSGB Yearbook*. Monthly predictions: *RadCom*. Propagation Studies Committee chairman: Prof Martin Harrison, G3USF, QTHR. E-mail: PSC.Chairman@rsgb.org.uk

GB4FUN

The Society's mobile amateur radio demonstration vehicle. See www.rsgb.org/gb4fun for details of how to get GB4FUN to your event.

QSL Bureau

Outgoing cards (*RSGB members only*) to: PO Box 1773, Potters Bar, Herts EN6 3EP. Incoming cards: SAEs to your sub-manager – see *RSGB Yearbook*.

HQ QSL Bureau Supervisor:

Jan Case.

RadCom**Delivery:**

Commercial Dept, RSGB HQ.
E-mail: subscriptions@rsgb.org.uk

Articles, editorial policy, members ads:

RadCom, RSGB HQ.
E-mail: RadCom@rsgb.org.uk

Repeaters*

List of current repeaters *RSGB Yearbook*, or from AR Dept, RSGB HQ. *Guide to Repeater Licensing* free from AR Dept, RSGB HQ.

Policy and all other matters:

Repeater Management Committee Chairman: Carlos Eavis, G0AKI (QTHR)
E-mail: carlos.eavis@btinternet.com

Shack, museum, library**Librarian/Curator:**

John Crabbe, G3WFM, RSGB HQ.

Special Contest Callsigns NoV*

(For club callsigns in certain contests.) NoV applications forms: AR Dept, RSGB HQ.

Policy:

RSGB HF Contest Committee Chairman: Justin Snow, G4TSH.

Special Event Station NoV***Applications:**

Send to AR Dept, RSGB HQ

Form and advice:

RSGB Yearbook.

Spectrum abuse**Caused by amateurs:**

Amateur Radio Observation Service: AROS Co-ordinator, c/o PO Box 113, Potters Bar, Herts, EN6 3ZY.
E-mail: AROS@rsgb.org.uk

Caused by non-amateurs:

Intruder Watch Co-ordinator: Chris Cummings, G4BOH, QTHR
E-mail: IW@rsgb.org.uk

Technical & Publications Advisory Committee

(Reviews technical articles prior to publication.)

Chairman:

Anthony (Tony) Plant, MBE G3NXC, QTHR
E-mail: TAPAC@rsgb.org.uk

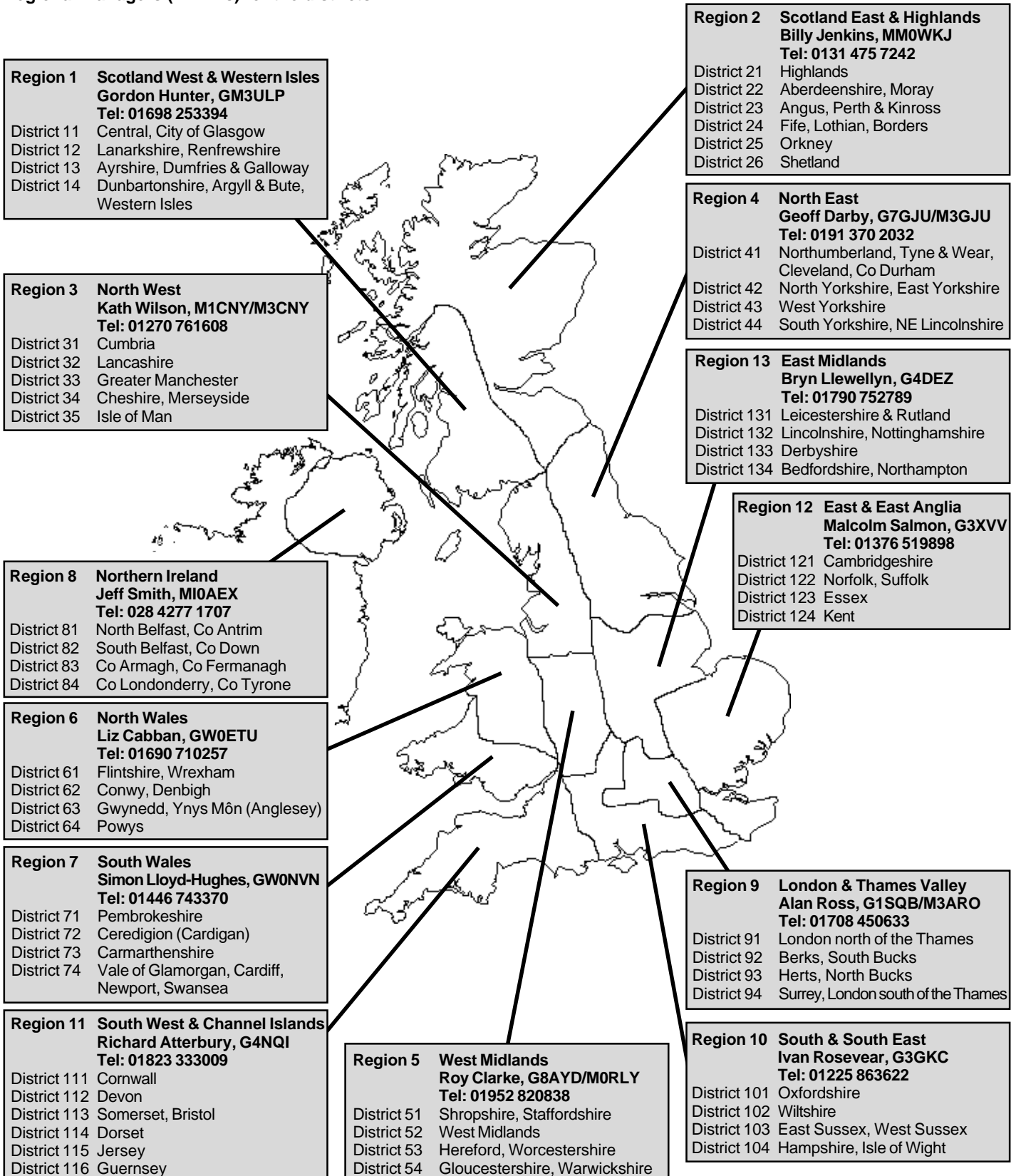
*Services conducted on behalf of the RA and provided to members and non-members alike.

'QTHR' means that the address can be found in the Callsign section of this Yearbook.
See www.rsgb.org for the most up-to-date e-mail addresses.



RSGB Regions

This map is a guide to the RSGB Regional Structure which came into effect on 1 January 2001. There are 13 UK regions, each comprising four to six districts. Alterations to the structure are ongoing. See the following pages for the Deputy RSGB Regional Managers (DRRMs) for the districts.



Deputy RSGB Regional Managers

Listed here are the Deputy RSGB Regional Managers (DRRMs) for the various districts.

Region 1 Scotland West & Western Isles

Gordon Hunter, GM3ULP.

District 11

Thomas Costford, MM0BHX, 14 Redburn Court, Whitelees, Cumbernauld, Glasgow G67 3NL. Tel: 01236 613802. tom-mm0bhx@blueyonder.co.uk

District 12

John McGinty, GM4GZQ, 77 Crawford Road, Houston, Renfrewshire PA6 7DA. Tel: 01505 382380. john@mcgintyj.fsnet.co.uk

District 13

Roger Harman, MM0BRG, 2 Dornoch Court, Whitehirst Park, Kilwinning, Ayrshire KA13 6QN. Tel: 01294 558306. mm0brg@supanet.com

District 14

James Stirling, GM3UWX, 25 Maxwell Road, Bishopton, Renfrewshire PA7 5HE. Tel: 01505 862817. gm3uwx@hotmail.com

Region 2 Scotland East & Highlands

Billy Jenkins, MM0WKJ.

District 21

Colin Bayliss, GM3WKZ, Four Gables, Reay, Caithness KW14 7RE. Tel: 01847 811244. crbayliss@aol.com

District 22

George Pirie, MM1CNA, The Mill House, The Watermill, Fraserburgh AB43 7ED. Tel: 01346 518251. mmcna@btinternet.com

District 23

Dave Stockton, GM4ZNX, 13 Dunvegan Court, Crossford, Dunfermline, Fife KY12 8YL. Tel: 01383 731279. gm4znx@rsgb.org.uk

District 24

Daniel Robson, GM6CMQ, 35 Lady Nairne Road, Dunfermline, Fife KY12 9YD. Tel: 01383 739117. gm6cmq@qsl.net

District 25

George Christie, GM7GMC, Burnbank, Hillside Road, Stromness, Orkney KW16 3HR. Tel: 01856 850270.

District 26

Ian Millar, GM7RKD, Seklie Stanes, Scatness, Virkie, Shetland ZE2 9JW. Tel: 01950 460306.

Region 3 North West

Kath Wilson, M1CNY/M3CNY.

District 31

Bill Jenkins, G4USW, 5 Seatoller Place, Barrow in Furness, Cumbria LA14 4NH. Tel: 01229 824681. g4usw@qsl.net

District 32

Dave Johnson, G1GNS, 31 Coniston Avenue, Penketh, Warrington, Cheshire WA5 2QY. Tel: 01925 726821. davidg1gns@aol.com

District 33

Ernie Holme, G4YYB, 11 Oxlea Grove, Westhoughton, Bolton BL5 2AF. Tel: 07773 665546. g4yyb@thersgb.net

District 34

David Wilson, G7OBW, 12 New Street, Elworth, Sandbach, Cheshire CW11 3JF. Tel: 01270 761608. dwilson@btinternet.com

District 35

Andrew Kissack, GD0TEP, 30 High View Road, Douglas, Isle of Man IM2 5BH. Tel: 01624 626080.

Region 4 North East

Geoff Darby, G7GJU/M3GJU.

District 41

Bev Muizelaar, M0CBP, 13 Belsay, Oxclose, Washington, Tyne & Wear NE38 0NE. Tel: 07766 332416.

District 42

Andy Russell, G0VRM, 126 Boothferry Road, Hessle, East Yorks HU13 9AX. Tel: 07050 287279. g0vrm@rsgb.org.uk

District 43

Ian Townson, M1BGY, 53 Brompton Road, Bradford, W Yorks BD4 7JD. Tel: 01274 723951. ian.m1bgy@btinternet.com

District 44

Des Critchlow, G3PTV, 32 Cranfield Close, Armthorpe, Doncaster, South Yorks DN3 3SG. Tel: 01302 834208. g3ptv@hotmail.com

Region 5 West Midlands

Roy Clarke, G8AYD/M0RLY.

District 51

Arnold Matthews, G3FZW, 2 The Parchments, Lichfield, Staffs WS13 7NA. Tel: 01543 262495. g3fzw@mail.com

District 52

TBA

District 53

TBA

District 54

TBA

Region 6 North Wales

Liz Cabban, GW0ETU.

District 61

Dave Evans, GW4GTE, Glendale, Buckley, Flintshire CH7 3ET. Tel: 01244 544794. dave@daveevans.org.uk

District 62

John Roberts, GW3RBM, Tan-Y-Cefn, Llanarmon-yn-Lal, Mold CH7 4QU. Tel: 01824 780210. john3rbm@aol.com

District 63

Dewi Roberts, GW0ABL, 23 Lon Hedydd, Siglan Farm Estate, Llanfairpwll, Ynys Mon LL61 5JY. Tel: 01248 713647.

District 64

Gordon Rogers, GW0RJV, Maes Gwersyl, Garthmyl, Montgomery, Powys SY15 6RS. Tel: 01686 640611.

Region 7 South Wales

Simon Lloyd-Hughes, GW0NVN.

District 71 TBA

District 72

Ray Ricketts, GW7AGG, 2 Brynstwyth, Penparcau, Aberystwyth, Ceredigion SY23 1SS. Tel: 01970 611853. mwmng01@aber.ac.uk

District 73

Trevor Nicholas, GW4RVA, 15 Maes Llewelyn, Llwynmeredith, Carmarthen SA31 1JJ. Tel: 01267 222916. t.nicholas@btinternet.com

District 74

Carl Mason, GW0VSW, 12 Llwyn y Bryn, Crymlyn Parc, Skewen, Neath SA10 6DZ. Tel: 01792 817321. carl@gw0vsw.freeserve.co.uk

Region 8 Northern Ireland

Jeff Smith, M10AEX.

District 81

Peter Lowrie, M15JYK, 15 Elderburn, Mossley, Newtownabbey, Co Antrim BT36 5NF. Tel: 028 9084 1333. p.lowrie@ntlworld.com

District 82

Gordon Curry, G16ATZ, 91 Burren Road, Co Down BT24 8LF. Tel: 028 9753 3092. g16atz@qsl.net

District 83

Raymond Ashe, G18RLE, 49 Deans Walk, Sleepy Valley, Richhill, Co Armagh BT61 9LD. Tel: 028 3887 0423. raymond@ukgateway.net

District 84

John Crichton, G14YWT, 10 Bann Drive, Lisagelvin, Londonderry BT47 2HW. Tel: 028 7134 3970. john@crichton90.freeserve.uk

Region 9 London & Thames Valley

Alan Ross, G1SQB/M3ARO.

District 91

Keith Holland, G3MCD, 40 Brookland Rise, London NW11 6DS. Tel: 020 8455 7093. koholland@aol.com

District 92

Neil Savin, G0SVN, 7 Bannard Road, Maidenhead, Berks SL6 4NG. Tel: 01628 626210. neil@savin.org

District 93

TBA

District 94

Paul Berkeley, M0CJX, 1 The Beeches, Banstead, Surrey SM7 2AZ. Tel: 01737 373979. m0cjx@lineone.net

Region 10 South & South East

Ivan Rosevear, G3GKC.

District 101

Paul Goodhall, M3JFM, 2 Manor Place, Holywell, Oxford OX1 3UN. Tel: 01865 248629. pbrs176562@aol.com

District 102

Ian Carter, G0GRI, 12 Bobbin Lane, Westwood, Bradford-on-Avon, Wiltshire BA15 2DL. Tel: 01225 864698. g0gri@btinternet.com

District 103

Jim Harris, G4DRV, 11 Boscawen Close, Eastbourne, East Sussex BN23 6HF. Tel: 01323 728479. jim.g4drv@tiscali.co.uk

District 104

TBA

Region 11 South West & Channel Islands

Richard Atterbury, G4NQL.

District 111

Bert Hammett, G3VWK, Rosehill, Ladock, Truro, Cornwall TR2 4PQ. Tel: 01726 882758.

District 112

TBA

District 113

Dick Elford, G0XAY, Prospects, Tormarton Road, Acton Turville, Badminton, S Glos GL9 1HP. Tel: 01454 218362. g0xay@aol.com

District 114

Phil Mayer, G0KKL, 16 Haig Avenue, Canford Cliffs, Poole, Dorset BH13 7AJ. Tel: 01202 700903.

District 115

Syd Smith-Gauvin, GJ0JSY, 13 Jardin-A-Pommiers, Patier Road, St Savior, Jersey JE2 7LT. Tel: 01534 738996. syd@localdial.com

District 116

Bob Bebee, GU4YOX, San Grato, La Houquette, Castel, Guernsey GY5 7DZ. Tel: 01581 256755. bob@bebee77.freeserve.co.uk

Region 12 East & East Anglia

Malcolm Salmon, G3XVV.

District 121

Peter W Frampton, M0CNX, 118 Ramnoth Road, Wisbech, Cambs PE13 2JD. Tel: 01945 464754. peter.m0cnx@btinternet.com

District 122

Phillip Brooks, G4NZQ, 7 Lindford Drive, Eaton, Norwich NR4 6LT. Tel: 01603 250639. phillip.brooks@btinternet.com

District 123

TBA

District 124

TBA

Region 13 East Midlands

Bryn Llewellyn, G4DEZ.

District 131

TBA

District 132

Bill Felton, G3XZF, 29 Wolsey Way, Glebe Park, Lincoln LN2 4QH. Tel: 01522 524014.

District 133

TBA

District 134

TBA



Headquarters

The Radio Society of Great Britain is one of the few radio societies in the world to have a full-time staff located at a central HQ building. Situated just north of London, near to South Mimms Motorway Services (which is adjacent to the M1, A1(M) and M25 motorways), RSGB HQ attracts visitors from all over the UK as well as all countries of the world. Besides providing office space for the 25 members of staff, RSGB HQ contains the QSL Bureau, a book shop, the National Amateur Radio Museum and Library, and the GB3RS radio shack.

Book Shop

There's no need to pay postage or wait for books; RSGB publications, plus the best amateur radio books from the ARRL and other publishers, are available over the counter. Software and EMC filters are also available, as well as members' ties, *RadCom*, etc.

GB3RS Shack

Two days a week, or by prior arrangement, there's an opportunity to operate top-quality equipment on HF, VHF, UHF or satellite using our world-famous callsign GB3RS. Please bring your licence with you, but be prepared to suffer some QRM as the site is adjacent to an industrial estate and many computers.

The National Amateur Radio Library

One compact room houses the largest collection of amateur radio books in Europe, together with many historic books on radio and electronics in general. There are also magazines from almost every country in the world.

Visitors are welcome to browse when the library is open to the public, and researchers may use the facilities by prior arrangement with the Librarian, John Crabbe, G3WFM.

The National Amateur Radio Museum

This is housed in three rooms on the ground floor of RSGB HQ. Curator John Crabbe, G3WFM, describes the exhibits:

The early days

To celebrate 100 years of amateur radio, there is a special working display of equipment used from each decade of the last century.

From the first two decades there is a spark transmitter, a brass key, a coherer receiver, and a Marconi magnetic detector. These are from the Maurice Child, G2DC, collection, which also includes a Marconi aerial tuner from 1903, and a Morse inker from 1900.

There are several examples of valve TRF receivers made in the 1920s and two self-excited transmitters, one for 45m and one for 90m. Also on show is a fine example of a crystal set made from a kit supplied by Gamages in 1924.

For the 1930s the museum has obtained an Eddystone Everyman four-valve TRF SW receiver built from a kit of parts.

There is a one-valve transmitter made by the late Len Newnham, G6NZ, using an American '10' valve, popular in the 1930s. George Jessop, G6JP, has donated a replica four-valve trans-

mitter for 5m used in 1934 for air-to-ground tests. These transmissions were received by amateurs all over London and proved the effectiveness of VHF transmissions from aircraft.

A National HRO with a set of six coils is on display, together with Hallicrafters receivers, Skyrider 23, SX16, SX24 and SX28, all popular with amateurs just before the Second World War.

As well as complete equipment, there is a large collection of radio valves (tubes) ranging from a 1908 DeForest 'Audion' to miniatures from the last days of the thermionics.

Second World War

The 1940s was the heyday of Government surplus and we have on display an AR88 from RCA. This was made for the US Navy and purchased by many radio amateurs for their main station receiver. It covers 75kHz to 30MHz in six bands and, in spite of the heat generated by the innumerable valves, is stable enough to resolve SSB. There is a typical transmitter to go with the AR88, as used just after the war. This is a 40W crystal-controlled CW and AM transmitter made by Webbs Radio who used to have a shop in Soho, in London's West End. This transmitter is rack mounted, is still in working condition and operates on 40m, giving 30W from its single 807 valve.

An 1154 transmitter and an 1155 receiver are on display, together with a BC348 receiver, all war-surplus equipment, bought in their hundreds by post-war amateurs.

Factory built

In the 1950s Labgear, a British company, made a 100W transmitter called the LG 300. This was built into two large cabinets, one the transmitter and the other the modulator and power supply. The transmitter has an 813 valve in the PA and puts out a good 100W on AM and CW. The VFO operates on 3.5 to 4MHz and multiplies up to the other bands, with a series of wide-band couplers. The modulator has a pair of KT66s and four enormous transformers, each weighing about 10kg.

A Minimitter 150W AM/CW transmitter is on display with a typical working shack from this period using a Panda Cub AM/CW transmitter, an HRO receiver, and a BC221 wavemeter.

To complete the show for the 1950s, there are Eddystone general-coverage receivers S640, 740, 670 and 888A, all in working condition.

For the 1960s the Society has an Eddystone EA12, built in Birmingham. One of the first receivers designed to resolve SSB, it is an amateur-band-only receiver in nine bands with linear calibration, and looks superb with its illuminated long dial and its flywheel tuning.

Also from the same decade are a transmitter and receiver pair designed by the late G2DAF. These are specifically for amateur SSB with low-

drift VFOs, narrow-band crystal filters and high image rejection in the receivers. These designs were published in 'the Bull' (the *RSGB Bulletin* which was the Society's journal at the time) as a construction project and several were built, putting many on the air with SSB signals for the first time.

Towards the present

A small section of the museum is devoted to VHF and UHF equipment, comprising converters and transmitters for 4m, 2m, 70cm and 23cm. These were made by Bill Scarr, G2WS, and the designs were published in 'the Bull' in the 1960s to encourage more activity on those bands.

The 1970s are represented by a transceiver for five HF bands, giving about 100W PEP of SSB and CW. This is the Heathkit HW101, which could be built from a kit. It was manufactured in the USA and sold in the UK by Daystrom of Gloucester for about £100.

Also designed and built about this time, and kindly donated by Rowley Shears, G8KW, is a very rare KW2000D transceiver with digital frequency readout, one of the last British-made HF transceivers.

The 1980s are represented by the introduction of the all-solid-state transceivers, eg IC720A, and the 1990s entered the digital age with an Icom 2m FM transceiver and a PK232 packet radio terminal node controller.

Exhibits wanted

The curator is always looking for typical amateur radio equipment from the past, particularly from the first three decades of the century, and would be pleased to hear from anyone who wishes to donate them to the Society for the display.

Behind the scenes

Although several parts of RSGB HQ are available to the public, most of the building houses the offices where the administrative work of the Society is carried out. There are four departments.

General Manager's Office/Secretariat

Besides having overall responsibility for the work of all HQ staff, the General Manager and his team deal with: liaison with the Radiocommunications Agency, International Amateur Radio Union, International Telecommunications Union and European Union; repeaters and beacons; packet radio; administration of the Morse Test Service; the Foundation and Intermediate Licence Schemes; and co-ordinating the work of the committees and providing a secretariat for the Council and committees.

The General Manager's Office is also responsible for Society Public Relations.

Audio Visual Library

The RSGB Audio Visual Library is a service for RSGB affiliated societies to help in preparing programmes for their meetings. Unfortunately the service is not available to individual members. The library consists of VHS video cassettes and audio cassettes, often supported by 35mm slides. A small charge is made for each item borrowed.

General interest

MARCONI AT POLDHU (2001, 30min). History of tests and development of Marconi Comms, memories of Lizard residents about the station and staff, plus video scrapbook of Poldhu ARC celebrations at the New Marconi Centre.

A BRIEF HISTORY OF TIME (1995, 80min). Based on the book by Stephen Hawking.

ARMADA GB400A (40min). Account of Plymouth ARC establishing a station to commemorate defeat of the Spanish Armada.

BATTLE OF BRITAIN (1994, 60min). Explains the truth on how the battle was really waged and won.

CLASSIC MANOEUVRES (1992, 40min). The Red Arrows on their North American tour 1983 - the world's greatest aerial display team.

COASTAL COMMAND (1994, 70min). A 1944 Crown Film Unit production of the role of RAF Coastal Command in protecting the nation's seaplanes.

CQ FIELD DAY (1993, 26min). Setting up and operating a Field Day station to win - California style.

EMPIRE OF RADIO (1992, 1h 50min). A first-

class professional American video of the pioneering of radio.

GETTING STARTED IN DXING (1993, 52min). Shows DXers' stations and how to 'winkle out' the rare DX. CQ 1992.

LANCASTER (1992, 58min). The story of the RAF's most famous bomber, including rare Second World War film shots.

LEGENDS OF AMATEUR RADIO - W6HX, W6EA & W6OJ (1995, 43 mins).

MELBOURNE RADIO CLUB (1982, 65min). Video made by this famous VK club, showing the city and amateurs' stations.

MY AMATEUR RADIO (1996, 60min). Biography of G2DPQ - lifetime of amateur radio - recorded just before he died.

NORTH TEXAS CONTEST CLUB - 1983 (1992, 40min). Big beams and big stations to win contests Texan style.

PASSPORT TO FRIENDSHIP (1991, 25min). World Goodwill Games 1990 - Top Ham Operators 'Go for Gold' contest.

PJ9W - 1990 CQ WW SSB CONTEST (1992, 45min). Fascinating video on preparing and running a winning contest station by a keen team of Finnish operators.

SECRET LISTENERS - BBC (30min). Account of amateurs' work during WWII.

SECRET WAR - WORLD WAR 2 SERIES (1991)
 i) Battle of the Atlantic (50min).
 ii) Battle of the Beams (50min);
 To See for a Hundred Miles - Radar (50min).
 iii) Deadly Waves - Magmine detection (50min);
 Still Secret - Enigma code breaking (50min).
 iv) Terror Weapons - V1 and V2 (100min).

TWO PIONEERS OF RADIO - G2DX & G6CJ (22min). Bristol TV Group video.

VHF - ALL YOU NEED TO KNOW TO PASS (1992, 45min). The VHF Marine Operator's Examination.

VHF THEN AND NOW by JACK HUM, G5UM (1987, 85min)

WESTERN APPROACHES (1994, 83min). A 1944 Crown Film Unit production of the bravery of the Merchant Service. The best British documentary of the Second World War.

WINNING ON THE HILL (1995, 58min). Superb video of VHF NFD winning station in Rochester, NY, USA.

WORLD AT THEIR FINGERTIPS - RSGB (45min). Growth of the amateur movement in the UK, by John Clarricoats.

Accounts Dept

This small team is responsible for handling all of the money going in and out of the Society - some £1.5m per year. This includes subscriptions, receipts from book sales, advertising revenue, and payments for goods and services. Financial planning, budgetary control and monitoring are essential functions of the Accounts Department.

Commercial Dept

This department's job is to deal with the majority of the very many calls, faxes, e-mails and letters received every day at HQ. They deal with those who wish to join, anyone wanting advice, book sales, advertising in the Society's publications, booking of Morse tests, special event stations, Intermediate RAE courses, the organisation of Society events, such as the HF Convention and much more.

RadCom Dept

This team is responsible for producing the Society's monthly magazine, *RadCom*, press releases and the GB2RS News bulletin.



The RSGB HQ at Potters Bar houses offices, a station, a museum and the QSL Bureau.

Normal opening times: 9.15am to 5.15pm, Monday to Friday.

Library, Museum & shack open Mondays & Thursdays only, 10.00am - 4.00pm, or by prior arrangement.



Technical

AERIAL CIRCUS G6CJ (70min). Dud Charman's famous lecture (in b&w only). A little scratchy, but still good viewing.

AMATEUR TELEVISION (60min). A series of short programmes on amateur TV here and in Australia.

BASIC RADIO MEASUREMENTS (1993, 80min). Practical demonstration of key station measurements, by G3NYK.

CONSTRUCTION OF THE 'ONER' (60min). A GQRP Club construction project.

ELECTROMAGNETIC WAVES - THE ELECTRON'S TALE - THIN FILM MICROCIRCUITS. Three titles on one 60min video.

GETTING STARTED IN PACKET RADIO (1993, 45 min). Very good on how to start, set up equipment and go on the air. CQ 1992.

MANUFACTURE OF JUNCTION TRANSISTORS - SOMETHING BIG IN MICROCIRCUITS. Two titles on one 65min video.

SECRET LIFE OF RADIO (1992, 35min). An easy-to-watch video on radio techniques from crystal set to complex rig. Very 'watchable' for all ranges of skill and knowledge.

SILICON GLEN (30min). Electronics industry video.

SKYWATCHING (1993, 40min). Good guide to daytime sky, explaining sun, clouds, wind, precipitation, weather hazards, etc. Made in USA.

DXpeditions etc

DXPEDITION 'COMOROS - D68C' (2001, 35 mins). Account of the latest trip by the Five Star DXers Association.

AIRING AILSA (1999, 27 min). Donated by the Ayr Amateur Radio Group.

DXPEDITION 'ALASKA' (1998, 33 mins) KL7/W6IXP NA-150/NA-210.

DXPEDITION 'CAMPBELL ISLAND' ZL9CI (1999, 58 mins) by 9V1YC.

DXPEDITION 'EASTER IS - XR0Y' (1995, 45min).

DXPEDITION 'FASTNET' (1991, 55min). First-class account of preparing for and executing a successful DXpedition to the Fastnet Rock Light-house. Donated by the IRTS.

DXPEDITION 4J1FS MALIYSOTSKII IS (25min).

DXPEDITION 7J1RL OKINO TORISHIMA (35min).

DXPEDITION TO HEARD IS (1997). VK0IR by ON6TT (53min).

DXPEDITION TO HOWLAND IS - NO1Z/KH1 (22min).

DXPEDITION TO BOUVET IS - 3Y5X (30min). Donated by the Northern California DX Foundation 1990/91.

DXPEDITION TO HOWLAND IS (1993, 45min). The latest expedition to KH1.

DXPEDITION S0ARSD (40min).

DXPEDITION TO JARVIS IS (1992, 35min). Superb account of a successful DXpedition mounted in 1990. Donated by Northern California DX Foundation.

DXPEDITION VP8ANT.

DXPEDITION 'ST GEORGE REEF' (1998, 30 mins) N6W/P NA-184.

DXPEDITION 'VIETNAM' (1997, 30 mins) 3W. New IOTA expedition AS-130. Con Son Island.

DXPEDITION VU7 LACCADIVE IS (58min).

EXPEDITION BORNEO (1995). Presence Radioamateur (35min). French spoken.

JARL VISIT TO CHINA.

LADY ISLE 2 - The Return (1997, 20min). Donated by the Ayr Amateur Radio Group.

Specially for the beginner

AMATEUR RADIO FOR BEGINNERS (1991, 43min). RSGB video to introduce the Novice Licence.

AN INTRODUCTION TO THE HOBBY OF AMATEUR RADIO (1991, 15min). A personal account by G4ZDA.

HAM RADIO HORIZONS (1993, 59min). Introduction to the exciting and diverse world of amateur radio. CQ 1992.

NEW WORLD OF AMATEUR RADIO - ARRL (30min).

Space, satellites etc

AMATEUR RADIO'S NEWEST FRONTIER (30min). The W5LFL Space Shuttle mission.

GETTING STARTED IN AMATEUR SATELLITES (1993, 50min). Newcomer's guide to equipment, techniques and jargon of satellite communications. CQ 1992.

METEORITES (2 videos, 1995). Vol 1: Menace From the Sky (42min). Vol 2: Witenesses From Beyond the Times (42min).

SATELLITE COMMUNICATION TELECOM (1979, 60min).

SATELLITE COMMUNICATIONS (1986, 22min) - *SPACETALK* (22min) - *PRECISE GIANTS* (18min).

SATELLITE OSCAR X by DJ5KQ (30min).

SATELLITE 'FUJI' by JARL (1986, 30min). Professional video showing the construction, launch and use of FUJI.

SPACE SHUTTLE WOORE TONY ENGLAND (53min). Account of the first amateur in space by the man himself.

STAR JOURNEY - LIFT OFF! (1996, 52min). Preparation and mission with the astronauts aboard the shuttle Columbia. Narrated by Patrick Stewart.

THE DREAM IS ALIVE (1993, 37min). A window seat on shuttle: share life with the astronauts: see the earth from space: walk in space etc. 1985, made by The Smithsonian Museum, Lockheed & NASA.

THE UNIVERSE by The Smithsonian Museum 1992 (1993, 50min). Excellent story of how the Universe started. Quality cosmology. Cassette and slide section.

AERIALS FOR DX - G6CJ (18 slides, 64min). Dud Charman's famous lecture.

AURORA - WHAT CAUSES IT - G2FKZ (1982). Part 1 (20 slides, 51min). Part 2 (30 slides, 63min).

BBC MONITORING SERVICE IN WW2 (60min, audio only). Read by Alvar Lidell - 1981.

DXPEDITION TO CLIPPERTON IS (1978, 30 slides, 60min).

DXPEDITION TO ST PIERRE & MIQUELON (1959, 63 slides, 42min).

DXPEDITION TO XF4L by N7NG (1989, 80 slides, 35min).

ELECTROMANIA (1983, 30min, audio only).

HISTORY OF AMATEUR RADIO G2BTO (75 min, audio only). First-class introduction to, and history of, radio.

OSCAR VI - G3IOR (43 slides, 90min). Launched 15 October 1972.

OSCAR VII - G3IOR. Launched 15 Nov 1974. Part 1 (48 slides, 60min). Part 2 (57min, audio only).

SOLAR CYCLE 21 (33 slides, 48min).

500kHz - 'THE END IS NIGH' (1990, 65min, audio only). Commentary and recordings of the final closing down CW signals of famous coastal stations. A good, somewhat nostalgic, cassette.



Full details from *The Librarian*, RSGB AV Library, RSGB HQ.

E-mail: AV.Library@rsqb.org.uk For the latest list, see: www.rsqb.org/membersonly/info/avlib.htm

Services for the Disabled

RAIBC

The Radio Amateur Invalid and Blind Club, founded in 1954, is a Registered Charity (No. 802348) and its patron is Lord Rix. Its Honorary Vice-President is Brigadier Johnny Clinch.

The RAIBC is a national society helping disabled and blind amateurs and short-wave listeners. The activities fall into three areas: membership services of various kinds; regular HF and VHF nets; and the regular distribution to members and subscribers of the magazine *RADIAL*, which contain news, articles and views concerning the activities of the club and its members.

Membership services

The club has local representatives in some areas, who have kindly agreed to help members in their area, when time and ability permits, with problems concerning the installation, operation and maintenance of their amateur radios. The club is most grateful to many amateurs who donate their equipment for use by members, and it frequently receives equipment and donations from legacies or wills etc; this equipment is on loan to members who cannot afford their own and always remains RAIBC's property. We also buy suitable equipment when donations and legacies allow.

The committee can give advice to members on many aspects of amateur radio.

The *Radio Amateurs Examination Manual* is available on cassette, mainly for the blind and print-handicapped, for the cost of the tapes plus postage for the disabled. A Morse course and some Morse tutors are also available for a nominal two-year loan period to encourage members to work for the 'A' licence. Other cassettes are available including EMC (electromagnetic compatibility) hints and tips, and manuals for transceivers and receivers. New titles are added from time to time. Collated lists are available from Nick Chambers, G0IRM. Please send SASE to 78 Durley Avenue, Pinner, Middx HA5 1JH. Tel: 020 8868 2516 (before 9.30pm).

Club nets

Members and supporters operate many official club nets. These include G4IBC on 3.743MHz (SSB) on Tuesdays at 10am, and Wednesday at 2pm (local time). For members in Northern Ireland there is G10IBC at 7pm on Friday. GB1IBC is used for VHF nets on the 2m band (145.350MHz). A CW net operates on 3.553MHz on Mondays at 2.15pm.

Publications

RAIBC publishes *RADIAL* approximately four times a year. It is also available on cassette for blind members. The committee is continuing to expand news and publications. Committee members include:

Secretary: Vicki Cowell, 1 Thames View, Cliffe Woods, Rochester, Kent ME3 8LR.

Treasurer & Membership Secretary:

Shelagh Chambers, 78 Durley Avenue, Pinner, Middlesex HA5 1JH. Tel: 020 8868 2516.

RADIAL Editor & WebMaster: Peter Chambers, 11 Portal Road, Bridgemary, Gosport, Hants PO13 0JH.

Equipment Manager: Terry Stanley, G0GTO, 1 Thames View, Cliffe Woods, Rochester, Kent ME3 8LR.

RNIB

The Royal National Institute for the Blind has a well established library of items in braille and on tape relating to amateur radio which may be borrowed, as well as a number of items which may be purchased. Items available include the *Radio Amateurs Examination Manual*, *A Guide to Amateur Radio*, *Simple Low Cost Wire Antennas*, as well as various equipment manuals, RSGB operating lists and RA information sheets.

Enquiries should be made to: RNIB Customer Services, PO Box 173, Peterborough, PE2 6WS. Tel: 0845 702 3153 (local call rate).

VIRES

The Visually Impaired Radio and Electronics Society is a self-help society of visually impaired radio and electronics enthusiasts, whose aim is to encourage visually impaired people to share in the enjoyment of amateur radio and electronics.

Aims include increasing public awareness of the contribution that VIRES has to offer, lobbying manufacturers to make their products more usable by visually impaired customers, designing special projects and persuading someone to make them.

The organisation is a forum for sharing members' expertise and advice. A Morse class for visually impaired people is ongoing, and adapted RAE and NRAE training courses are planned.

An e-mail discussion list is open to anyone. Join the discussion list by sending a blank message to vires-subscribe@egroups.com Alternatively, visit the mailing list page at <http://www.egroups.com/group/vires/>

Details and membership can be obtained from: Ms Laura Alexander, 43 Connaught Mansions, 390 Coldharbour Lane, London SW9 8LE.

Sight Concern Bedfordshire

This organisation (formerly known as Enterprises by the Blind) operates a talking newspaper service for the visually impaired. Among the periodicals that they read are RSGB's *RadCom* (monthly, three C90s), which is free to registered blind or partially sighted members of the RSGB who are supplied with free cassettes and posting wallets. Further details can be obtained from: Teresa D'Astoli, 14 Stuart Street, Luton, Beds LU1 2SL. Tel: 01582 655554. Fax: 01582 515809.

St Dunstan's

St Dunstan's, the organisation for men and women blinded in the service of their country, are happy to offer advice and answer queries. Please contact Ray Hazan, Head of Public Relations, St Dunstan's, 12-14 Harcourt Street, London, W1A 4XB. Tel: 020 7723 5021.

City & Guilds Exams

City & Guilds of London Institute has for many years made arrangements for candidates with special needs, who would have difficulties taking the examination under normal circumstances. See the 'Examinations' pages in this *Yearbook* for details.

Morse tests

Morse Tests for the disabled fall into three general categories, which cover most situations:

- Those who have difficulty with hearing, sight, or normal manipulation of the Morse key. In other words, those who are physically able to attend a centre, but on arrival require individual attention because of their disability.
- Those who are mobile, but housebound because of their disability.
- Those who are bedridden, and a home visit is required.

Each case is considered on its merits. There are no exemptions. Although the rules may be relaxed to take into account individual problems, candidates must demonstrate that they have made a sustained effort to learn the Morse code. Candidates applying for the Morse test as a disabled person are required to supply details of their disability on a supplementary application form. Supporting medical evidence must be supplied and in the case of a request for a home visit, the medical note must additionally confirm the inability of the candidate to travel to a scheduled Morse test centre. Application forms can be obtained from RSGB HQ.

RSGB

The Society offers concessionary membership for those who are blind or disabled.

The concessionary rate of 50% of the full corporate rate is available to those who are disabled such that they are unable to permanently follow or obtain full time employment. They must also be UK resident or be an ex-patriot and be under state pensionable age. An application form is available from the RSGB Sales Department, which needs to be completed and returned to the Society with appropriate documentation.

For those who are blind, a choice is available of having either a printed copy of *RadCom*, or receiving a cassette tape version.

The Society has wheelchair access to its public facilities.

GB4FUN

As part of the RSGB's continuing commitment to promoting amateur radio, the RSGB's mobile radio shack is now on the road. It is available to support those giving demonstrations to non-amateur audiences such as schools, colleges and youth groups, as well as attending county shows etc.



small project.

The internal layout of GB4FUN is designed so that the radio operator can face his audience whilst operating - something often ignored by special event stations.

The procedure at public events is rather different. Visitors walk through the vehicle, past the special event operator, to view displays and posters. The operator does not directly address the public. Instead, a second person gives a commentary on the on-air activity and answers any questions, whilst others stand outside encouraging people into the vehicle.

Local radio clubs are invited to help at such events.



GB4FUN made its debut in 2001 at the Bedfordshire Steam & Country Fayre, where it was used to enhance the Stevenage and Shefford radio clubs' display. Following this, the vehicle went to the Leicester Show. Since then it has been to several other events and schools, to bring amateur radio to the attention of those who might not otherwise hear about it - especially the young.

Would you like to use GB4FUN in 2003?

If your club or group would like to make use of GB4FUN for a public demonstration of amateur radio, please contact RSGB Headquarters or e-mail: gb4fun@rsgb.org.uk



Amateur radio on the move

The vehicle is fully equipped with HF, VHF all mode and UHF FM radios. It has a built-in 5kW generator and an external telescopic mast. It takes approximately 30 minutes to set up all the aerials on GB4FUN, so on the air demonstrations of amateur radio commence soon after arrival on site.

In March 2002, as part of National Science Week, GB4FUN clocked-up 1,300 miles touring the country to demonstrate amateur radio to schools.

How it works

When visiting a school, GB4FUN is typically set up early in the day. This is followed by a short talk inside the school, then visits in groups of a dozen or so for on-air demonstrations. This can be followed by an informal visit, perhaps during lunch, to listen to receivers or build a



GB4FUN is sponsored by...



Special Event Callsigns

Do you really need a GB callsign?

All club stations are able to pass greetings messages sent by a non-licensed third party. This means that applying for a GB callsign no longer holds any advantages for a club!

Provided the club uses the prefix letters (see below), the club station is allowed to pass greetings messages and to operate simultaneously on more than one band. The club prefixes are very distinctive and create interest through their rarity. If a club regularly operates a special event station using the club callsign, this will help increase the club's identity. It will also benefit by being able to print its QSL cards in larger, more economic quantities.

Another advantage is that any suitably licensed and authorised club member may operate the club station. This gives greater flexibility over a GB callsign which is just a variation to an individual's licence.

Best of all, you don't have to fill in any forms or give 28 days notice of operation!

Remember when operating away from the main address, if you give prior written notice to the RIS office covering your area, you do not have to sign /P or give your location to within 5km.

Old club prefix	New club prefix
G/M	GX/MX
GD/MD	GT/MT
GI/MI	GN/MN
GJ/MJ	GH/MH
GM/MM	GS/MS
GU/MU	GP/MP
GW/MW	GC/MC

GB callsigns

The RSGB despatches on behalf of the Radiocommunications Agency the Notices of Variation issued by the Secretary of State for Trade & Industry authorising special event stations. Consequently, all enquiries and correspondence should be addressed to the Society and not to the RA.

The RA has stated that it "... requires the Society when distributing Notices of Variation allowing radio amateurs to set up special event stations, to ensure that the request is for an event which is of special significance and therefore is generally accepted as one requiring celebration, and that the event is open to viewing by members of the public".

Applying for a GB callsign

No charge is made by the RSGB for a special event callsign, but application forms must be sent in at least 28 days prior to the start of the event!

Applications are normally processed shortly after receipt. If nothing has been received 14 days prior to the event, please contact the SES Administrator at RSGB HQ immediately. Please note that no authority exists until a Notice of Variation has been received.

A Notice of Variation will only be issued to individuals who hold a current full UK A or B

licence (ie not Foundation or Intermediate). It will be valid for a maximum of 28 consecutive days. Please note that a Notice of Variation will only be issued for an individual's licence; variations will not be issued on a club licence.

The station may only be established and operated at one specified location. This must be the address stated on the application form which must be detailed enough for anyone to find easily. Operation of a special event station from a licensee's home address is not normally permitted.

Only the person responsible for the station need sign the form, as the authorisation is by Notice of Variation to that individual's licence. This person is required to be present to supervise the correct operation of the station. Additional operators need only sign and write their callsigns in the logbook.

If you have not used the callsign before, you can avoid last-minute disappointment by first contacting RSGB. We can then check that it is available and reserve it for you. A GB callsign may be reserved for up to six months in advance. When a GB callsign has been used it will not normally be re-issued to another amateur for use at a different event for a period of 24 months.

If operation of the special event station on the HF bands is desired, a Class A licence holder must apply for a Class A GB callsign.

Subject to availability special event callsigns are available in the following formats:

Class A or A/B	Class B
GB0 + 2 or 3 letters	GB1 + 2 or 3 letters
GB2 + 2 or 3 letters	GB5 + 3 letters
GB4 + 2 or 3 letters	GB6 + 3 letters
GB5 + 2 letters	GB8 + 3 letters
GB6 + 2 letters	
GB8 + 2 letters	

Other callsign formats

The RSGB is not authorised to issue callsigns in formats different from the above. Applications for special anniversaries which require the numbers such as 25, 40, 50, 60 or 75 must be specially supported by the RSGB to the RA. The Radiocommunications Agency will only consider applications via the RSGB from the headquarters of a nationally based organisation. Applications cannot be entertained from individuals, local clubs or branches of nationally based organisations.

Greetings messages

The guidelines agreed with the RA are:

1. Each greetings message should not exceed five minutes.
2. Each person may pass only one message to each station with which the originating station is in contact.
3. A non-licensed person may speak into the microphone but the licensed radio amateur must identify the station and operate the transmitter controls at all times.
4. Greetings messages by third parties may only be sent from and received by stations

within the UK or the USA, Canada, Falkland Is, Gibraltar, Malta, the Maldives and Pitcairn Is. The licensee may exchange greetings as in any QSO, with any station.

Charitable events

It is recognised that some special event stations will be established at certain charitable events where a major concern will be the raising of funds.

The RA has agreed that the charity (if one is involved) or the reason for establishing the special event station may be mentioned 'on-air' provided that under *no* circumstances may a donation be requested during the contact, and sending of QSL cards must *not* be conditional upon the pledge of a donation. It is in the interests of everyone who holds a special event station licence that operators keep within the spirit of this by not asking for any money over the air.

The station may be sponsored per contact, ie the licensee may in advance of the event seek from his/her friends and relatives sponsorship assurances under the usual arrangements for sponsorship. You must *not* seek sponsors 'on-air' at any time.

QSL information

Special event stations generate many QSL cards; it is therefore important that you use the QSL Bureau correctly.

For instructions, see the 'QSL Bureau' pages in this edition of the *RSGB Yearbook*.

JOTA and radio Scouting

Jamboree on the Air (JOTA) is an annual event designed to allow Scouts to send greetings messages to each other. Started in 1957, it now involves approximately 600,000 Scouts and Guides, with the help of over 23,000 radio amateurs in over 100 countries.

JOTA takes place on the third full weekend of October each year, officially between 00.00 Saturday and 24.00 Sunday, although most stations run for a period within these hours to suit their own requirements. The event is organised by the Scout movement, supported by radio amateurs or clubs. Their aim is to bring Scouts around the world closer together, and to introduce them to the capabilities of amateur radio.

All amateur bands are used. Most stations use a special event or a club call, allowing the Scouts to pass greetings messages over the air. JOTA information packs are sent to all participating GB stations at the beginning of October. Any clubs taking part



Scouts 'Radio Communicator' badge.



Application for a Special Event Callsign

PLEASE COMPLETE THIS FORM CLEARLY IN BLOCK CAPITALS

Event name Brief details of event and its nature:	
Start date for Notice of Variation:	Duration of licence: days (maximum 28 days)

† Callsign preferred	† Callsign stands for
1st Choice
2nd Choice
3rd Choice

OFFICE USE ONLY
Callsign:
SES No:
Date:

† From where will the special event station be operated?	
If no postal address, please give full national grid reference:	Post code:

† For inclusion in <i>RadCom</i> if received in time:	
Actual start date of event:	
What frequency bands/modes do you propose using? (tick boxes only)	
160m <input type="checkbox"/>	30 - 10m <input type="checkbox"/>
80/40m <input type="checkbox"/>	6/4m <input type="checkbox"/>
2m <input type="checkbox"/>	70cm <input type="checkbox"/>
Packet Satellite <input type="checkbox"/>	<input type="checkbox"/>

† Do you want the QSL Submanager to keep cards for this station? (If yes, please supply him with envelopes.)	YES / NO	<i>Outgoing cards must still be sent to the RSGB QSL Bureau.</i>
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To whom and where should the Notice of Variation be sent?	
Name: Mr/Mrs/Miss	Callsign:
.....
.....	Post code:
Telephone: Home:	Work:
.....	Ext:

N.B. In signing this form, you are confirming that your Special Event Station will operate in accordance with the following conditions laid down by the RA: <i>"No mobile or maritime mobile operation is permitted."</i> <i>"The RA requires the Society, when distributing Notices of Variation allowing radio amateurs to set up special event stations, to ensure that the request is for an event which is of special significance and therefore is generally accepted as one requiring celebration, and that the event is open to viewing by members of the public."</i>	
Declaration: (To be signed by the person responsible for the callsign and station). <i>I, the undersigned, understand that failure to complete this form accurately and properly may invalidate my application for a special event callsign.</i>	
Name: Mr/Mrs/Miss	† Callsign:
Signature:	Date:

† These items may be published by the Radio Society of Great Britain.



Please post the completed form (fax not acceptable) at least four weeks before the start of the event to: Amateur Radio Department, RSGB, Lambda House, Cranborne Rd, Potters Bar, Herts EN6 3JE. Tel: 0870 904 7373.

Usual Scout Net Frequencies

Band	SSB (Phone)	CW
80m	3.740 and 3.940*	3.590
40m	7.090	7.030
20m	14.290	14.070
17m	18.140	18.080
15m	21.360	21.140
12m	24.960	24.910
10m	28.990	28.190

The UK Scout net is on Saturdays, 3.740MHz at 09:00 local time. The European Scout net is on Saturdays, 14.290MHz at 09:30GMT.

* USA only.

in JOTA wishing to receive this information pack should contact the SES Administrator at RSGB HQ.

The interest fostered by JOTA and World Jamboree has spread and many Scout camps and campsites boast amateur radio facilities. A number of proficiency badges in the radio, electronics and computer fields are available for Scouts. Several countries have permanent Scout Headquarters stations – for example the World Scout Bureau in Geneva has the callsign HB9S and Gilwell Park in the UK operates un-

der the callsign GB2GP.

Many countries run periodic Scout nets. There are regular weekly UK and European nets aimed at Scouters who are also radio amateurs.

Thinking Day On The Air

Thinking Day On The Air (TDOTA) is organised by The Guide Association on the third full weekend in February, to celebrate the birthdays of the founder of the movement, Lord Baden-Powell, and of his wife, Lady Baden-Powell, the World Chief Guide, on 22 February.

The aim of TDOTA is to encourage the girls to make Guiding friendships with members of other units and to introduce them to amateur radio. Station organisers are asked to keep these objectives in mind.

Guide amateur radio stations rely on the goodwill of radio amateurs in setting up stations, though the association has an increasing number of members of all ages holding callsigns.

Guiders interested in organising a TDOTA



station can apply for a comprehensive information pack with suggestions for activities, logos for certificates and posters to report forms. Further information is published from time to time in the associations' magazines.

Stations are requested to complete a brief report which is sent to Girlguiding UK HQ. All the information is collated into a National Report, which is sent to those

who took part and contributed to the report. Copies of the current report are available on receipt of an A4 SASE or from the web site (see below).

Amateur radio has a place in the programme for all age groups, encouraging girls to embrace the technical aspects and international perspectives of a world-wide movement. Girlguiding UK supports the revised amateur radio licence structure and particularly welcomes the Foundation Licence.

While the main focus remains TDOTA, Guides on the Air can be heard at other times of the year from camps, activity days and leader training courses.

Permanent Special Event Stations

The following are all permanent special event callsigns, as opposed to the more usual 28-day ones. Application for a new permanent special event callsign should be made to the Radiocommunications Agency, enclosing proof that the station is on show to the general public throughout the year and details of the callsign of the club station. The RA liaise with the RSGB to issue successful applicants with the appropriate Notice of Variation to their club station.

GB0IBC	Invalid & Blind Club	GB2OWM	Orkney Wireless Museum, Kiln Corner, Junction Road, Kirkwall, Orkney KW15 1LB.
GB0IWM	Imperial War Museum	GB2PLY	HMS Plymouth (not operational)
GB0REM	Royal Engineers Museum, Brompton Barracks, Chatham, Kent ME4 4UC.	GB2RN	Royal Navy, HMS Belfast, London
GB0SNB	Secret Nuclear Bunker, Kelvedon Hatch Lane, Kelvedon Hatch, Brentwood, Essex CM14 5TL.	GB2RNR	Royal Naval Reserve, TS Greenville, Sea Cadets Corps, 27 Ferguslie Main Road, Paisley PA1 2QE.
GB0SUB	Submarine ARC, HMS Collingwood, Newgate Lane, Fareham, Hants PO14 1AS.	GB2SFL	South Foreland Lighthouse, St Margarets Bay, Nr Dover, Kent.
GB0SWR	Sir Walter Raleigh (ship)	GB2SM	Science Museum
GB1IBC	RAIBC VHF net control	GB2VHF	RSGB special activities station
GB2ATG	RTTY news service (broadcast licence issued by RA)	GB3RN	Royal Naval ARS, HMS Collingwood, Newgate Lane, Fareham, Hants, PO14 1AS.
GB2AIR	South Yorkshire Aircraft Museum, Sandy Lane, Doncaster, South Yorks.	GB3RS	RSGB HQ, Lambda House, Cranborne Road, Potters Bar, Herts EN6 3JE.
GB2BP	Bletchley Park Museum, Bletchley Park, Milton Keynes, Bucks MK6 3LF.	GB3WM	National Wireless Museum, Puckpool Park, Seaview Road, Ryde, Isle of Wight.
GB2CPM	Chalk Pits Museum	GB4HMS	Her Majesty's Ship
GB2CW	RSGB slow Morse service	GB4ORH	Operation Raleigh HQ
GB2DHH	De-Haviland Heritage, Mosquito Air Museum, Salisbury Hall, London Colney, Herts AL2 1EX.	GB4RS	RSGB Presidential Installation
GB2GM	Guglielmo Marconi, Poldhu ARC, Poldhu, Mullion, Cornwall TR12.	GB2NAM	North East Aircraft Museum, Old Washington Road, Sunderland, Tyne & Wear SR5 3HZ.
GB2GMM	Guglielmo Marconi Memorial, The Needles Pleasure Park, Alum Bay, Isle of Wight PO39 QJD.	GB4FUN	RSGB mobile demonstration vehicle and shack.
GB2GP	Gilwell Park Scouts, Gilwell Park, Chingford, London E4 7WQ.	GB2NSC	National Space Centre, National Space Science Centre, Exploration Drive, Leicester LE4 5NS.
GB2IW	RSGB 'Intruder Watch' monitoring service	GB2CWP	Christopher Whitton Panton, Lincs Aviation Heritage Centre, The Airfield at East Kirkby, Spilsby, Lincs, PE23 4DE.
GB2IWM	Imperial War Museum, Duxford Airfield, Cambridge CB2 4QR.	GB2SJ	Souter Lighthouse, Whitburn, Tyne & Wear SR6 7NH.
GB2LD	Lizard Wireless Museum, Basspoint, The Lizard, Nr Helston, Cornwall TR12.	GB2YAM	Yorkshire Air Museum, Halifax Way, Elvington, York YO41 4AU.
GB2MC	Muckleburgh Collection, Weybourne Military Camp, Weybourne, Norfolk NR25 7EG.	GB2RAF	Royal Air Force, RAF Air Defence Radar Museum, RAF Neatishead, Norfolk NR12 8YB.
GB2NLO	Norman Lockyear Observatory, Salcombe Hill Rd, Sidmouth, Devon EX10.	GB2CF	ACF/CCF, Royal Signals Museum, Blandford Camp, Blandford, Dorset DT11 6LJ.

Info about JOTA and other Scout radio and electronics activities: The Scout Association, Gilwell Park, Chingford, London, E4 7QW. Tel: 020 8524 5246. Web site: www.scouts.org.uk
For info about Girlguiding & TDOTA, send an A4 SASE to: The Programme Team, Girlguiding UK, 17-19 Buckingham Palace Road, London SW1U 0PT. Tel: 020 7834 6242. Web site: www.girlguiding.org.uk



RSGB QSL Bureau

The purpose of the Bureau is to exchange QSL cards between RSGB members and other radio amateurs. Most national radio societies operate bureaus, some making an extra charge for this service. The RSGB provides it as a free service, though only members may make use of the outgoing service. The Bureau is the cheapest, but not necessarily the quickest, way of sending cards.

The outgoing and incoming service of the RSGB QSL Bureau is available both to transmitting and receiving members of the Society. Non members of the Society are entitled to use the incoming service.

Outgoing cards

All cards for distribution should be sent to the RSGB QSL Bureau at Headquarters. There is no limit to the number of cards which may be sent at any one time.

When the cards arrive at the Bureau, those destined for abroad are sorted into countries and despatched in bulk to the appropriate overseas QSL bureaux, most of which are operated by members societies of the International Amateur Radio Union.

Cards for stations within the UK are sorted into callsign groups, each of which is in the charge of a volunteer sub-manager. It is this person's task to associate the cards sent to the sub-bureau from the main QSL Bureau, with the envelopes which are on file.

Notes

1. Choose QSL cards which do not exceed normal postcard size, viz 5.5in x 3.5in (140 x 80mm). Large cards invariably have to be folded, whilst small ones and those of a thin nature are difficult to handle.
2. Print the addressee's callsign on both sides of the cards.
3. Separate cards destined within the UK from foreign-going ones.
4. Sort all cards alphabetically by prefix. Sort USA cards into call areas regardless of prefix. When a QSL Manager is involved, sort under *his* callsign.
5. Please pack the cards so that they are all the same way up, and do not space cards with markers or similar.
6. Pack cards adequately so that they do not get damaged in transit and with the correct postage to reach RSGB, and send them to the bureau.
7. Adhesive address labels for sending cards to the Bureau are available free of charge from RSGB HQ on receipt of a SASE.
8. All QSL cards and correspondence relating to the RSGB QSL Bureau should be sent to the QSL Bureau at RSGB Headquarters.
9. Listeners are reminded that their reports should contain sufficient information to be of genuine value to the transmitting amateurs concerned. Reception reports relating to short-wave broadcasting stations unfortunately cannot be accepted.
10. Overseas members of RSGB in countries where there is no QSL service operated by the IARU member society for that country may send their cards to the RSGB QSL Bureau for distribution.

Incoming cards

Supply your sub-manager with SASEs of a suitable size and strong material – 190mm x 130mm is ideal, preferably Manilla.

Print your callsign or RS number in the top left-hand corner of each envelope. Always use 1st or 2nd class stamps and not those bearing monetary amounts.

Envelopes should be numbered and 'Last envelope' marked on one so that it is known when a fresh batch is needed.

Envelopes are not normally returned until full weight has been reached for the postage paid. Those wishing to receive cards at more frequent intervals should mark their envelopes 'Wait 6' etc.

Notes

1. Licensed UK amateurs who are non-members of the RSGB may send stamped addressed envelopes to their sub-manager for collection of their cards.
2. Cards for amateurs who have neglected to send envelopes are retained for three months, after which they are destroyed. Amateurs who do not wish to collect cards should notify the QSL Bureau accordingly.
3. Amateurs who operate from a part of the United Kingdom which has a different prefix should deposit envelopes with the appropriate sub-manager for the different prefix. For example, a G7 station which operates temporarily from Wales and wishes to receive cards should leave envelopes with the GW7 sub manager.
4. Overseas amateurs who are not members of the RSGB may send cards addressed to UK stations *only*, direct to the RSGB QSL Bureau.

Sub-Managers

G0AAA-AZZ

Keith Plumridge, G4BYY, 14 Stokewood Close, Fair Oak, Eastleigh, Hants SO50 8AL.

G0BAA-BZZ

Michael Evans, MW0CNA, 322 Heol Gwrosydd, Penlan, Swansea SA5 7BR. E-mail: mw0cna@ntlworld.com

G0CAA-CZZ

Miss A Bostock, M0LLW, 34 Lime Tree Crescent, Rossington, Doncaster, South Yorkshire DN11 0BT.

G0DAA-DZZ

John Purvess, G0FWP, 389 Otley Old Road, Cookridge, Leeds LS16 6BX.

G0EAA-EZZ

Roger Quaintance, G0DIZ, 18 Queens Avenue, Ilfracombe, Devon EX34 9LN. E-mail: g0diz@qsl.net

G0FAA-FZZ

Margaret Burchmore, G0ARQ, 49 School Lane, Horton Kirby, Dartford, Kent DA4 9DQ.

G0GAA-GZZ

Nigel Roberts, G4KZZ, 13 Rosemoor Close, Hunmanby, Filey, North Yorkshire YO14 0NB.

G0HAA-HZZ

Mr J T Macrae, G4DXI, Park House, 1 Highsted Road, Sittingbourne, Kent ME10 4PS. E-mail: jmacrae@diximac.fsnet.co.uk

G0IAA-IZZ

Mr A Lord, G4KHT, 5 Wasdale Green, Cottingham, Hull, HU16 4HN. E-mail: g4kht@aol.com

G0JAA-JZZ

George Mills, G0SSC, 36 Ivanhoe Road, Conisbrough, Doncaster, South Yorkshire DN12 3JT.

G0KAA-KZZ

Keith Draycott, G3UQT, 28 Ladywood Road, Kirk Hallam, Ilkeston, Derby DE7 4NE.

G0LAA-LZZ

Mr C H Lennox, G4LXU, Blazefield House Farm, Blazefield, Harrogate, North Yorkshire HG3 5DR. E-mail: g4lxu@chrislennox.co.uk

G0MAA-MZZ

Mr C Langdon, G0VNH, 652 Hotham Road South, Hull HU5 5LE.

G0NAA-NZZ

Edward Allen, G3DRN, 30 Bodnant Gardens, Wimbledon, London SW20 0UD.

G0OAA-OZZ

David Bloomfield, G0KUC, 14 Horsham Close, Stopsley, Luton, Beds LU2 8JH. E-mail: david.bloomfield@ntlworld.com

G0PAA-PZZ

Allan Spence, 2M1AGP, 1 Thorngrove Court, Aberdeen AB15 5PE. E-mail: allanspence@hotmail.com

G0RAA-RZZ

Gerald Greatrix, G7HNM, West Cottage, Main Road, Swineshead Bridge, Boston, Lincs PE20 3PZ.

G0SAA-SZZ

Mr E J Otty, G4XRL, 14 Cornation Road, Norwich NR6 5HB. E-mail: ericotty@tesco.net

G0TAA-TZZ

Mr D Gilbert, G0NFA, 2 Greenfields Cottages, Bentley, Farnham, Surrey GU10 5HZ.

G0UAA-UZZ

Mr D L Hughes, G0RVW, 10 Seaford Close, Norton, Runcorn, Cheshire WA7 6QT. E-mail: g0rvw.dave@btinternet.com

G0VAA-VZZ

Mr P F J Eames, M0AXD, 6 Sirius Close, Seaview, Isle of Wight PO34 5LH. E-mail: peterm0axd@onetel.net.uk



Sub-manager updates: www.rsgb.org/membersonly/qsl/managers.htm
or send an SAE to RSGB HQ, marked 'QSL Sub Managers'
or listen to GB2RS News

G0WAA-WZZ

Paul Scarratt, G0WRE, 339 Utting Avenue East, Norris Green, Liverpool L11 1DF. E-mail: paul@g0wre.freeserve.co.uk

G0XAA-XZZ

Mr F B Stanbridge, G3PZS, 119 High Street, Earith, Huntingdon, Cambs PE28 3PN. E-mail: frank.stanbridge@lineone.net

G0YAA-YZZ

Mr F B Stanbridge, G3PZS, 119 High Street, Earith, Huntingdon, Cambs PE28 3PN. E-mail: frank.stanbridge@lineone.net

G0ZAA-ZZZ

Mr F B Stanbridge, G3PZS, 119 High Street, Earith, Huntingdon, Cambs PE28 3PN. E-mail: frank.stanbridge@lineone.net

G1 series

Mr A Nowell, RS94177, 3 Laburnum Grove, Bromsgrove, Worcestershire B61 8NB.

G2 series

Mr C H Adams, RS10906, 4 Park Gate Gardens, East Sheen, London SW14 8BQ.

G3AA-ZZ

Paul Pasquet, G4RRA, Honey Blossom Cottage, Spreyton, Devon EX17 5AL.

G3AAA-DZZ

Edward Allen, G3DRN, 30 Bodnant Gardens, Wimbledon, London SW20 0UD.

G3EAA-HZZ

Mr D P Phillips, G1JDU, 23 Felskirk Road, Woodhouse Park, Manchester M22 1PX. E-mail: g1jdu@btinternet.com

G3IAA-KZZ

Neal Entwistle, G0BRM, Park Garden House, Park Garden, West Row, Bury St Edmunds, Suffolk IP28 8QG.

G3LAA-NZZ

Thomas Bartlett, G3ITB, Yew Tree, 19 The Street, Hardley, Norwich, Norfolk NR14 6BY.

G3OAA-PZZ

Jack Brazzill, G3WP, 43 Forest Drive, Chelmsford, Essex CM1 2TT. E-mail: jackg3wp@talk21.com

G3RAA-TZZ

Mrs P H McVey, G3GMC, 18 Worlebury Hill Road, Weston-Super-Mare, Avon BS22 9SP.

G3UAA-VZZ

Mr C Chislett, G0CAM, Woodview, Crofthandy, Redruth, Cornwall TR16 5PT.

G3WAA-XZZ

Mr D Talbot, G0JHT, Southways, Tichborne Down, Alresford, Hants SO24 9PL. E-mail: delmar@amserve.net

G3YAA-ZZZ

Mr D Talbot, G0JHT, Southways, Tichborne Down, Alresford, Hants SO24 9PL. E-mail: delmar@amserve.net

G4AA-ZZ

Paul Pasquet, G4RRA, Honey Blossom Cottage, Spreyton, Devon EX17 5AL.

G4AAA-AZZ

Mr S R Harwood, G4OWT, 24 Firlie Crescent, Lewes, East Sussex BN7 1QG. E-mail: g4owt@btinternet.com

G4BAA-BZZ

Andy Burchell, M1BPN, 25 Cherbury Close, North Thamesmead, London SE28 8PG.

G4CAA-CZZ

Miss A Bostock, M0LLW, 34 Lime Tree Crescent, Rossington, Doncaster, S Yorks DN11 0BT.

G4DAA-DZZ

Deryck Buckley, G3VLX, 1 Roundel Way, Marden, Tonbridge, Kent TN12 9TW. E-mail: g3vlx@freenet.co.uk

G4EAA-EZZ

Roger Quaintance, G0DIZ, 18 Queens Avenue, Ilfracombe, Devon EX34 9LN. E-mail: g0diz@qsl.net

G4FAA-FZZ

Margaret Burchmore, G0ARQ, 49 School Lane, Horton Kirby, Dartford, Kent DA4 9DQ

G4GAA-ZZZ

Mr M E Slater, G3NML, 46 Ladywood, Boyatt Wood, Eastleigh, Hants SO50 4RW. E-mail: me.slater@virgin.net

G4HAA-HZZ

Mr S R Harwood, G4OWT, 24 Firlie Crescent, Lewes, East Sussex BN7 1QG. E-mail: g4owt@btinternet.com

G4IAA-IZZ

Ian Fugler, G4IY, Piper Wicket, Cumwhitton, Carlisle, Cumbria CA8 9HB. E-mail: ian@g4iyy.freeserve.co.uk

G4JAA-JZZ

George Mills, G0SSC, 36 Ivanhoe Road, Conisbrough, Doncaster, South Yorkshire DN12 3JT.

G4KAA-KZZ

Keith Draycott, G3UQT, 28 Ladywood Road, Kirk Hallam, Ilkeston, Derby DE7 4NE.

G4LAA-LZZ

Mr C H Lennox, G4LXU, Blazefield House Farm, Blazefield, Harrogate, North Yorkshire HG3 5DR. E-mail: g4lxu@chrislennox.co.uk

G4MAA-MZZ

Mr C G Rowe, G4MAR, 29 Lucknow Road, Willenhall, West Midlands WV12 4QF.

G4NAA-NZZ

Mr M J Musgrave, G4NVT, 49 Vowler Road, Langdon Hills, Basildon, Essex SS16 6AQ.

G4OAA-OZZ

Mr R Satterthwaite, G6BMY, 47 Aberford Road, Baguley, Manchester M23 1JY.

G4PAA-PZZ

Mr K T Hutt, G0TSH, The Railway House, Fenwick Lane, Fenwick, Doncaster DN6 0EZ. E-mail: g0tsh@clara.net

G4RAA-RZZ

Deryck Buckley, G3VLX, 1 Roundel Way, Marden, Tonbridge, Kent TN12 9TW. E-mail: g3vlx@freenet.co.uk

G4SAA-SZZ

Mr S L Shenstone, M5BFL, Jubilee Cottage, Marlow Road, Lane End, High Wycombe, Bucks HP14 3JP. E-mail: stevem5bfl@netscapeonline.co.uk

G4TAA-TZZ

John Porter, G3YZR, 94 Oaken Grove, Haxby, York YO3 3QZ.

G4UAA-UZZ

Mr S L Shenstone, M5BFL, Jubilee Cottage, Marlow Road, Lane End, High Wycombe, Bucks HP14 3JP. E-mail: stevem5bfl@netscapeonline.co.uk

G4VAA-VZZ

Mr G R Marley, G0VfV, Whitestone Farm Cottage, Staintondale, Scarborough, North Yorkshire YO13 0EZ. E-mail: g0vfv@amstat.org

G4WAA-WZZ

Mr L Gaunt, G4MLV, 31 Moat Hill, Birstall, Batley, West Yorkshire WF17 0DX.

G4XAA-XZZ

Mr S R Tyler, G4UDZ, 28 Rushen Drive, Hertford Heath, Hertford, Herts SG13 7RB. E-mail: stuart-tyler@ukonline.co.uk

G4YAA-YZZ

Mr R Denton, G4YRZ, 399 Gateford Road, Worksop, Notts S81 7BN. E-mail: rob@g4yrz.freeserve.co.uk

G4ZAA-ZZZ

John Densem, G4KJV, 'Cotswold', Startley, Chippenham, Wilts SN15 5HG. E-mail: g4kqv99sqn@supanet.com

G5 & reciprocals

Paul Pasquet, G4RRA, Honey Blossom Cottage, Spreyton, Devon EX17 5AL.

G6AA-ZZ

Frank Harris, G4IEY, 4 Merestones Drive, The Park, Cheltenham, Gloucester GL50 2SS.

G6AAA-ZZZ

Eddie Murphy, G0VVT, 21 Standard Street, Fenton, Stoke-on-Trent, Staffordshire ST4 4BX. E-mail: eddie@g0vvt.freeserve.co.uk

G7AAA-ZZZ

Mr D J Hudson, G6OVO, 62 Derron Avenue, South Yardley, Birmingham B26 1LA.

G8AA-ZZ

Frank Harris, G4IEY, 4 Merestones Drive, The Park, Cheltenham, Gloucester GL50 2SS.

G8AAA-ZZZ

John Purvess, G0FWP, 389 Otley Old Road, Cookridge, Leeds LS16 6BX.

GBxAAA-MZZ

Michael Evans, MW0CNA, 322 Heol Gwyrosydd, Penlan, Swansea SA5 7BR. E-mail: mw0cna@ntlworld.com

GBxNAA-ZZZ

Graham Ridgeway, G8UYD, 37 Highfield Gardens, Blackburn, Lancashire BB2 3SN. E-mail: m5aav@zetnet.co.uk

GD series

Colyn Baillie-Searle, GD4EIP, 2 Marguerite Place, Foxdale, Isle of Man IM4 3HE.

GI Class-A

Edward Barr, GI7FFF, Ed-Mar, 1 Onslow Drive, Bangor, Co Down, Northern Ireland BT19 7HQ.

GI Class-B

Edward Barr, GI7FFF, Ed-Mar, 1 Onslow Drive, Bangor, Co Down, Northern Ireland BT19 7HQ.

GJ series

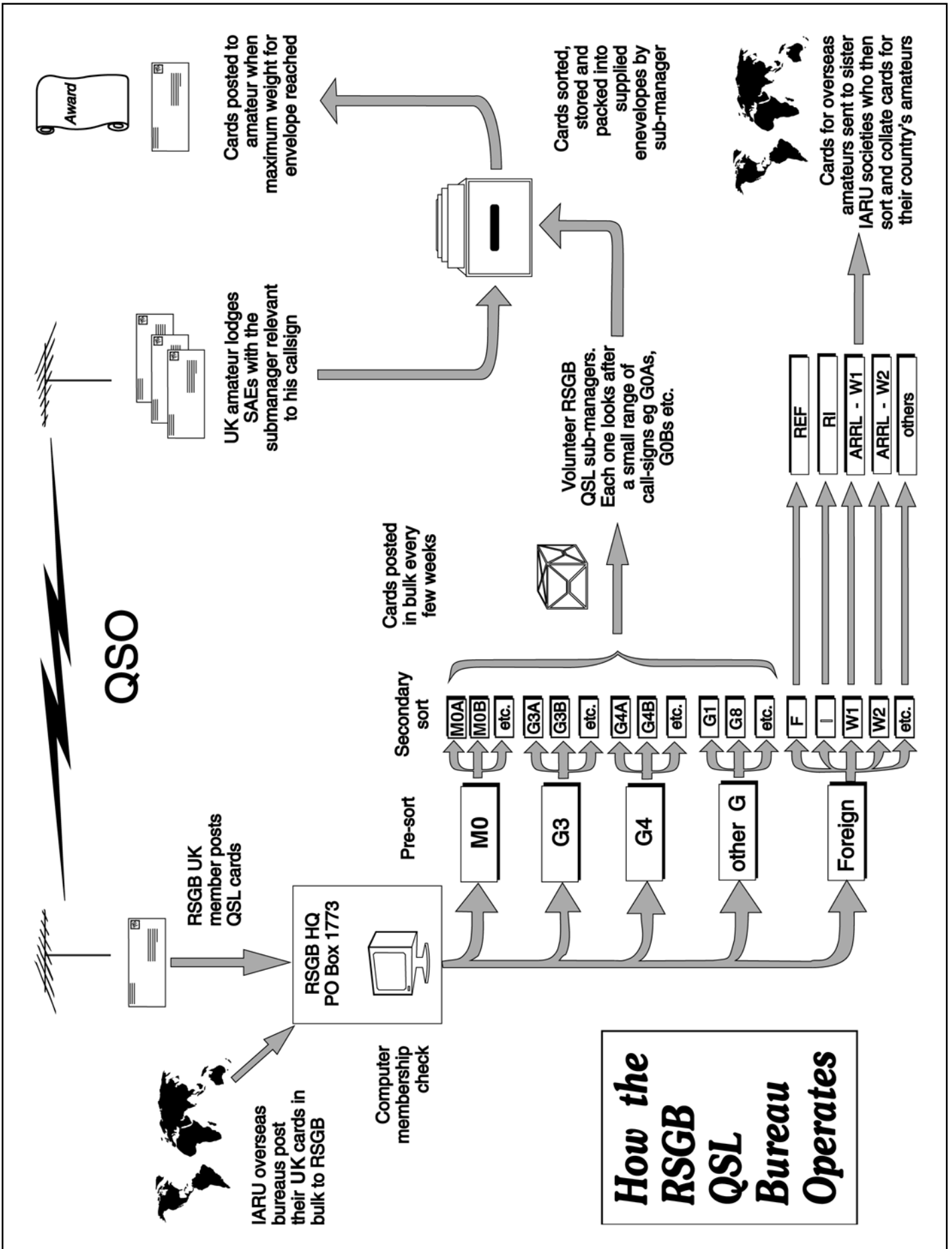
Reginald Allenet, GJ3XZE, Les Sablons, le Bourg, St Clement, Jersey JE2 6FW.

GM0AAA-LZZ

Mr F A Roe, GM0ALS, P O Box 23340, Edinburgh EH7 5TU. E-mail: fred.roe@quintiles.com

GM0MAA-ZZZ

Mr W R Couse, MM0ABQ, The Station House, Harbour Rd, Wigtown, Newton Stewart, Dumfrireshire DG8 9ED. E-mail: sirwilly@softhome.net



GM1, 6, 7 & 8

Mr R F Macleod, GM4DZX, Vesquoy, Rendall, Orkney KW17 2EZ.

GM2AA-GM3ZZ

Mr R F Macleod, GM4DZX, Vesquoy, Rendall, Orkney KW17 2EZ.

GM2AAA-GM3ZZZ

Mr R F Macleod, GM4DZX, Vesquoy, Rendall, Orkney KW17 2EZ.

GM4AAA-ZZZ

Mr R F Macleod, GM4DZX, Vesquoy, Rendall, Orkney KW17 2EZ.

GU series

Phil Cooper, GU0SUP, 1 Clos au Pre, Hougue du Pommier, Castel, Guernsey GY5 7FQ. E-mail: pcooper@guernsey.net

GW series

Mr R J Harris, GW0MOW, 25 Twyn Y Ffald Road, Blackwood, Gwent NP12 1HQ.

M0AAA-AZZ

Charles Spence, M0AVW, 32 Woodford Walk, Harewood Park, Thoraby on Tees, Cleveland TS17 0LT. E-mail: spence5@ntlworld.com

M0BAA-BZZ

Brian Mulleady, GM0KWL, 9 Elizabeth Crescent, Camelon, Falkirk FK1 4JF. E-mail: gm0kwl@blueyonder.co.uk

M0CAA-CZZ

Mr R P Ashman, G6NYC, 44 Conan Doyle Walk, Swindon, Wilts SN3 6JB.

M1AAA-AZZ

Mr A Nowell, RS94177, 3 Laburnum Grove, Bromsgrove, Worcestershire B61 8NB.

M1BAA-BZZ

Mr M C Clark, GM6OFO, Lymemore, Madderty, By Crieff, Perth, Tayside PH7 3NY. E-mail: mike.gm6fo@talk21.com

M1CAA-CZZ

Edward Allen, G3DRN, 30 Bodnant Gardens, Wimbledon, London SW20 0UD.

M1DAA-DZZ

Neville Hall, G0DWJ, 10 Newnham Road, Leamington Spa, Warks CV32 7SN.

M1EAA-EZZ

Mr P M Dart, G0VZX, 208 Elburton Road, Plymouth, Devon PL9 8HU. E-mail: g0vzx@qsl.net

MD series

Colyn Baillie-Searle, GD4EIP, 2 Marguerite Place, Foxdale, Isle of Man IM4 3HE.

MI Class-A

Edward Barr, G17FFF, Ed-Mar, 1 Onslow Drive, Bangor, Co Down, Northern Ireland BT19 7HQ.

MI Class-B

Edward Barr, G17FFF, Ed-Mar, 1 Onslow Drive, Bangor, Co Down, Northern Ireland BT19 7HQ.

MM0AAA-LZZ

Mr F A Roe, GM0ALS, P O Box 23340, Edinburgh EH7 5TU. E-mail: fred.roe@quintiles.com

MM0MAA-ZZZ

Mr W R Couse, MM0ABQ, The Station House, Harbour Rd, Wigtown, Newton Stewart, Dumfrireshire DG8 9ED. E-mail: sirwilly@softhome.net

MM1AAA-ZZZ

Mr R F Macleod, GM4DZX, Vesquoy, Rendall, Orkney KW17 2EZ.

MW series

Mr R J Harris, GW0MOW, 25 Twyn Y Ffald Road, Blackwood, Gwent NP12 1HQ.

M3 series

Steve Bainbridge, M1SWB, 6 Sandyville Grove, Liverpool L4 8UL. E-mail: steve.b@m1swb.freemove.co.uk

M5 series

Graham Ridgeway, G8UYD, 37 Highfield Gardens, Blackburn, Lancashire BB2 3SN. E-mail: m5aav@zetnet.co.uk

Abbreviated Contest

Eric Parkes, G1PEY, 1 Silkstone View, Platts Common, Barnsley, South Yorkshire S74 0QR. E-mail: eric.parkes@btinternet.com

Novices

Mr A Horton, G0LKG, 80 Church Farm Close, Dibden, Southampton, Hampshire SO45 5TG. E-mail: tandem@tonyg0lkg.freemove.co.uk

RS series

David Borne, G4CYW, Roughways, Chub Tor, Yelverton, Devon PL20 6HY. E-mail: dfborne@g4cyw.freemove.co.uk

MM5 series

Mr R F Macleod, GM4DZX, Vesquoy, Rendall, Orkney KW17 2EZ.

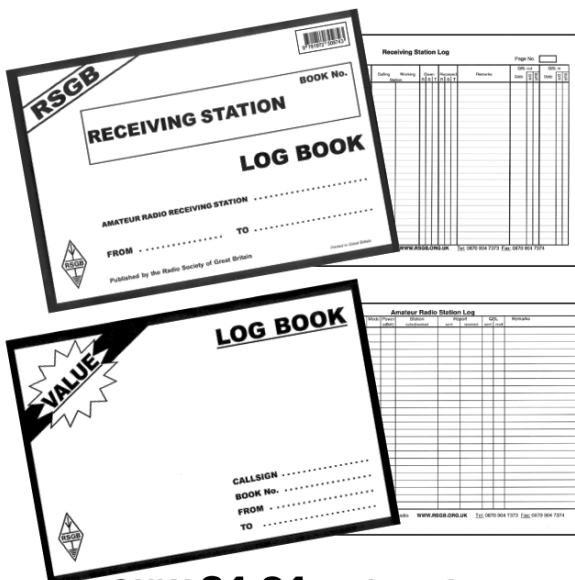
M1FAA-M1ZZZ

John Adlington, M0DVT, 23 Newstead Road, Abbey Hulton, Stoke on Trent, Staffs ST2 8HU.

M0DAA-M0ZZZ

Mr D S Whitelock-Wainwright, M0CHR, 1 Axbridge Avenue, Sutton Leach, St Helens, Merseyside WA9 4NZ.

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RSGB on the Internet

The Internet has a wealth of information on amateur radio, and thousands of amateurs use the RSGB's web site as their first port of call. There are hundreds of pages of information and links to many other sites, plus the very latest news updated several times a week. The site is constantly being expanded and updated, and the latest changes are always shown on the What's New page. This guide is intended to give you a flavour of what is available at the time of going to press.

Front Page (www.rsgb.org)

This is the starting point for the site which should be 'bookmarked' on your browser. Navigation buttons are provided to take you to the rest of the site. The news headlines are displayed prominently as are links to special offers and new features. It is well worth checking this page every day if you want to have the very latest information.

Latest News (www.rsgb.org/news)

The GB2RS news bulletin scripts are published to the general public on the Friday prior to the on-air reading. These are divided into Main and Local pages and include the full text of the Propagation news. A number of links are added to this version of the script, together with headlines and pictures. Only the previous week's script is archived, so it is important to check the news once a week if you want to stay up to date. Late breaking news and other announcements are also published in this section.

The Shop (www.rsgb.org/shop)

One of the largest sections is the on-line shop where you can browse or use the search facility. All products and services can be bought on-line with a credit card using an encrypted system to ensure your details are secure. On display are full details of our huge stock of amateur radio books, CDs and tapes. EMC filters, T-shirts and even mugs are also available. It is possible to join the

Society on-line, renew your membership and book for RSGB events. If you want more than amateur radio, there's a selection of computer books and a link to the RSGB Members bookshop 'Megabooks', where over 250,000 books of all types can be bought at a discount.

The Society (www.rsgb.org/society)

Details are provided of every RSGB committee, and many committees have their own comprehensive web site, linked from our pages. The Society's new regional structure is explained, with a UK map and a page for each of the Regions.

Membership (www.rsgb.org/membership)

Here you can find details of over 500 local and national clubs that are affiliated to the RSGB, including e-mail contact information and web sites where available.

Beginners, Youth, Upgrade (www.rsgb.org/youth)

Those knowing nothing about amateur radio can find out just why we all find it so exciting. The Youth pages, which have been extensively updated in the past year, have links to youth groups with amateur radio connections. Other pages explain how to become a radio amateur and how to upgrade to another class of licence. There is a list



Part of the section devoted to beginners.

of RAE courses, a schedule of GB2CW slow Morse transmissions, plus tips on learning Morse. Intensive courses aimed at passing the 5WPM Morse test can be booked online in the Shop.

GB4FUN (www.gb4fun.org.uk)

A whole new site devoted entirely to the Society's mobile shack and demonstration vehicle. Includes reports of the vehicle's visits.

Operating (www.rsgb.org/operating)

The starting point for a wealth of information on the various aspects of amateur radio, including a huge section on the microwave bands, bandplans, prefix list, contests, awards, propagation, and much more. Links are provided to the IOTA web site and information on the LF bands. Many sections can be addressed directly.

STELAR (www.rsgb.org/youth/)

New pages associated with Science & Technology through Educational Links with Amateur Radio, the programme that helps teachers pass the RAE so that they can then help children at their schools to do the same.

Museum, library and shack (www.rsgb.org/other/whatsnew.htm)

RSGB HQ houses a number of interesting facilities, and now you can see colour photos and read more about them.

Jubilee (www.rsgb.org/jubilee)

Lots of information and photos from 'The Amateur Radio Experience', when GB50 was operated from Windsor Castle.

Front page of the RSGB's professional-looking web site.



RSGB WebPlus

Introduced in the Summer of 2000, this RSGB members-only service has been developed and greatly expanded. Access requires a password and details of how to use the site can be found in *RadCom*.

The News First

RSGB members can see the GB2RS news bulletin script on a Wednesday evening, two days before it is available to the public. E-mail gb2rs.sub@rsgb.org.uk and let us know your e-mail address, and we will send you the GB2RS News headlines and other information.

News Archives

Although the public site archives only the last week's GB2RS news, RSGB WebPlus has news bulletins going back to October 1999, together with a search facility.

IARU News

News from the three regions of the International Amateur Radio Union give an overview of what is being done on behalf of the hobby around the World.

RSGB Bylaws

The Society's Memorandum and Articles of Association, and Bylaws, are here in case you need to refer to them.

Libraries

The RSGB's Audio-Visual Library is catalogued, so that affiliated societies can choose what tapes or cassettes to borrow.

QSL Bureau

Details of how to use the Bureau and an up to date list of QSL sub-managers.

RadCom Articles

From the *RadCom* archives are articles from the 'In Practice' and 'An Introduction to...' series, plus reviews.

Posting Dates

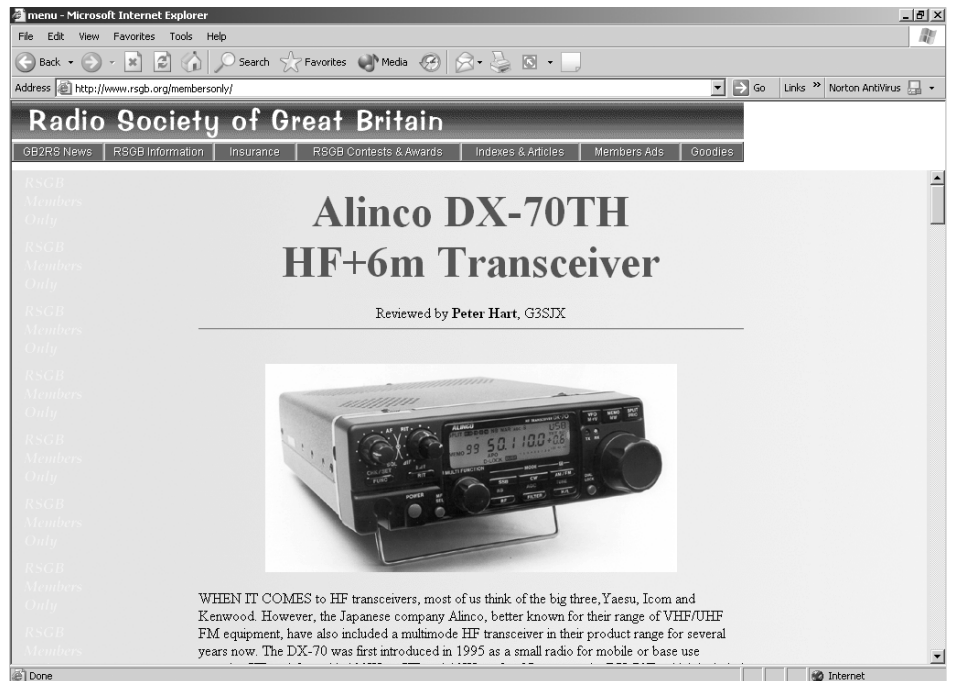
When should you expect your *RadCom* to arrive? This section tells you.

Members' Ads

A searchable electronic version of the popular *RadCom* service. Plans for a more sophisticated system are afoot.

Offers

Every month discounts are offered on a selection of our products, including special launch prices of brand new books and CDs. Discounts are also available on thousands of non-amateur-radio books through our Megabooks service.



Equipment reviews, as previously published in *RadCom*, plus other *RadCom* features.

Logos

Do you want an RSGB, Raynet or IOTA logo for your QSL card or web site? We have downloadable mono and colour versions.

Advice

This is the first port of call for advice on EMC and Planning matters. It includes a downloadable version of the *RSGB Planning Booklet* in PDF format, and a link to the EMC Committee site which features several advice leaflets.

Free Software

Links are provided to the very best freeware and shareware amateur radio software.

Insurance

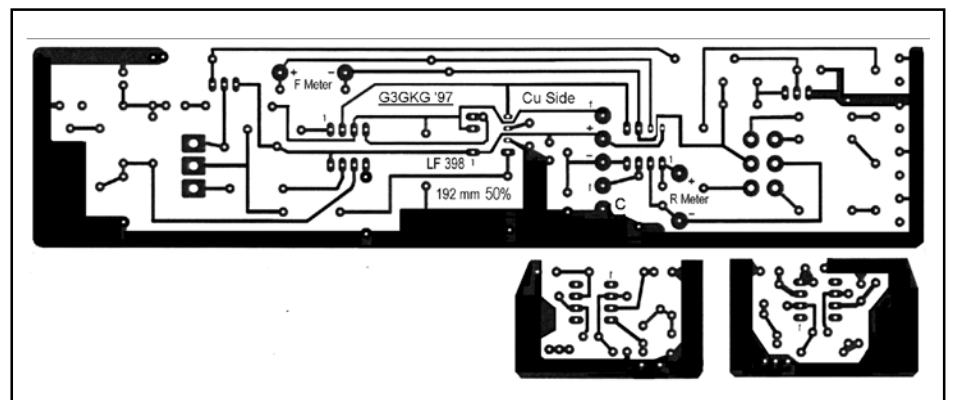
Here are full details of the Amateur Radio Insurance Scheme, which can be purchased on-line.

Links

Looking for the web site of a UK radio amateur? RSGB WebPlus is the place to come with over 150 links and a 'recommended site of the month'.

More

RSGB WebPlus is an expanding area of our web site, so by the time you read this it is likely to have more than is detailed here.



PCB layouts for some *RadCom* projects.



GB2RS News

After many years of negotiations with the Post Office, the RSGB was authorised to broadcast the first news bulletin at 10.00am on Sunday 25 September 1955. This broadcast was on 3600kHz from the home of Frank Hicks-Arnold, G6MB, in Walton-on-Thames, using the special call sign GB2RS. Broadcasts have continued on Sundays ever since, and the Society now has around 145 volunteer news readers who take it in turns to operate some 100 separate schedules every Sunday. These go out in nine different amateur frequency bands, and can be heard throughout the UK and in parts of Western Europe. Listeners in Western Europe should try listening for the transmissions on 7048kHz or after dark on 1990kHz. At 09.00 to 10.00hrs the broadcasts on 3640kHz and 3650kHz may also be heard in countries bordering the North Sea and the English Channel. For those in Southern England there is also an ATV news transmission in the 1.3GHz band.

News items

Items intended for inclusion in the news script should reach RSGB HQ as far in advance as possible, preferably in writing. For last minute news items the deadline is midday on Tuesdays. These may be telephoned, faxed or e-mailed.

Items of national importance are always welcome, but club news items need to be more comprehensive than 'natter-nites'. Club secretaries with a pre-planned programme of events are invited to forward a copy to RSGB HQ so as to ensure regular inclusion of their activities.

Routine enquiries about scripts and their content should go to the GB2RS News Desk at RSGB HQ.

Newsreaders

The organisation of the GB2RS news service and the network of news readers is the responsibility of the GB2RS News Manager Gordon L Adams, G3LEQ. Queries about the service should be referred to him. Requests for new or additional services may be sent to him directly or via the appropriate RSGB local representative (see opposite - 'Volunteers needed').

Packet radio

As part of the service, the weekly news script can also be downloaded from the radio packet network.

On packet the script is divided into sections, in order to reduce the downloading time. The BBS header shows the date of the script and the number of parts into which it is split. To list the news headers, just type L>GB2RS at the prompt. The packet news is usually put out on the Thursday evening prior to the Sunday broadcast, and normally reaches most BBSs within 24 hours.

The Internet

The full script of both the Main and Local news bulletins can be found on the RSGB web site, together with news headlines and links to sites giving additional information on particular stories. The script is usually published on RSGB WebPlus (the members only site) on a Wednesday afternoon, and copied to the main RSGB site on a Friday afternoon.

The broadcast is also available in RealAudio and this is produced for the RSGB by Jeremy Boot, G4NJH. Jeremy also takes part in news exchanges with other English speaking countries, and excerpts of selected items may be heard after his GB2RS News presentation.

GB2RS broadcast schedule (Sundays only, all times local)

Time	Freq	Mode	Reader(s)	Location
National				
09.00	3.650	LSB	G3RFX G4TRN	Bristol
09.30	3.650	LSB	G2CVV G4AAL	Derby/Worcester
10.00	7.048	LSB	G13GGY G14MJD	Londonderry
18.00	3.650	LSB	G3RFX G4TRN	Bristol
20.00	7.048	LSB	G3RFX G4TRN G0NZU	Bristol
21.30	1.990	LSB	G4HPE GM4NTL GX0BAA M5AEH	Royston/Sanquhar/Wilmslow/Brighouse

South East & East Anglia

09.00	3.640	LSB	G4ARZ G3WDY	Edenbridge/London
09.30	3.640	LSB	G4NZQ G0VZD G4DYC	Norwich/Wymondham/Dereham
09.30	145.525	FM	G8CKN G4ODM	Alton/Basingstoke
09.30	145.525	FM	G3NDJ G8MSQ	Lancing
09.30	145.525	FM	G0OZS M0AKK G4YQC G0DVJ	Manningtree/Ipswich/Felixstowe
09.30	433.000	FM	G8CKN (via GB3BN)	Bracknell
09.30	433.100	FM	G8CKN (via GB3IW)	Isle of Wight
09.30	1308.00	ATV	G8CKN (via GB3HV)	High Wycombe
09.30	1316.00	ATV	G8CKN (via GB3AT)	Winchester
10.00	145.525	FM	G4BWV G3ZVW G4OBE	Dartford/London/Enfield
10.30	51.530	FM	G3EKJ G6DGK	Uckfield
10.30	145.525	FM	G8LVC G4COM G4IDW G0FOH	Southampton
10.30	145.525	FM	G3EKJ G6DGK	Uckfield
12.00	145.525	FM	G3MEH G4PMG M1EAR	Tring/Berkhamsted
18.00	433.150	FM	G6DIK (via GB3SK)	Canterbury
19.00	145.525	FM	G4NZQ G0VZD G4DYC M3AFY	Norwich/Wymondham/Dereham
20.00	433.525	FM	G4OBE G7TAI G3ZVW	Enfield/London

South West & Channel Is

09.00	145.525	FM	GJ0PDJ GJ0JSY MJ0BJU	Jersey
09.30	51.530	FM	GU1HTY GU6EFB	Guernsey
09.30	145.525	FM	GU1HTY GU4WWMG GU6EFB	Guernsey
09.30	145.725	FM	G3NPB G4USB G4BHD (via GB3NC)	St. Austell
09.30	433.525	FM	G0NZU G3RFX G4TRN	Bristol
10.00	3.650	LSB	G0LRJ G4ZYF G0NZU G3PLE	Plymouth
10.00	145.525	FM	G3ZYY G0LRJ	Plymouth
10.30	145.525	FM	G2HDR G0NZU	Bristol
11.00	145.525	FM	G1OCN G1WIK	Portland/Weymouth
20.30	145.525	FM	G0GRI G4YXS G0HFX	Bradford-on-Avon

Midlands

09.00	145.525	FM	G4AAL	Worcester
09.30	3.650	LSB	G2CVV G4AAL	Derby/Worcester
09.30	144.250	USB	G3KQF	Derby (beaming SW)
10.00	51.530	FM	G3XZF	Lincoln
10.30	145.525	FM	G3XZF	Lincoln
12.30	433.200	FM	G3JKX (via GB3TF)	Telford
18.00	145.525	FM	G3USF G0VVT	Keele/Stoke-on-Trent
18.30	50.790	FM	G0VVT (via GB3SX)	Stoke-on-Trent
18.30	433.525	FM	G0VVT	Stoke-on-Trent
21.00	145.525	FM	G4AAL	Worcester

Wales

09.00	3.650	LSB	G3RFX G4TRN	Bristol
18.30	145.525	FM	GW0AQR GW4VEQ GW0ABL GW4KAZ	North Wales coast
19.30	29.590	FM	GW0NVN	Barry



Got a news item? Tel: 0870 904 7373. Fax: 0870 904 7374. E-mail: gb2rs@rsgb.org.uk
 Got a network enquiry? Tel: 01565 652652. Fax: 01565 634560. E-mail: gb2rs@ntlworld.com

Time	Freq	Mode	Reader(s)	Location
19.30	51.530	FM	GW0NVN	Barry
19.30	145.525	FM	GW0NVN	Barry
19.30	433.525	FM	GW0NVN	Barry
North of England				
09.00	145.525	FM	MW1ARM G8NNS	Hollywell/Wallasey
09.00	145.525	FM	G4OLK G7GJU	Tyne Tees
09.30	51.530	FM	G4LAA	Carlisle (beaming North)
09.30	144.250	USB	G4LAA	Carlisle (beaming North)
09.30	145.525	FM	G4IOD G4KQJ M5AEH	Cleckheaton/Brighouse
09.30	433.525	FM	G4LAA	Carlisle (beaming North)
10.00	144.250	USB	G3SMT G3SMM	Stockport/Sale (beaming NW)
10.00	144.250	USB	G4KUX	Barnard Castle (beaming North)
10.00	145.525	FM	G8EQZ M0CBQ G4NVD	Hull/Grimsby
10.30	3.640	LSB	G3LEQ G0MRL	Knutsford/Bolton
10.30	51.530	FM	G3LEQ G0MRL	Knutsford/Bolton
10.30	51.530	FM	G4LAA	Carlisle (beaming West)
10.30	70.425	FM	G3LEQ G4GSY G0MRL	Knutsford/Bury/Bolton
10.30	144.250	USB	G4LAA	Carlisle (beaming West)
10.30	145.525	FM	G3LEQ G4GSY G0MRL	Knutsford/Bury/Bolton
10.30	433.350	FM	G3LEQ G4GSY G0MRL (via GB3MR)	Stockport
10.30	433.525	FM	G4LAA	Carlisle (beaming West)
11.00	3.640	LSB	G3XYF G5VO G0LYZ	Driffield/Bridlington
11.30	145.525	FM	G4FCH G4ZGP	Scarborough
19.00	145.525	FM	M3RMH G0CAS	Doncaster
21.00	51.530	FM	G0MRL G4YYB GX0BAA	Bolton/Wilmslow
21.00	70.425	FM	G4GSY G0MRL	Bury/Bolton
21.00	145.525	FM	G4GSY G0MRL G4YYB	Bury/Bolton
21.00	433.350	FM	G4GSY G0MRL G4YYB (via GB3MR)	Bury/Bolton
Scotland				
09.00	145.525	FM	GM4DQJ GM6OFO	Perth
09.30	70.425	FM	GM4DTH	Firth of Forth
09.30	145.650	FM	GM7GMC GM1RQD (via GB3OC)	Kirkwall
09.30	145.525	FM	GM4DTH GM4AQO	Firth of Forth
10.00	51.530	FM	GM4ILS	Elgin
10.00	145.525	FM	GM4ILS	Elgin
10.00	145.525	FM	GM4OPU GM4UGN	Fort William
10.00	145.525	FM	GM3VTB GM4COX	Glasgow
10.30	51.530	FM	GM0PKW GM3JIJ	Isle of Lewis
10.30	145.525	FM	GM0PKW GM3JIJ	Isle of Lewis
10.30	145.700	FM	GM0HNX GM0EUA (via GB3BT)	Berwick-on-Tweed
11.00	3.650	LSB	GM4OPU GM4UGN GM4NTL	Fort William / Sanquhar
11.30	3.640	LSB	GM3HGA GM3VEY	Aberdeen
11.30	3.650	LSB	GM3TCW GM3CIX	Wishaw/Barrhead
11.30	51.530	FM	GM0JKF	Aberdeen
11.30	144.250	USB	GM0JKF	Aberdeen
11.30	145.675	FM	GM0ILB (via GB3LU)	Lerwick
12.30	3.640	LSB	GM0ILB GM3JIJ	Shetland / Isle of Lewis
Northern Ireland				
09.00	145.525	FM	GI4MJD GI3GGY	Londonderry
09.30	145.525	FM	GI3WEM GI4FUM MI0AWL	Banbridge/Antrim/Carrickfergus
10.00	51.530	FM	GI0RYK MI0AWL	Lisburn/Carrickfergus
10.00	144.250	USB	GI0DVU GI3WEM	Banbridge
10.00	145.525	FM	GI8LDM	Enniskillen
10.00	433.050	FM	GI0VTS MI0AWL (via GB3UL)	Lisburn/Belfast
10.30	3.650	LSB	GI0RYK GI0DVU	Lisburn

When submitting news items...

DO:

- Submit items by e-mail, letter or fax. Please use the phone only for urgent alterations or corrections to items already sent in.
- Always give a contact name, callsign (if any) and phone number.
- Say if a phone number is daytime only or evening only.
- Send GB2RS any last-minute details of your rally.
- Give the proper name of your club – there is a Wirral and District Amateur Radio Club and a Wirral Amateur Radio Society, so saying “the Wirral club” could lead to confusion.
- Always give the callsign of a speaker if he/she has one, not just “Talk by John on aerials”.
- Provide full dates, not “Last Friday in month”.
- Listen to GB2RS to hear for yourself the format used.

DON'T:

- Forget to include the venue and opening time of a rally, details of talk-in (if any) and a contact name, callsign, and phone number.
- Send in ‘to be confirmed’ items. If they are not confirmed we assume that they are not taking place and they will therefore not be broadcast. Only send your item in when it has been confirmed.
- Give more than one contact person or telephone number: there is only time to broadcast one, so you decide which one to use.
- Expect ‘natter nites’, ‘get-togethers’ or ‘open nights’ to be included. We only publicise specific events, so a ‘skittles night’ is OK but a ‘social night’ isn’t.
- Mix regular club meetings with main news items, such as rallies and special event stations.
- Use GB2RS and *RadCom* as the only means of publicising club events to your own members – the main purpose of GB2RS should be to inform casual listeners and members of other clubs of the exciting things your club is doing.
- Use cryptic titles for talks, or ‘in-jokes’. If we don’t know what you mean, it is unlikely that anyone else will.

Volunteers needed

The GB2RS News Manager is always in need of volunteers who are willing to assist with the broadcasting of GB2RS News. The form of presentation has evolved gradually over the years, but it still embodies a need for a presenter at the microphone who can give a reasonably fluent delivery.

Our newsreaders enjoy making their contribution to the news service. They often conduct after-news nets, when listeners can call in and exchange information. Current digital

technology does enable high-speed distribution of the news text on a point-to-point basis between individual radio amateurs. However, the UK regulatory authorities have ruled that the relaying of GB2RS voice news bulletins via amateur radio repeaters and Internet voice gateways can only be carried out by operators who are officially authorised GB2RS newsreaders.

Applications to act as relay GB2RS broadcasters must be made to the GB2RS News Manager, and will be considered on the basis of geographical need.



Icom IC-T7E (2m+70cm handheld)	April 1997	Rexon RL-102 (2m handheld)	April 1994
Icom IC-T81E (6m-23cm FM handheld)	September 2000	Roberts RC818 (portable receiver)	July 1993
Icom PCR-1000 (remotable receiver)	December 1997	R&D WM-BDSTR (weather monitor)	July 1994
ICS AMT-3 (AMTOR terminal unit)	January 1993		
Idiom Press Rotor-EZ (rotator controller)	May 2001	Sangean ATS-803A (portable receiver)	June 1992
Index Labs QRP Plus (HF SSB/CW QRP transceiver)	November 1994	SD (contest logging software)	November 1999
Index Labs QRP Plus (HF SSB/CW QRP transceiver)	November 1995	SGC SG-231 (HF-6m auto ATU)	February 2000
Ionsound (propagation software)	August 1994	SGC SG-2020 (HF 20W SSB/CW transceiver)	March 1999
		Shacklog (logging software)	January 1995
JPS ANC-4 (antenna noise canceller)	August 1996	Shacklog (station logkeeping software)	August 2000
JPS NTR-1 (DSP audio filter)	September 1994	Sony ICF-SW100E (mini communications receiver)	July 1996
JPS NIR-10 (DSP audio filter)	September 1994	SRW CobbWebb (HF antenna)	June 1993
JRC JST-245 (HF+6m multimode base station)	October 1997	Standard C108 (2m FM handheld)	January 1997
J-Com W9GR DSP-II (DSP audio filter)	September 1994	Standard C408 (70cm FM handheld)	January 1997
		Standard C568 (2m+70cm handheld)	April 1997
Kenwood TH-26E (2m FM handheld)	January 1991	Standard C5900D (6m+2m+70cm FM mobile)	July 1997
Kenwood TH-46E (70cm FM handheld)	January 1991	Startek ATH-30 (frequency counter)	September 1994
Kenwood TH-79E (2m+70cm handheld)	April 1997	StationMaster (station logkeeping software)	August 2000
Kenwood TH-D7E (2m+70cm FM handheld)	September 2000	Super-Duper Contest Log (software)	September 1993
Kenwood TM-G707E (2m+70cm FM mobile)	February 1999	Super Keyer 3 (electronic keyer)	January 1997
Kenwood TS-50 (HF mobile)	May 1993		
Kenwood TS-60S (HF multimode mobile)	August 1994	Tennadyne T10 (13-30MHz log periodic HF beam)	January 2002
Kenwood TS-570D (HF multimode base station)	December 1996	Ten-Tec Argo (HF QRP transceiver)	October 1995
Kenwood TS-690S (HF+6m multimode base station)	November 1992	Ten-Tec RX340 (professional HF DSP receiver)	March 2002
Kenwood TS-790E (2m+70cm+23cm multimode base station)	November 1990	Ten-Tec Scout 555 (HF SSB/CW transceiver)	November 1993
Kenwood TS-850S (HF multimode base station)	October 1991	Ten-Tec 1320 (20m CW transceiver kit)	August 2000
Kenwood TS-870S (HF multimode base station)	April 1996	Timewave DPS-9 & DSP-9+ (DSP audio filter)	September 1994
Kenwood TS-950 (HF multimode base station)	April 1990	Timewave DSP-59+ (tunable DSP filter)	February 1996
Kenwood TS-2000 (HF-23cm multimode base station)	April 2001		
		TRlog (contest logging software)	November 1999
		Turbolog (logging software)	April 1992
		Turbolog III (software)	November 1997
		Turbolog (station logkeeping software)	August 2000
		Ulna 23-24 (GaAsFET Pre-amp)	September 1991
		Vectronics 1010K (10m FM receiver kit)	February 2001
		Vibroplex Original Deluxe (mechanical bug key)	May 1994
		Videologic DRX-601E/ES (digital radio tuner)	October 2001
		Voyager DX-IV (HF vertical antenna)	July 1992
		Walford Langport (80m+20m CW+SSB transceiver kit)	April 2000
		Walford <i>Radio Today</i> Chedzoy (receiver kit)	February 2001
		Wedmore 80m QRP Transceiver (kit)	August 1997
		WinCAP Wizard II (propagation prediction software)	June 2000
		WriteLog (contest logging software)	November 1999
		W9GR DSP-II (audio filter)	February 1994
		Yaesu ATAS-100 (mobile antenna)	May 1999
		Yaesu FRG-100 (base station receiver)	July 1993
		Yaesu FT-11R (2m handheld)	May 1994
		Yaesu FT-41R (70cm handheld)	May 1994
		Yaesu FT-50R (2m+70cm handheld)	April 1997
		Yaesu FT-100 (HF-70cm multimode mobile)	May 1999
		Yaesu FT-817 (160m-70cm multimode portable)	June 2001
		Yaesu FT-840 (HF multimode base station)	February 1994
		Yaesu FT-847 (HF-70cm multimode base station)	August 1998
		Yaesu FT-890 (HF multimode base station)	September 1992
		Yaesu FT-900 (HF multimode base station)	November 1994
		Yaesu FT-920 (HF+6m multimode base station)	August 1997
		Yaesu FT-1000 (HF multimode base station)	June 1991
		Yaesu FT-1000MP (HF multimode base station)	January 1996
		Yaesu FT-1000MP Mark-V (HF multimode base station)	October 2000
		Yaesu FT-2200 (2m FM mobile)	December 1993
		Yaesu FT-2500M (2m FM mobile)	November 1994
		Yaesu FT-8100R (2m+70cm FM mobile)	February 1999
		Yaesu VR-5000 (HF-microwave multimode receiver)	August 2001
		Yaesu VX-5R (6m/2m/70cm FM handheld)	September 2000



The Kenwood TS-2000, reviewed April 2001.



The Yaesu FT-840, reviewed February 1994.

GB2CW Morse Practice

Practice Morse code is broadcast on behalf of the RSGB by Morse practice volunteers in many parts of the UK using the callsign GB2CW. The aim is to assist those preparing for the amateur radio Morse test and to provide practice Morse at speeds which will help qualified operators to improve their standards, but receiving practice alone is not enough and many volunteers use their own callsigns after the transmissions to provide sending practice. New volunteers are urgently required on HF and VHF to extend cover over the whole of the UK. On-air contacts at 5 WPM are offered by Michel Baudoin, F3LDB, who calls each Tuesday from 1800-1900 UK time on or around 7017kHz.

HF Transmissions

Day	Time	Freq	Operator(s)	Location
Mon	20:30 ¹	1.9787	G3SJE, G4GYS	Harrow, Bushey
Tue	20:00	3.550	G3XNE	Bude
	20:00	3.555	GW0KZW	Prestatyn
Wed	19:15	3.563	MM0CQT	Garmouth, Morayshire
	20:00	3.602	GM4HYF	Rutherglen
Thu	19:45 ²	1.9787	G3SJE, G4GYS	Harrow, Bushey
	20:45 ³	3.527	GM4HYF	Rutherglen
Fri	18:30	3.550	GW0TAF	Neath
	20:00	3.563	GW0KZW	Prestatyn
Sat	20:00	28.8	M10ALS & M10CGQ	Belfast
Sun	20:00	3.550	G3XNE	Bude
	20:00	7.060	M10ALS & M10CGQ	Belfast

VHF Transmissions

Scotland

Day	Time	Freq	Operator(s)	Location
Mon	20:00	145.250	GM0VIY	Nr Eaglesham
Tue	17:00	144.250	MM0KSS	Aberdeen
	20:00	145.250	GM0WRR	Glasgow
	20:30	145.250	GM0LZE	Stornoway
Thu	20:00 ⁴	145.250	GM0UOU	Paisley
Fri	20:00	145.250	GM0NPS	Coatbridge

North West England

Day	Time	Freq	Operator(s)	Location
Mon	19:30	145.275	G0IIM	Sale
Thu	21:00 ⁵	145.250	G3AVJ	Huyton
Fri	19:30	145.275	G4IAV	Atherton
Sat	19:30	145.275	G0IIM	Sale

West Midlands

Day	Time	Freq	Operator(s)	Location
Mon	19:30	145.250	G0BYA, G0ETX, G4RSW	Stafford
Tue	19:30	144.160	G4TDO	Wolverhampton
Thu	19:30	145.250	G0KCM	Penkridge
Sat	19:30	144.160	G4TDO	Wolverhampton

East Midlands

Day	Time	Freq	Operator(s)	Location
Mon	20:00	145.250	G4NZU	Nottingham
Tue	19:00	145.250	G0FOG	Nottingham
Fri	19:00	145.250	G4NZU	Nottingham

VHF Transmissions (cont.)

South Midlands

Day	Time	Freq	Operator(s)	Location
Tue	20:30	144.250	G4PDP	Chawston
Thu	20:00	145.250	G4DLB	Banbury

South West England

Day	Time	Freq	Operator(s)	Location
Mon	20:00	145.250	G0JVA	Taunton
Tue	19:30	145.250	G3ZYY, G0NIE	Saltash, Tavistock
Wed	20:00	145.250	G0JVA	Taunton
Thu	19:30	145.250	G3ZYY, G0NIE	Saltash, Tavistock
	20:00	145.250	G0JVA	Taunton
Fri	19:30	144.160	G3XNE	Bude
Sat	13:30	145.225	G3XNE	Bude

South East England

Day	Time	Freq	Operator(s)	Location
Tue	19:00	145.250	G0NFJ	Abridge
Wed	20:00	145.250	G0JUD	Aldershot
Thu	20:00	145.250	G0JUD	Aldershot
Fri	19:00	145.250	G0NFJ	Abridge
Sun	10:00	145.250	M0AGQ	Brighton
	19:00	145.250	G0NFJ	Abridge
	20:30	144.250	G3ORP	Maidstone

Notes

Modes of emission:

A1A/J3E: 144.160, 144.250MHz and all HF transmissions

F2A/F3E: 145.225, 145.250, 145.275, 145.575MHz

¹ Transmissions by G3SJE and G4GYS are on behalf of the Edgware & District Amateur Radio Club.

² Only on the first and third Thursdays of the month.

³ The transmission on Thursdays at 20:45 on 3.527MHz provides practice at speeds from 15 to 30 WPM.

⁴ Temporarily suspended.

⁵ Suspended.

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Morse Assessments

The Foundation Licence was introduced on 1 January 2002 and quickly became Britain's fastest-growing licence category. Part of the requirement for qualifying for an M3 licence is a Morse Assessment.

First, it should be noted that the Morse Assessment is *not* a test, it is a short course which is conducted by a Morse Tutor. The course can be expected to last about 30 minutes. The assessment is complete when a candidate can successfully decode a short passage of Morse code into text and successfully send a short passage of text in Morse. There is no speed requirement and the use of information sheets to help with decoding and coding will be provided.

Why do we need the Morse Assessment?

The Morse Assessment is required to satisfy the current International Telecommunications Union (ITU) requirement that HF licensees must be able to send and receive Morse Code.

The Assessment

Candidates need to bring with them some form of identification that features their printed name and signature (eg a valid Passport or Driving Licence).

Receiving

A text passage of between 20 and 30 characters will be sent by the tutor. It will be in the form of a contact between two radio amateurs. The character speed and spacing can be chosen by the candidate, in discussion with the tutor. Procedural characters and punctuation will not be used. Callsigns will be M (0, 3 or 5) plus 3 letters.

eg **M3ABC DE M0XYZ
ANT HERE IS DIPOLE**

The candidate is permitted access to a copy of the Morse code alphabet (as shown right) during the assessment. It can be referred to at any time. The candidate can, if desired, write down the dots and dashes for subsequent transcription and may proceed one letter at a time.

The tutor can re-send characters wrongly recorded, or invite the candidate to re-check characters correctly written in Morse but wrongly transcribed. No residual errors are permitted.

Sending

The candidate is required to send a pre-prepared text in the same form as for receiving. The candidate is permitted to make such preparations as he/she wishes prior to sending, including writing the Morse code for each character to be sent. A copy of the Morse code alphabet will be available to the candidate.

The tutor will indicate which characters, if any, were incorrectly sent and these will need

to be re-sent. This can be on a letter by letter basis, or at the end of the text. No residual errors are permitted.

Where to take a Morse Assessment

A good number of Foundation Licence instructors are registered Morse Assessors, so many people who undergo the Foundation Licence course find themselves taking the Morse Assessment with their regular instructor.

Class-B licensees who wish to take the

Morse Assessment in order to obtain an M3 licence (which gives them 10-watt access to the HF bands, whilst keeping their normal privileges for VHF), are welcome to do so. A list of assessors can be found on the RSGB web site.

And finally...

On successful completion of the assessment a candidate is issued with a Morse Assessment Completion Slip, which is required in order to apply for a Foundation Licence.

A	• —	N	— •
B	— • • •	O	— — —
C	— • — •	P	• — — •
D	— • •	Q	— — • •
E	•	R	• — •
F	• • — •	S	• • •
G	— — •	T	—
H	• • • •	U	• • —
I	• •	V	• • • —
J	• — — —	W	• — —
K	— • —	X	— • • —
L	• — • •	Y	— • — —
M	— —	Z	— — • •
1	• — — — —	6	— • • • •
2	• • — — —	7	— — • • •
3	• • • — —	8	— — — • •
4	• • • • —	9	— — — — •
5	• • • • •	0	— — — — —

The letters of the Morse code alphabet required for the Foundation Licence.



Morse Testing

The service was set up after the Society's successful bid for the DTI contract in 1985. There are now some 290 examiners covering all counties of the UK, including Northern Ireland, Shetland, Orkney, Isle of Man and the Channel Isles. Recently, teams have been organised so that tests can be taken in some overseas places. The examiners work in county teams, with each team having a senior examiner who organises within the area.

The service organises and conducts the tests, and issues the certificate required by the Radiocommunications Agency to satisfy the Morse requirement for a 5 WPM test and 12 WPM test. Please be aware that the newly introduced Morse Assessment is NOT carried out under the auspices of the RSGB Morse Test Service. However, a number of examiners have volunteered to undertake the duties of the Morse Assessor. Further information may be obtained from RSGB Headquarters. The RSGB Morse Test Service carries out its commitment in several ways:

Normal Session: Regular bimonthly tests in each area.

Closed Session: Tests by arrangement with a group of candidates who provide their own approved accommodation etc. Tutors or organisers requiring a closed session should contact the Chief Examiner to make arrangements.

Rally Session: Rally organisers who can provide suitable accommodation without cost to the Society may arrange for tests to be carried out at their event. Rally organisers may contact the local Senior Examiner or the Chief Morse Examiner to arrange this session. The Chief Morse Examiner will then contact the appropriate local team Senior Examiner.

Disabled: Disabled persons are dealt with according to their disability requirements. In extreme cases a home visit can be arranged, in others a relaxation of the requirements may be permitted. Each case is considered on its merits. There are no exemptions. Candidates are required to supply details of their disability on a supplementary application form and provide evidence where applicable.

Special cases not covered by any of the above, eg serving members of the forces on leave, seamen, overseas visitors etc, can contact the Chief Examiner when every effort will be made to assist. The additional cost (if any) of any special arrangements would be the candidate's responsibility.

RA requirements

In the 12 WPM receiving test, the candidate will be required to receive a minimum of 120 letters and seven figures in the form of a typical exchange between two radio amateurs. A maximum of six uncorrected errors will be allowed.

The 5 WPM test will use either computer-generated Morse from a tape recorder, or be hand sent by the examiner. The characters will be sent at a speed of 12 WPM but with a longer than normal gap between the letters, so as to reduce the overall reception speed to 5 WPM. (Candidates will not be allowed to write down the Morse sym-

bols for later translation.) The 12 WPM test will use hand-sent Morse. The receiving test lasts about six minutes for the 5 WPM and 2½ minutes for the 12 WPM test.

In the sending test, the candidate will be given a text to send by hand, consisting of not less than 75 letters and five figures - also in the form of a typical exchange between radio amateurs. The candidate may use the key provided, or a key of his own. The key must be hand operated. No keyboards may be used. Mechanical or electronic bug keys may be used. There must be no uncorrected errors in the sending and not more than four corrected errors will be permitted. This test will last about three minutes for the 5 WPM, and 1½ minutes for the 12 WPM test.

Both tests can include any of the commonly used abbreviations, Q-codes or procedural characters shown opposite. Figures and procedural characters will count as two letters for timing purposes.

Form of the test

Tests will be as realistic as possible to on-the-air working, with the exception of repetition of key words, such as signal reports, name and QTH, which would make the test too easy. However, callsigns will be repeated at the end of the 'over'. All callsigns, QTH and names will be used in the correct context of the country of origin.

Each QSO will normally contain a basic framework of calls, signal report, name and QTH, though not necessarily in that order. In addition, there will be a selection of typical operating remarks, such as equipment in use, weather, temperature, age, power output etc.

The receiving test will commence with CT as a 'stand-by' signal to the candidate that the test will

follow immediately afterwards. It is not part of the test and will not be marked if written down by the candidate.

For Intermediate candidates the first callsign sent will be in the UK Class A Intermediate callsign allocation (regional prefixes may be used, such as 2E, 2M, 2W). For 12 WPM candidates, the first callsign sent will be in the UK full Class A G-series or M-series callsign allocation (again, regional prefixes may be used). The callsign following the DE (as in practice) can be any amateur radio callsign from any country, including the UK M-series callsigns. For Class A/B candidates the current UK Intermediate test will be used.

No abbreviations, Q-code or procedural signals other than on the approved list will be used, with the exception of commonly written remarks such as 'Temp 15 C' or 'QRP 2 W'.

Procedural signals (with the exception of CT) will form part of the test and must be written down by the candidate. These too are specified below.

It is not a requirement for the Morse test that the candidate knows the meaning of the listed Q-codes and abbreviations. However, a working knowledge of these will assist in the understanding of the QSO. The meaning of all abbreviations is given opposite.

Experienced examiners have the ability to very quickly ascertain whether the candidate can send readable Morse, and therefore the sending test is much shorter than the receiving test. As the candidate and the examiner have a copy of the sending test, there is no requirement for the candidate to commence sending with CT. If this is sent by choice, it will not be counted as part of the test.

If the candidate makes a mistake in sending, the error signal consisting of eight dots must be sent and the word or group must be repeated. Note that the error signal itself (if sent) is part of the sending test.

Example Tests

5 WPM

Receiving: \overline{CT} 2E4DKZ DE F6JVX GE OM
TNX FER CALL UR RST 579 =
QTH IS 15 KM SOUTH OF
PARIS ES NAME ANDRE = RIG
IS TS830 ANT IS 4 EL BEAM SO
HW CPY? AR 2E4DKZ DE
F6JVX KN

Sending: 2M0AIZ DE 2E3DNO GD JACK
UR RST 569 QSB = NAME VAL
QTH HALIFAX HW CPY? \overline{AR}
2M0AIZ DE 2E3DNO KN

12 WPM

Receiving: \overline{CT} G3LKQ DE HB9JV/P
GM OM UR RST 549 = OP
FRITZ QTH ZURICH WX
SUNNY WID TEMP 76F =
CAMPING HR FER 12 DAYS
WID 80 SCOUTS SO HW CPY?
 \overline{AR} G3LKQ DE HB9JV/P KN

Sending: HB9JV/P DE G3LKQ GM FRITZ
TKS CALL = UR RST 579 NAME
ROY QTH EXMOUTH OK? \overline{AR}
HB9JV/P DE G3LKQ KN

General

In the receiving test, the requirement for 120 letters and seven figures give an overall minimum total of 134 letters (counting figures and procedural symbols as two letters). Therefore, in order to achieve standardisation, each receiving test will contain 134-137 letters and will normally use every letter of the alphabet.

In the sending test, 75 letters and five figures gives a minimum of 85 letters. This test will contain 85-88 letters. The sending test will not normally contain every letter of the alphabet as this could require unusual words to be used.

How to apply

Application forms are available from RSGB HQ. Forms supplied will also include a list of all the available test centres at the time of application and an explanation of the QSO format, with examples of the new test. Candidates should bear in mind that there is a closing date for entries, so please avoid disappointment by applying early.

Disabled persons can also obtain their form plus the additional form from the Deputy Chief Examiner.

Normal applications should be returned to RSGB HQ while those from disabled persons



Abbreviations

ABT – About	FM – From	RST – Readability, signal strength, tone-report
AGN – Again	GA – Good afternoon	RX – Receiver
ANT – Antenna	GD – Good day	SIG – Signal
BK – Signal used to interrupt a transmission in progress	GE – Good evening	SRI – Sorry
CPI – Copy	GM – Good morning	TEMP – Temperature
CPY – Copy	HPE – Hope	TKS – Thanks
CQ – General call to all stations	HR – Here	TNX – Thanks
CUL – See you later	HVE – Have	TU – Thank-you
CW – Continuous wave	HW – How	TX – Transmitter
DE – From, used to precede the callsign of the calling station	K – Invitation to transmit	TXR – Transceiver
DR – Dear	MNI – Many	UR – Your
EL – Element	MSG – Message	VERT – Vertical
ES – And	NW – Now	VY – Very
FB – Fine business	OC – Old chap	WID – With
FER – For	OM – Old man	WX – Weather
	OP – Operator	XYL – Wife
	PSE – Please	YL – Young lady
	PWR – Power	73 – Best wishes
	R – Receive	88 – Love and kisses
	RPRT – Report	

Q-Codes

The full international meanings of Q codes can be found in the RSGB's *Amateur Radio Operating Manual*, but the informal amateur-use meanings (which can be used in the Morse test) are as follows:

* QRA	Name of Station
QRG	Frequency
* QRK	Intelligibility of signals
QRL	Busy (the frequency is in use)
QRM	Interference from other stations
QRN	Interference from atmospherics
QRO	High power
QRP	Low power
QRQ	Send faster (high speed Morse)
QRS	Send slower (slow speed Morse)
QRT	Close down (stop sending)
QRV	Ready (go ahead)
QRX	Stand-by
QRZ	You are being called by
* QSA	Signal strength
QSB	Fading
QSL	Confirm contact
QSO	Radio contact
QSY	Change frequency
QTH	Location

* Not normally used in the Amateur Service, but may be used by commercial stations to inform the amateur that they are causing interference.

should go to the Deputy Chief Examiner direct.

What happens next

Your application is processed - you will be booked into the system and your booking will be confirmed. You will be advised that you may bring with you your own phones and straight key. It would be helpful if these had ¼in jacks. However, while we cannot promise the impossible, the examiners will make every effort to get you connected!

On the day

It is easy to say do not worry - but don't! Our aim is to put you at ease and provide the right atmosphere for you to present your best. Remember there is no pleasure for the examiners in failing candidates - they feel much better when able to sign pass slips! If anything is worrying you, do tell the examiner - he may be able to help.

Get to the centre in good time, so that you are not all tense from trying to park etc.

Don't forget to bring your two passport photos, appointment confirmation and, if you wish to use them, your phones and key (check locally to confirm whether provision is made for phones). Above all, something to write with (including a spare)!

The test procedure

This may vary slightly between centres, but the general pattern is as follows:

Candidates are taken in threes and after being seated are given their forms to sign and their identity is checked. After this any special connections for phones will be made (if available) and you will

be given every chance to make yourself comfortable. Although there is no requirement to do so, the examiner will normally send you a few words practice to really settle you down and give you an opportunity to see that all is well. It is surprising how many pencils break and phones go faulty at this stage! You will then be asked if all is well and the test will be sent.

If you are in difficulty during the test piece, try to forget the letter you missed and concentrate on the one just sent, and above all, should you have real trouble please remember the other two candidates; don't spoil their chances. The examiner will note if there is any problem but will continue to the end of the test piece.

At the end of the test you will be given a reasonable period (two minutes) to read through your copy - you are permitted to amend doubtful characters. You should not worry unduly about splitting words, the examiners will make allowance for this. Your papers are collected and two of you will be asked to return to the waiting room for a short period. The remaining candidate will then be invited to use the key provided, or his own if this can be connected. Take your time, there are no extra marks for exceeding the speeds, just remember to correct all errors. For those in doubt, the correct method of correction is to send eight dots and go back to the beginning of the word or group where the error occurred. Any uncorrected errors mean you fail! You will then be thanked for coming and informed that the result will be sent to you as soon as possible. Please do not expect the examiner to give you an instant result: at this stage he does not know.

Procedural characters and punctuation

AR (+)	[di-dah-di-dah-dit]	end of message (will be used in the test before the final calls and must be written as 'AR' or '+')
CT	[dah-di-dah-di-dah]	preliminary call
BT (=)	[dah-di-di-di-dah]	separation signal (will be used in the text and must be written as 'BT' or '=')
KN	[dah-di-dah-dah-dit]	transmit only the station called (will be used in the test after the final calls and must be written as 'KN')
VA	[di-di-di-dah-di-dah]	transmission ends (in the test, must be written as 'VA' or 'SK')
?	[di-di-dah-dah-di-dit]	question (in the test, must be written as 'IMI' or '?')
/	[dah-di-di-dah-dit]	oblique stroke (can be used in the test as part of a callsign and must be written as '/')

When you have gone and the session ends the examiners will check and recheck the papers that will then be sent to RSGB HQ and the Deputy Chief Examiner for further checking and processing. Any failures are especially re-checked by the Deputy Chief Examiner. A special report is sent to the Chief Examiner after each session, advising of any difficulties. It is thus a good idea to let the examiners know if you feel in any way dissatisfied with your test, as they may be able to rectify matters there and then. If, however, you are still unhappy, write to the Chief Examiner who will look into your complaint.

What next

Successful candidates will receive a pass slip together with an application form to submit for the appropriate class of licence. The unfortunate will be sent a fail slip and an application form to apply for a further test.

Some tips based on results

- Remember to correct all errors. More candidates fail their sending test because of failure to correct than anything else.
- Prepare for the test by receiving hand-sent QSO-format Morse from more than one person, using a variety of oscillator notes. Many candidates become used to one particular note during practice and are unsettled if a different note is used at the test.
- Some candidates learn to receive Morse using the Farnsworth method, with individual characters sent much faster than test speed, using longer than normal gaps in order to reduce the overall speed down to 12 WPM. Many of these candidates have great difficulty receiving correctly proportioned Morse sent by the examiner, because the two methods sound very different.

Chief Morse Examiner:

David Waterworth, G4HNF. 116 Reading Road, Woodley, Reading, Berks RG5 3AD. Tel: 0118 966 2736.

Deputy Chief Morse Examiner:

Mr Ian Trusson, G3RUM. 27A Roman Way, Thatcham, Newbury, Berks RG18 3BP. Tel: 01635 826019.



Planning Advice

The factor most likely to ensure success in amateur radio activities is the antenna. Most amateur antennas require planning permission from the local council. It follows that the consequences of the council refusing planning permission can be quite severe, ranging from a virtual prevention of operation to a much reduced tower height, a smaller HF beam or whatever. To try to help RSGB members make their way through the planning process, the Society established the Planning Advisory Committee and a panel of members skilled in the planning process.

Anything which exceeds the height of the dwelling requires permission unless it is within 2m of the boundary of your home, within 5m of another dwelling or fronts to a highway; in which case lower limits apply.

Advice booklet

The Society publishes a booklet *Planning Permission: Advice to Members*, which runs to 30 pages and includes all the information an amateur needs to enable him/her to produce a good planning application and, hopefully, obtain planning permission.

Subjects tackled include:

- Steps before you produce a planning application
- Need for planning permission
- Where to apply
- Fees
- Your neighbours
- Your local councillors
- Mobile masts
- Enforcement.

The booklet can be obtained free from RSGB headquarters but is available to RSGB Members only. It is also available on the Internet, at www.rsgb.org/membersonly It is not available for sale.

The importance of obtaining the booklet and following the steps set out cannot be overestimated. Feedback obtained at rallies and exhibitions suggests that most amateurs who do this,

and have a reasonable expectation of what they want to put up, get permission or otherwise get the antennas they want.

Planning Panel

The purpose of the panel is to provide members with one to one advice and guidance on their particular case. If, having got the booklet, you either do not feel confident taking on the planners, or your case has got beyond the advice given; contact RSGB HQ and you will be allocated to a panel member. The panel member will be told this at the same time: the onus is then on you to contact him. Advice of the Planning Panel is available only to RSGB members.

Panel members have skills (usually professionally) in the planning process and will have dealt with numerous amateur applications as Panel members. Panel members get no expenses from the Society for this purpose so please expect to make sure when asking for advice that they are not out of pocket, for example by providing an SASE when writing for advice.

The most useful first step is to write giving details of what has happened. Copies of relevant documents and plans will also be needed. Panel members work in different ways, but the writer would normally write back with initial advice and invite the member to ring him and discuss.

Some points: one of the first things the panel member is likely to ask you is whether you have

followed the steps in the booklet; and in particular do you have any neighbour problems. Having the neighbours on your side (and therefore not objecting) is very much a good thing.

Secondly, do get allocated to a panel member and contact him early in the process. Enforcement Notices are preceded by a Requisition for information and the Notice itself takes at least 28 days to take effect. Contacting HQ on the 27th day is neither wise nor likely to generate success, as you will probably be too late to enter a planning appeal.

Thirdly, it is our experience that there is considerable interaction between EMC matters and planning problems, so you may have to contact either or both committees, depending on your individual circumstances.

Conclusion

Provided you are reasonable (a 100ft tower with tribander, in the 20ft long garden of a terraced house would not be), many amateurs get what they want provided they go about it in the right way. Keeping the neighbours on your side is vital, but panel members have successfully taken on many cases where there has been a substantial volume of neighbour objection and still gained permission. By law, the presumption is in favour of development, so do not be deterred by what you think the planners will 'wear'.

Please note that this service is available only to RSGB members.

A radio amateurs' guide to buying a house

OK, so you have found that dream house. On a mountain, but with the sea at the bottom of the garden. You find you can afford it, and (joy) your partner even likes it, but is this really the home you think it is? To make use of the unparalleled radio opportunity you do, of course, need to put up some antennas. Those antennas are almost certain to need planning permission.

The purpose of this piece is to set out some things you can do before you buy and which will give you an idea of what you can expect when you make that application.

But first, a suggestion which resolves the problem entirely – get permission before you buy.

Anyone can make a planning application. You have to serve a notice on the owner, but thereafter the council will deal with the application entirely normally. Most applications are now dealt with within eight weeks, so your vendor may well be willing to wait until you have got permission.

Conveyancing is rarely quick – you may be able to get permission before exchanging contracts, particularly if a chain is involved. If you get permission you can buy in total confidence; if you don't, you can look for another house. Your solicitor will be able to advise you about this and about the possibility of a conditional contract. You should still follow the advice in the booklet published by the RSGB Planning Advisory Committee (available to members only, free from RSGB HQ) about how to increase your chances of getting permission.

If you can't do this, visit the planning department before you exchange contracts. You will be able to find out more about the property. If it is listed

as being of historic interest, then your chances of obtaining permission for anything substantial may be very limited.

If it is in a conservation area, the council are likely to refuse permission unless the proposal "preserves or enhances" the conservation area. It is also better if the house isn't within an Area of Outstanding Natural Beauty or a National Park.

The second thing to ask about is whether the permission under which the property was built contains any restrictions which may prevent the erection of antennas. Many housing estates in areas cabled when built may contain such provisions.

Ask about planning policies generally. If the council has local plan policies which affect amateur antennas, find out what they are.

Lastly, ask to speak to a planning officer and ask them if the council has a general line on amateur applications. He or she may be helpful and give you some idea of your chances of getting what you want.

Turning to the house itself, try to work out where you will put whatever you have in mind. The fewer people who can see it from their windows, the better. Will it fit in? You can't rotate an antenna across a neighbour's garden without their permission. Houses with fewer neighbours are better than those with lots.

There is only one other thing to mention. Some houses come with covenants preventing the erection of antennas. Such covenants may still be enforceable. Ask at an early stage about them, and make very sure your solicitor knows what you want to do and is clear that nothing in the deeds prevents you from doing so.



Affiliation

Many local amateur radio societies and clubs choose to affiliate with the Radio Society of Great Britain because they see it as an effective way of demonstrating their support for the aims and aspirations of the National Society. The Society welcomes this support because it can only strengthen its claim to speak on behalf of amateurs and amateur radio.

The Society recognises that much of the vitality of amateur radio at the local level lies in clubs. It sees affiliation as a direct link reflecting the complementary nature of their relationship with the national society – and which it has every intention of trying to strengthen.

There are more tangible benefits for the Affiliated Society. These include:

- Publicity for club activities through the 'Club News' in *RadCom* and via broadcasts on the Society's news service GB2RS, and on the RSGB web site.
- Full facilities of the RSGB QSL Bureau for cards bearing the club station call.
- Purchase of publications at a discount with the RSGB.
- Receipt of *RadCom*.
- Freedom to participate in RSGB Affiliated Societies contests.
- Insurance for club-owned equipment under the terms of the Amateur Radio Insurance Scheme.
- Freedom to borrow RSGB films, tapes and display materials. (This facility is also available to certain non-affiliated groups such as schools).

How to affiliate your club, group or society to the RSGB

Membership categories

Any UK club, group, society or emergency communication group may affiliate to the RSGB provided it fulfills just a few requirements. The affiliation fee is presently £40.50 and this includes the receipt of *RadCom*.

Procedure

There is a special procedure required to affiliate a club or society to the RSGB, or register an amateur radio group. The procedure is as follows:

(i) Please complete a society affiliation form obtainable from RSGB Sales Dept. If your organisation has a callsign, please let us know on the application form. If it does not, we will issue a receiving station number for reference purposes.

Note that for UK clubs, groups and societies the RSGB region and RSGB district will be determined by the address given on the application form. Clubs, groups and societies near to, or spanning, county boundaries should decide carefully with which county they wish to be associated and insert the appropriate choice in the address of the club on the application form.

Please also note that once your club address is on our files, we will regard it as information that can be freely given out to those seeking to contact local clubs.

(ii) Please send to the appropriate Regional Manager the following:

- Your completed application form signed by the chairman or secretary
- A copy of the club's constitution or rules
- A list of current officers of the club
- A statement of the number of members, and the proportion who are RSGB members

A list of Regional Managers is published on the RSGB web site and in the *RSGB Yearbook*. The Regional Manager will vet your constitution/rules and if suitable will countersign your application form. He or she will then return the form and your constitution or rules to you.

Note that only the Regional Manager may countersign an application for a club, group or society. Overseas organisations should send their application form and constitution/rules direct to RSGB HQ addressed to 'The RSGB Secretary'.

(iii) Finally, please send your countersigned application form, constitution and remittance to:

New Members,
RSGB HQ,
Lambda House,
Cranborne Road,
Potters Bar,
Herts EN6 3JE.

Notes on Model Constitution (overleaf)

- | | | |
|---|---|---|
| <p>[1] Society/Club/Group, etc</p> <p>[2] For a society to be affiliated to the RSGB, it must include the words "amateur radio" in its heading unless a special dispensation is obtained from the RSGB. This requirement does not apply to societies already affiliated.</p> <p>[3] This group may include, for example, youngsters, the family and friends of full members whose interest is in the social side rather than amateur radio, or local persons of influence whom it is wished to link with the society. They may pay a reduced subscription. It is important to specify what voting rights they may or may not have.</p> <p>[4] Alternatively, the subscription may be recommended by the committee for ratification at the AGM.</p> <p>[5] These dates have the advantage of corresponding to the start of the 'winter season', but others can be chosen. Bear in mind that they relate also to the date of the AGM.</p> | <p>[6] More specifically, the end of the financial year.</p> <p>[7] This period perhaps should not exceed one to three years, to avoid placing an undue burden on future committees.</p> <p>[8] There are great advantages in running the society's finances on a strict basis, although a less formal arrangement may still be effective.</p> <p>[9] There are two methods for electing the committee: the more common is for the meeting to elect the committee members and for the latter in turn to elect the officers from within the committee; alternatively, the members may elect individuals to specific offices. The method adopted will need to be specified.</p> <p>[10] The number of ordinary committee members should be related to the size of the society. Remember that being a committee member is an essential part of the training of the future officers of the Society.</p> | <p>[11] These can replace elected committee members who have left the committee.</p> <p>[12] These can be people who need to be familiar within the work of the committee such as the editor of the society magazine or the press officer.</p> <p>[13] This can be expressed either as a fixed number or, for example, as at least half or two-thirds of the full membership of the committee.</p> <p>[14] This date obviously must be related to the society's financial year.</p> <p>[15] This can be set either as a fixed number or a fixed percentage of the membership (state which members are to be included), or both "whichever is the smaller/greater". It is probably safer to make the numbers on the small side so as to ensure that the meeting can take place.</p> <p>[16] A typical number would be 10.</p> <p>[17] Such as, among its members, to a charity, or to a society of similar interest.</p> |
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Model Constitution

Guidance intended for those writing a constitution for their local club or society which will be acceptable for RSGB affiliation.

1. Name

The society [1] shall be known as the Amateur Radio [2] Society.

2. Aims

The aims of the society shall be to further the interests of its members in all aspects of amateur radio and directly associated activities.

3. Membership

Membership shall be open, subject to the discretion of the committee, to all persons interested in the aims of the society [3].

- (a) **Full members.** Full members must be 16 years of age or over or must hold the permission of any competent authority to install and operate an amateur radio station.
- (b) **Student members.** Student members must be under 25 years of age and in full-time formal education.
- (c) **Honorary members.** Honorary Life Membership may be granted to any person, who, in the opinion of the committee, has rendered outstanding service to the society, either directly or indirectly. Such membership shall carry the rights of full membership but shall be free from subscriptions.
- (d) **Guests.** Members may invite guests to meetings. No visitor may attend more than three meetings in each year.

All members shall abide by the constitution of the society. The committee shall have power to expel any member whose conduct, in the opinion of at least three-quarters of the full committee, renders that person unfit to be a member of the society. No member shall be expelled without first having been given an opportunity to appear before the committee.

4. Subscriptions

- (a) The annual subscriptions for membership shall be set by the committee [4].
- (b) All subscriptions shall be due and payable at the beginning of the financial year. Members in arrears have no voting rights.
- (c) The financial year shall run from 1 September to 31 August [5].
- (d) A member shall be deemed to have resigned from the society, if, by the following 31 August [6], the subscription has not been paid.

- (e) The committee shall have the power to waive or reduce subscriptions in special circumstances for a period not exceeding years at a time [7].

5. Finance

All money received by the society shall be promptly deposited in the society's bank account. Withdrawals require the signature of the society's treasurer and one other nominated officer of the society [8].

6. Membership of the Committee

The society's affairs shall be administered by a committee elected at the annual general meeting [9]. The committee, in whom the society's property shall be vested, shall consist of:

- (a) A chairman who will preside at all meetings at which he is present. No member may hold this position for more than two consecutive years. He may be re-elected after a break of one year.
- (b) A vice-chairman who will act as chairman in the absence of the chairman.
- (c) A secretary who will be responsible for:
 - (i) keeping the minutes of all meetings of the society.
 - (ii) ensuring that all correspondence is correctly handled.
 - (iii) maintaining a master roll of members and honorary members.
 - (iv) maintaining a register of society equipment.
- (d) A treasurer, who will be responsible for:
 - (i) keeping the society's accounts.
 - (ii) advising the committee on all financial matters.
 - (iii) preparing the accounts for audit and presenting them at the AGM.
- (e) ordinary committee members [10].
- (f) Not more than co-opted members who have full voting powers [11], and not more than who are not permitted to vote [12].

7. Committee Standing Orders

- (a) The quorum for the committee shall be [13]. In the absence of a quorum, business may be dealt with but any decisions taken only become valid after ratification at the next meeting at which a quorum exists.
- (b) Committee meetings may be called by the chairman, the secretary or any vote.

8. Annual General Meeting

- (a) The annual general meeting shall normally be held on the first day of October each year [14]. At least 21 days notice shall be given to each member in writing.
- (b) The quorum for the meeting shall be [15].
- (c) The agenda for the meeting shall be:
 - (i) Apologies for absence
 - (ii) Minutes of the previous AGM
 - (iii) Chairman's report
 - (iv) Secretary's report
 - (v) Treasurer's report
 - (vi) Election of the new Ccommittee
 - (vii) Election of auditors
 - (viii) Other business
- (d) Items (i) to (v) shall be chaired by the outgoing chairman, item (vi) by an acting chairman who is not standing for election to office, and the remaining business by the newly elected chairman.
- (e) Nominations for committee members will only be valid if confirmed by the nominee at the meeting or previously in writing.
- (f) Items to be raised by members under other business must be notified to the Secretary not less than 21 days before the AGM.

9. Extraordinary General Meeting

- (a) Extraordinary general meetings may be called by the committee or not less than members of the society, the date of the meeting being the earliest convenient as decided by the committee [16]. At least 28 days notice in writing must be given to the secretary, who in turn shall give members at least 14 days notice in writing of the agenda. No other business may be transacted at the EGM.
- (b) The quorum for the EGM shall be [15].

10. Amendments to the constitution

The constitution may be amended only at an EGM called for that purpose.

11. Winding-up of the Society

- (a) The decision to wind-up the society may be taken only at an EGM.
- (b) The funds of the society shall, after the sale of all assets and the payment of all outstanding debts, be disposed of as directed by members at the final EGM [17].



National Affiliated Societies

Amateur Radio Caravan and Camping Club (G4RCC)

This club was formed in 1979 by G4EPN, G4MTP and G8RRB with the aim of promoting caravan and camping rallies for radio amateurs, short wave listeners and their families. It brings amateur radio together with other hobbies, so making it more acceptable to the family as a collective hobby.

Details from the Membership Secretary: Alan Wright, G4EPN, 34 Webbs Way, Stoney Stanton, Leics, LE9 4BW. E-mail: arcc@ntlworld.com Web site: www.qsl.net/g3lmk/

AMSAT-UK (G0AUK)

Formed 25 years ago, this is the UK national society specialising in amateur radio satellite matters. It has approximately 1,000 paid-up members, produces a regular publication, *Oscar News*, for its members six times per year, and holds weekly nets on 3.780kHz \pm QRM on Sundays at 10.15 local time. On the last Sunday of each month, a round-up of the latest amateur satellite news is made available on the 80m net.

Membership is by donation, for which there is a suggested minimum. Extra donations are always welcome and can be sent anonymously. Funds raised are used to build satellites for all to use.

Enquiries, and application forms for membership, with an SASE to Jim Heck, G3WGM, Badgers, Letton Close, Blandford, Dorset BH11 7SS. E-mail: g3wgm@amsat.org Web site: www.uk.amsat.org

If you use amateur radio satellites, be prepared to pay something to the organisation which designs, builds and launches them – AMSAT!

British Amateur Radio Teledata Group (BARTG – G4ATG, GB2ATG)

Are you interested in PSK31, packet, CW, RTTY, fax or other amateur radio datacomms? If you are then you really should find out more about BARTG, the national (and international) specialist group for the data enthusiast. We offer you our quarterly journal *Datacom*, we run HF datacomms contests, we offer an awards scheme and we do lots more to promote datacomms. Want to find out more about us? Please contact the membership secretary: Jenny Thompson, 73 Erlstoke Close, Eggbuckland, Plymouth, Devon PL6 5QN. Tel: 01752 202873. E-mail: jennythomp@eurobell.co.uk Web site: www.bartg.demon.co.uk

British Amateur Television Club (BATC – RS38114)

Television is a large part of amateur radio, with 29 1.3GHz, two 2.3GHz and nine 10GHz repeaters in the UK alone. One Dutch ATV repeater now has its own satellite link and can be

seen regularly in the UK every evening. The BATC with its 2000 members around the world is at the front of all this activity. It organises events and produces a quarterly magazine *CQTV*. This specialist magazine is full of circuits, projects and information for television. Fast scan, slow scan and even satellite television are covered. *CQTV* is sent free to all members. Back issues can be downloaded free from the club web site: www.cqtv.com This extensive site is full of information, software and links to other TV organisations; you can also join the BATC via this site. Membership enquiries and applications should be made to: Dave Lawton, GOANO, 'Grenehurst', Pinewood Road, High Wycombe, Bucks HP12 4DD. Tel: 01494 528899. E-mail: memsec@batc.org.uk Web site: www.batc.org.uk

British Railways ARS (G4LMR)

The Society, formed in 1966, caters for railway orientated radio amateurs. It is affiliated to FIRAC – the international society formed in the same year. A quarterly newsletter, spring meeting and local nets are the main activities. Both rail and non rail are made welcome. Details from Mr G Sims, 85 Surrey Street, Glossop, Derby SK13 7AJ. Tel: 01457 855810. E-mail: g4gnq@brars.org.uk Web site: www.brars.org.uk

British Top Band DF Association (BTBDFDA)

The BTBDFDA was formed in 2000 to centralise the organisation of Direction Finding (DF) on the 160m band in the UK. The association organises the eight qualifying rounds and the final of the National DF championship. The winner receives the handsome RSGB Trophy, which is now over 50 years old. The main aim of the association is to increase the popularity of Top Band DF, which it does by organising events, providing lectures to radio clubs, putting interested people in touch with each other, writing articles for magazines, etc.

You can join the e-mail reflector by sending a message to TopBandDF-subscribe@topica.com Web site: www.TopBandDF.org.uk

Membership of the association is open to individuals and clubs. Details from the secretary, Bill Pechey, G4CUE. Tel: 01491 680552. E-mail: bpechey@iee.org

British Young Ladies Amateur Radio Association (BYLARA)

BYLARA was formed in April 1979 to further YL operation in Britain and so promote friendship with other YLs and OMs throughout the world. The association aims, in particular, to encourage good operating techniques and courtesy to all operators at all times. The 'official' net takes place on Mondays at 1930 local time on 3.708

\pm QRM, with a 40m net on Wednesdays at 1130 local. The BYLARA Contest takes place annually in February and several awards are available for working BYLARA members. Details from the Secretary: Mrs Ann Bonner, G2BHY, The Dwellings, Middle Lane, Turners Green, Heathfield, East Sussex TN21 9RA. E-mail: g2bhy@lineone.net

CDXC (Chiltern DX Club) – The UK DX Foundation (M0CDX)

CDXC is the UK's leading DX foundation, with over 500 members in the UK and overseas. Our members are very active; for example, nearly all the members of the D68C and 9M0C DXpedition teams were members of CDXC. We have supported around 100 of the world's major DXpeditions and we manage the RSGB's IOTA Campaign. We also managed the RSGB IOTA Millennium Programme (IOTA 2000).

In 1994 we were awarded the Al Slater, G3FXB, Memorial Trophy by FOC for DXing, contesting, operating standards, friendship and encouraging others.

Members receive the highly-rated bi-monthly *CDXC Digest*. This includes antenna, equipment and software reviews, as well as many DXpedition stories. We have a great social programme; the CDXC contest call M0C is available to members, as are our achievement awards. We also provide financial and logistical support to members' DXpeditions.

Would you be interested in joining an enthusiastic group of amateurs of all ages with a common interest in DXing? For a prospectus and a back issue of the *CDXC Digest*, e-mail secretary@cdxc.org.uk or write to CDXC secretary, Shaun Jarvis, M0BJL, 11 Charnwood Way, Langley, Southampton SO45 1ZL. Web site: www.cdxc.org.uk

Civil Service ARS (G3CSR & G1CSR)

Open to any serving or retired civil or public servant interested in amateur radio. HF station available to members. Society nets, usually controlled by G3ENV and to which all are welcome, are held every Tuesday evening at 7.30pm on 144.310MHz and 8.00pm on 3.720MHz \pm QRM.

Details from the Secretary, CSARS, Civil Service Recreation Centre, 1 Chadwick St, London SW1P 2EP, e-mail g8gff@aol.com; or the chairman: John Pinnell, G3XWK, 31 Nunhead Lane, London SE15 3TR. Tel: 020 7732 8605.

Fists CW Club (G0IPX & M5IPX)

The purpose of the club is to promote the use of Morse code. It has approximately 5000 members worldwide. Details from Mr E Longdon, G3ZQS, 119 Cemetery Road, Darwen, Lancs BB3 2LZ. Tel: 01254 703948. E-mail: fist1@btinternet.com Web site: www.asel.demon.co.uk/fists-hq/

G-QRP Club (RS38364)

This club specialises in low power operation (hence the QRP), primarily on the HF bands. It produces a quarterly magazine for its members called *Sprat*. Membership is in excess of 5,000. Further details can be obtained from the secretary: Rev. George Dobbs, G3RJV, St. Aidans Vicarage, 498 Manchester Road, Rochdale, Lancs OL11 3HE. Web site: www.gqrp.com

International Listeners' Association (RS88763)

The ILA was formed in 1985 to encourage radio listening in all its aspects. The quarterly newsletter *Just Listening* contains articles, features, news and other items covering the whole field of the hobby. A popular awards scheme and regular contests encourage dedicated listening. Further details are available from Trevor Morgan, GW4OXB, 1 Jersey St, Hafod, Swansea SA1 2HF. E-mail: gw4oxb@net.ntl.com

International Police Assn Radio Club (IPARC – G1IPA & G4IPA)

This club is open to any serving or retired member of the Police service. Aims of the club are expressed in the motto: 'service through friendship'. The club has regular weekly nets, both national and international, and regular newsletters. Further details can be obtained from the secretary, Nigel Allison, G0JOH, 24 Priestly Drive, Tonbridge, Kent TN10 4RS. Packet G0JOH@GB7STU. Web site: www.iparc.com

International Short Wave League (ISWL - G4BJC)

Known as the ISWL, the League was formed in October 1946 and caters for members with interests in both the amateur and broadcast bands, membership being open to SWLs and licensed amateurs. A monthly journal *Monitor* covers HF and VHF reception conditions, the SW BC bands, transmitting topics, technical and various general articles. The League holds monthly contests and has a comprehensive awards programme.

Details from the honorary secretary: John Raynes, G16436/GOBWG, 267 Pelham Road, Immingham, Lincs DN40 1JU. E-mail: iswl@ntlworld.com Web site: www.iswl.org.uk An e-mail reflector is open to non-members – to subscribe send an e-mail to iswl-subscribe@smartgroups.com

Military Wireless Amateur Radio Society (G0PTZ)

The Society was founded in 1992. The members collect, restore, display at shows and use ex-military radio and other electronic equipment. An A4 sized club newsletter is produced every other month. Membership now exceeds 300 with members in 18 different countries. There is a WT net, Sundays at 0900, on 3577kHz. Further details from John Taylor-Cram, 7 Hart Plain Avenue, Cowplain, Waterlooville, Hampshire, PO8 8RP. Tel: 023 9225 0463.

Open University ARC (OUARC – G0OUR)

Membership is open to both students and staff of the university. Meetings are held in the shack every Thursday lunchtime on the Walton Hall campus, Milton Keynes. The club station is currently active on HF, VHF and UHF. Further details from the secretary, Adrian Rawlings, M0ANS, 57 High Street, Nash MK17 0EP. E-mail: adrian@euroneta.com Web site: g0our.open.ac.uk

Prudential Amateur Radio Society (G0PRU, G0PPS, G8PRU)

This is open to all current, retired and pensioned employees of the Prudential Group of companies together with any SWLs world-wide. We send out a special QSL card for those contacts that we make and for those who QSL us. If you don't want this special card, then please let us know at the time of the contact.

Chairman: Gerald Haines, G4SXY; tel: 020 8657 8494. Secretary: Dennis Egan, GW4XKE; tel: 029 2051 2959. Publicity officer: John Wimple, G4TGK. Tel: 01797 362295. Callsign manager: Mike Butler, G0NRK. Tel: 01833 690515. Overseas Liaison: Alan McCullach, ZS6KU.

Details about the society can be obtained from the membership secretary: David Dyer, G4DNX, 'The Burlington', 85 Queens Road, Felixstowe, Suffolk IP11 7PE. Tel: 01394 276034. E-mail: david.dyer@tesco.net

Radio Amateur Old Timers' Association (RAOTA – G2OT)

The Association seeks to keep alive the pioneer spirit and traditions of the past in today's amateur radio by personal and radio contact, whilst being mindful of any in special need. Membership is open to anyone who has had an active interest in amateur radio for at least 25 years. It is not necessary to have held a callsign for this period, or indeed at all. A QSL card or a recommendation from another member is all that is required as proof. Associate membership (without voting rights) is available to anyone with an active interest in amateur radio.

RAOTA publishes a quarterly journal *Old Timer News* which is also available on cassette. Regular nets are held on 80m SSB and CW under the callsign G2OT and awards are available for contacts with other RAOTA members.

Applications for membership and requests for a sample copy of *Old Timer News* should be addressed to the Honorary Secretary/Treasurer: Mrs Sheila Gabriel, G3HCQ, Millbrook House, 3 Mill Drove, Bourne, Lincolnshire PE10 9BX. Tel: 01778 423438. Web site: go.to/raota E-mail: sheilag3hcq@lineone.net

Radio Amateurs Invalid and Blind Club (RAIBC – G4IBC, GB0IBC, GB1IBC)

Founded in 1954, the RAIBC caters for the special needs of handicapped amateurs and short wave listeners. They offer many services and a local representation scheme. Subscriptions and donations should go to the Honorary Treasurer/Membership Secretary: Mrs Shelagh Chambers, 78 Durlay Avenue, Pinner, Middx, HA5 1JH. Tel: 020 8868 2516.

Radio Officers Association (ROARS - M0ROA)

ROARS is the only RSGB affiliated society that comprises members with a professional wireless qualification. Members are, or have been, employed as Radio Officers in the Merchant Navy, Civil Aircraft, Coast Station and covert services.

ROARS is a subsidiary of the Radio Officers Association and membership includes a quarterly newsletter, *QSO*, running to 40 A4 pages.

The society organised the 1999 International Coast Station event with 120 stations active world-wide, and the huge CW event when the closure of Portishead Radio realised 3000 QSOs in 12 hours cross band amateur/maritime. Web site: www.roassn.org E-mail: dbarlow@enterprise.net

Remote Imaging Group (RS88803)

RIG is an international group formed in 1985 to promote further interest in the reception of APT, WEFAX, HRPT and PDUS imaging data from weather satellites and has over 2000 members in 45 countries.

RIG is able to supply (to members only) hardware and software for downloading weather satellite images at advantageous prices, and runs telephone helplines to sort out technical problems. RIG publishes a quarterly journal containing constructional and meteorological articles, equipment and software reviews, predictions, satellite and operational information and many images. RIG is in regular contact with the satellite operators, radio authorities and meteorological organisations, to ensure continued free access to weather satellite data from amateurs and schools.

RIG has been working closely with EUMETSAT and the Met. Office, ahead of the scheduled launch of the first Meteosat Second Generation satellite - MSG-1 - in mid 2002, in order to gain free access to data for amateurs. Also with equipment suppliers to be in a position to supply members with the required new equipment in the future.

Further details from the membership secretary, John Din, 59 Woodend Road, Coalpit Heath, Bristol BS36 2LH. Fax: 01454 887880. E-mail: membership@rig.org.uk

Rotarians of Amateur Radio (RS170647)

The Society was formed in the UK in 1966. Regular nets operate on Sundays on 3.693MHz (\pm QRM) at 0900 and 1900 (local times). The Anzo-UK net operates on 14.293MHz at 0630Z (summer) 0730Z (winter) with G4YZE and VK5CV. The Transatlantic net is on 14.293MHz at 1130Z with G4YZE, W1QUO and W00XB. EA5ALK transmits on Fridays on 14.284MHz at 1000 (local).

The AGM is usually held in May or June, but social gatherings are arranged during the year. Further details from Secretary: Brian Whittaker G3LUW, Woodlands, Newton Down, Lifton, Devon PL16 0AS. Tel: 01588 784222. E-mail: brian@g3luw.freeserve.co.uk; or from the International Chairman, John, G4HMG; Regional Vice Chairman, Bill, G4YZE; Registrar, Malcolm, G3KQJ; all QTHR. International web site: www.rotarnet.com.au/Users/RecF/ROAR/roar.htm Web site: www.ribi.org/fellshps/roar.htm



Royal Air Force Amateur Radio Society (RAFARS – G8FC, G8RAF)

Formed in 1938, RAFARS, with over 1500 members world-wide, is an international society which aims to promote and foster amateur radio activities within the Royal Air Force and, through amateur radio, to maintain and foster the existing close bonds between radio amateurs still serving and those who have retired from, or have close associations with, the Royal Air Force.

The Society runs its own QSL Bureau and publishes its own call book, plus an in-house magazine, *QRV*, twice a year. Prospective members are welcome to join one of the daily or weekly nets. The RAFARS web site, www.rafars.org, is managed by the RAFARS Technical Manager, G4DDM. The RAFARS packet address is G8RAF@GB7MAX.

Further information is available from The Administrator, HQ RAFARS, RAF Cosford, Wolverhampton WV7 3EX. Tel: 01902 372722. E-mail: administrator@rafars.org

Full details of membership, 'on-line' request or 'print-your-own' membership application form, net schedules etc are available at <http://www.rafars.org>

Royal Naval Amateur Radio Society (RNARS – GB3RN, G3CRS, G1BZU)

Membership of RNARS is open to members world-wide who have, or have had, connections with the Royal Navy, Commonwealth navies, naval reserves, the Merchant Navy or foreign navies. Further details from the Secretary, Philip Manning, G1LKJ/M3LKJ, 1 Waverley Gardens, Ash Vale, Surrey GU12 5JP. Tel: 01252 334929. E-mail: g1lkj@amsat.org Web site: www.rnars.org.uk

Royal Signals Amateur Radio Society (RSARS – G4RS)

Formed in 1961 under the chairmanship of the late Major General Eric Cole CB CBE, G2EC, membership is open to serving and past members of the British Regular and Territorial Army; civilian staff who have supported army telecommunications; Commonwealth Army signallers; and licensed amateurs from other countries who have proven military connections, subject to status.

Members receive a high quality magazine, *Mercury*, three times a year, and the society runs its own contests and awards scheme. More information from the General Secretary, HQ RSARS, Cole Block, Blandford Camp, Dorset DT11 8RH. Tel: 01258 482814. E-mail: gensec@rsars.org.uk Web site: www.rsars.org.uk

St Dunstan's Amateur Radio Society (G3STD, G8STD)

This is a national organisation for men and women blinded in the service of their country. Details c/o 52 Broadway Avenue, Wallasey, Wirral, CH45 6TD.

Science and Technology through Educational Links with Amateur Radio (STELAR RS95685)

STELAR was formed in 1993 to promote amateur radio within schools. It is a registered charity that aims to link amateur radio with schools and so provide an enriched Science and Tech-

nology curriculum. At Easter each year it runs a 'Crash Course' for teachers, to enable them to obtain a radio transmitting licence. As a follow up to this, during the autumn half term holiday, STELAR provides a practical course on how to run a school radio club. Both are residential and provided free of charge to teachers.

News from STELAR can be seen under the 'Youth' section of the RSGB web site. Details about STELAR and its courses can be obtained from its Chairman, Mr A E Vinters, G0WFG, Calder House, Rishworth School, Rishworth, West Yorkshire HX6 4QA. Tel: 01422 823622. E-mail: Tony@g0wfg.demon.co.uk

The Radio Amateurs' Emergency Network (G4NRC)

The Network was formed in 1992 and became a registered charity (No. 1047725) in 1995. It is a national organisation representing the interests of its members. Further details can be found on the Internet at www.raynet-uk.net Alternatively, contact the Chairman, Ron Cowan, GM4SRL, at chairman@raynet-uk.net Tel: 0141 620 1000. Postal correspondence should be addressed to 'Hunters Moon', Newton-le-Willows, Bedale, DL8 1SX. The Network operates a 24hr emergency telephone line on 0141 621 2121.

The Scout Association (RS85972)

Details from: Programme & Development Department, The Scout Association, Gilwell Park, Chingford, London E4 7QW. Tel: 020 8433 7100. E-mail: activities@scout.org.uk Web site: www.scoutbase.org.uk

UK Six Metre Group (G5KW)

The group was formed in 1982 with the primary aim of encouraging an interest in, and promoting activity on the 50MHz band by all amateurs. It supports beacons in various parts of the world and has supplied equipment to encourage and help 6m enthusiasts activate new countries. Sponsorship for DXpeditions and/or new country activations is supported. Previous sponsorship includes: PW0, TI9 and 8Q7 and many more. Further information from Clive Davies, G4FVP. E-mail: sponsorship@uksmg.org

Through its quarterly journal *Six News* it seeks to provide the best information on all aspects of the band including DX and beacon news, propagation, awards, contests, technical articles, equipment reviews, QSL addresses and DXpedition news. Further information and submissions to: Chris Deacon, G4IFX. E-mail: editor@uksmg.org

The group provides a web site that offers information not available anywhere else on the Internet: www.uksmg.org/

Further information and membership from Dave Toombs, G8FXM, 1 Chalgrove, Halifax Way, Welwyn Garden City, Herts AL7 2QJ. E-mail: secretary@uksmg.org

Visually Impaired Radio & Electronics Society (VIRES - RS176533)

VIRES is a self-help society of visually impaired radio and electronics enthusiasts, whose aim is to encourage visually impaired people to share in the enjoyment of amateur radio and electronics. Aims include increasing

public awareness of the contribution that visually impaired people can make, lobbying manufacturers to make their products more usable by visually impaired customers, designing special projects and persuading someone to make them. The organisation is a forum for sharing members' expertise and advice. A Morse class for visually impaired people is ongoing, and adapted RAE and NRAE training courses are planned. There is also an e-mail discussion list open to anyone. You can join the discussion list by sending a blank message to: vires-subscribe@egroups.com Alternatively, you can visit the mailing list page at www.egroups.com/group/vires/ where you can also join.

Details and membership can be obtained from Ms Laura Alexander, 43 Connaught Mansions, 390 Coldharbour Lane, London SW9 8LE. Tel: 020 7737 6366.

Worked All Britain Awards Group (WAB - G4WAB, G7WAB)

This group was founded in 1969 by the late John Morris, G3ABG, to encourage greater amateur radio interest in Britain. The group promotes an award programme, contests and activity week-ends and makes regular donations to organisations such as the RAIBC who help the less fortunate members of the amateur radio fraternity.

The award scheme, which is open to licensed amateurs and short wave listeners, is based on the geographical and administrative division of the UK. QSL cards are not required, only log entries, and special record books are available to assist in the claiming of awards. Full details and checklists of all the areas and counties for all the WAB awards are contained in the *WAB Book*.

For further details of the book, awards and newsletter please write to the Membership Secretary: Kate Wragg, G0FEZ, 11A Fall Road, Heanor, Derbyshire DE75 7PQ. Web site: www.worked-all-britain.co.uk

World Association of Christian Radio Amateurs & Listeners (WACRAL – G3NJB/M1CRA)

WACRAL is a Christian organisation based in the UK and dedicated to the worldwide promotion of 'Friendship and Fellowship through the medium of Amateur Radio'. Founded in 1957 by the late Rev. Arthur Shepherd, G3NGF, WACRAL welcomes committed Christian amateurs and short wave listeners of all denominations. The association is engaged in radio related support work in the UK and the third world.

There are regular nets for members and friends, the most popular of which is the UK's Sunday morning 'Good News' net at 8am on 3747kHz. A quarterly magazine is published, there is an awards programme and an annual conference.

General Secretary: Mrs Shirley Jackson, CSWL 1199/G, 26 Bempton Grove, Birstall, West Yorkshire WF17 9QZ. Tel: 01924 474675. E-mail: 1119g@btinternet.com All new enquiries to Membership Secretary, Derek Chivers, G3XNX, 51 Alma Road, Brixham, South Devon TQ5 8QR. Tel: 01803 854504. E-mail: g3xnx@wacral.org Web site: www.wacral.org

Emergency Communications

The services of Amateur Radio Emergency Communications in the UK are provided by organised groups under the general term 'RAYNET'. They can be affiliated to either the RSGB or The Radio Amateurs' Emergency Network, which is itself affiliated to the RSGB. Some groups have links with both or neither. In the latter case these groups are termed 'Independent'. These entries are compiled from RSGB & Network databases. Thanks are due to The Radio Amateurs' Emergency Network and Independent groups for supplying their details. Whilst every effort is made to ensure that the following information is as complete and accurate as possible, changes can inevitably occur and if contact with the named person is unsuccessful then it is suggested the County or geographically adjacent group may be able to help. See the Callsign pages in this *Yearbook* for addresses.

Group	Affil.	Contact	Group	Affil.	Contact
Avon			Purbeck & Poole	N	Brian Groome, G1WPG. Tel: 01929 551755.
Avon Area	N	Lance Whitelegg, G0CCU. Tel: 0117 987 0676.	South East Dorset	N	John Goodall, G0SKR. Tel: 01202 579699.
Bristol	N	Alan Williams, G3ZKI. Tel: 0117 955 3020.	West Dorset	N	Konrad Menzel, G0FIT. Tel: 01305 267596.
			Wimborne & District	N	John Stacey, G0VPJ. Tel: 01202 822125.
Bedfordshire			Essex		
Mid Bedfordshire	R	Ian McIver, G0BKN. Tel: 01234 328816.	Essex	R	Nigel Hull, G6ZVV. Tel: 01245 283540.
			Epping Forest	N	Mike Harrington, G7BNF. Tel: 01279 303786.
Berkshire			Gloucestershire		
Berkshire	N	Roger Peggram, G7RUH. Tel: 01344 481668.	Gloucestershire	R	Jerry Pallister, G1YXF. Tel: 01453 547038.
East Berkshire	R N	Roger Peggram, G7RUH. Tel: 01344 481668.	South Gloucestershire	R	Stan Goodwin, G0RYM. Tel: 01454 413177.
Reading & West Berks	N	Dennis Pibworth, G4KWT. Tel: 0118 969 8526.			
Buckinghamshire			Greater London		
Buckinghamshire	N	Cathy Clark, G1GQJ. Tel: 01844 351461.	North London	N	Martin Palmer, G8PHJ. Tel: 07714 436747.
Aylesbury	N	Cathy Clark, G1GQJ. Tel: 01844 35146.	North East London	R N	Paul Harrison, G8MJH. Tel: 0208 529 0351.
Mid Thames	R N	Len Dunn, G6DOV. Tel: 01494 673372.	South East London	N	Philip Williams, G6AQP. Tel: 07973 508590.
Milton Keynes	N	Ray Hughes, G0FTI. Tel: 01908 604822.	South West London	N	Ian Jackson, G8RWH. Tel: 0208 397 8017.
Cambridgeshire			Greater Manchester		
Cambridgeshire	N	B. Crowe-Haylett, G0OKK. Tel: 01353 664138.	Greater Manchester	N	Jon Mossman, G7JKK. Tel: 0161 291 0284.
Cambridge	N	Vicky Hyde, G0SFA. Tel: 01223 245243.	Bolton	N	Eric Walton, G4FSN. Tel: 01204 691536.
Four Counties	N	Roger Beever, G6CKR. Tel: 01778 342799.	Bury	N	Paul Baker, G1ZBW. Tel: 01204 398831.
Cheshire			Rochdale	N	Dennis Upton, G0UAF. Tel: 01706 621998.
Cheshire	R N	Bruce Williams, G1ORS. Tel: 01625 583632.	Salford	N	Jon Mossman, G7JKK. Tel: 0161 291 0284.
East Cheshire	N	John O'Donnell, G7VCF. Tel: 0161 928 9134.	Stockport	N	Norman Rowcroft, G4NIV. Tel: 0161 456 7112.
Central Cheshire	N	Peter Fox, G8HAV. Tel: 01606 553401.	Tameside	N	Jon Mossman, G7JJK. Tel: 0161 291 0284.
West Cheshire	N	Greg Mossop, G0DUB. Tel: 07050 251989.	Wigan	N	Alan Nixon, G1EFU. Tel: 01942 725931.
Cleveland			Trafford	N	Jon Mossman, G7JJK. Tel: 0161 291 0284.
Cleveland	N	Richard Trotter, G8EIA. Tel: 01642 816818.	Manchester Scouts	N	Keith Hampson, G3WFW. Tel: 0161 442 8334.
Co. Durham			Hampshire		
Durham	N	Allan Wallis, G4YMU. Tel: 01207 520477.	Hampshire	R N	Bob Bloodworth, G4VWP. Tel: 01730 264644.
East Durham	N	Tony Forster, G6VHG. Tel: 0191 586 5642.	North East Hampshire	N	Ian Duffy, G7GMN. Tel: 01276 26491.
North West Durham	N	Allan Wallis, G4YMU. Tel: 01207 520477.	North West Hampshire	N	John Witts, G6BBW. Tel: 01256 431056.
South West Durham	R	Ian Bowman. Tel: 01388 812104.	South East Hampshire	N	Clive McCloud, G4EFB. Tel: 023 9269 4575.
Cornwall			South West Hampshire	N	Roger Davies, G8SXC. Tel: 01730 264644.
Cornwall County	R	Keith Harding, G3XFL. Tel: 01872 274800.	Isle of Wight	R	Tel: 01983 873087.
North Cornwall	R	Ted Warne, G3YJX. Tel: 01208 812772.	Herefordshire		
South East Cornwall	R	Jim Husk, G8GLI. Tel: 01579 342916.	Herefordshire	N	Philip Sanders, M1END. Tel: 01432 265300.
Lizard	I	G4CRI.	Hertfordshire		
Restormel	I	A.J. Turner, G4XBC.	Herts	N	Trevor Groves, G4KUJ. Tel: 01923 243650.
Penzance	I	Ian Wright, G4RRQ.	North Herts	R	Stephen Clarke, G8LXY. Tel: 01582 615772.
Cumbria			Mid Herts	N	Peter Hammond, G7CNX. Tel: 01992 460680.
Cumbria County	N	Ray Hills, G0BDA. Tel: 01539 563621.	South West Herts	N	Alan Redman, G4KUF. Tel: 01923 265186.
Furness	N	David Wilkinson, G7MCE. Tel: 01229 463948.	Isle of Man		
South Lakeland	N	Ray Hills, G0BDA. Tel: 01539 563621.	Isle of Man	I	Dougie Corkhill, GD8KWM. Tel: 01624 861760.
Derbyshire			Kent		
North East Derbyshire	R	Contact RSGB HQ.	Kent	R	David Townsend, G0WVA. Tel: 01843 596794.
Devon			Medway	R	Alan Stanley, G1OMH. Tel: 01634 683392.
North Devon	R	Ian Binding, G4RVG. Tel: 01769 572161.	North East Kent	R	John Turner, G0KFO. Tel: 01227 374599.
West Devon	N	Ian Harley, G6BJJ. Tel: 01752 500153.	South Kent	R	John Wellard, M0ZAA. Tel: 01233 503050.
South Devon	R	Ged Coker, G6CLD. Tel: 01803 812117.	Thanet	R	Derek Oakley, G0DFI. Tel: 01843 228718.
Dartmoor	R	Jon McColm, M1CFS. Tel: 01364 720801.	West Kent	R	Gordon Bubbs, G7KNS. Tel: 01732 365873.
Dorset			Lancashire		
Dorset	N	Chris Hampson, G8RXA. Tel: 01425 672002.	Lancashire	R	David Hardman, G0VLV. Tel: 01524 823068.
			North Lancashire	R	Chas Warr, G0AWM. Tel: 01524 63060.



RSGB affiliated emergency comms groups: www.rsgb.org/memb/clubs/LCLBEMG.HTM
 The Radio Amateurs' Emergency Network: www.raynet-uk.net
 The HF side of RAYNET communications: www.raynet-hf.net

Group	Affil.	Contact	Group	Affil.	Contact
East Lancashire	R	Jim Tomlinson, G0DFO. Tel: 01282 690961.	Pembrokeshire	R	John Jones, GW3IGG. Tel: 01437 890759.
Fylde Coast	R	Ray Knighton, G0GER. Tel: 01253 824319.	Staffordshire		
Central Lancashire	R	Eddie Wane, G0OFY. Tel: 01257 274368.	Staffordshire	N	Martin Harrison, G3USF. Tel: 01782 627396.
Rossendale	R	Iain Groom, G0FCA. Tel: 01707 227814.	North Staffordshire	N	Ken Tomkinson, G1PAG. Tel: 01782 310686.
West Lancashire	R	David Hardman, G0VLV. Tel: 01524 823068.	South Staffordshire	N	Andy Joseph, G7PMS. Tel: 01785 660214.
Leicestershire			Suffolk		
Leicestershire	N	Derek Harrison, G1SPA. Tel: 01332 811087.	Suffolk County	R N	Chris Irish, G6PDE. Tel: 01473 270472.
Leicester	R N	Jim Andrews, G1HUL. Tel: 01530 249218.	Babergh	N	Tony Harman, G8LTY. Tel: 01787 313212.
Melton Mowbray	N	Roy Barker, G7ARB. Tel: 01664 500814.	County Control	N	Dave Sparrow, G8XOR. Tel: 01473 464905.
Lincolnshire			Forest Heath	N	John Slater, G6EUO. Tel: 01842 860475.
North Lincolnshire	R	Dr. Alan S. Clark, G8EVI.	Ipswich Borough	N	Keith Gaunt, G7CIY. Tel: 01394 420226.
Fenland	N	Mark Coote, G7MTE. via ZC3 01778 342799.	Mid Suffolk	N	Russell Clarke, G6IJN. Tel: 01449 615386.
Merseyside			St. Edmundsbury	N	Phil Smith, G8JSL. Tel: 01359 230431.
Merseyside	N	Mike Hampson, G8RXB. Tel: 0151 638 5879.	Suffolk Coastal	N	Russell Keen, G7OOW. Tel: 01394 385139.
Wirral	R N	Eileen Daly, G0TXF. Tel: 0151 677 2742.	Waveney	N	Duncan Parnell, M1ATH. Tel: 01502 508132.
St. Helens	R	Roger Cook, G7MMA. Tel: 01744 752229.	Surrey		
Liverpool	N	Phil Fitzpatrick, G7BTB. Tel: 0151 548 5387.	Surrey	N	Brian Davies, G3OYU. Tel: 01342 832559.
Southport	R	Bob Taylor, G0RLT. Tel: 01704 229984.	Surrey East	N	Brian Davies, G3OYU. Tel: 01342 832559.
Norfolk			Surrey West	N	Nigel Watson, G1XBV. Tel: 01932 341719.
Norfolk	R	Amanda Hunt, G0NFV. Tel: 01603 419021.	Sussex		
Great Yarmouth	N	John Barnard, G7RPJ. Tel: 01493 856780.	Hastings & Rother	R	Arthur Gould, G3JKY. Tel: 01424 753888.
Mid Norfolk	N	Slim Knighton-Clark, G6XRX. Tel: 01953 717219.	Chichester	R	I.M. Page, G4WIR.
North Anglia	N	Kevin Kent, G1SCQ. Tel: 01485 571258.	South Sussex	N	via Cathy Clark, G1GQJ. Tel: 01844 351461.
North Norfolk	I	Colin Harrod, G4RRN. Tel: 01276 512736.	Eastbourne & Wealden	N	Dick Jeffries, G4KAR. Tel: 01323 845418.
South Norfolk	N	Stephen Newstead, G7PRC. Tel: 01603 783045.	Tyne & Wear		
Broadland	I	Bill Holmes, G4TWT. Tel: 01603 427008.	Tyne & Wear	N	Eric McGlen, G6INK. Tel: 0191 567 1736.
Northamptonshire			Sunderland	N	George Smith, G6AGZ. Tel: 0191 581 7293.
Northamptonshire	N	Eric Young, G4MZX. Tel: 01604 862988.	Tyneside	N	John Hindmarsh, G8XGS. Tel: 0191 294 5128.
Daventry	R	Malcolm Ogle, G1DLH. Tel: 01327 301989.	Warwickshire		
N. Northants (Kettering)	N	John Drage, G1AZD. Tel: 01536 514537.	Warwickshire	N	Ron Horsley, G0MRH. Tel: 01789 267430.
Northern Ireland			North Warwickshire	N	Derek Law, G0GUD. Tel: 01827 704330.
Northern Ireland	R	Ian Gibson, G14MDD. Web: www.raynetni.com	Mid Warwickshire	N	David Salter, G8UIO. Tel: 01926 337773.
Northumberland			South Warwickshire	N	Jim Martin, G0VKV. Tel: 01789 297979.
Northumberland	N	Jim Tefry, G0TLZ. Tel: 01670 736326.	West Midlands		
North & East Scotland			West Midlands	N	Claire Wise. Tel: 0121 472 8134.
Orkney	R	Ed Holt, GM0WED. Tel: 01856 870747.	Birmingham	N	Claire Wise. Tel: 0121 472 8134.
Highlands	N	Robin Morrison, GM7PKT. Tel: 01855 821246.	Coventry	N	Dave Green, G8HPV. Tel: 0247 644 1838.
Inverness & District	N	John Grieve, GM0OTI. Tel: 01463 791444.	Sandwell	N	Peter Siviter, M1EFQ. Tel: 0121 556 9628.
Grampian	R	Peter Thomson, GM1XEA. Tel: 01224 740091.	Sutton Coldfield & Dist.	N	John Trickey, G4REV. Tel: 0121 308 8627.
Tayside	N	Roger Stapleton, GM0GKR. Tel: 01334 475162.	Walsall	N	Claire Wise. Tel: 0121 472 8134.
Dundee & Angus	N	Andrew Doig, GM1JTK. Tel: 01382 730837.	West Midlands West	N	John Barnett, G8RLN. Tel: 01384 375711.
Perth & Kinross	N	Martin Hobson, GM8KPH. Tel: 01796 472140.	Wolverhampton	N	John Wedge, M0WEV. Tel: 01902 714769.
Fife	N	Jim Burke, GM4TNP. Tel: 01592 755958.	West & South Scotland		
Lothians	N	Vic Stewart, GM3OWU. Tel: 0131 453 4068.	East Dunbartonshire	R	G. Wylie, GM0GMO.
North & Mid Wales			Strathclyde	R	Crawford Ross, GM8HBY. Tel: 01236 755177.
Denbigh & Vale of Clwyd	R	Anna Patterson, MW0CCS. Tel: 01745 345079.	West of Scotland	N	Dave Mackinnon, GM0ADF. Tel: 01475 529909.
Wrexham & District	R	Peter Higgs, GW4IGF. Tel: 01244 570212.	Argyll North	N	G. R. Henderson, GM3RTJ. Tel: 01866 833201.
Conwy County	R	Mike Sharkey, GW1BBH. Tel: 01492 878191.	Argyll South	N	Liam Harvey, GM4VYQ. Tel: 01546 603910.
South Gwynedd	R N	Bruce Morris, GW4XXF. Tel: 01654 710541.	Ayrshire	N	Tom Stewart, GM0BKX. Tel: 01290 421298.
N. Gwynedd & Anglesey	R	John Lewis, GW8UZL. Tel: 01248 714657.	Clyde Coast	N	John McDermott, GM6LEZ. Tel: 01475 722202.
Central Gwynedd	I	Hans Postel, GW6UWU. Tel: 01286 660203.	Cowal	N	Brian Shearer, MM1HMV. Tel: 01369 705333.
North Powys	R	Dave Brown, GW4NQJ. Tel: 01686 640814.	Gtr Glasgow (Renfrew)	N	Derek McCallum, GM4LCZ. Tel: 01389 721495.
Flintshire	I	Martin Ellett, GW6XYE. Tel: 01352 762151.	Dumfries & Galloway	R	Hazel Cameron, GM4VIS.
Nottinghamshire			Wiltshire		
Nottinghamshire	N	Roger Beever, G6CKR. Tel: 01778 342799.	Wiltshire	N	Noel Woolrych, G4TIX. Tel: 01380 724533.
Bassetlaw	N	Geoff Lowe, G7SRI.	North Wiltshire	N	Brian Watson, G1Hfy. Tel: 01225 764306.
North Nottinghamshire	N	Clive Heaps, G4NOR. Tel: 01623 648643.	Worcestershire		
Oxfordshire			Worcestershire	N	Tony Hartland, G8WOX. Tel: 01562 751584.
Banbury	N	Bryan Thornton, G1IIO. Tel: 01295 251774.	Mid Severn Valley	N	Tony Hartland, G8WOX. Tel: 01562 751584.
Oxford	N	Bill Seeney, G8RFN. Tel: 01865 88262.	Yorkshire		
Shropshire			North Yorkshire (County)	N	Brian Dooks, G0RHI. Tel: 01423 322988.
Shropshire	R	Tony Pierce, G0RVE. Tel: 01939 251205.	Nidderdale	N	Patrick Denning, G0MAO. Tel: 01423 879314.
Somerset			Richmond	N	Brian Tindill, G4HVA. Tel: 01677 450387.
Bath & NE Somerset	R	Philip Ashby, G6UZG. Tel: 01225 474940.	Scarborough	N	Roger Ingle, G7MZE. Tel: 01723 514838.
Bridgwater	R	Mike Clapperton, G0OYA. Tel: 01278 685027.	East Yorkshire (County)	R N	Melvyn Lewis, G0KGU.
Taunton	R	Tony Woollard, G6TWA. Tel: 01823 660969.	West Yorkshire (County)	N	Paul Rigg, G0TVB. Tel: 07765 402900.
North Somerset *	R	Nick Sparks, G4ZUX. Tel: 01934 415700.	Leeds	R N	Graham Belt, G0SCV. Tel: 0113 236 9903.
(* formerly known as Weston-Super-Mare RAYNET)			Calderdale	R	Alan Yarker, G3TAY. Tel: 01422 367621.
South & West Wales			Todmorden	N	Paul Rigg, G0TVB. Tel: 07765 402900.
South Glamorgan	R	Syd Richards, GW0PPG. Tel: 01222 593341.	Sheffield & Rotherham	R	Gordon Leesley, G4WEC. Tel: 01777 709185.
West Glamorgan	R	G.J. Garner, GW8NXK. Tel: 01792 541336.	Key to Affiliations:		
			R = RSGB	I = Independent	
			N = The Radio Amateurs' Emergency Network		



Local Clubs & Societies

The following list shows all local societies and clubs which were affiliated to the RSGB at the time of closing for press. Each club is listed under the RSGB Region and county in which it regularly meets. See page 10 for a map of RSGB regions. Some affiliated societies (eg contest groups) do not hold formal meetings, and so these have been listed under the region of their RSGB registered address. Check the pages of *RadCom* and the RSGB web site for the latest information.

Region 1 Scotland West & Western Isles

Central

Falkirk & DARS (GM0FRC). Contact Scott Waterall, GM0KBU.

Stirling & DARS (GM6NX) meets 7.30pm every Thursday at Baneath Industrial Estate, Throsk, nr Stirling. Contact John Sherry, GM0AZC.

Dumfries & Galloway

Wigtownshire ARC (GM4RIV) meets 7.30pm Thursdays at the Aird Unit, Stranraer Academy, Stranraer (entrance from Cairnport Road). Contact Neil Macdonald, GM4LQS.

Strathclyde

Ayr ARG (GM0AYR) meets 7.30pm alternate Wednesdays at Paisley University, Craigie Campus, Beech Grove, Ayr. Contact Tom Mitchell, GM0JHF. Tel: 01292 315475.

Dunoon & DARS (GM0COD) meets 7.30pm Fridays at the Edward Street Community Centre, Edward Street, Dunoon. Contact Mr A B Horton, GM0BUL. Tel: 01369 840217.

Helensburgh ARC (GM4HEL). Contact Mr G Capstick, GM7OAF. Tel: 01436 675922.

Inverclyde ARG (GM0GNK) meets 8.00pm on 2nd Wednesday of the month at the Cardwell Bar, Cardwell Road, Gourcock. Contact Andrew Givens, GM3YOR. Tel: 01475 638226.

Kilmarnock & Loudoun ARC (GM0ADX) meets 7.30pm every second Tuesday at the Hurlford Community Centre, Cessnock Road, Hurlford. Contact Steve Campbell, GM4OSS. Tel: 01560 483800.

Largs & DARS (GM0VKG).

Lorn ARS (GM0LRA) meets 1st & 3rd Thursdays. Contact Mrs S McLennan, GM0ERV. Tel: 01631 566518.

Mid Lanark ARS (GM3PXK) meets 7.30pm Fridays at the Newarthill Community Educ. Centre, High Street, Newarthill, Motherwell, Lanarkshire ML1 5GU. Contact John Neary, GM0XFK. Tel: 01698 822860.

Milton of Campsie ARS (GM0MOC) meets 7.30pm every other Wednesday at the Red Cross Hall, Kirkintilloch. Contact John MacKenzie, GM0HJU. Tel: 01360 312954.

Paisley ARC (GM0PYM) meets 7.30pm on 2nd Wednesday at the Paisley YMCA Hall, 5 New Street, Paisley PA1 1XU. Contact John Quigley, GM0TQA. Tel: 0141 889 6860.

West of Scotland ARS (GS4AGG) meets 7.30pm for 8.00pm on Fridays at the Multi Cultural Centre, 21 Rose Street, Glasgow. Contact the Hon Sec.

Western Isles

The Islands Amateur Radio Club (MM0IRC).

Region 2 Scotland East & Highlands

Borders Region

Borders ARS (GM0BRS) meets 1st Friday at the St. John Ambulance Hall, Berwick-upon-Tweed. Contact A M McCreadie, GM0BPY. Tel: 018907 50492.

Galashiels & DARS (GM4YEQ) meets 7.30pm Wednesdays at the Focus Centre, Galashiels. Contact Jim Keddle, GM7LUN.

Kelso ARS (GM4KHS) meets 7.30pm Mondays at the Abbey Row Community Centre, Kelso. Contact Margaret Chalmers, GM0ALX. Tel: 01573 226372.

Scottish Borders Repeater Group (RS43855).

Fife

Glenrothes & DARC (GM4GRC) meets 7.30pm Wednesdays at the New Football Pavilion, Station Road, Thornton. Contact Alexander Adam, GM0VFD. Tel: 01592 874374

Grampian

Aberdeen ARS (GM3BSQ) meets 8.00pm every Friday at the Red Cross HQ, 22 Queens Road, Aberdeen. Contact Robert Duncan. Tel: 01224 896142.

Banff & Buchan ARC (GM0PYC) meets 7.30pm on last Friday in the month at the Princess Royal Park Football Ground Conference Room (Deveronvale FC), Banff. Contact Steve Roberts, GM4HWS. Tel: 01888 551377.

Moray Firth ARS (GM3TKV) meets 7.30pm on last Friday of the month at the Grant Arms Hotel, Fochabers. Contact Geoff Crowley, GM7SJC. Tel: 01542 882818.

Highland Region

Black Isle Repeater Group (GB3BI) meets at various times. Contact Campbell Harper, GM0JFK.

Easter Ross RC (GM4MFL) meets 7.30pm on Fridays at QTH of GM4FDT. Contact Robert Kerr, GM4FDT. Tel: 01349 852332.

Fort William ARG (GM0FRG). Contact Mr R Johnstone, GM1YGV. Tel: 01397 703046.

Lothian Region

Central Scotland FM Group (RS38728). Contact Peter Ingram, GM0MUO. Tel: 01506 460169.

Cockenzie & Port Seton ARC (RS177035) meets on 1st Friday at the Thorntree Inn Lounge Bar, Old Cockenzie High Street, Cockenzie, E Lothian. Contact Bob Glasgow, GM4UYZ. Tel: 01875 811723.

Livingston & DARS (MM0LIV) meets 6.30 - 9.00pm every Tuesday at the Crofthead Centre, Livingston. Contact Mr B Jenkins, MM0WKJ.

Lothians RS (GM3HAM) meets 7.30pm on 2nd & 4th Wednesday at the Orwell Lodge Hotel, Polwarth Terrace, Edinburgh EH11 1NH. Contact Peter John Dick, GM4DTH. Tel: 0131 4460155.

Orkney

Orkney ARC (RS181749). Contact Mrs Terry Penna. Tel: 01856 741233.

Shetland Is

Lerwick RC (GM3ZET). Contact Ian C Millar, GM7RKD. Tel: 01950 460306.

Tayside

Dundee ARC (GM4AAF) meets 7.30pm Tuesdays at the Dundee College Graham Street Annex, Dundee. Contact John R Nicholson, GM0MFE. Tel: 01382 858700.

Perth & DARG (GM4EAF) meets 8.00pm Wednesdays at the Perth Sports & Social Club, 8 Leonard Street, Perth. Contact Dr Ron Harkess, GM3THI. Tel: 01738 643435.

Strathmore & DARC (GM3GBZ) meets Tuesdays 7.30pm at 2231 Sqdn ATC, 1 Lochside Road, Forfar. Contact Graham Scattergood, MM0BSX. Tel: 01307 468824.

Region 3 North West

Cheshire

Cheshire Radio Scouting ARC (G7JOA).

Chester & DRS (G3GIZ) meets at 8.00pm on 1st, 3rd and 4th Tuesday at the Burley Hall, Waverton, Chester. Contact Bob Campbell, G4CMI. Tel: 01244 375044.

Halton Radio Club (M0BXZ) meets 7-10pm on Thursdays at the Play Centre, Norton Hill, Windmill Hill, Runcorn. Contact Paul Jones. Tel: 01928 790228.

Macclesfield Wireless Society (G4MWS) meets 8.30pm on Tuesdays at the Pack Horse Bowling Club, Abbey Road, Macclesfield. Contact Hazel Parrott.

Mid Cheshire ARS (G3ZTT) meets 8.00pm on Wednesdays at the Cotebrook Village Hall, Cotebrook, nr Tarporley (NGR: SJ 571 655). Contact Niall Reilly, G0VOK.

North Cheshire RC (G0BAA) meets 8.00pm on Sundays at the Morley Green Club, Moberley Road, Wilmslow. Contact Jill Gourley, G0OZJ. Tel: 0161 4855036.

UK FM Group Western (GB3MP) meets bi monthly at the Grappenhall Community Centre, Bellhouse Lane, Grappenhall, Warrington. Contact Steve Sparkes, M1DDO. Tel: 01565 652652.

Warrington & DARS (G0WRS) meets 7.45pm for 8.00pm on Tuesdays at the Grappenhall Community Centre, Bellhouse Lane, Grappenhall, Warrington. Contact John Riley, G0RPG. Tel: 01925 762722.

Widnes & Runcorn ARC (G0FWR) meets 8pm on alt Wednesday evenings at the Scout Hut, Halton Village. Contact Martin Tust, G4LUQ. Tel: 01928 714843.

Barrow and DARS (M0RXY) meet 'on air' 19.00-20.00 every Monday on 145.300MHz or via GB3LD. Contact Nigel Lawrence, G0MEJ.



Cumbria

Carlisle & DARS (G4ARS) meets 7.30pm on Mondays at the Morton Community Centre, Wigton Road, Carlisle. Contact Mr J A Ennis, G3XWA. Tel: 01228 27463.

Eden Valley RS (G0ANT) meets on last Thursday at the BBC Club, Penrith. Contact John Roze, G0VMP. Tel: 01931 716421.

Furness ARS (G4ARF) meets 8.30pm on Mondays at the Farmers Arms Hotel, Newton-in-Furness. Contact Mr B Bull.

Merlin Communications Int. Ltd (G3ZSK). Open only to employees.

Whitehaven ARC (M0BEE) meet 7pm every Thursday at Whitehaven Sea Cadet Corps HQ, Old New Quay, Whitehaven Harbour. Contact N Williams, M0CRM. Tel: 01946 692462.

Greater Manchester

Bury RS (G3BRS) meets 8.00pm on Tuesdays at the Mosses Centre, Cecil Street, Bury, Lancs BL9 0SB. Contact Mike Bainbridge, G4GSY. Tel: 0161 761 5083.

Douglas Valley ARS (G3BPK) meets 8.00pm on 1st and 3rd Thursday at the Wigan Sea Cadet HQ, Training Ship Sceptre, Brookhouse Terrace, off Warrington Lane, Wigan. Contact Mr D Snape, G4GWG. Tel: 01942 211397.

Eccles & DARS (G3GX1) meets 9.30pm on Tuesdays at the Eccles Liberal Club, Wellington Road, Eccles, Manchester. Contact Dr Chris Harrison, G8KRG. Tel: 0161 796 2726.

Manchester & DARS (G5MS) meets 7.00pm on Tuesdays at the Simpson Memorial Community Hall, Moston Lane, Moston, Manchester. Contact Mr H Wilson, M0BNV. Tel: 0161 330 0914.

North Trafford College (G4FXP).

Oldham ARC (G4ORC) meets 7.30pm on Thursdays at the No 1855 (Royton) Squadron Air Training Corps, Park Lane, Royton, Oldham OL2 6RE. Contact Michael Crossley, M1CVL. Tel: 01706 367454.

Rochdale & DARS (G0ROC) meets 8.00pm on Mondays at the Bamfield & Fieldhouse Cricket Club, Bamfield Village. Contact John Cannell, G7OAI. Tel: 01706 376204.

South Manchester Radio & Computer Club (G3FVA) meets 8.00pm on Fridays at the Sale Cricket Club, Dawe Road, Sale, Cheshire. Contact Chris Ward, G4HON. Tel: 0161 483 5174.

Stockport RS (G6UQ) meets 7.45pm on 1st and 3rd Tuesdays at the Bramhall Air Scouts HQ, Leewood Hall, Benja Fold, off Ack Lane East, Bramhall, Stockport, Cheshire. Contact David Simcock, M1ANT. Tel: 0161 456 7832.

Trafford ARC (G0TRC) meets 7.30pm on Thursdays at the Watch House Cruising Club, Canal Bank, Stretford, Manchester M32 8WE. Contact Roger May, G4YLQ. Tel: 01457 866575.

Trafford Radio Group (G0TRG) meets 8.00pm on Thursdays at the Radio Shack, UMIST, Manchester. Contact Jon Mossman, G7JJK. Tel: 0161 865 5609.

West Manchester RC (G4MWC) meets 8.00pm on Thursdays at the Astley & Tyldesley Miners Welfare Club, Meanly Road, Astley, Tyldesley, Manchester. Contact Beverley Daniels.

Wigan & DARC (G0HRW) meets 7.30pm on 1st and 3rd Thursday. Contact D H Barkley, G0DPI. 01942 237162.

Isle of Man

Isle of Man ARS (GD3FLH) meets every 2nd Tuesday in the month at the Sea Cadets Hall, Tromode Road, Tromode, Douglas. Contact Mr S P Kelly. Tel: 01624 816308.

Lancashire

Burnley & DARS (RS87674) meets on Tuesdays at Barden High School, Barden Lane, Burnley. Contact Bill Scrivener, G0BQC.

Central Lancs ARC (G0FDX) meets 8.00pm on 1st and 3rd Monday at the Priory Club, Broadfield Drive, Leyland. Contact Steve Shearing, M1ACJ.

Darwen ARC (G4JS) meets 7.30pm on the 3rd Wednesday at the Darwen Catholic Club, Wellington Fold, Darwen. Contact Len Jackson, G0NPJ.

East Lancs Packet Group (RS170937) meets quarterly at the Bowling Club, Willows Lane, Accrington. Contact Andrew Chisholm, G3INL@GB7HVU. Tel: 01200 24482.

Fylde ARS (RS53939) meets every 2nd and 4th Thursday at 8pm at ANT Flying Co Ltd on Blackpool Airport. Contact Ken Randall, G3RFH.

Morecambe Bay ARS (G4YBS) meets 7.30pm on alternate Tuesdays at the Trimpell Sports & Social Club, Outmoss Lane, Morecambe. Contact Brian Watson, G0RDH. Tel: 01524 424522.

Preston ARS (G3KUE) meets 8.00pm on alternate Thursdays at the Lonsdale Club, Fulwood Hall Lane, Fullwood, Preston. Contact Sean Flanagan.

Red Rose ARG (G0WMR)

Rolls-Royce ARC (G3RR) meets 8.00pm on Mondays, Wednesdays & Fridays, and at 11.30am on Sundays at the Club Room, Rolls-Royce Sports Ground, Barnoldswick. Contact Mr J A York, G3KJY.

Rossendale ARS (G1RRS) meets 8.00pm Mondays at the Old Fire Station, Burnley Road, Rawtenstall, Rossendale BB4 8EW. Contact Ken Slaughter. Tel: 01706 830306.

Thornton Cleveleys ARS (G4ATH) meets 8.00pm Mondays at the Frank Townend Centre, Beach Road, Thornton Cleveleys. Contact Jack Duddington, G4BFH. Tel: 01253 853554.

Merseyside

Liverpool & DARS (G3AHD) meets 7.30pm Tuesdays at the Churchill Conservative Club, Church Road, Wavertree L15. Contact Dave Dean.

South Wirral Contest Group (G3CSA). Contact Mr T B Saggerson, G4WSE. Tel: 0151 339 0842.

Southport & DARC (G2OA) meets 8.00pm on 3rd Monday at St Marks Church Hall, Scarisbrick, Lancs. Contact Don Atkins, M1BUL.

Wirral & DARC (G4MGR) meets 8.00pm on 2nd & 4th Wednesdays at the Irby Cricket Club, Mill Hill Road, Wirral. Contact Neil McLaren, G4OAR. Tel: 0151 608 1377.

Wirral ARS (G3NWR) meets 8.00pm on 1st & 3rd Wednesday at the Club Room, Ivy Farm, Arrows Park Road, Wirral, L49 5LW. Contact Alan Upton, G3UZU. Tel: 0151 677 3266.

Region 4 North East

Cleveland

East Cleveland ARC (G4CRS) meets Friday evenings at the Committee Room of the New Marske Institute Club, Gurney Street, New Marske, Near Redcar TS11 8EG. Contact Malcolm Brass, G4YMB. Tel: 01287 638119.

Stockton & DARG (G4XXG) meets Wednesday evenings at the Billingham Community Centre, Billingham, Cleveland. Contact David London, G0VGB. Tel: 01642 896395.

Co Durham

Bishop Auckland RC (G4TTF) meets 8.00pm Thursday evenings at Stanley Village Hall, Rear High Road, Stanley, Crook, Co Durham. Contact Mark Hill, G0GFG. Tel: 01388 745353.

Derwentside ARC (G4PFQ) meets Wednesday evenings at the Steel Club, 36 Medomsley Road, Consett, Co Durham. Contact Mr G Darby, G7GJU. Tel: 0191 370 2032.

Great Lumley AR & ES (G4EUZ) meets 8.00pm on Wednesdays at the Community Centre, Great Lumley, Chester-le-Street, Co Durham. Contact Nancy Bone, G7UUR.

Peterlee Radio Club (G0KVJ) meets 7.30pm on Wednesdays at the St John Headquarters, Armstrong Road, North East Industrial Estate, Peterlee. Contact Andrew Pennell, G0NSK. Tel: 0191 567 5760.

Humberstone (North)

E Yorks Rptr Group (GB3HA).

East Yorkshire ARS (G0EOR) meets 7.45pm on Thursdays at the Northern Foods Sports & Social Club, Millhouse Woods Lane, Cottingham, E Yorks. Contact David Taylor, G4EBT. Tel: 01482 876702.

Hull & DARS (G3AMW) meets 8.00pm every Friday at the SWL Centre Club Room, Goathland Close, Walton St, Hull. Contact Mr R Hatton.

Raywell Park Scouts ARS (G4CMT). Contact Mr A D Russell, M0AXU.

Yorkshire Cluster Support Group (GB7YDX). Contact John Dunnington, G3LZQ.

Humberstone (South)

Grimsby ARS (G3CNX) meets 8.00pm on Thursdays at Cromwell Social Club, Cromwell Road, Grimsby, South Humberstone. Contact Mr G J Smith, G4EBK. Tel: 01472 887720.

Scunthorpe Steel ARC (G4FUH). Contact Alistair Butler, M1ECF.

Goole R&ES meets 7.30pm on Fridays at the West Park Pavillion, Goole, South Humberstone.

North Yorkshire

Darley ARC (G0FOS).

Hambleton ARS (G0JQA) meets Wednesdays at the Mencap Centre, Northallerton. Contact Ian Brickwood, G0JQA. Tel: 01609 775598.

Harrogate Repeater Group (GB3HG). Contact Brian Dooks, G0RHI. Tel: 01423 322988.

Hornsea ARS (G4EKT) meets 8.00pm on Wednesdays at The Mill, Atwick Road, Hornsea, North Humberstone. Contact Jeff Southwell, G4IGY. Tel: 01964 533331.



Queen Mary ARCG (G6QM) meets at Blazefield, Pateley Bridge, Harrogate HG3 5DR. Contact Frank Harris, G4IEY. Tel: 01242 236715.

Ripon & DARS (G4SJM) meets 7.30pm Thursdays at The Bunker, rear of Ripon Town Hall, Ripon. Contact George Rowntree, M0CVV.

Royal Signals Scarborough ARC (G0RCS) meets as and when required. Contact Mr A W W Timme, G3CWW. Tel: 01723 355071.

Scarborough ARS (G4BP) meets 7.30pm on Mondays at the Scarborough Cricket Club Pavilion, North Marine Road, Scarborough YO12 7TJ. Contact Mr D P Tipper, G3JBR. Tel: 01723 377296.

Scarborough SE Group (GX0000) meets as and when required. Contact Roy Clayton, G4SSH. Tel: 01723 862924.

Yaxpak (RS92311). We are a group helping with packet links/equipment in Yorks for you. Contact Rod Stormes, G7COU. Tel: 01423 860367.

York ARS (G3HWW) meets 7.30pm Fridays at the Guppy's Enterprise Club, 17 Nunnery Lane, York. Contact Keith Cass, G3WVO. Tel: 01904 422084.

York Radio Club (Amateur) (G4YRC) meets 7.30pm Thursdays at the Bishopthorpe Social Club, Bishopthorpe Main Street, York. Contact Gareth Foster, G1DRG. Tel: 01904 421392.

Northumberland

Northumbria ARC (G4AAX) meets Thursday evenings at the Old Telephone Exchange, Cresswell Road, Ellington, Morpeth. Contact Mr D Stansfield, G0EUV. Tel: 01670 513026.

South Yorkshire

Barnsley & DARC (G6AJ) meets 8.00pm every Monday at the Three Horse Shoes, Barnsley Road, Brierley, Barnsley. Contact Mr A Whitehead, G4JKW.

Chapel Green ARS (GX0VYJ).

Finningley ARS (G7HAH) meets Tuesdays 7-9pm, Wednesdays 10am-4pm and Saturdays 10-4pm at the Sandtoft Links Club, Belton Road. Contact Brian McInnes, G7SKW. Tel: 01306 846774.

Maltby & DARS (G4SKM) meets 7.30pm Fridays at the Centenary Hall, Clifford Road, Hellaby, Rotherham. Contact Keith Johnson, G1PQW. Tel: 01709 798098.

Mexborough & DARS (G4BTS) meets 7.30pm on Fridays at the Harrop Hall, Mexborough. Contact Mr R T Sheppard, G0KSK. Tel: 01709 586329.

Sheffield ARC (G0INF) meets 7.00pm on Mondays and occasional Tuesdays at the Sheffield University Staff Club, 197 Brook Hill, Sheffield. NRAE/RAE tuition provided. Contact Irene Glossop, G0SFH.

South Yorkshire PUG (G0PUG). Contact Mrs Sables, G4ZJN.

South Yorkshire Repeater Group (GB3DV). Contact Ernie Bailey, G4LUE.

South Yorkshire ARS (M0CKY) meets 8.00pm on Tuesdays at 148 Sqdn HQ, Racecommon Road, Barnsley. Contact Andrew Lomas. Tel: 01226 237916.

Tyne & Wear

Easington ARS (G4APN) meets Thursday evenings at the Southside Social Club, Southside, Easington Village, Peterlee, Co Durham. Contact Keith Miller, G0BWJ. Tel: 0191 528 2882.

Houghton-le-Spring ARC (G3NMD) meets Wednesday evenings at the Dubmire Royal British Legion, Dubmire, Fencehouses DH4 6LJ. Contact Foster Aungles, G0ABF. Tel: 0191 584 4673.

Pheonix Comms ARC (M0CGG).

Royal Grammar School ARC (M0CQI). Contact Mr A N Baker. Tel: 0191 281 5711.

South Tyneside ARS (GX0WKQ) meets 7.30pm - 9.00pm Mondays (except bank holidays) at the Boldon Scout Hut, Grey Horse Car Park, Front Street, Boldon. Contact William Wilson, M0BWI. Tel: 0191 421 9921.

Tynemouth ARC (G0NWM) meets 7.00pm Fridays at the Linskill Centre, Linskill Terrace, North Shields. Contact Mr G N Thompson, G0SBN.

Tyneside ARS (G3ZQM) meets Wednesday evenings at the St Teresa's Club, 200b Heaton Road, Newcastle-upon-Tyne NE6 5HP. Contact Mr J Pickersgill, G0DZG. Tel: 0191 265 1718.

West Yorkshire

Denby Dale & DARS (G4CDD) meets Wednesdays at the Pie Hall, Denby Dale. Contact Mr J P Morley, G4FSQ.

Halifax & DARS (G2UG) meets Tuesdays. Contact Steve Otmayer, G4RAW. Tel: 01422 203062.

Keighley ARS (G0KRS) meets 8.00pm Thursdays at the Cricket Club, Ingrow, Keighley. Contact Mr I Townson, M1BGY. Tel: 01274 723951.

Leeds & DARS (G4LAD) meets Monday evenings at The Radio Shack, Yarnbury (Horsforth) RUFC Grounds, Brownberrie Lane, Horsforth, Leeds LS18 5HB. Contact Mr R H Naylor, M1CAE. Tel: 0113 264 1922.

North Wakefield RC (G4NOK) meets 8.00pm Thursday at the East Ardsley Cricket Club, Nr Wakefield. Contact Jim Thornton, G3YDL.

Otley ARS (G3XNO) meets 8.00pm Tuesdays at the RAOB Club, Westgate, Otley. Contact Jack Worsnop, G0SNV. Tel: 01274 636197.

Pontefract & DARC (G3FYQ) meets Thursdays at the Carleton Community Centre, Pontefract. Contact Colin Wilkinson, G0NQE. Tel: 01977 677006.

Rishworth School ARC (G0SQA) meets 9.30-noon on Saturdays during term time in the Physics Laboratory, Rishworth School.

Spenn Valley ARS (G3SVC) meets 8.00pm Thursdays at the Old Bank WMC, Mirfield. Contact Mr J R Wilde, G0FOI. Tel: 01274 875038.

Wakefield & DRS (G3WRS) meets 8.00pm Tuesdays at the Ossett Community Centre, Prospect Road, Ossett. Contact Ian Roberts, M0BFO.

Region 5 West Midlands

Gloucestershire

Avon Scout County ARS (G0W0I)

Bristol 70cm Repeater Group (GB3BS). Contact Mr S J Bailey, G4MCC.

Cheltenham AR Assn (G5BK) meets 7.45 for 8pm on the first Friday at the Prestbury Library, Prestbury, Cheltenham. Contact Ivan Wilson, G4BGW. Tel: 01452 731956.

Cheltenham Cluster Supp Group (GB7DXC). Contact Mr A M Davies, G0HDB. Tel: 01684 72178.

Gloucester AR & ES (G4AYM) meets 7.30pm on Mondays at the Churchdown School, Churchdown. Contact Tony Martin. Tel: 01452 618930.

Government Comm ARC (G3SSO).

Smiths Industries RS (G4MEN) meets 8.00pm on alternate Thursdays at the Sports & Social Club, Evesham Road, Bishops Cleeve, Cheltenham GL52 4SF. Contact Mr A J Hooper, G1JMF.

Stroud RS (G4SRS) meets 2nd & 4th Thursdays at S Selsey Scout Hut. Contact Mr S G Spencer, G3ILO.

Hereford & Worcester

Ariel Radio Group (G3PPG). Open only to BBC personnel. Meets at Centre for Broadcast Skills Training, Wood Norton, Evesham, Worcs WR11 4TF.

Avon Valley ARA (M0RAD) meets every two weeks. Contact Peter Badham, G0WXJ. Tel: 01905 726740.

Bromsgrove ARS (G4TUI) meets 8.00pm on 2nd and 4th Tuesday at the Likey End WMC, Bromsgrove, Worcs. Contact Barry Taylor, G0TPG. Tel: 01527 875573.

Droitwich ARC (G4PVO) meets 8.00pm on 1st Tuesday at the Community Hall, Droitwich Spa, Worcs. Contact Hector Wragg, M1BUV. Tel: 01905 794399.

Hereford ARS (G3YDD) meets 8.00pm on 1st and 3rd Friday at the Civil Defence HQ, Magistrates Court, Gaol Street, Hereford. Contact Tim Bridgland-Taylor, G0JWJ. Tel: 01432 279435.

Kidderminster & DARS (G0KRC) meets 8.00pm on 1st Tuesday at the Sutton Arms, Sutton Park Road, Kidderminster, Worcs. Contact Mr A W Saunders, G1OZB. Tel: 01299 400172.

Madley Comms Centre RG (G7BTI) meets at the centre usually every three months. Contact Mr M A Bush, G3LZM. Tel: 01432 372400.

Malvern Hills ARC (G4MHC) meets 8.00pm on 2nd Tuesday at the Town Club, Worcester Road, Great Malvern, Worcs. Contact Roy Jinks, G7RVM. Tel: 01684 566755.

Redditch RC (G4ACZ) meets 8.00pm on the 2nd Thursday at the WRVS Centre, Ludlow Road, Redditch, Worcs. Contact Mr R J Mutton, G3EVT. Tel: 01789 762041.

Vale of Evesham RAC (G0ERA) meets 8.00pm on 1st Thursday at the BBC Club, High Street, Evesham, Worcs. Contact Mr A C Lindsay, G4NRD. Tel: 01386 41508.



Shropshire

Oswestry & DARC (G4TTO) meets 8.00pm on the 1st and 3rd Wednesdays at the Sweeney Hall Hotel, Sweeney, Oswestry. Contact Ant Astley, GWOAJA. Tel: 01691 860545.

Salop ARS (G3SRT) meets 8.00pm on Thursdays at The Telepost Club, Railway Lane, Abbey Forgate, Shrewsbury. Contact John Bumford, G0GTN.

Telford & DARS (G3ZME) meets 7.30pm Wednesdays at the Dawley Bank Community Centre, Dawley, Telford, Shropshire. Contact Mr M J Street, G3JKX. Tel: 01952 299677.

Staffordshire

Burton-on-Trent & DARS (G3NFC) meets 8.00pm Wednesdays at the Stapenhill Institute, Main Street, Stapenhill, Burton-on-Trent. Contact Mr M W Cotton, G4HBY.

Cannock Chase ARS (G6SW) meets 8.00pm Thursdays at St Mary's Community Centre Social Club, Hunter Road, Cannock. Contact Arnold Matthews, G3FZW. Tel: 01543 262495.

Five Towns ARS (M0FTR) meets at 8.30pm on the 1st and 3rd Wednesdays at the Norton Arms, Endon Road, Norton in the Moors, Stoke on Trent. Contact John Adlington. Tel: 01782 533370.

Lichfield ARS (G3WAS) meets 8.15pm 1st Monday & 3rd Tuesday at the Queen's Head, Sandford Street, Lichfield. Contact Roger Smethers, G3NLY. Tel: 01543 672762.

Moorlands & DARS (G4NHT) meets 8.30pm Thursdays at the Creda Works, Blythe Bridge, Stoke-on-Trent, Staffs ST11 9LJ. Contact Mr D L Eccles, M0ODS. Tel: 01782 593306.

South Cheshire ARS (G6TW) meets weekly at 7.30pm in the Sea Cadets HQ, TS Ambuscade, 57 Crewe Street, Crewe CW1 4AF. Contact Mr C R Wiseman, G1PUV.

St Leonards ARS (G3SBL) meets 8.00pm Thursdays at the GEC Alstom Protection & Control, St Leonards Works, Stafford ST17 4LX. Contact Mr D Southey, G0EYX. Tel: 01785 604904.

Stoke-on-Trent ARS (G3GBU) meets 7.00pm Mondays & Thursdays at the '45' Club, 92 Lancaster Road, Newcastle-under-Lyme. Contact Albert Allen, G4DHO. Tel: 01782 638801.

Sutton Coldfield RS (G3RSC) meets 8.00pm 2nd & 4th Mondays at the Rugby Club, Walmley Road, Sutton Coldfield, West Midlands. Contact Paul Turner, G7MWD. Tel: 0121 350 4263.

Warwickshire

GPT (Coventry) ARS (RS172991).

Mid Warwickshire ARS (G3UDN) meets 8.00pm 2nd & 4th Tuesdays at the St John Ambulance HQ, 61 Emscote Road, Warwick. Contact Bernard Pittaway. Tel: 01926 420913.

Rugby ATS (G4APD) meets on Tuesdays at 19:30 in the Cricket Pavilion, B Entrance. Contact Tony Humphries, G0OLS. Tel: 01455 552683.

Stratford-Upon-Avon & DRS (G0SOA) meets 7.30pm 2nd & 4th Mondays at the Home Guard Club, Tiddington, Stratford-upon-Avon. Contact: Ron Horsley, G0MRH. Tel: 07970 148204.

West Midlands

Aldridge & Barr Beacon ARC (G0NEQ) meets 2pm-4pm 1st & 3rd Monday in the month at the Aledrige Central Hall, Community Centre, Middlemore Lane, Aldridge WS9 8AN. Contact Mr C J Baker, G0NOL. Tel: 01922 636162.

Bromsgrove & DARC (G3VGG) meets 7.30pm on Fridays at the Avoncroft Arts Centre, Bromsgrove, Worcs. Contact Mr J Tricklebank, M0VGG. Tel: 0121 445 2344.

Coventry ARS (G2ASF) meets 8.30pm 1st, 2nd & 4th Friday in month at the Binley Church Hall, Brinklow Road, Coventry. Contact John Beech G8SEQ. Tel: 02476 273190.

Dudley ARS (G4DAR). Contact Tony Lucas G4LVA. Tel: 01384 277925.

Hillcrest ARS (G0SPM) meets 7.30pm 1st & 3rd Thursdays in month at The College, Simms Lane, Netherton, Dudley. Contact Megan Fleetwood, G0TMF. Tel: 01384 294804.

King Edwards School ARS (G8ZKE). King Edward's School, Edgbaston Park Road, Birmingham. Open only to staff and pupils.

Midland ARS (G3MAR) meets several times a week at Unit 22, 60 Regent Place, Hockley, Birmingham (jewelry quarter). Contact John Crane, G0LAI. Tel: 0121 628 7632.

Midland Contest Group & Radio Ent (G2HDF).

Midlands AX25 Packet RUG (G7CRS). Contact Mr R Taylor.

Sandwell ARC (G0CWC) meets 7-9.30pm on Monday, Wednesday and Thursday at Sandwell ARC, Broadway, Oldbury, Warley, W Midlands B68 9DP. Contact Stuart Collins, M0BTO. Tel: 0121 561 4663.

Sierra Hotel ARCG (G0OBS). Contact Warwick Hall, G4WMH.

Solihull ARS (G3GEI) meets 3rd Thursday at The Shirley Centre, 274 Stratford Road, Shirley, Solihull, West Midlands. Contact Paul Gaskin, G8AYY. Tel: 0121 783 2996.

South Birmingham RS (G3OHM) meets 8.00pm every Monday, Thursday and Friday, as well as the 1st Wednesday in the month at Hampstead House, Fairfax Rd, West Heath, Birmingham.

Stourbridge & DRS (G6OI) meets 8.00pm 1st & 3rd Mondays at the Old Swinford Hospital/School, Stourbridge, West Midlands. Contact John Clarke. Tel: 01562 700513.

Walsall ARC (G4HLL) meets 8.00pm Wednesdays at the Manor Farm Community School, King Georges Crescent, Rushall, Walsall. Contact Mr F G Preece, G4FGP. Tel: 01922 453680.

West Bromwich Central RC (G4WBC) meets 7.30pm Sundays at the Horse & Jockey PH, Stoney Lane, West Bromwich. Contact Ian Leitch, G0PAI. Tel: 0121 561 2884.

West Midlands Police ARC (G0COP) meets Monday evenings. Contact Steven Jones, G6LRL.

Willenhall & DARS (G4ETW) meets 8.00pm Wednesdays at The Liberal Club, Villiers Street, Willenhall, West Midlands. Contact Dave Bradbury, G0KDK.

Wolverhampton ARS (G8TA) meets 8.00pm Tuesdays at the Electricity Board Sports Club, St Marks Road, Chapel Ash, Wolverhampton. Contact Mrs J Smith. Tel: 01902 751936.

Wordsley RC (G4WRA) meets at the Brick Maker's Arms, Mount Pleasant, Brierley Hill. Contact Andy Evans, G1PKZ.

Wythall RC (G4WAC) meets 8.00pm Tuesdays at the Wythall House, Silver Street, Wythall, Birmingham. Contact David Dawkes, G0ICJ. Tel: 0121 430 2929.

Bushbury Elec & ARS (M0TBC) meets 8pm on the 2nd & 4th Wednesday at the Electricity Club, St Marks Rd, Chapel Ash, Wolverhampton. Contact Steve Britten, M0SRB. Tel: 01902 865746.

Region 6 North Wales

Clwyd

Conway Valley ARC (GW6TM) meets 7.30pm on 1st Wednesday at the Studio, Penrhos Road, Colwyn Bay, Clwyd. Contact Mr R W Evans, GW6PMC. Tel: 01745 855068.

Gresford & DARS (GW0WXW)

Halkyn & DARS (GW3HRG). Contact Mr D Austin, GW1XHG.

Maelor Repeater Group (GB3UO). Contact Mr D Pearson, MW0AYM, Chairman.

North Wales RS (GW0NWR) meets 7.30pm every Thursday at the Old YMCA, Queen's Drive, Colwyn Bay, Clwyd. Contact Ted Shipton, GW0DSJ. Tel: 01745 336939

RAF Sealand ARC (GW4RAF) meets most lunchtimes (for RAF and MoD personnel). Contact Vince Priamo. Tel: 01244 288331.

Wrexham ARS (GW4WXM) meets 7.30pm on 1st and 3rd Tuesdays at the Community Centre, Maesgwyn Road, Wrexham. Contact Mr P Moran, GW0WER.

Gwynedd

Arfon Repeater Group (GB3AR). No meetings, except AGM in June each year. Contact Mr B V Davies, GW4KAZ.

Meirion ARS (GW4LZP) meets 8.00pm on 1st Thursday (except August) at the Royal Ship Hotel, Dolgellau, Gwynedd. Contact Gervase Chavasse, GW4URJ. Tel: 01341 421028.

Porthmadog & DARS (GW0MVI) meets 8.00pm on 3rd Thursday at the Yacht Club, The Harbour, Porthmadog, Gwynedd. Contact Mr G Cadwaladr, MW1DFN. Tel: 01286 830078.

The Dragon ARC (GW4TTA) meets 7.30pm for 8.00pm on 1st and 3rd Monday at the Ebenezer Church Hall, Lon Foel Graig, Llanfaipwll, Isle Of Anglesey. Contact Stewart Rolfe, GW0ETF. Tel: 01248 36222.

Powys

Powys ARC (GW4HVN) meets 8.00pm Thursdays at the ATC HQ, Park Lane, Newtown, Powys. Contact Jean Brown, 2W1CEZ. Tel: 01686 640814.

Region 7 South Wales

Dyfed

Aberporth YMCA ARC (GW4SZV) meets 7pm on the 1st and 3rd Thursdays at Hut B17, Aberporth Airfield. Contact Mr G Carruther, GW4HGJ. Tel: 01239 811205.

Aberystwyth & DARS (GW0ARA) meets 8.00pm on the 2nd Thursday (except July and August) at the Scout Hut, Plascrug Avenue, Aberystwyth. Contact John Woodward, GW6IDK. Tel: 01970 890657.

Carmarthen ARS (GW4YCT) meets 7.15pm on 1st and 3rd Tuesday at the Aelwyd Care Home, Carmarthenshire County Council, Tregynwr Road, Llangunnor, Carmarthen SA31 3BS. Contact Mr W D Hughes, GW4ZXL. Tel: 01267 231359.

Cleddau ARS (GW0SYG). Contact Trevor Perry, GW4XQK. Tel: 01646 600725.

Llanelli ARS (GW0EZQ) meets every Tuesday at 7.30pm in the Furnace Community Hall, Furnace Square, Llanelli. Contact Roy Jones, GW0KJZK. Tel: 01554 820207.

Pembrokeshire RS (GW0EJE) meets 8.00pm on Fridays at Furzy Park Community Centre, Furzy Park, Haverfordwest, Pembrokeshire. Contact Elwyn Hollowell, GW0GUY.

St. Tybie ARS (GW0VPR). Tel: 01558 824013.

Gwent

Abergavenny RS (GW4GFL) meets 7.30pm on alternate Tuesdays at the Hill Residential College, Pen-y-Pound, Abergavenny, Gwent. Contact Glyn Hughes, GW0DQY. Tel: 01633 483186.

Blackwood & DARS (GW6GW) meets 7.00pm on Fridays at the Oakdale Comprehensive School, Oakdale, Blackwood, Gwent. Contact John Evans, GW8ITI. Tel: 01495 225178.

Ebbw Vale College RS (GW0IIW) meets 6.30pm on Wednesdays at the Gwent Tertiary College, Ebbw Vale Campus, College Road, Ebbw Vale, Gwent. Contact Mr B Lewis, GEW0VPB.

Newport ARS (GW4EZW) meets 7.30pm on Mondays at the Brynglas Community Centre, Brynglas Road, Newport, Gwent. Contact Paul Nicholls. Tel: 01633 666 404.

Pontypool ARS (GW3RNH) meets 7.00pm on Tuesdays at the Settlement, Rockhill Road, Pontypool, Gwent. Contact Graham Smith, GW00LZ.

Red Dragon Con. Group (GW8GT). Contact Brian Davies, GW3KYA. Tel: 01495 225825.

Mid-Glamorgan

Bridgend & DARC (GW4LNP) meets 1st & 3rd Wednesday at the Club Brynmenyn, Brynmenyn, Bridgend. Contact Alun Hulmes. Tel: 01656 721574.

Hoover (Merthyr) ARC (GW3RDB) meets 7.30pm Mondays at the Hoover Sports Pavilion, Hoover Ltd, Pentrebach, Merthyr Tydfil, Mid Glam. Contact Robert Cummings, GW0RVG.

Mid Glamorgan ARG (GW0VJS) meets every Thursday (September to June) at the Aberkenfig Sports and Social Club. Contact Mervyn Carey, GW4VSE. Tel: 01656 734668.

South Glamorgan

Barry ARS (GW3VKL) meets 7.30pm on Tuesdays at Sully Sports & Leisure Club, South Road, Sully. Contact Mr G B Brown, GW0PUP. Tel: 029 2083 2253.

Contest Cambria ARC (GW7X) meets 7pm on the first Monday at Station House, Peterston Super Ely, Cardiff CF5 6NE. Contact Clive Whelan, GW3NJW. Tel: 01446 760348.

Highfields ARC (GW4LFO) meets 7.00pm Fridays at the Highfields Physically Handicapped Centre, Allensbank Road, Cardiff. Contact Mr S Williams, GW6CUR.

RSGB Group Cardiff.

West Glamorgan

Swansea (Univ Coll) ARS (GW3UWS) meets 7.00pm every Tuesday at the Radio Shack in the Faraday Building (primarily intended for students). Tel: 01792 295412.

Swansea ARS (GW4CC) meets 7.30pm 1st & 3rd Thursdays at the Applied Sciences Building, Swansea University. Contact Frank Burrow, GW8BME. Tel: 01792 390233.

Region 8 Northern Ireland

Co Antrim

AR Repeater Group NI (RS183246)

Ballymena RC (GI3FFF) meets 8.00pm on Thursdays at 70 Nursery Road, Gracehill, Ballymena. Contact Jeffery Clarke, GI4HCN. Tel: 01266 659769.

Carrickfergus ARG (GI0LIX) meets every Tuesday at the Downshire Community School, Downshire Road, Carrickfergus. Contact John Branagh, GI3YRL. Tel: 02893 367208.

Glengormley Electronics ARS (GN0XYZ) meets every Monday 8pm-10pm at Maloney's, 401 Ballyclare Road, Newtownabbey BT36 4TH. Contact James Hoey, GI0BJH. Tel: 07836 790041.

Lagan Valley ARS (GI4GTY) meets 8pm on 2nd Wednesday at the Harmony Hall Arts Centre, Harmony Hill, Lisburn, Co Antrim. Contact Ron McCaughey, GI4NTO.

Royal Naval (Ulster) ARC (GI0URN). Club affiliated to the Royal Naval Amateur Radio Society. Contact Alex Miller, GI4SFV.

RSGB Group Belfast meets 8.00pm on 3rd Wednesday at Belmont Road. Contact Gordon Curry, GI6ATZ. Tel: 02891 473948.

RS185969. Contact Joe McGuinness, GI7KMJ. Tel: 02893 329067.

MN0MRG meets 1st Thursday at 8pm. Contact John Anderson, MIOAAZ. Tel: 028 7082 3804.

Co Armagh

RS182974.

Co Down

Bangor & DARS (GI3XRQ) meets 8.00pm on 1st Wednesday at the The Stables, Groomsport. Contact Terry Barnes, GI3USS. Tel: 01247 473948.

Newry & Mourne ARC (GI4MBO) meets 8.00pm on 3rd Monday at the Shamrock Social Club, Newry. Contact Janet Serridge, GI0VVC. Tel: 028 4175 2237.

The Mid Ulster ARC (GI3VFW).

Ulster DX ARG (MI0UDX). Contact Mr P G Mercer, GI4VIV.

Fermanagh

Lough Erne ARC (GI0LEC) meets 8.00pm on 1st Tuesday at the Railway Hotel, Enniskillen, Co Fermanagh. Contact Frank Jackson, GI3ZMX. Tel: 028 6632 9507.

Co Tyrone

Starbane ARS (MI5ALJ). Contact Mr T White (Secretary).

The Foyle & DARS (MI0AKU) meets at 8.00pm on 3rd Monday at 159 Victoria Road, Bready, Co Tyrone. Contact Trevor Campbell, GI1XGA. Tel: 028 7134 5405.

Region 9 London & Thames Valley

Berkshire

Arborfield ARC (G3IHH) meets 7.30pm on Wednesdays. Contact Mrs E W Harding, 2E1AUQ.

Bracknell ARC (G4BRA) meets 8.00pm on 2nd Wednesday at the Coopers Hill Community Centre, Bagshot Road, Bracknell. Contact John Ellerton, G3NKN.

Broadmoor Hospital (RS95231).

Home Counties ATV Group (G6HCT) meets on 4th Tuesday at the Binfield Club, Binfield. Contact Mr A Brooker, G4WGW.

Maidenhead & DARC (G3WKX) meets 7.45 on 1st Thursday and 3rd Tuesday at the Red Cross Hall, The Crescent, Maidenhead. Contact Neil Savin, G0SVN. Tel: 01628 626210.

Newbury & DARS (G5XV) meets 7.30pm on 4th Wednesday in the month at the Royal British Legion, Pelican Lane, Newbury, Berks. Contact Mark Slade, M0CUK. Tel: 01488 638985.

Reading ARC (G3ULT) meets 8.00pm on the 2nd Thursday at the Woodley Pavillion, Woodford Park, Haddon Drive, Woodley, Reading. Contact Marnoch Standen, G0JMS. Tel: 01189 723504.

The Vintage & Military ARS (RS183536). Contact Chris Cooper. Tel: 0118 979 1488.

Buckinghamshire

Aylesbury Vale Repeater Group (GB3VA) meets in March, June, July and December at the Robin Hood on the A422 Buckingham to Brackley Rd. (AGM at Stone Village Hall, nr Aylesbury). Contact Mike Marsden, G8BQH. Tel: 01296 641783.

Aylesbury Vale RS (G4VRS) meets 8.00pm on 2nd Wednesdays at the Harwick Village Hall, Aylesbury. Contact Mr L I Cropley, G0DFC.

Burnham Beeches RC (G3WIR) meets 8.00pm on 1st and 3rd Mondays at the Farnham Common Village Hall, Victoria Road, Farnham Common, Bucks. Contact Eileen Chislett, G6EIL. Tel: 01628 625720.

Chesham & DARS (G3MDG) meets 8.15pm on Wednesdays at the Exhibition Room, White Hill Centre, Chesham, Bucks. Contact Mr J Browne, G3XZG. Tel: 01494 773588.

Chiltern ARC (G3CAR) meets every 2nd Wednesday in the month, plus 2m net every Tuesday and Thursday 8.00pm. Contact Roy Page, G4YAN. Tel: 01494 534216.

GB3HZ Repeater Group (GB3HZ). Contact Mr M P Edmonds, G0DNJ. Tel: 01494 462070.



Milton Keynes ARS (G3HIU) meets 8pm every Monday at Green Room, B Block, Bletchley Park Museum, Wilton Avenue, Bletchley, Milton Keynes. Contact Matt Preston. Tel: 01908 379739.

Milton Keynes Scout ARS (G0SMK) meets 10.30am - 4.00pm on 1st Saturday at The Quarries' M.K. Scout Campsite, Cosgrove. Contact Mr P A Orchard, G0RYZ. Tel: 01908 648186.

Region 10 South & South East

Greater London

Addiscombe ARC (G4ALE) meets 9.00pm on 1st Tuesday at the Lion Inn, Pawsons Road, Croydon. Contact Mr Q G Collier, G3WRR. Tel: 020 8653 6948.

Barking R & ES (G3XBF) meets 19.30-22.00 on Thursday evenings at Parkside Community Centre. Contact Bill Chewter, G0IQK. Tel: 020 8478 4758.

BBC Crystal Palace Club (G0PAL)

Bromley & DARS (RS89030) meets 8.00pm on 3rd Tuesday at the Victory Social Club, Kechill Gardens, Hayes, Bromley. Contact Alan Messenger, G0TLK.

Clifton ARS (G3GHN) meets 8.00pm on Fridays at the Kidbrooke House Community Centre, 90 Mycenae Road, London SE3 7SE. Contact Mr J Veaney, G7BKH.

Coulsdon Amateur Trans. Soc (G4FUR) meets 8.00pm on 2nd Monday at St Swithuns Church Hall, Grovelands Road, Purley, Surrey. Contact Andy Briers, G0KZT. Tel: 01737 552139.

Cray Valley RS (G3RCV) meets 8.00pm on 1st and 3rd Thursday at the Progress Hall, Admiral Seymour Road, Eltham, London SE9. Contact Richard Perzyna, G8ITB. Tel: 01689 602948.

Crystal Palace Radio Elec Club (G2LW) meets 8.00pm on 1st & 3rd Friday at the All Saints Church Parish Rooms, Beulah Hill, London. Contact Bob Burns, G300U. Tel: 01737 552170.

Edgware & DRS (G3ASR) meets 8.00pm on 2nd and 4th Thursdays at the Watling Community Centre, 145 Orange Hill Road, Burnt Oak, Edgware, Middlesex. Contact Stephen Slater, G0PQB. 0202 8953 2164.

Hadley Wood Contest Group (G4STV). Contact Steve White, G3ZVW. Tel: 020 8882 5125.

Havering & DARS (G4HRC) meets 8.00pm on Wednesdays at the Fairkytes Arts Centre, 51 Billet Lane, Hornchurch, Essex.

Mitcham & District ARS (G3HFY) meets at the ATC Headquarters, Commonside West, Mitcham, Surrey. Contact Mr M Knott, G0WCR.

RS of Harrow (G3EFX) meets at 8.00pm every Friday at the Harrow Arts Centre, Uxbridge Road, Hatch End, Middx. Contact Mr C Friel, G4AUF. Tel: 01895 621310.

Silverthorn RC (G3SRA) meets 7.30om on Fridays at the Chingford Adult Education and Community Centre, Friday Hill House, Simmons Lane, Chingford, London E4 6JH. Contact Dave Christy, G0KHC. Tel: 020 8504 2831.

Southgate RC (G3SFG) meets 7.30pm on 2nd and 4th Thursdays at the Winchmore Hill Cricket Pavillion, Firs Lane, London N21 3ER. Contact Mr D F Berry, G4DFB.

Surrey Radio Contact Club (G3SRC) meets 8.00pm on 1st and 3rd Mondays at the T.S. Terra Nova, 34 The Waldrons, Croydon, Surrey. Contact Maurice Fagg, G4DDY. Tel: 020 8669 1480.

Three A's Contest Group (G0AAA). Contact Roger Western, G3SXW. Tel: 020 8397 3319.

Wimbledon & DARS (G3WIM) meets at St. Andrews Church Hall, Herbert Road, Wimbledon. Contact Reg Blackwell, M1EEK. Tel: 020 8696 9857.

Hertfordshire

Bishops Stortford ARS (G5ZG) meets 8.00pm on 3rd Monday at the Royal British Legion Club, Windhill, Bishop's Stortford, Herts. Contact Tony Judge, G0PQF. Tel: 01279 506933.

Cheshunt & DARC (G4ECT) meets 8.00pm on 1st & 3rd Wednesdays at the Church Hall, Church Lane, Wormley, Herts EN10. Contact Mr R G Whittering, G3URA. Tel: 01992 631258.

Dacorum ARTS (G7RIH) meets on 1st and 3rd Tuesdays at the Guide Meeting Rooms (next to the Royal British Legion), Queensway, Hemel Hempstead. Contact Jean King, 2E1FOX. Tel: 01582 620507.

Hoddesdon RC (G0TSN) meets 8.00pm on alternate Tuesdays at the Rye Park Conservative Club, Rye Road, Hoddesdon. Contact Don Platt, G3JNJ. Tel: 020 8292 3678.

Mimram Contest Group (M0ABC). Contact Alan Holdsworth, G0SAH. Tel: 01707 392950.

Stevenage & DARS (G3SAD) meets 7.30pm on Tuesdays at the Stevenage Day Centre, Chells Way, Stevenage SG2 0LT. Contact Cecil Worbey, M1BVG. Tel: 01462 621704.

Trio-Kenwood UK (G0TKU). Tel: 01923 212044.

Verulam ARC (G3VER) meets the 4th Monday, except bank Holidays, at the RAF Association HQ, New Kent Road, St Albans. Contact Walter Craine, G3PMF. Tel: 0777 362 8912.

Welwyn & Hatfield ARC (G3WGC) meets 8.00pm on 1st and 3rd Mondays at the Royal Naval Association, Black Fan Road, Welwyn Garden City. Contact Dean Jackson, G7PKF. Tel: 07973 560649.

Surrey

Caterham RG (G0SCR) meets on alternate Fridays evenings at fellow members' houses. Contact Mr P N Lewis, G4APL.

Dorking & DRS (G3CZU) meets 2nd & 4th Tuesday. Contact John Greenwell, G3AEZ. Tel: 01306 631236.

Echelford ARS (G3UES) meets 8.00pm 2nd & 4th Thursdays at The Community Centre, St Martin's Court, Kingston Crescent, Ashford, Middx. Contact Robin Hewes, G3TDR. Tel: 01784 456513.

Guildford & DRS (G6GS) meets 7.30pm for 8.00pm, 2nd & 4th Fridays at the Guildford Model Engineers HQ, Stoke Park, Guildford. Contact Stella Whitbourn, G0SWE. Tel: 01483 831044.

Guildford UHF Repeater Group (GB3GF) meets unofficially at 8.30pm on 1st Thursday at the Sanford Arms, Epsom Road, Guildford. Contact Alex Morris, G6ZPR. Tel: 01483 892348.

Litton ARC (M0BTE).

Reigate ATS (G5LK) meets 8.00pm 3rd Tuesday in the Conference Room of the RNIB College, Philanthropic Road, Redhill. Contact Mr A C Embling, G1LNT. Tel: 01883 344723.

Sutton & Cheam RS (G2XP) meets 8.00pm on 3rd Thursday at the Sutton United Football Club, Borough Sports Ground, Gander Green Lane, Sutton. Contact John Puttock, G0BWV. Tel: 020 8644 9945.

Thames Valley ARTS (G3TVS) meets 8.00pm 1st Tuesday at the Thames Ditton Library, Watts Road, Giggs Hill, Thames Ditton. Contact Cdr. J Pegler, G3ENI. Tel: 01483 284279.

University of Surrey E & ARS (G3IGQ) meets 1.00pm Wednesdays. Open only to University students and staff. For location, see notice board outside shack in AB22. Contact Mike Blewett, G4VRN. Tel: 01483 300800.

Kingston & DARC (G3KIN). Contact Mary Ashdown, G0BQV.

East Sussex

Crowborough DARS (G0CRW) meets on 4th Thursday in the month at the Plough and Horses, Walshes Road, Jarvis Brook. Contact Mr C E Tucker. Tel: 01892 654633.

Hastings Elec & RC (G6HH) meets 7.30pm on 3rd Wednesday in the month at West Hill Community Centre, Croft Road, Hastings. Contact Mr J Boothroyd, G0MTJ. Tel: 01233 732656.

Hastings RG (GB3HE)

Southdown ARS (G3WQK) meets 7.30pm on Wednesdays and Fridays (Leisure Centre) and 1st Monday in the month at the Chaseley Home for Disabled Ex-Servicemen, Bolsover Rd, Southcliffe, Eastbourne or Lagoon Leisure Centre. Contact Jim Harris, G4DRV. Tel: 01323 728479.

The QRZ ARG of Sussex (G3YNN) meets in the Science Centre during visiting hours both in the week and at weekends, Herstmonceux Megacycles, Herstmonceux Castle & Science Centre, Herstmonceux, East Sussex. Contact Stuart Constable, M0CHW. Tel: 01435 863020.

West Kent ARS (G3WKS) meets at 8pm-10pm 1st & 3rd Friday every month at the St. Peters North Road, Tunbridge Wells, Kent. Contact Mr M Sheppard, G4FWG. Tel: 01892 652272.

Hampshire

Andover RAC (G0ARC) meets 7.30pm 1st and 3rd Tuesdays in the month at the Village Hall, Wildhern, Andover. Contact Mr R S Coleman, G0WYD.

Basingstoke ARC (G3TCR) meets 7.30pm on 1st Monday in the month at the GEMS Social Club, Lister Road, Basingstoke. Contact Bob Brown, M0CJJ.

Fareham & DARC (G3VEF) meets 7.30pm on Wednesdays at the Portchester Community Centre, Westlands Grove, Portchester. Contact Andrew Sinclair, G0AMS. Tel: 01329 235397.

Farnborough & DRS (G4FRS) meets 8.00pm on 2nd and 4th Wednesdays in the month at the Community Centre, Meudon Avenue, Farnborough. Contact Mr M Hearsey, G8ATK. Tel: 01252 715765.

Highfield Park RC (G4BWD) meets on Thursday evenings at Highfield Park RC National Air Traffic Service, Highfield Park, Heckfield RG27 0LD. Tel: 01734 225019.

Hordean & DARC (G4FBS) meets 7.30pm on 1st and 4th Tuesday at Lovedean Village Hall, Lovedean Lane, Lovedean, Hants. Contact Stuart Swain, G0FYX. Tel: 02392 472846.

Itchen Valley ARC (G0IVR) meets 7.30pm on 2nd and 4th Fridays (except August) at the Scout Hut, Brickfield Lane, Chandlers Ford, Eastleigh, Hants. Contact Sheila Williams, G0VNI. Tel: 023 8081 3827.



Sony Broadcast ARC (G4SZC). Meets 7.30pm at Sony Sports & Social Club, Priestley Road, Basingstoke. Accredited C&G RAE centre. Contact Stephen Harding, G4JGS. Tel: 01256 55011.

South Hampshire Int. Tele. Soc. (G3DIT) meets 7.30pm on the 1st Wednesday at G3JZV's QTH. Space is limited. Contact Rev T R Mortimer, G3JZV. Tel: 023 9264 9254.

Three Counties ARC (G4WWR) meets 8.00pm on the 2nd & 4th Thursdays at the Bramshott Parish Inst. & Club, Headley Road, Liphook, Hants. Contact Damian Kamm, G7RFV. Tel: 01428 724456.

UKFMSRH Group (GB3SN).

Waterside ARS (G4JYN) meets 7.30pm on 1st Tuesday at the Applemore Scout HQ, Applemore, Hythe, Southampton. Contact Tony Horton, G0LKG. Tel: 01703 841794.

Isle of Wight

Brickfields ARS (G0BAR) meets 7.30pm Mondays at Brickfields Horse Country Centre, Newnham Road, Binstead. Contact Mr Pebody.

Isle of Wight RS (G3SKY) meets 8.00pm Fridays at The Old Cafe, Whitecliff Bay Holiday Park, Bembridge, Mr Alan Reeves, G4ZFP. Tel: 01983 240340.

Oxfordshire

Banbury ARS (G0BRA) meets 7.30pm on 2nd and 4th Wednesday at St Johns Church Social Club, South Bar, Banbury, Oxon. Contact Mr R S Marsden, G1YSY. Tel: 01295 253509.

BBC Club Ariel Radio Group (G8BBC). Open only to BBC employees. Contact Mr J M Eason, G0INR.

Harwell ARS (G3PIA) meets 8.00pm 2nd Tuesday at the Royal British Legion Social, Westfield, Harwell, Didcot, Oxon. Tel: 01235 223250.

Mid Thames DFC (G4MDF) meets monthly in the winter at the Clayton Arms, Lane End, Bucks. Contact Mrs Doreen Pechey, G8NMO. Tel: 01491 681236.

Oxford & DARS (G5LO) meets 7.45pm 2nd & 4th Thursdays at the Grove House Club, George Street, Summertown, Oxford. Contact Mr D Walker, G3BLS. Tel: 01865 247311.

Rutherford Laboratories ARC (G3RRS). Open to staff members only. Contact The Secretary. Tel: 01235 445809.

Vale of White Horse ARS (G5RP) meets 8.00pm 1st Tuesday at The Fox, Steventon. Contact Ian White, G3SEK. Tel: 01235 531559.

West Sussex

Brighton RC (G4GQR) meets 8.00pm on 1st and 3rd Wednesday at the Roast Beef Bar, Brighton Racecourse, Elm Grove, Brighton. Contact Mr D Wesil, G0RPJ. Tel: 01273 887345.

Chichester ARC (G2NM) meets 7.30pm on 1st & 3rd Tuesdays at the St Pancras Hall, Chichester. Contact Graham Swann, G0WSD.

Crawley ARC (G3WSC) meets 8.00pm Wednesdays and Sundays 10.30am at the Tilgate Forest Rec. Centre Hut 18, Tilgate Forest, Crawley, West Sussex. Contact Mr J S Spence, G0FPI.

Horsham ARC (G4HRS) meets 8.00pm 1st Thursday at the Guide Hall, Denne Road, Horsham, West Sussex. Contact Alister Watt, G3ZBU. Tel: 01403 253432.

Mid Sussex ARS (G3ZMS) meets 7.45pm Fridays at Marle Place, Leylands Road, Burgess Hill, West Sussex. Contact Mr C Childs, 2E1DCP. Tel: 01444 244689.

Worthing & DARC (G3WOR) meets 8.00pm on Wednesdays at the Lancing Parish Hall, South Street, Lancing, West Sussex. Contact Roy Bannister, G4GPX. Tel: 01903 753893.

Worthing & District Video RG (GB3VR) meets 7.00pm on 1st Tuesday. Contact The Treasurer. Tel: 01903 211919 (w).

Wiltshire

ATC Squadron 878, Highworth (M0ATC).

Chippenham & DARS (G3VRE) meets 8.00pm Tuesdays at the Sea Cadet HQ, Chippenham. Contact Mr J B Wilson, G3PNH. Tel: 01249 653548.

Post Office Res. ARC (G4BPO).

Ridgeway Repeater Group (GB3WH). Contact Mr R Loss, G4XUT.

Trowbridge & DARC (G2BQY) meets 8.00pm 1st & 3rd Wednesdays at the Southwick Village Hall, Southwick, Trowbridge. Contact Ian Carter, G0GRI. Tel: 01225 864698.

Swindon & DARC (G3FEC) meets 7.00 pm every Thursday at the Eastcott Community Centre, Savenake St, Swindon. Contact Den Forrest, M0ACM.

Region 11 South West & Channel Islands

Avon

Bristol ARC (G3TAD) meets at 7.30pm on Thursdays at the Lodgeside Club, Lodge Road, Kingswood, Bristol. Contact Tony Zerafa, G8CKK.

Gordano ARG (G6GRG) meets 8.00pm on 4th Wednesday at The Ship, Redcliffe Bay, Portishead, Avon. Contact Mr R T White, G8SPC. Tel: 01275 874001.

North Bristol ARC (G4GCT) meets 7.00pm on Fridays at the Self Help Enterprise, 7 Braemar Close, Northville, Bristol. Contact Mr J R Loe, G4GCT. Tel: 01275 790448.

RSGB Group Bristol (G6YB) meets 7.30 on the last Monday in The Back Bar Room, Bristol Lawn Tennis and Squash, Redland Green, Redland, Bristol BS6 7HF. Contact Martyn Phillips, G3RFX. Tel: 01225 420442.

Sevenside TV Group (GB3ZZ) meets informally most Fridays at NBARC, Filton, Bristol. Contact Paul Stevenson, G8YMM. Tel: 0117 965 5386.

Shirehampton ARC (G4AHG) meets 7.30pm on Fridays at the Twyford House, Lower High Street, Shirehampton, Bristol. Contact Mr R G Ford, G4GTD. Tel: 0117 985 6253.

South Bristol ARC (G4WAW) meets 7.30pm on Wednesdays at the Whitchurch Folk House, East Dundry Road, Bristol. Contact Mr L F Baker. Tel: 01275 834282.

Thornbury & Sth Glos ARC (G4ABC) meets 7.30pm every Wednesday at the United Reformed Church Hall, Rock Street, Thornbury, Bristol. Contact Stan Greenhill, G0RYM. Tel: 01454 413177.

Cornwall & Scilly Is

Cornish RAC (G4CRC) meets 1st Thursday and 2nd Monday at the Perran-ar-Worthal Village Hall, Perranwell, nr Truro. Contact Cheryl Hammett, 2E1ADQ. Tel: 01726 882758.

Newquay & DARS (G4ADV) meets on alternate Fridays at the Treviglas School, Newquay. Contact Kevin Francks, M0BFB. Tel: 01637 851923.

Poldhu ARC (GB2GM) meets every Tuesday and Friday at the Club House, Poldhu Cove, Mullion TR12 7JB. Contact Carolyn Rule, M0ADA. Tel: 01326 240144.

Saltash & DARC (G4GXK) meets 1st and 3rd Thursday at 7.30pm at the Toc H Hall, Warraton Road, Saltash, Cornwall. Contact Brian Giles. Tel: 01752 844321.

St Austell ARC (G0ECC) meets on 1st and 3rd Mondays (except Bank Holidays) during term time at Poltair School. Contact Reg Pears, G4TRV. Tel: 01726 72951.

Trewellard RA Group (M0TRG) meets 7.30 Wednesday fortnightly at the Trewellard Arms Hotel, Pendeen, Penzance. Contact Mr H Bluer. Tel: 01736 786131.

Devon

Appledore & DARC (G2FKO) meets 7.30pm on 3rd Monday at the Appledore Football Club. Contact Mr B Jewell, M0BRB.

Axe Vale ARC (G8CA) meets 7.30pm on the 1st Friday at the George Hotel, Axminster, Devon. Contact Pat Cross, G0GHH. Tel: 01297 33756.

Dartmoor RC (G1RCD) meets 7.30pm on 1st Thursday at the Yelverton War Memorial Village Hall, Meavy Lane, Yelverton, Devon. Contact Ron Middleton, G7LLG. Tel: 01822 852586.

Exeter ARS (G4ARE) meets on 2nd Monday at the Moose Centre, Spinning Path Lane, Blackboy Road, Exeter. Contact Ray Donno, G3YBK.

Exmouth ARC (G0XRC) meets alternate Wednesdays at The Scout Hut, Marpool Hill, Exmouth.

Norman Lockyer Observatory ARG (G0AXC) meets 7.30pm on 2nd and 4th Tuesdays at the Norman Lockyer Observatory, Salcombe Hill, Sidmouth. Contact Ron Hamson, G0NOC. Tel: 01395 515349.

Norte! ARS (G0OSH) meets 7.30pm every Friday at the The Bungalow, Paignton Community College, Paignton, Devon. Contact Pete Worledge, M0BHJ. Tel: 01803 552872.

Torbay ARS (G3NJA) meets on Fridays at the Highweek Family & Social Club, Highweek, Newton Abbot, Devon. Contact John Olway, G3RMA. Tel: 01803 556425.

University of Plymouth ARS (G0UOP). Contact Alan Santillo, G0XAW.

Dorset

Blackmore Vale ARS (G4RBV) meets 7.30pm every Tuesday at Shaftesbury Club for Young People, Coppice Street, Shaftesbury SP7 8PF. Contact Mr S L Collis, M5SLC. Tel: 01258 860741.

Bournemouth RS (G2BRS) meets 7.30pm on 1st and 3rd Fridays at the Kinson Community Centre, Kinson, Bournemouth. Contact Mr C R Ellis, M5AGG. Tel: 01202 893126.

Christchurch ARS (G0MUD) meets 8.00pm on Thursdays at the Siemens Plessey Sports & Social Club, Grange Road, Somerford, Christchurch. Contact Mr K P Harris, G7WSN. Tel: 01202 484892.

Flight Refuelling ARS (G4FRF) meets 7.30pm Wednesdays and Sundays at the Flight Refuelling Social Club, Merley, Wimborne. Contact Peter Clifford, M0PTR. Tel: 01202 691176.

Poole RS (G4PRS) meets 7.30pm every Friday at the Bournemouth & Poole CFE, Constitution Hill Site, Poole. Contact Phil Mayer, G0KKL. Tel: 01202 700903.



Portland ARC (G0VOP) meets Thursdays evenings 8.30pm at the Clifton Hotel, Grove Road, Portland. Contact Rod Wild, 2EOCTS. Tel: 01305 820893.

South Dorset RS (G3SDS) meets 7.30pm on 1st Tuesday at the Church Hall, Chickerell, Weymouth, Dorset. Contact Pat Cox, G1XJH.

Wessex Amateur Wireless Club (G1WAW). No regular meetings. Contact Ken Powell, G1NCG. Tel: 01202 549376.

Guernsey & Dependencies

Guernsey ARS (GU3HFN) meets 8.00pm on Tuesdays and Fridays at The Lodge, La Corbinerie, St Martins, Guernsey. Contact Keith le Boutillier, GU6EFB. Tel: 01481 238693.

Jersey

Jersey ARS (GJ3DVC) meets 8.00pm Fridays and Wednesdays at the German Signal Station, Rue Baal, La Moye, St. Brelade. Contact Anne Mourant, MJ0BJU. Tel: 01534 734948.

Somerset

Taunton & DARS (G3XZW) meets 7.30pm 1st & 3rd Fridays at The Svout & Guide Centre, Tangier, Taunton. Contact David Rosewam, M0CIF.

Wessex Repeater Group (GB3WX). Contact Dave Boniface, G3ZXX.

West Somerset ARC (G0OWX) meets 1st Tuesday at the West Somerset Community College, Minehead. Contact Alan Elliott, G7RSU. Tel: 01643 707207.

Yeovil & DARC (G3CMH) meets 7.30pm Thursdays at the British Red Cross HQ, 72 Grove Avenue, Yeovil. Contact Mr D Bowden, M1WOB. Tel: 01935 414452.

Region 12 East & East Anglia

Cambridgeshire

Cambridge & DARC (G2XV) meets 7.30pm on Fridays at the Coleridge Community College, Radegund Road, Cambridge. Contact Mr R Huntsman, G3KBR. Tel: 01223 501712.

Cambridge Univ. Wireless Soc (G6UW).

Cambridgeshire Repeater Group (GB3PI).

Duxford ARS (GB2IWM) meets every Sunday at Building 177, Imperial War Museum, Duxford Airfield. Contact Mrs B I Pope. Tel: 01279 656149.

Gtr Peterborough ARC (G4EHW) meets 7.00pm on the 4th Wednesday at the Southfields Community Centre, Southfields Avenue, Stanground, Peterborough. Contact Alan Ralph, G8XLH.

Huntingdonshire ARS (G0HSR) meets on 1st, 3rd and 5th Thursdays at the Medway Centre, Medway Road, Huntingdon. Contact David Leech, G7DIU. Tel: 01480 431333.

March & DRAS (G3PMH) meets 7.30pm on Tuesdays at British Legion Club, Rookwood Road, March PE15 8DP. Contact Mr J Braithwaite, G3PWK. Tel: 01353 698885.

Peterborough R & ES (G3DQW). Contact Mr V Edwards, G8NGZ.

Stapleford (M0CAM). Contact Mr C P Bourne.

Wisbech AR & Elec. Club (M5ARC). Contact Alan Bridgeland.

Essex

Braintree & DARS (G3XG) meets 8.00pm on 1st and 3rd Mondays at the Braintree Hockey Club, Church Street, Bocking, Braintree. Contact Mr J F Button, M5AJB. Tel: 01376 325587.

Chelmsford ARS (G0MWT) meets 7.15 for 7.30pm on 1st Tuesday at Marconi Social Club, Beehive Lane, Chelmsford, Essex. Contact David Bradley, M0BQC. Tel: 01245 602838.

Clacton RC (G3CRC) meets on alternate Wednesdays. Contact Mr D Fitzpatrick, M0CHL.

Colchester Radio Amateurs (G3CO) meet 7.30pm on alternate Thursdays at the Colchester Institute, Sheepen Road, Colchester. Contact Frank Howe, G3FIJ. Tel: 01206 851189.

Dengie Hundred ARS (G0UTT) meets 8.00pm on 1st and 3rd Mondays at the Henry Samuel Hall, Mayland, Essex. Contact Christine Wade. Tel: 01621 772986.

Essex Repeater Group (GB3DA) meets on 2nd Friday at the Bell Public House, Danbury. Contact Murray Niman, G6JYB. Tel: 01268 769754.

GEC Sensors Radio (G0GEC).

Harlow & DARS (G6UT) meets 8.00pm on Tuesdays at The Mark Hall Barn, First Avenue, Harlow, Essex. Contact Len Brackstone, G7UFF. Tel: 01279 832700.

Harwich ARIG (G0RGH) meets 2nd Wednesday at the Park Pavillion, Barrack Lane, Harwich. Contact Mr A Free, G4EYE. Tel: 01255 886065.

Loughton & Epping Forest ARS (G4ONP) meets 7.45pm on alternate Fridays. Contact Marc Litchman, G0TOC. Tel: 020 8502 1645.

Martlesham DX Contest Group (G0KPW).

RSGB Group Ilford (G3XRT) meets 7.15pm on Thursdays at 50 Mortlake Road, Ilford, Essex IG1 2SX. Contact Mr J R Hooper, G3PCA. Tel: 020 8478 3741.

South Essex ARS (G4RSE) meets 8.00pm on 1st and 3rd Wednesdays at the Paddocks, Long Road, Canvey Island, Essex. Contact Betty Maynard, G6LUO. Tel: 01268 695474.

Vange ARS (G3YCW) meets 8.00pm on Thursdays at the Barstable Community Centre, Basildon, Essex. Contact Mrs D Thompson. Tel: 01268 552606.

Kent

Borden ARC (G4LBS).

Bredhurst Rx & Tx Soc (G0BRC) meets 8.15pm on Thursdays at Rock Avenue Working Mans Club, Rock Avenue, Gillingham. Contact Mr T M Wheeler, G7MIM.

Darenth Valley Radio (G0KDV) meets 8.00pm twice monthly on Wednesdays at the Crockenhill Village Hall, Swanley. Contact Mr K W Halls, G8VJG. Tel: 01322 663022.

Dover RC (G3YMD) meets 8.00pm Wednesdays at the Dover Grammar School for Boys, Astor Avenue, Dover. Contact Brian Hancock, G4NPM. Tel: 01304 821007.

East Kent RS (G0EKR) meets 8.00pm on the 1st and 3rd Fridays at St Bartholomew's Church Hall, Herne Bay. Contact Paul Nicholson, G3VJF. Tel: 01227 743070.

Hilderstone ARS (G0HRS) meets 7.00pm on Fridays at Hilderstone AEC, Broadstairs. Contact Mr G Shaw, M0AQA.

Kent Repeater Group (GB3KS). Contact Mr A J Young.

Maidstone YMCA ARS (G3TRF) meets at the YMCA Sports Centre, Melrose Close, Maidstone, Kent. Contact Colin Wilson, G0VAR. Tel: 01622 736636.

Medway ARTS (G5MW) meets 7.30pm Fridays at Tunbury Hall, Catkin Close, Tunbury Avenue, Walderslade, Chatham. Contact Mr J Hale, G3FTH.

Meopham Parish RC (G0FBB).

North Kent RS (G4CW) meets 8.00pm on 1st and 3rd Tuesday at The Pop-in-Parlour, Graham Road, Bexleyheath. Contact Mr A V Fribbens, G8MLQ. Tel: 01474 365694.

St. Olave's ARC (RS175768).

Swale ARC (G4SRC) meets 8.00pm Mondays at the Ivy Leaf Club, Dover Street, Sittingbourne. Contact Gordon Powell, M0AKA. Tel: 01795 665559.

The Morse Club (GX0OXE). Contact Mr K Churchill, M1CZA. Tel: 020 8301 5067.

Norfolk

Great Yarmouth RS (G3YRC) meets 8.00pm 2nd, 3rd & 4th Friday at the Bradwell Community Centre, Bradwell, Great Yarmouth. Contact Mr A D Besford, G3NHU.

Gresham's School ARC (GX3PXO). Contact Revd R N Myerscough, G3PXO.

Kings Lynn ARC (G3XYZ) meets 7.30pm Thursdays. Contact Derek Franklin, G0MQL.

Norfolk ARC (G4ARN) meets 7.30pm Wednesdays at Norwich Aviation Centre, Gambling Close, Norwich Airport. Contact John Wadman, G0VZD. Tel: 01953 604769.

North Norfolk ARG (GB2MC) meets every Wednesday and Thursday at The Muckleburgh Collection, Weybourne. Contact Keith Martin, G0GFQ. Tel: 01263 588506.

Norwich & DRC (G3JGI) meets 7.30pm on the 2nd Monday at the Angel Road Middle School, Angel Road, Norwich NR3 3HS. Contact Jack Simpson, G3NJQ. Tel: 01603 747992.

Suffolk

Bury St Edmunds ARS (G2TO) meets 7.30pm 3rd Tuesday at the Culford School, Culford, Bury St Edmunds. Contact George Woods, G3LPT.

Felixstowe & DARS (G4ZFR) meets 8.00pm on alternate Mondays at the Orwell Park School, Nacton, near Ipswich. Contact Paul Whiting, G4YQC. Tel: 01473 642595.

Hartismere RC (RS173779).

Ipswich RC (G4IRC) meets 8.00pm 1st & 3rd Wednesdays at the Golden Hind, Nacton Road and 3rd Wednesdays at The Hollies, Bucklesham Straight Road, Ipswich. Contact Keith Gaunt, G7CIY. Tel: 01394 420226.

Leiston ARC (G0TUQ) meets 7.30pm 1st Tuesday at Leiston Town Athletic Assn., Victory Road, Leiston. Contact Sam Lydiate, G4IFD. Tel: 01728 832999.

Lowestoft DARS (G3JRM) meets 8.00pm Thursdays in the Shack and once a month at the George Borrow Hotel, Oulton Road, Lowestoft. Contact Phil Holden, G0JSG. Tel: 01502 585448.

Martlesham RS (G4MRS) meets 7.30pm on occasional 1st Wednesdays at the BT Laboratories, Martlesham Heath, Ipswich. Contact Darren Hatcher. Tel: 01473 644475.



Sudbury & DRA (G0SWI) meets 1st Tuesday at the Old School, Wells Hall Road, Great Cornard, Sudbury. Contact Bryan Panton, G1TWY. Tel: 01787 247893.

Suffolk Data Group (GB7MXM). Contact Peter Pryke, G8HUE. Tel: 01473 631313.

Bedfordshire

Dunstable Downs RC (G4DDC) meets 8.00pm on Fridays at the Chews House, 77 High Street South, Dunstable LU6 3SF. Contact Phil Seaford, G8XTW. Tel: 01525 384419.

Mid Beds Contest Assn (G4MBC). Contact Mr M J Down. Tel: 01462 812253.

Shefford & DARS (G3FJE) meets 8.00pm on Thursdays at the Church Hall, Ampthill Road, Shefford. Contact John West. Tel: 01462 628420.

St Swithun's ARC (M0AJV) meets 7.30 - 9pm on Thursdays at St Swithun's Church Rectory Rooms, Sandy. Contact Kelvyn Darton, G0WOD. Tel: 01767 683179.

Region 13 East Midlands

Derbyshire

Bolsover ARS (G4RSB) meets 8.00pm on Wednesdays at the Blue Bell, High Street, Bolsover. Contact Colin Morris, G0RXT. Tel: 01246 822856.

Buxton RA (G4BUX) meets 8.00pm on 2nd and 4th Tuesday at the Leewood Hotel, Buxton. Contact Derek Carson, G4IHO. Tel: 01298 25506.

Derby & DARS (G2DJ) meets 7.30pm on Tuesdays at Carlton Road United Reformed Church, Carlton Road, Derby. Contact Martin Shardlow, G3SZJ. Tel: 01332 556875.

Derbyshire Dales Raynet Group (RS185920). Contact Gareth Abel, G6EJG. Tel: 01332 541448.

Evets Com. Ltd., ARC (G6ECL). Open to staff of Evets Communications Ltd and Enfield Computers plus associates. Contact The Secretary. Tel: 01332 363981.

Notts & Derby Border ARC (G4NID) meets 7.30pm on Tuesdays at Marlpool United Reform Church, Chapel Street, Marlpool, Ilkeston. Contact Graham Bromley, G4UTN. Tel: 01773 834308.

Nunsfield House ARG (G3EEO) meets 7.45pm on Fridays at the Nunsfield House, Boulton Lane, Alvaston, Derby. Contact William Smith, G7PJJ.

Sth Derbys & Ashby W ARG (G0SRC) meets 7.00pm on Wednesdays and on Tuesdays (RAE classes) at the Moira Replan Centre, 17 Ashby Road, Moira, Swadlincote DE12 6DJ. Contact Mrs B Walley. Tel: 01283 760822.

Sth Normanton, Alfreton & DARC (G0CPO) meets 7.30pm on Mondays (except bank holidays) at the New St Community Centre, New St, South Normanton. Contact Russel Bradley. Tel: 01773 783394.

Leicestershire

De Montfort University (G3SDC). Open to past and present students. Contact Mr R G Titterington. Tel: 0116 257 7059.

Hinckley AR & ES (G3VLG) meets 7.30pm on Wednesdays at the United Services Club, St Mary's Road, Hinckley. Contact Mr R A Bennett, G8BFF. Tel: 01455 846493.

Leicester RS (G3LRS) meets 8.00pm Mondays at Gilroes Cottage, Groby Road, Leicester LE3 9QJ. Contact Mr S P Hay, G3HYH. Tel: 0116 224 2598.

Leicestershire Repeater Group (GB3CF). Issues periodic newsletter and holds occasional Open meetings. Contact John Senior, G7RXS. 0116 284 1517.

Loughborough & DARC (G3RAL) meets 8.00pm Mondays and Tuesdays at Hind Leys College, Shephed, Loughborough. Contact Chris Walker, G1ETZ. Tel: 01509 504319.

Melton Mowbray ARS (G4FOX) meets 7.30pm on 3rd Friday at the St John Ambulance Hall, Asfordby Hill, Melton Mowbray. Contact Mr R Winters, G3NVK. Tel: 01664 563369.

National Space Centre ARS (M1NSC). Contact Mr J Heath, G7HIA, Sec.

Welland Valley ARS (G4WVR) meets 7.30pm on 1st & 3rd Tuesday at the Village Hall, The Green, Great Bowden, Leics. Contact The Secretary.

Lincolnshire

Five Bells Group (G4SIV). Active in VHF/UHF contest, meteor scatter, eme and DX. Contact Mr B K Tatnall, G4ODA.

Grantham RC (G0GRC) meets 8.00pm on 1st & 3rd Tuesday at the Kontak Social Club, Barrowby Road, Grantham. Contact The Secretary. Tel: 01476 657436.

Lincoln Short Wave Club (G5FZ) meets 8.00pm Wednesdays at the Railway Sports & Social Club, Ropewalk, Lincoln. Contact Pam Rose, G4STO. Tel: 01427 788356.

RAF Waddington ARC (G0RAF) meets 7.30pm Thursdays at Pyewipe Inn, Fossebank, Saxilby Road, Lincoln. Contact Robert Pickles, G3VCA. Tel: 01522 528708.

Spilsby ARS (RS91468) meets 7.45pm on 1st Thursday. Contact Clive Ironmonger, G6HYF. Tel: 01790 752712.

Spalding & DARS (G4DSP) meets 7.30pm Fridays at The Old Fire Station, Spalding. Contact Mike Pell. Tel: 07976 271796.

Northants

Ariel RG (G5XX). Open only to BBC employees. Tel: 01327 702032.

Kettering & DARS (G5KN) meets 8.00pm Tuesdays at the Lilacs Public House, 39 Church Street, Isham, Kettering NN14 1HD. Contact Fay Barwell, G6AKS. Tel: 01536 390954.

Northampton RC (G3GWB) meets Thursday 7.30 for 8pm at The Old White Hart Social Club, Cotton End, Far Cotton, Northampton NN4 9BS. Contact Norman Millar, G0GBZ. Tel: 01327 349188.

Northampton Scout ARG (G6NDS) meets Saturdays at Overstone Scout Activity Centre, Northampton. Contact Ian Rivett, G8WPU.

Parallel Lines CG (G4LIP). Contact Peter Lindsay, G4CLA.

Nottinghamshire

ARC of Nottingham (G3EKW) meets 7.30pm Thursdays at the Haywood Road Community Assoc, 46 Haywood Road, Mapperley Road, Nottingham NG3 6AD. Contact Ron Hague, G4XOU. Tel: 0115 919 9177.

Mansfield ARS (G3GQC) meets 7.30pm Mondays at the Debdale Park Sports & Recreation Club, Debdale Lane, Mansfield Woodhouse. Contact David Peat, G0RDP. Tel: 01623 631931.

Mansfield District Scout ARC (G0MDS).

North Notts Data Group (G0WNN). Contact Tony Jenkins, G8TBF.

Nottingham AR Repeater Group (GB3NM).

Siemens ARC (G8ZK) meets 8.00pm Thursdays at the Siemens Sports Ground, Beeston. Contact Chris Archer, G4VFK. Tel: 0115 943 3387.

South Notts ARC (G8DD) meets 7.00pm Wednesdays at the Fairham Community College, Farnborough Road, Clifton, Nottingham NG11 9AE. Contact Gary Bishop, G0WUG. Tel: 01509 569679.

Worksop ARS (G3RCW) meets 8.00pm Tuesdays at the Club House, 59 - 61 West Street, Worksop, Nottingham S80 1JP. Contact Mr W Shard, 2E0GXN. Tel: 01909 489818.

Overseas Region 14

Southwest Scania RA (SSRA) (SK7DX).

B.R.A.R.C.

Boras Radioamatorer (SK6LK)

Brisbane ARC Inc (VK4BA)

Cape Town Amateur Radio Centre (ZS1CT)

CERN Amateur Radio Club (F6KAR)

EDR Silkeborg Afdeling (OZ7SAC)

Esbjerg Afdeling (OZ5ESB)

Galway Experimenters Club (EI4GRC)

Gibraltar ARS (GARS)

Hrvatski Radioamaterski Savez (RS174902)

Mariestad Amatörradioklubb (SK6QW)

Radioklubben SK0CT (SK0CT)

Rauman Radiokerho RY (OH1AK)

Scout Assn. of Hong Kong (VR2EA)

Taeby Sandaramatorer (SK0MT)

UBA/KTK Radio Club (ON6CK)

Unio Radioaficionats Catalunya (EA3URC)

WSBA ARC (ZC4RAF)



The R.A.

The Radiocommunications Agency is an executive Agency of the Department of Trade & Industry and is responsible for the management of that part of the radio spectrum used for civil purposes within the UK. One of their responsibilities is the use of amateur radio and includes the following:

- Advising government on policy matters
- Considering the need for changes to licence conditions
- Interpretation of licence conditions
- Taking responsibilities for the Foundation, Intermediate and Full licence syllabus and Morse code assessment and 5 WPM tests.
- Taking responsibility for the distribution of amateur licences
- Taking part in international discussions on behalf of UK amateurs
- Co-ordination of clearance procedures for beacons and repeaters and the issuing of appropriate Notices of variation (NoVs) to the licence
- Provision of information
- Promotion of amateur radio
- Enforcement of the Wireless Telegraphy Act

The amateur radio licence

The Agency works closely with the RSGB to ensure that the amateur licence fully meets the needs of today's amateur. Changes normally occur following representations made to the RA by the RSGB and the Agency meets regularly with them to discuss possible changes.

There are only limited resources allocated to the amateur radio service and channelling of views through a representative organisation allows the RA to make maximum use of those resources. It is of course important to balance these views and hence the Agency will also receive comments from individuals. If you would like clarification of an existing licence condition, you can contact the RA at the address given below.

Any changes affecting all amateurs are announced in the London, Edinburgh and Belfast Gazettes as well as in the amateur press. A copy of the licence conditions is provided when a new licence is issued and any subsequent amendments at the time of renewal.

Examinations

The RAE and the Intermediate RAE are run on the RA's behalf by the City & Guilds of London Institute. The Agency works closely with City & Guilds and the RSGB through advisory committees to ensure that the present high standards are maintained and that the syllabi are kept up to date. The C&G have advised that they will cease holding the Novice (Intermediate) exam after December 2002 and the Full exam after December 2003. The RA will be putting alternative arrangements in place to continue examinations.

The Foundation assessment and exam, the Intermediate licence training course and Morse test are run on the Agency's behalf by the RSGB and again the RA are closely involved in both the standard of examination and the format of the actual course and tests.

International discussions

There are three main areas of interest:

Reciprocal agreements

The Agency has already negotiated a number of reciprocal agreements which allow UK amateurs to operate abroad. There are still a number of countries with which no agreement currently exists; however the Agency will continue to make contact in these cases. Due to differing arrangements below the full licence level, there are no reciprocal agreements at Foundation and Intermediate level.

Commonality of licensing conditions

The Agency represents the UK within CEPT and is working towards harmonisation of licence conditions and mutual recognition.

Control of interference

The RA is responsible for administering the international Radio Regulations in the UK, and as such may not give any station a frequency that would cause interference to stations operating within the International Telecommunications Convention.

The repeater network

Although the initial processing of applications is carried out by the society on the RA's behalf, nevertheless the Agency is responsible for the final clearance of applications.

This can be a relatively long procedure, as a clearance usually involves consultation with other Government departments and with the Agency's local offices. This also applies to packet clearances outside of the frequencies listed in the BR68.

Internet (voice) linking

The Agency issues NoVs for voice Internet links, including repeaters. It should be noted that these are on an attended-only basis. The NoV holder must be physically present and able to control the traffic over these links.

Licensing

The distribution of amateur radio licences is currently handled by the Post Office, formally known as Subscription Services Ltd. If you have any questions about your licence please feel free to contact:

The Radio Licensing Centre
PO Box 884, Bristol BS99 5LF
Tel: 0117 925 8333

Promotion of amateur radio

The Agency is well aware of the importance of amateur radio as a valuable training ground for a career in radio and electronics and the RA tries to promote amateur radio as much as possible.

The Foundation licence, for example, was designed specifically to encourage young people into the hobby and it is hoped that these licensees will progress to becoming Intermediate and Full licensees, enjoying enhanced privileges.

Enforcement

The number of people who misuse amateur radio is fortunately small. Nevertheless, there are some individuals who cause considerable problems to other amateurs or to other licensed radio users by transmitting on unauthorised frequency bands, using obscene language or generally using radio in an antisocial way.

Much abuse is directed at the repeater network. Repeater keeper responsibilities include taking steps to prevent and stop abuse. Details of repeater abuse should therefore be sent to the AROS co-ordinator c/o RSGB HQ.

Other cases of abuse should also be taken up with the Agency through AROS. Subject to priorities, the Agency does take action in cases of abuse or deliberate interference involving the amateur service.

Having obtained evidence against an offender the Agency will either issue a formal warning, revoke a licence and/or initiate prosecution proceedings, depending on the seriousness of the offences.

Provision of information

A number of free information sheets are available. The following are some of them that relate specifically to the amateur service:

RA 0	Current list of Agency Publications
RA 67	The Radio users Guide to the Law
RA 165	Application for Intermediate licence
RA 166	The Intermediate Licence Information
RA 169	Receive only – Scanners etc
RA 179	Advice on Television and Radio Reception
RA 188	Application for the Full Licence
RA 189	Application for a Temporary Licence
RA 190	How To Become A Radio Amateur and CB Radio Services
RA 206	Addresses of Radiocommunications Local District Offices
RA 247	Operation under CEPT
RA 395	Application for Foundation Licence
RA 400	Foundation Licence Information
RA 401	Amateur Radio Clubs and Societies
RA 402	Morse information Sheets
RA 409	Abuse of Amateur and CB Radio - Including Licence Revocation Procedure
-	RA Annual Report

Examinations

There are three different levels of qualification for gaining an amateur radio licence; Foundation, Intermediate RAE and Full RAE. It is planned that the syllabus for the Intermediate RAE will be changed during 2003. Once that has taken place, a pass at Foundation level will become a pre-requisite for sitting the Intermediate RAE. It is possible that RSGB will take over the administration of the Intermediate RAE within the lifetime of this *Yearbook*, and future changes to the administration of the RAE are also possible. Check the RSGB web site, *RadCom* or GB2RS News for updates.

Foundation Licence

Introduced on 1 January 2002, the Foundation licence is intended to bring people into the hobby of amateur radio quickly and painlessly.

Training

A training course is an integral part of obtaining a Foundation licence. Most of it is practical. The course should last about 10-12 hours, so it is possible to complete it and come out with your 'pass' certificate in a single weekend. Many courses will be run over a few weeks, perhaps some evenings and a final day to finish. However it is run, you will be able to sit a short written, multiple-choice exam at the end of the course, the intention being that you go away with a pass certificate which will get you your callsign. There are only 20 questions to answer, and they are not out to trick you. A 'pass' will allow you to operate an existing Full licensee's station as a fully qualified Foundation amateur immediately. You will be able to operate your own station when you receive your M3 callsign, which typically takes a week or two.

The syllabus for the course is published by the Radiocommunications Agency (RA), the government department responsible for amateur radio in the UK. The aim is to cover those items necessary to allow amateurs on the air and to operate safely and in accordance with the customs and rules of amateur radio.

A Morse code assessment forms part of the Foundation licence course, that subject being covered elsewhere in this *Yearbook*.

How and where to start

The quickest way to find a Foundation course is to contact the RSGB and ask them for details of local courses. They will be able to advise you of a course, or put you in touch with your local Senior Instructor who will have an up-to-date list of all the tutors and where the courses are being held. Alternatively, check the RSGB web site.

Tutors may run courses using their own personal station, the local amateur radio club may run a course, the Scouts, Guides or other organisations like the Air Training Corps may run one. The youth organisations are likely to run courses for their own members, but it is always worth asking. If you are at school and your school does not run a course, suggest to someone that they do. The RSGB will be happy to advise on how this might be done and point to sources of assistance and training.

Costs

There is a small charge for the training course assessment and administration. It is best to ask before committing to attend, but the costs should not be high and certainly should not be a reason to miss out.

City & Guilds exams

The Radio Amateurs Examination (RAE No 7650) and the Intermediate Radio Amateurs Examination (NRAE No 7730) are two of the many examinations conducted by City & Guilds of London Institute. Consequently, City & Guilds' standard rules and procedures apply to both exams. The scope of these two exams is kept under periodic review by City & Guilds, RA and RSGB through the City & Guilds Examining Group for the Radio Amateurs Examination and the Advisory Group for the Radio Amateurs Examination. Both groups include RSGB representatives.

Except in a few special cases, all candidates must take their exam at a City & Guilds recognised examinations centre. These are usually, but not always, colleges or other educational establishments. Recently some clubs have gained accreditation to help their local amateurs. A list of UK centres which have in the recent past held either exam is shown opposite.

It is possible to take the RAE abroad, at sea, or through the Forces. In these cases it is best to contact the International Department of City & Guilds for guidance but please allow extra time.

There are no exemptions from either the RAE or the Intermediate RAE on the grounds of having passed a higher level professional, City & Guilds or service examination. Consequently, even if you have one of these, you will still have to sit the RAE or Intermediate RAE if you want to obtain an amateur radio licence.

Copies of the syllabuses and sample papers may be purchased from the C&G Sales Department at £5 per set. They are normally available from February, once the previous December's results have cleared.

Candidates with special needs

City & Guilds of London Institute will make special arrangements for candidates with special needs who would otherwise have difficulties taking either the RAE or Intermediate RAE. Candidates who wish to take advantage of special arrangements will need to provide some official documentation which confirms the reason they are requesting a home examination. In all cases, however, the final decision concerning acceptance rests with City & Guilds. Candidates must be prepared to make themselves available for testing in the 10 days following the date of the regular examination. Application and further information should be made to Roger Bone at the City & Guilds of London Institute.

Please note that for the Intermediate RAE, even a disabled candidate *must have passed the training course* before sitting the City & Guilds exam.

Costs

City & Guilds charge an examination centre for every candidate that they enter and these costs are then normally passed on by the centre to the candidate. Presently their fees are £29 for the RAE and £14 for the Intermediate RAE. The centre may make an extra charge to cover their own costs.

It is your responsibility to ensure that you arrive at the examination centre in good time. If you fail to attend, centres can make either a partial or full refund. However, City & Guilds will only refund a centre under certain circumstances. If a centre does give a refund, it is likely that they will apply the same criteria to the candidate as City & Guilds does to them. These City & Guilds' criteria are if the candidate:

(i) is prevented by accident or illness from taking the examination (medical certificate required)

(ii) dies before the examination

(iii) is in HM Forces and is prevented by the exigencies of the service from taking an examination.

Applications have to be made by the centre to City & Guilds within one month of the exam, so do not delay! Incidentally, City & Guilds will not carry fees forward from one exam to another.

Results

The results are despatched by City & Guilds to all exam centres at the same time, normally one month after the date of the exam. Centres then have the responsibility of forwarding them on to the candidates. If you change address, remember to notify your college so that they will be able to forward your results without delay.

Candidates are responsible for the safe keeping of their results. If a certificate has been lost or damaged, City & Guilds will issue a replacement certificate. Applications should be made to the Certificate Unit, City & Guilds of London Institute, enclosing the appropriate fee (July 2002: £30) as well as details of the date and location of the examination which was passed.

Where the results of candidates are seriously at variance with the reasonable expectations of their teachers, City & Guilds provides an appeal report service (but only through centres) at a cost of £25. So if you have a query about your results or the conduct of your examination, you should contact the college's principal. He or she will then liaise with City & Guilds on your behalf.

Intermediate RAE – No 7730

Training courses

Before you sit the City & Guilds Intermediate



Foundation courses: www.rsgb.org/foundation/foundationcourses.htm

RSGB Publications, Lambda House, Cranborne Road, Potters Bar, Herts EN6 3JE. Tel: 0870 904 7373.

City & Guilds of London Institute, 1 Giltspur Street, London EC1A 9DD. Tel: 020 7294 2468.

Senior Intermediate Instructors

Country/Region	Senior Instructor	Telephone	Country/Region	Senior Instructor	Telephone
Avon	Steve Hartley, G0FUW.	01225 464394	Isle Of Wight	Alan Ash, G3PZB.	01983 298731
Berks	Dave Chislett, G4XDU.	01628 625720	Kent	Dr K L Smith, G3JIX.	01304 813175
Bucks	Mr V C Webley, G0RKV.	01908 672920	Lancs (North)	Mr B A Watson, G0RDH.	01524 424522
Cambs	John Bonner, G0GKP.	01954 200072	Lincs (North)	Mr G Turner, M1DHV.	01673 858037
Central	Mr K M Elliott, GM4NTX.	01324 825914	Lincs (South)	Mr R M Coaker, G0LME.	01529 460482
Cheshire	Dave Wilson, G7OBW.	01270 761608	Lothian	Mr G R Winchester, GM4CUX.	0131 467 0807
Clwyd	Ian Wright, GW1MVL.	-	Merseyside	Mr D G Clifford, G0NVF.	0151 639 5922
Cornwall	Bert Hammett, G3VWK.	01726 882758	Mid Glamorgan	Mr HEJ Clarke, GW0PYU.	01656 766609
Derbyshire	Mr F L Whitehead, G4MLL.	01332 512080	Norfolk	John Wadman, G0VZD.	01953 604769
Devon	Rev SGC Smith, G8GPA.	01363 866352	Northumberland	Mr M Stott, G0NEE.	01661 832020
Dorset	Phil Mayer, G0KKL.	01202 700903	Notts	Mr J P Mayfield, G0LXX.	0115 974 4655
Dumfries & Galloway	Ian Macdonald, MM5WIG.	01988 403 364	Pembroke	Ian Jones, MW0CAB.	01437 763028
East Sussex	Mr R C Gornall, G7DME.	01424 444466	Shropshire	Mr W S Cowell, G0OPL.	01952 404251
Essex	Robert Easting, G7NZV.	01206 241922	Somerset	Mr G W Davis, G3ICO.	01935 425669
Fife	Mr K D Horne, GM3YBQ.	01592 265789	South Yorks	Mr J W Denniss, G0NMJ.	01302 531011
Gloucester	Mr R A Cole, G3REB.	01453 731160	Staffs	Mr A J Matthews, G3UNM.	01782 392559
Grampian	Mr S Sutherland, GM4BKV.	01224 691716	Suffolk	Martin Brown, M0BJR.	01728 638639
Gtr London (SE)	Mr C W Westwood, G3VFD.	01689 854644	Surrey	Jim Pamplin, G7OZC.	01483 224785
Gtr London	Robert Snary, G4OBE.	020 8360 6555	Tyne & Wear	Mr M Stott, G0NEE.	01661 832020
Gtr London (SW)	Mr T Fell, G7DGW.	020 8268 2994	West Yorks	Gerald Edinburgh, G3SDY.	01484 602905
Gtr Manchester	Mr P E Maggs, G0OVY.	0161 226 4053	Wilts	Mr H N Woolrych, G4TIX.	01380 724533
Gwent	Mr J S Hammond, GW3JBH.	01291 420921	Worcs	Mr M J Butler, G4UXC.	07703 343068
Hampshire	Paul Steed, G0VEP.	023 9237 1677			
Hereford	Tim Bridgland-Taylor, G0JWJ.	01432 279435			
Herts	Mr J H Maclagan-Wedderburn, G4JOV.	01582 765821			
Humberside	Mr W A Jackson, G0DLL.	01724 846441			

Prospective Intermediate RAE candidates should contact their county's senior instructor for details of their nearest training course. If your county does not appear here, contact Robert Snary, G4OBE (Gtr London).

RAE, you must have passed the Intermediate Licence Training Course. This is organised on behalf of the RA by the RSGB and consists of some 30 hours of tuition. It normally lasts about 12 weeks and covers all the material tested in the Intermediate RAE. Furthermore, it includes some practical experience. The intention is to provide a good grounding on how to operate on the bands in a safe and disciplined manner – 'learning by doing'.

The course is continually assessed by the instructor, so regular attendance is essential. The assessment is of a general nature, so a weakness in one or two areas will not jeopardise the overall result. On successful completion of the course, the tutor applies to RSGB HQ for a Course Completion Slip for the candidate. Should the candidate desire, an attractive certificate may be purchased for £2.50.

The RSGB Training Courses are run by RSGB registered instructors and are normally held in schools or radio clubs. If you wish to apply for a course, please contact the Senior Instructor for your area. He will know where and when the most appropriate courses are being held. The charges for these courses are quite modest, just sufficient to pay for the instructor's incidental costs.

The RSGB is always pleased to hear from amateurs who are willing to volunteer their time and expertise as an instructor. If you are interested, please contact RSGB HQ for the details.

The Intermediate RAE

Having successfully completed the Practical Training Course, you will then be allowed to sit the Intermediate RAE. Currently it is held four times a year, but that is likely to change within the lifetime of this *Yearbook*.

Successfully completing the Practical Training course and passing the Intermediate RAE will enable you to apply for an Intermediate Licence 'B'. If you pass the 5 WPM Morse test, you can then apply for an Intermediate Licence

'A'. Details of this can be found in the Morse code section of this *Yearbook*.

Presently the fee for an Intermediate Licence (A or B) is £15, but free to those under 21.

Recommended reading

The Society publishes a number of books for the Intermediate RAE.

Radiocommunications Agency Information Sheets are also important reading. They are available from the RA (see the RA page in this *Yearbook*).

RAE – No 7650

The City & Guilds' Radio Amateurs Examination (No 7650) is held twice each year. The exam dates are usually the first Monday in December, and the second Monday in May and they normally start at 6.30pm.

The RAE consists of one examination in two parts: A – Licensing Conditions and Operating Procedures, and B – Principles and Practice. Part B includes such topics as transmitter interference and EMC.

How to apply

Many RAE centres also run courses leading to the RAE, and so their students are submitted as internal candidates. Some centres will also accept 'external' candidates but in these cases centres often ask candidates for some means of identification when registering.

There is some variation between centres in their closing dates for applications. Typically the closing dates for the December exam are in late September to early October; and for May, sometimes as early as February.

Courses

It is quite common for people to attend an evening course in order to study for the RAE, though many study on their own. Courses usually start in September and prepare candidates for the May examination.

Many of the RAE centres listed on the following pages run courses leading to the exam. Alternatively your local club may run a course itself, or know of one in the locality.

Up-to-date lists of courses are published in *RadCom* (for RSGB members), usually in September and October. Copies of this information are available by telephoning the RSGB on 0870 904 7373, or may be found on the Internet at www.rsgb.org

Study material & question papers

The questions in the RAE are all multiple choice. In common with all other City & Guilds multiple choice examinations, both the answer sheets and question papers are collected in at the end. Neither candidates nor centres are allowed to retain any copies of the question booklet.

In order for candidates to have access to at least some questions on which to practise, City & Guilds have published a complete sample paper. This is reprinted, with permission, in the *Radio Amateurs Examination Manual* published by the RSGB.

Almost all RAE classes use the *RAE Manual* as their course book. Where candidates need more detailed reference works, then both the *Amateur Radio Operating Manual* and the *Radio Communication Handbook* can also be used. All of these books may be obtained from the RSGB.

US licence exams

The US Federal Communications Commission exams may be taken in this country. This permits interested individuals who plan to visit or reside in the USA to obtain their licence.

Prospective applicants should first contact: Dr Harvey M Good, G0NAT/KK6JV, 30 Lower Station Road, Ilkeston, Derbyshire, DE7 4LN, tel: 01159 440646 – or for those in the South East: Yves Remedios, AC4WT/G4UDT, 44 Kingsway, Wembley, Middx, HA9 7QR. Tel: 020 8902 5995.



Satellite Exam Centres

The RSGB, in consultation with the Radiocommunications Agency and City & Guilds of London, have introduced a scheme whereby affiliated amateur radio clubs can register as Satellite Examination Centres under the auspices of the RSGB. The Society's role is to facilitate clubs running the Radio Amateurs Exam and the Intermediate Radio Amateurs Exam without incurring the expense and complex administrative procedures of the standard system. Suitable venues need to be registered with the RSGB and, once approved, become an RSGB Satellite Examination Centre. Satellite Examination Centres liaise directly with RSGB HQ, who maintain records of all registered centres. RSGB also provide all the necessary documents required to book candidates into the RAE and Intermediate NRAE.

County/Region	Centre Name	Club Name, Callsign	Exam Secretary, Callsign	Telephone
Avon	South Bristol ARC	South Bristol ARC, G4WAW	Fred Rice, G7LPP	0117 966 0813
Berks	Burnham Beeches RC	Burnham Beeches RC, G3WIR	Bryan Sheppard, G4CVF	01895 271107
Bucks	Milton Keynes ARS	Milton Keynes ARS, G3HIU	V C Webley, G0RKV	01908 672920
Camb	Southfield Community Centre	Gtr Peterborough ARC, G4EHW	Tracey Ralf, M1DZF	01733 753477
Central	Falkirk RC	Falkirk & DARS, GM0FRC	Kenneth Elliot, GM4NTX	01324 825914
Cheshire	Halton RC	Halton RC, M0BXZ	Derek Robbinson, G0MQH	01928 711194
Cheshire	Widnes & Runcorn ARC	Widnes & Runcorn ARC, G0FWR	Martin Tust, G4LUQ	01928 714843
Cheshire	Morley Green Social Club	North Cheshire RC, G0BAA	Gillian Gourley, G0OZJ	0161 485 5036
Cheshire	St John's Kingsley Parish Room	Widnes & Runcorn ARC, G0FWR	Hilary Merrington, 2E1HEE	01928 788087
Cheshire	1196 Bredbury Romiley Marpleton ATC	1196 Bredbury Romiley Marpleton ATC	D W Scholes, G7NHC	0161 285 2281
Cleveland	East Cleveland ARC	East Cleveland ARC, G4CRS	S Pilkington, M1ELD	01642 710882
Cleveland	Yarm School	Yarm School ARS, M1YSR	J Doherty	01642 784685
Co. Antrim	Ballycastle Museum	Marconi RG, M10MRG	Kevin McAuley, M10CRQ	02820 762196
Co. Antrim	Downshire School	Carrickfergus ARG, G10LIX	John Branagh, G13YRL	02893 367208
Co. Durham	Great Lumley Community Assoc.	Great Lumley AR & ES, G4EUZ	Nancy Bone, G7UUR	0191 477 0036
Co. Durham	Phoenix Comms ARC	Phoenix Comms ARC, M0CGG	Janice Bolton, M0ETP	0191 415 1693
Co. Durham	St John Ambulance HQ	Peterlee RC, G0KJV	Andrew Pennell, G0NSK	0191 567 5760
Co. Tyrone	St. Colmans High School	The Foyle & DARS, M10AKU	Trevor Campbell, G11XGA	028 7134 5405
Cornwall	Penair School	Cornish ARC, G4CRC	Cheryll Hammett, 2E1ADQ	01726 882758
Cornwall	Poldhu ARC	Poldhu ARC, GB2GM	Keith Matthew, G0WYS	01326 574441
Derby	Moiria Replan Centre	S Derby & Ashby Woulds ARG, G0SRC	Mrs B M Walley, G7EHU	01283 760822
Devon	Paignton Community College	Nortel ARS (Paignton), G0OSH	Ron Edinborough, G0BAJ	01803 550493
Dorset	Westhaven Com. Jnr. School	Portland ARC, G0VOP	Kerry Morris, G1WIK	01305 788591
Dorset	Borough Of Poole Adult Education	Poole RS, G4PRS	Phil Mayer, G0KKL	01202 700903
Dorset	Twynham School	Poole RS, G4PRS	Phil Mayer, G0KKL	01202 700903
Dorset	Christchurch ARS	Christchurch ARS, G0MUD	Phil Mayer, G0KKL	01202 700903
Dorset	Flight Refuelling ARS	Flight Refuelling ARS, G4RFR	Phil Mayer, G0KKL	01202 700903
Dyfed	St Tybie ARS	St Tybie ARS, GW0VPR	John Jensen, MW0ANX	01269 850511
Dyfed	Millennium Coastal Park Offices	Llanelli ARS, GW0EZQ	P E Williams, GW0HYE	01554 820207
Dyfed	Furzy Community Centre	Pembrokeshire RS, GW0EJE	Dr Ian M Jones, MW0CAB	01437 763028
E. Sussex	Herstmonceux International Study Centre	QRZ Radio Group of Sussex, G3YNN	Stuart Constable, M0CHW	07719 481072
E. Lothian	Cockenzie & Port Seton Comm Centre	Cockenzie & Port Seton ARC, MM0CPS	Bob Glasgow, GM4UYZ	01875 811723
Essex	Havering & DARS	Havering & DARS, G4HRC	Charles Vincent, M1DWK	01708 747222
Essex	2nd Chelmsford Scout HQ	2nd Chelmsford Scout HQ, M5CDS	Chris Chapman, G0IPU	01245 269207
Gloucester	Churchdown School	Gloucester AR & ES, G4AYM	Derek Thom, G3NKS	01242 241099
Gtr London	Arts Centre	Radio Society of Harrow, G3EFX	R A Snow, G0BSP	020 8954 7044
Gtr London	Radiocommunications Agency	RTCG RC, M0RCA	Alan Hughes	020 7211 0564
Gtr London	Alley'n's School	Alley'n's School RC, RS184613	David Davies, G4WVK	020 8771 1139
Gwent	Gt. Western Railway Staff Assn.	Pontypool ARS, GW3RNH	David Giles, MW1CVM	01495 758533
Gwynedd	Dragon ARC	Dragon ARC, GW4TTA	Stewart Rolfe, GW0ETF	01248 362229
Hampshire	Thornden School	Itchen Valley RC, G0IVR	Sheila Williams, G0VNI	023 8081 3827
Herts	Tolmers Scout Camp	Radio Scouting Team, GB2RST	Melanie Cross, M1EJQ	01992 635393
Humberside	Hornsea ARC	Hornsea ARC, G4EKT	Duncan Heathershaw, G3TLI	01964 532588
Humberside	West Park Leisure Centre	Hull & DARS, G3AMW	Jonathan Day, G7DBL	01482 493425
Isle of Wight	Isle of Wight Radio Society	Isle of Wight RS, G3SKY	Steven Symonds, M5PDL	01983 822705
Kent	Maidstone YMCA ARS	Maidstone YMCA ARS, G3TRF	Keith Maskell, G4YTU	01634 831504
Lancashire	Trimpel Sport & Social Club	Morcambe Bay ARS, G4YBS	C Richmond, G0TOO	01524 410805
Lancashire	Lonsdale Sports & Social Club	Preston ARS, G3KUE	Anthony Allsopp, M1EXT	01772 460780
Lancashire	Frank Townend Community Centre	Thornton Cleveleys ARS, G4ATH	Charles Webb, G4FWM	01253 876313
Leicester	Leicester Radio Society	Leicester RS, G3LRS	R E Talbot, G4LRO	0116 236 3160
Lincolnshire	William Robertson High School	Wm Robertson High Sch ARC, G4WRS	Andrew Kiddle, G4HVC	01400 272422
Lincolnshire	Brumby Hall	Scunthorpe Steel ARC, G4FUH	W Jackson, G0DLL	01724 846441
Lincolnshire	Pyewipe Inn	RAF Waddington ARC, G0RAF	Robert Pickles, G3VCA	01522 528708
Lincolnshire	Pinchbeck Study Centre	Spalding & DARS, G4DSP	Bob Offer, G1ZJP	-
Manchester	T.A.V.R. Centre	E Ches & S Manch ATC Radio, G0IQC	Stephen Roden-Leak, G0LSM	0161 477 4699
Manchester	Astley & Tyldesley Miners Welfare Inst.	West Manchester RC, G4MWC	Leslie Jackson, G4HZJ	01942 870634
Manchester	Oldham ARC	Oldham ARC, G4ORC	Geoffrey Oliver, G0BJR	0161 652 4164
Mid Glam.	Mid Glamorgan ARG	Mid Glamorgan ARG, GW0VJS	Mervyn Carey, GW4VSE	01656 734668



Latest on-line list (with e-mail addresses): www.rsqb.org/licensing/

Would your club like to become a satellite exam centre?

Phone RSGB HQ on 0870 904 7373 or e-mail ar.dept@rsqb.org.uk for details.

Special Contest Callsigns

The holder of any UK amateur radio class-A club licence may apply for a Special Contest Callsign. The callsign may be used in a number of contests.

The callsign will consist of G or M, a regional locator, a chosen digit and a chosen suffix letter, eg G8Z or GW8Z, etc. 520 callsigns are available: G*(number) A-Z and M*(number) A-Z.

Applicants should apply on the form opposite, giving two choices of call in order of preference and must return it to RSGB HQ. Applications will be acknowledged and copied to the RSGB's HF Contest Committee (HFCC) Chairman to verify. Any suspicious or potentially duplicate applications will be investigated by a sub-committee comprising the HFCC Chairman, one other HFCC member and the HFCC Council Liaison member.

The RA will issue NoVs directly to applicants.

Terms of use

1. The contest callsign may only be used for contests specified in Annex A and at no other times.
2. Renewal details are to be finalised, but the callsign will be held for a minimum of three years.
3. When operating in the contest, the licensee must give seven days written notice of the location (National Grid Reference) and period of operation to the Manager of the Ra-

dio Investigation Service office in whose district the operation is to take place.

4. Only members of the club may use the callsign, subject to the above conditions. Holders of class-B licences may only operate if supervised by a class-A licence holder.
5. A separate log must be kept in respect of

this callsign.

6. The appropriate regional secondary locator (if any) should be used. For guidance see Note (w) in the Terms, Provisions and Limitations Booklet BR68.
7. The contest callsign may not be used outside of the UK.

Events in which special contest callsigns may be used

ARRL DX CW
ARRL DX SSB
ARRL 1.8MHz CW
ARRL 28MHz (Multi-mode)
CQ WPX CW
CQ WPX RTTY
CQ WPX SSB
CQ Worldwide CW
CQ Worldwide RTTY
CQ Worldwide SSB
CQ Worldwide 160 CW
CQ Worldwide 160 SSB
IARU Championship (Multi-mode)
IOTA (Multi-mode)

WAE DX CW
WAE DX RTTY
WAE DX SSB
ARRL RTTY Roundup
BARTG RTTY
IARU 50MHz Trophy (Multi-mode)
IARU 144MHz Trophy (Multi-mode)
IARU 432MHz to 248GHz (Multi-mode)
March 144 and 432MHz
May 432MHz to 248GHz
November Marconi Memorial 144MHz

(These contests form Annex A, referred to in the Notice of Variation)

A special contest callsign application form may be found overleaf

For a list of current special contest callsigns, see the callsign listings section

County/Region	Centre Name	Club Name, Callsign	Exam Secretary, Callsign	Telephone
N. Lincs	Hirst Research Centre	Finningley ARS, G7HAH	Eric Prince, G3KPU	01302 840166
N. Yorks	Bishophorpe Social Club	York RC, G4YRC	Tony Skaife, G4XIV	01904 330502
N. Yorks	Scarborough ARS	Scarborough ARS, G4BP	G R Wilkinson, G4YKO	01723 352823
Northants	497 Squadron Daventry	Daventry Raynet, M1DRC	David Pink, G6EGO	01327 311113
S Yorks	Valley Community Centre	Sth Yorkshire Repeater Grp, GB3DV	Ernie Bailey, G4LUE	01226 716339
Shropshire	Telford & DARS	Telford & DARS, G3ZME	Colin Sargent, 2E1HTV	01952 200251
Shropshire	Telepostal Club	Salop ARS, G3SRT	Glenda Evans, G1YJB	01939 235412
Somerset	Preston Community School	Preston Community Sch ARC, G0PCS	A C Douglas, G0HDJ	01935 471131
Somerset	West Somerset Community College	West Somerset ARC, G0OWX	R J Bonar, G1ONV	01643 708432
S. Glam.	Barry ARS	Barry ARS, GW3VKL	Glynn Jones, GW0ANA	01446 774522
Staffordshire	St Johns Welcome Centre	Five Towns ARC, M0FTR	John Adlington, M0DVT	01782 533370
Strathclyde	Newarthall Comm. & Ed Centre	Mid Lanark ARS, GM3PXX	E Bailey, GM8BBA	01698 748616
Strathclyde	Cowal	Dunoon & DARS, GM0COD	Arthur Horton, GM0BUL	01369 840217
Suffolk	The Drill Hall	Lowestoft & DARC, G3JRM	Phillip Holden, G0JSJ	01502 585448
Suffolk	Hartismere High School	Hartismere High School, RS173779	G Sessions, 2E1FWX	07021 129566
Surrey	British Red Cross HQ & Training Cnt	Guildford & DRS, G6GS	A J Pamplin, G7OZC	01483 224785
Surrey	British Red Cross	Guildford & DRS, G6GS	A J Pamplin, G7OZC	01483 224785
Tayside	Air Training Corps 2231 (Forfar) Sqn	Strathmore ARC, GM3GBZ	Graham Scattergood, MM0BSX	01307 468824
Tyne & Wear	Houghton Le Spring ARC	Houghton Le Spring ARC, G3NMD	Foster Angles, G0ABF	0191 584 4673
Tyne & Wear	South Tyneside ARS	South Tyneside ARS, G0WKQ	Allan Dodds, M0HGV	0191 262 9626
Tyne & Wear	Linskill Centre	Tynemouth ARC, G0NWM	John Knowles, G2FXS	0191 257 2852
W. Lothian	Crofthead Farm Centre	Livingston DARS, MM0LIV	W Jenkins, MM0WKJ	01501 762941
Warks	Stratford RS	Stratford RS, G0SOA	John Harris, G8HJS	01789 295257
W. Midlands	St Bartholemews Church Hall	Coventry ARS, G2ASF	John Beech, G8SEQ	024 7627 3190
W. Midlands	Travel West Midlands	Sutton Coldfield ARS, G3RSC	Peter Homer, G4KQU	0121 783 6377
W. Yorks	North Wakefield RC	North Wakefield RC, G4NOK	John Muzyka, G4RCG	01924 362144
Wilts	Oldfield Girls School	Trowbridge & DARC, G2BQY	Ian Carter, G0GRI	01225 864698
Wilts	Swindon & DARC	Swindon & DARC, G3FEC	D C Forrest, M0ACM	01793 822705
Worcs	Avoncroft Art Centre	Bromsgrove & DARC, G3VGG	J F Burford, G4OAZ	01527 871903

Anyone wishing to take the RAE or NRAE at one of the centres listed should contact the exam secretary.



Special Contest Callsign Application Form

Callsigns for use in certain contests are available to UK amateur radio clubs who hold an existing class-A licence. The callsign will be allocated by the RSGB's HF Contests Committee and issued by the Radiocommunications Agency to the holder of the club licence as a Notice of Variation. Please see the notes for details.

Name of club **Callsign**

Name of licence holder of club's callsign

Callsign of holder

Main station address of club

.....

Address of holder
(will be used to send
Notice of Variation to)

.....

Telephone (home) **Telephone (work)**

Callsigns will consist of either G or M, a regional letter, a single digit, and a single suffix letter (eg GM8M, M6Z)

Please specify two alternative callsigns:

1st choice 2nd choice

What contests are you likely to use the callsign for?

.....

Declaration (to be signed by the club station licence holder):

I, the undersigned, have read and accept the notes attached and understand that failure to complete this form accurately and properly may invalidate my application for a Special Contest Callsign.

Signature Date

Please return this form to:
HFCC Contest Calls, RSGB HQ, Lambda House, Cranborne Road, Potters Bar, Herts EN6 3JE.

For office use only

Date received Callsign allocated

HFCC initials HFCC date

RA RA date



Operating Abroad

The countries in the following list all permit a UK amateur to operate in them. Some do this unilaterally (usually to any foreign radio amateur). Others have a reciprocal agreement whereby they recognise the UK licence, and in return our RA recognises their licence. In addition to reciprocal licensing, many European and a few other countries also permit temporary operation with the minimum of formality, provided the licence conforms to certain common standards (CEPT recommendation T/R 61-01). Unfortunately, no reciprocal agreements nor CEPT operation apply to Foundation or Intermediate licensees.

CEPT TR/61-01

The European Conference of Postal and Telecommunication Administrations (CEPT) is a group of some 40 European countries. Amongst their many actions, they have agreed a common standard of amateur radio licence (T/R 61-01) so as to facilitate the temporary operation in a fellow member's country.

Once each member's country has confirmed that their amateur radio licence conforms to the CEPT minimum standard, then its amateurs may operate in a fellow member's country which has also confirmed the recommendation. At the time of going to press, some 41 countries have implemented T/R 61-01, including the UK.

CEPT operation does not replace reciprocal licensing – rather it supplements it. Only temporary operation is permitted under CEPT rules, eg from hotel accommodation or mobile. Therefore, if you seek either long-term (over three months) residence or additional facilities, then you will still need to apply for a reciprocal licence.

Operating under CEPT regulations means that you are restricted by the regulations of the foreign country. No CEPT Class II licensees (UK Class B licensees) are allowed to operate below 30MHz.

In order to operate under CEPT regulations, you need to have with you your UK licence vali-

dated document, a copy of the UK licensing regulations (BR68) and a copy of the foreign country's licensing regulations. (You will need to write to the foreign country's licensing administration to obtain a copy of the latter.) For more details, please see either your UK licence or the RA information sheet RA247 *Operation Under CEPT*.

The lists below show which countries have implemented CEPT T/R 61-01, which class of UK licensee benefits and the prefix to be used.

Reciprocal licensing

A reciprocal licence is a licence issued by a foreign country to you because that country recognises the standards of the UK licence. Some countries do this unilaterally, others require a two-way recognition – a reciprocal licence. The callsign issued is sometimes your own callsign with the foreign country's suffix or prefix. In other countries, it is a callsign allocated in their normal series of callsigns.

Due to overseas post and administration delays, it is generally best to allow at least two to three months for your application to be processed – longer if it is a Third World country where amateur radio is not so sympathetically regarded. Airmail does help! Be warned, not all countries recognise the UK Class B licence – but these

are shown in the table below. The details given are the best available, but some of this data can be elusive to find! Please let RSGB HQ know if your researches discover something new – thank you.

National societies

Most countries have a national society which looks after the wellbeing of that country's amateurs. Few are of the size of RSGB – indeed many are staffed entirely by volunteers. Nevertheless, they will all give you as much assistance as they can. If you desire information about their band plans, repeaters, local clubs, or have difficulty in obtaining a reciprocal licence, please contact that country's national society.

Customs

There is usually little problem with customs. It certainly helps to be able to show that the equipment was purchased abroad and is not being exported. Unfortunately neither a reciprocal licence nor operation under CEPT regulations is deemed an exemption from customs formalities. If in doubt, you should seek additional advice about importing/exporting equipment. Information is available on 020 7202 4227.

Albania

CEPT T/R 61-01: Not yet implemented.

National Society: Albanian Amateur Radio Assn, PO Box 1501, Tirana, Albania.

Australia

Reciprocal licence: UK A + B, VK series.

Licensing address: Spectrum Management Agency, Purple Building, Benjamin Offices, Chan Street, Belconnen ACT 2617, Australia
Tel: 06 256 5555. Fax: 06 256 5200. Web: www.sma.gov.au

National society: Wireless Institute of Australia, PO Box 2175, South Caulfield, Victoria 3161, Australia Tel: 03 9528 5962. Fax: 03 9523 8191.

Austria

CEPT T/R 61-01: UK A+B, OE/own call.

Reciprocal licence: UK A + B, OE series.

Licensing address: BMÖVV, Sektion IV, Rechtsabteilung, Kelsentr. 7, A1030 - Vienna, Austria. Tel: 00 43 1 79731 4100.

National society: Osterreichischer Versuchssenderverband, Theresiengasse 11, A-1180 Vienna, Austria. Tel: 43 1 408 55 35.

Bahamas

Reciprocal licence: Unilateral, UK A only, C6A series.

Licensing address: Bahamas Telecomms Corp, PO Box N-3048, Nassau, Bahamas. Tel: 00 1 809 323-4911.

National society: Bahamas ARS, PO Box SS-6004, Nassau, NP, Bahamas.

Barbados

Reciprocal licence: Unilateral, UK A only, 8P9 series.

Licensing address: Senior Telecoms Officer, Ministry of Public Works, Communications & Transportation, Herbert Ho, Fontabelle, St. Michael, Barbados, West Indies. Tel: 00 1 809 426 2669.

National society: Amateur Radio Soc of Barbados, PO Box 814E, Bridgetown, Barbados. E-mail: decarlo@sunbeach.net

Belgium

CEPT T/R 61-01: A + B, ON/own call.

Reciprocal licence: UK A + B, ON9 series.

Licensing address: BIPT, Sterrekundelaan 14, B-1030 Brussel, Belgium, Tel: 00 32 2 20 77777.

National society: UBA, Rue da la Presse 4, B-1000 Brussels, Belgium.

Bermuda

Reciprocal licence: Unilateral, UK A only, own call/VP9.

Licensing address: Dept. of Telecomms, PO Box 101, Hamilton 5, Bermuda. Tel: 00 1 809 29 5-5151 Ex 1120.

National society: Radio Society of Bermuda, PO Box HM 275, Hamilton HM AX, Bermuda. E-mail: guoco@ibe.bm

Bosnia-Herzegovina

CEPT T/R 61-01: T9/own call.

Licensing address: Savez Radioamatera Bosne i Hercegovine, PO Box 61, Dariela Ozme 7, 71 000 Sarajevo.

Botswana

Reciprocal licence: UK A only, A25/own call.

Licensing address: Botswana Telecoms Corporation, Radio Spectrum Management Section, PO Box 700, Gaborone, Botswana. Tel: 00 267 358000.

National society: Botswana ARS, PO Box 1873 Gaborone, Botswana.



Brazil**Reciprocal licence:** UK A only.**Licensing address:** Departamento Nacional, de Telecomunicacoes, Dentel 4 Andar, Ministerio das Comunicacoes, 7000 Brasillia DF, Brazil.**National society:** Liga de Amadores Brasileiros de Radio Emissao, Setor de Clubes Esportivos Sul, Trecho 04, Lote 1/A, 70359-970 Brasilia DF, Brazil. E-mail: py5eg@sul.com.br**Brunei****Reciprocal licence:** Unilateral, UK A + B.**Licensing address:** Director of Telecommunications, Telecom Dept, Ministry of Communications, Negara, Brunei Darussalam. Tel: 00 673 42324.**National society:** Negara Brunei Darussalam ARA, PO Box 73, Gadong, Bandar Seri Begawan 3100, Brunei.**Bulgaria****CEPT T/R 61-01:** UK A + B, LZ/own call.**Reciprocal licence:** Unilateral, A only.**Licensing address:** Committee of Posts and Telecomms, Radioregulatory Dept, Gurko Street, No 6, 1000 Sofia, Bulgaria. Tel: 00 3592 88 9511.**National society:** Bulgarian Fed of Radio Amateurs, PO Box 830, 1000 Sofia-C, Bulgaria.**† Canada****CEPT T/R 61-01:** UK A + B, VE/own call.**Reciprocal licence:** UK A + B, VE#/own call.**Licensing address:** The Industry Canada, Amateur Radio Dept, 300 Slater St, Ottawa, Ontario, K1A 0C8. Tel: 001 613 998 3693 1700.**National society:** Radio Amateurs of Canada, 720 Belfast Road, Suite 217, Ottawa, ON K1B 0Z5. E-mail: rachq@king.igs.net**Cayman Is****Reciprocal licence:** Unilateral, UK A only?, ZF1.**Licensing address:** The Postmaster, General Post Office, Grand Cayman, British West Indies. Tel: 00 1 809 94 92474.**National society:** Cayman ARS, PO Box 1029, Grand Cayman, Cayman Is. Web: zfla@candw.ky**Chile****Reciprocal licence:** Unilateral, UK A only.**Licensing address:** Radio Club de Chile, Casilla 13630, Correo, Santiago, Chile.**National society:** Radio Club de Chile, PO Box 13630, Santiago 21, Chile.**China****Reciprocal licence:** Unilateral, UK A only.**Licensing address:** Liaison Dept, Chinese Radio Sports Assn, PO Box 6106, Beijing, China 100061, Tel: 00 86 10 67025488.**National society:** Chinese Radio Sports Assn., 9 Tiyugan Road, PO Box 6106, Beijing, China 100061. Tel: 00 86 10 67025488.**Colombia****Reciprocal licence:** Unilateral, UK A only, HK#/own call.**Licensing address:** Ministerio de Comunicaciones, Bogota DE1, Colombia.**National society:** Liga Colombiana de Radioaficionados, AA584, Santa Fe De Bogota, Colombia.**Costa Rica****Reciprocal licence:** Unilateral, UK A only.**Licensing address:** Apply via national society.**National society:** Radio Club de Costa Rica, PO Box 2412, San Jose 1000, Costa Rica.**Croatia****CEPT T/R 61-01:** UK A + B, 9A/own call.**National society:** Hrvatski Radio-Amaterski Savez, Dalmatiska 12, HR-10000 Zagreb, Croatia. Tel: 00 385 1 433 025.**Cyprus (Republic of) - South****CEPT T/R 61-01:** UK A = 5B4/own call, UK B = 5B8/own call.**Reciprocal licence:** UK A + B.**Licensing address:** Chief Comms. Officer, Ministry of Comms & Works, 1424 Nicosia, Cyprus. Tel: 00 357 2 302268. Fax: 00 357 2 360578.**National society:** Cyprus ARS, PO Box 1267, Limassol 3058, Cyprus. Tel: 00 357 5 362792.**Cyprus (Turkish Republic of Northern)****Licensing address:** TRNC

Telecommunications Administration, Sehit Arif Sk, Yeniehirk, LEFKOSA, Via Mersin 10, Turkey.

Czech Republic**CEPT T/R 61-01:** UK A + B, OK/own call.**Reciprocal licence:** UK A + B.**Licensing address:** Czech Communication Office, Att: Mrs Bockov, Klimentisk 27, 125 02 Praha 1, Czech Rep. Tel: 00 42 2 2491 1605. Fax: 00 420 2 2491 1658.**National society:** Czech Radio Club, PO Box 69, 113 27 Praha 1, Czech Republic. Tel: 00 420 2 8722 240. Fax: 00 420 2 8722 242.**Denmark****CEPT T/R 61-01:** UK A + B, OZ/own call.**Reciprocal licence:** UK A + B, OZ/own call.**Licensing address:** Telestyrelsen, Holsteinsgade 63, DK-2100 Kobenhavn 0, Denmark. Tel: 00 45 35 43 03 33.**National society:** Eksperimenterende Danske Radioamatorer, Klokkestoebervej 11, DK-5230 Odense, Denmark. Tel: 00 45 66 15 6511.**Estonia****CEPT T/R 61-01:** ES#/own call.**Reciprocal licence:** UK A + B.**Licensing address:** Inspection of Telecommunications Republic of Estonia, Adala 4D, E0006 Tallinn, Estonia. Tel: 00 372 6399075.**National society:** Eesti Raadioamatooride Uhing, PO Box 125, EE-0090 Tallinn, Estonia. Tel: 00 372 2 449312.**Falkland Is****Reciprocal licence:** Unilateral, UK A + B, VP8 series.**Licensing address:** Superintendent, Post & Telecommunications, The Post Office, Port Stanley, Falkland Is. Tel: 00 500 27135.**Faroe Is****CEPT T/R 61-01:** UK A + B, OY/own call.**Reciprocal licence:** UK A + B, OY/own call.**Licensing address:** National Telecom Agency, Holsteinsgarde 63, DK-2100 Kobenhavn, Denmark. Tel: 00 45 35 43 03 33.**National society:** Forroyskir Radioamatorar, PO Box 343, FR-110 Torshavn, Faroe Islands. Tel: 00 45 9 298 10644.**Fiji Islands****Reciprocal licence:** Unilateral, UK A+B, 3D2 series.**Licensing address:** The Director, Regulatory Unit, Ministry of Information, Broadcasting Television & Telecommunications, Government Buildings, Suava, Fiji Islands, Tel: 00 679 211 257.**National society:** Fiji ARA, PO Box 184, Suva, Fiji Islands.**Finland****CEPT T/R 61-01:** UK A + B, OH/own call (Åland Is, OH0/own call).**Reciprocal licence:** Reciprocal, A + B, OH/own call (Åland Is, OH0/own call).**Licensing address:** Telecommunications Administration Centre, PO Box 53, SF-00211 Helsinki, Finland. Tel: 00 358 0 696 61.**National society:** Suomen Radioamatooriliitto, PO Box 44, SF-00441 Helsinki, Finland. E-mail: sral@compant.fi
Web: www.compant.fi/sral/**France****CEPT T/R 61-01:** UK A + B, F/own call.

(Overseas territories use different prefix. Visting and/or operating permission may also be needed.)

Reciprocal licence: UK A + B, F series.**Licensing address:** Direction Generale des Telecommunications, Direction des Affaires Industrielles et Internationales, (DA11) – Service des Affaires Internationales (SA1), 7 Boulevard Romain Rolland, F-92128 Montrouge, France. Tel: 00 33 1 45 64 22 22.**National society:** REF - Union, BP7429, 37074 Tours Cedex 2, France. Tel: 00 33 2 47 418873. Fax: 00 33 2 47 418888. Web: www.ref.tm.fr**Gambia****Reciprocal licence:** Unilateral, UK A + B, C53/own call.**Licensing address:** The Managing Director, Gambia Telecommunications Co Ltd, PO Box 387, Banjul, The Gambia. Tel: 00 220 29999.**National society:** Radio Soc of the Gambia, c/o Jean-Michel Voinot, C53GB, PMB 120, Banjul, Gambia.

Germany

CEPT T/R 61-01: UK A = DL/own call, UK B = DC/own call.

Reciprocal licence: Reciprocal, DL/DC series.

Licensing address: BAPT, Postfach 100353, D-64203, Darmstadt, Germany. Tel: 00 49 6151 301161. Fax: 00 49 6151 301181.

National society: Deutscher Amateur Radio Club, PO Box 1155, D-34216 Baunatal 1, Germany. Tel: 00 49 561 94 98 80. Fax: 00 49 561 94988 50.

Gibraltar

Reciprocal licence: UK A + B, ZB2/own call.

Licensing address: Gibraltar Regulating Authority, Suite 631, Europort, Gibraltar. Tel/fax: 00 350 75714.

National society: Gibraltar ARS, PO Box 292, Gibraltar. Tel: 00 350 75452. Web: www.gibnet.com

Greece

CEPT T/R 61-01: UK A + B, SV#/own call.

Reciprocal licence: UK A + B, SV#/own call.

Licensing address: Ministry of Transport & Telecommunications, Administration of Posts & Telecommunication, 49 Avenue Syngrou, GR 117 80 Athens, Greece. Tel: 00 30 1 923 2906.

National society: Radio Amateur Association of Greece, PO Box 3564, GR-10210, Athens, Greece. Tel: 30 1 522 6516.

Greenland

CEPT T/R 61-01: UK A + B, OX/own call.

Licensing address: National Telecom Agency, Holsteinsgarde 63, DK-2100 Kobenhavn 0, Denmark. Tel: 00 45 35 43 03 33.

Hong Kong

Reciprocal licence: UK A + B, VR2 series.

Licensing address: Officer in Charge, Telecommunications Branch, 29th floor, Wo Chung House, Wonchai, Hong Kong.

National society: Hong Kong ARTS, PO Box 541, Hong Kong. E-mail: hartscom@harts.org.hk Web: www.harts.org.hk

Hungary

CEPT T/R 61-01: UK A = HA/own call, UK B = HG/own call.

Reciprocal licence: Unilateral, UK A only.

Licensing address: Frekvencia Gazdalkodasi Intezet, Ostrom U.23/25, H/1012 Budapest, Hungary.

National society: Magyar Radioamator Szovetseg, PO Box 11, H-1400, Budapest, Hungary. Tel: 00 36 1 312 1616. E-mail: mrasz@elender.hu Web: www.mrasz.hu

Iceland

CEPT T/R 61-01: UK A + B, TF/own call.

Reciprocal licence: UK A + B.

Licensing address: National Telecom Inspectorate, Malarhofda 2, IS - 150 Reykjavik, Iceland. Tel: 00 354 587 2424.

National society: Islenkir Radioamatorar, PO Box 1058, IS-121, Reykjavik, Iceland. Tel: 00 354 552 0157. Fax: 00 354 568 0161. Web: www.nett.is/~tf5bw/ira/english/

India

Reciprocal licence: UK A + B, VU series.

Licensing address: Ministry of Comms, Sanchar Bhavan, 20 Ashoka Road, New Dehli 110001, India. Tel: 00 91 11 3355441. Fax: 00 91 11 371 6111.

National society: Amateur Radio Society of India, 4 Kurla Industrial Estate, Bombay 400 086, India.

Indonesia

Reciprocal licence: Unilateral, A only.

Licensing address: Apply via national society.

National society: Organisasi Amatir Radio Indonesia, Jalan Karang Tengah Raya 59B, Lebak Bulus, Jakarta 12440, Indonesia. Tel: 62 21 582226.

Irish Republic

CEPT T/R 61-01: UK A + B, EI/own call.

Reciprocal licence: UK A + B, EI: mainland, EJ: offshore islands.

Licensing address: Office of Director of Telecommunications Regulation, Radio Section, Abbey Court Irish Life Centre, Lower Abbey Street, Dublin 1. Tel: 00 353 1 804 9600. Fax: 00 353 1 804 9680.

National society: Irish Radio Transmitters Society, PO Box 462, Dublin 9, Ireland. E-mail: secretary@irts.ie Web: www.irts.ie

† Israel

CEPT T/R 61-01: UK A = 4X/own call, UK B = 4Z/own call.

Reciprocal licence: UK A + B.

Licensing address: Ministry of Communications, PO Box 29107, Tel Aviv 61290, Israel. Tel: 03 5198277.

National society: Israel Amateur Radio Club, PO Box 17600, Tel Aviv 61176, Israel.

Italy

CEPT T/R 61-01: UK A = IK#/own call, UK B = IW#/own call.

Reciprocal licence: UK A + B.

Licensing address: Ministero delle Poste e Telecom, Direzione Centrale dei Servizi Radioelettrici, Divisione 6 - Sezione 4, Viale Europa 175, I-00144 Roma, Italy. Tel: 00 39 6 5954894.

National society: Associazione Radioamatori Italiani, Via Scarlatti 31, 20124 Milan, Italy. Tel: 00 39 2 669 21 92. Fax: 00 39 2 667 14809. Web: www.ari.it

Jamaica

Reciprocal licence: Unilateral, UK A only, own call/6Y5.

Licensing address: Headquarters, Post & Telegraphs Dept, South Camp Rd, Kingston, Jamaica.

National society: Jamaica Amateur Radio Assn, 76 Arnold Road, Kingston 5, Jamaica. E-mail: 6y5mm@toj.com Web: www.buyjamaica.com/jara

Japan

Reciprocal licence: Unilateral.

Licensing address and national society:

The Japan Amateur Radio League Inc, Attn: International Section, 14-5, Sugamo 1-chome, Toshima-ku, Tokyo 170-8073, Japan. Tel: 00 81 3 5395 3106. Fax: 00 81 3 3943 8282. E-mail: intl@jarl.or.jp See also www.jarl.or.jp/English/3-Application/A-3.htm

Jordan

Reciprocal licence: Unilateral, UK A only? JY9 series.

Licensing address: Apply via national society.

National society: Royal Jordanian Radio Amateur Society, PO Box 2353, Amman, Jordan. Tel: 962 6 666 235.

Kenya

Reciprocal licence: UK A only, 5Z4 series.

Licensing address: The Manager, Frequency Spectrum Management Branch, KP & TC, PO Box 30301, Nairobi, Kenya. Tel: 00 254 2 449373.

National society: Radio Society of Kenya, PO Box 45681, Nairobi, Kenya. Tel/fax: 00 254 2 449373.

Latvia

CEPT T/R 61-01: UK A + B, YL/own call.

Licensing address: Latvia Communication State Inspection, 41/43 Elizabetes Street, Riga LV1010, Latvia. Tel: 371 2 333034.

National society: Latvijas Radioamatieru Liga, PO Box 164, Riga, LV-1098, Latvia. Tel: 00 371 2 333187. E-mail: iral@ardi.lv Web: www.larl.ardi.lv

Liechtenstein

CEPT T/R 61-01: UK A + B, HB0/own call.

Reciprocal licence: Unilateral, UK A + B?

Licensing address: Direction Generale, Radio und Fernsehen, Speichergasse 6, 3030 Bern, Switzerland. Tel: 00 41 75 6 11 11.

National society: Amateurfunk Verein Liechtenstein, PO Box 629, FL-9495 Triesen, Liechtenstein.

Lithuania

CEPT T/R 61-01: UK A & B, LY/own call.

Licensing Administration: Valstybine Radijo Dazniu Tambya, Algirdo 27, Vilnius, Lithuania 2006. Tel: 00 370 2 26 31 77.

National society: Lietuvos Radijo Megeju Draugija, PO Box 1000, Vilnius, Lithuania 2001. Tel: 00 370 2 221 836. Fax: 00 37 02 700447. E-mail: hq@lrmd.ktl.mii.lt

Luxembourg

CEPT T/R 61-01: UK A + B, LX/own call.

Reciprocal licence: Unilateral, UK A only, LX series.

Licensing address: Ministère des Communications, 18 Montée de la Pétrusse, L-2945 Luxembourg. Tel: 00 352 478-1.

National society: Reseau Luxembourgeois des Amateurs d'Ondes Courtes, 23 Route de Noertzange, L-3530 Dudlange, Luxembourg.

Malaysia

Reciprocal licence: UK A only.

Licensing address: Malaysian Communications and Multimedia Commission, Suite 1, Aras 5, Menara Dato' Onn, Pusat Dagangan Dunia Putra, 45 Jalan Sultan Ismail, 50480 Kuala Lumpur, Malaysia.

National society: Malaysian ARTS, PO Box 10777, 50724 Kuala Lumpur, West Malaysia.

Malta

Reciprocal licence: UK A + B, 9H3 series.

Licensing address: Wireless Telegraphy Dept, Evans Laboratory Buildings, Merchants St, Valletta, Malta. Tel: 00 356 24 39 25 / 23 27 28. Fax: 00 356 23 44 94 / 23 36 95.

National society: Malta ARL, PO Box 575, Valletta, Malta.

Mauritius**Reciprocal licence:** UK A only.**Licensing address:** Mauritius

Telecommunication Authority, 6th Floor, Blendax House, Dumas Street, Port Louis, Mauritius. Tel: 00 230 208 5623. Fax: 00 230 211 2871.

National society: Mauritius Amateur Radio Society, PO Box 104, Quatre-Bornes, Mauritius.**Monaco****CEPT T/R 61-01:** UK A + B, 3A/own call.**Reciprocal licence:** UK A + B, 3A/own call.**Licensing address:** Direction Générale de

Telecomms, Service Radio-Amateurs, 25 Boulevard de Suisse, MC 98030 Monaco Cedex, Monaco. Tel: 00 33 93 25 05 05.

National society: Association des Radio Amateurs de Monaco, PO Box 2, MC-98001 Monaco Cedex, Monaco.**Mongolia****Reciprocal licence:** Unilateral, UK A, JT/own call.**Licensing address:** MRSF, PO Box 639, Ulaanbaatar - 13, Mongolia. E-mail: jt1kaa@magicnet.mn**National society:** Mongolian Radio Sports Federation, PO Box 639, Ulaanbaatar 13, Mongolia. Tel: 00 976 1 320058. E-mail: mrsf@magicnet.mn**Montserrat****Reciprocal licence:** Unilateral, UK A only? VP2M series.**Licensing address:** Ministry of Communications & Works, General Turning Road, Plymouth, Montserrat, West Indies.**National society:** Montserrat ARS, PO Box 448, Plymouth, Montserrat.**Morocco****Reciprocal licence:** Unilateral, UK A only, own call/CN.**Licensing address:** Ministère des PTT, Division des Télécommunications, Rabat, Morocco.**National society:** Association Royale des Radio Amateurs du Maroc, PO Box 299, Rabat, Morocco.**Netherlands****CEPT T/R 61-01:** UK A = PA/own call, UK B = PE/own call.**Reciprocal licence:** UK A + B, PA/own call.**Licensing address:** Minister of Transport & Public Works, Dept of Telecommunication & Post, PO Box 450, 9700 AL Groningen, Netherlands. Tel: 00 31 50 522 2214.**National society:** VERON, PO Box 1166, NL-6801 BD Arnhem, Netherlands. Tel: 00 31 264 426760. Web: www.veron.nl/veron/**† Netherlands Antilles****CEPT T/R 61-01:** PJ2/own call.**National society:** VERONA, PO Box 3383, Curacao. E-mail: vdhcrown@sr.net**† New Zealand****CEPT T/R 61-01:** UK A + B, own call/ZL.**Reciprocal licence:** UK A + B, own call/ZL.**Licensing address:** Radio operations, Comms Div, Ministry of Commerce, PO Box 1473, Wellington, New Zealand. Tel: 00 64 4 472 0030.**National society:** New Zealand ART, PO Box 40-525, Upper Hutt, New Zealand. Tel/Fax: 00 64 4 528 2170. E-mail: nzart@clear.net.nz Web: www.nzart.org.nz**Norway****CEPT T/R 61-01:** UK A = LA/own call, UK B = LC/own call.**Reciprocal licence:** UK A only, LA0 series.**Licensing address:** NTRA, PO Box 447 Sentrum, N-0104 Oslo, Norway. Tel: 00 47 22 82 48 38. Fax: 00 47 22 48 40.**National society:** Norsk Radio Relae Liga, PO Box 20, Haugenstua, N-0915 Oslo, Norway. Tel: 00 47 22 21 37 90. Fax: 00 47 22 21 37 91. E-mail: nrnl@sn.no Web: www.home.sn.no**Panama****Reciprocal licence:** Unilateral, UK A only? own call/HP4X.**Licensing address:** Ministerio de Gobierno y Justicia, Direccion Nacional de Medio de Comunicacion Social, Apartado Postal 1628, Zona 1, Panama, Republic de Panama.**National society:** Liga Panamena de Radioaficionados, PO Box 9A-175, Panama. E-mail: ligaradio@hotmail.com**Papua New Guinea****Reciprocal licence:** UK A + B, P29V series.**Licensing address:** Manager Radio Branch, Spectrum Management Dept, PO Box 1783, Port Moresby, Papua New Guinea. Tel: 00 675 27 4236.**National society:** Papua New Guinea ARS, PO Box 204, Port Moresby, NCD, Papua New Guinea.**† Peru****CEPT T/R 61-01:** UK A + B, Own call/OA.**Reciprocal licence:** Unilateral, UK A only, OA/own call.**Licensing address:** Ministerio de Transportes Comunicaciones, Vivienda Y Construcción, Av. Wilson y 28 de Julio, Cercado de Lima, Lima, Peru. Tel: 00 51 1 433 7800.**National society:** Radio Club Peruano, PO Box 538, Lima 100, Peru. E-mail: oficina@oabbs.org.pe**Philippines****Reciprocal licence:** UK A only?, own call/DU1.**Licensing address:** Planning Division, Telecommunication Control Bureau, 5th floor, Delos Santos Building, Quezon Avenue, Quezon City, Philippines.**National society:** Philippine Amateur Radio Assn, PO Box 4083, Manila, Philippines. E-mail: para@semicon.net**Pitcairn + Henderson Is****Reciprocal licence:** Unilateral, UK A only.**Licensing address:** Office of the Governor of Pitcairn Henderson, Ducie and Oeno Islands, c/o British Consulate General, Auckland, New Zealand.**Poland****CEPT T/R 61-01:** Not yet implemented.**Reciprocal licence:** UK A + B, SO series.**Licensing address:** Panstwowa Agencja Radiokomunikacyjna, Zarzad Krajowy ul. Kasprzaka 18/20, 01-211 Warsaw, Poland.**National society:** Ploski Zwiasek Krotkofalowcow, PO Box 42, 64-100 Leszno 1, Poland. Tel/Fax: 00 48 65 209529. E-mail: hqzpk@pzk.org.pl Web: www.pzk.org.pl**Portugal****CEPT T/R 61-01:** A + B, CT#/own call.**Reciprocal licence:** UK A + B.**Licensing address:** ICP Instituto Das Comunicações Portugal, Delegação do ICP Portugal, Centro Fiscalizacão, Pico da Cruz, 9000 Funchal. Tel: 00 351 91 762868.**National society:** Rede dos Emissores Portugueses, Rua D. Pedro V 7-4, P-1200 Lisboa, Portugal. Tel: 00 351 1 36 11 86. E-mail: rep@rep.pt Web: www.rep.pt**Romania****CEPT T/R 61-01:** UK A + B, YO/own call.**Reciprocal licence:** Unilateral, UK A + B?**Licensing address:** General Inspectorate of Radiocommunications, 202A Splaiul Independentei sector 6, Bucharest, 77208 Romania. Tel: 00 40 386891. Fax: 00 40 1 3124797.**National society:** Federatia Romana de Radioamatorism, PO Box 22-50, R-71100 Bucharest, Romania. Tel: 00 40 01 211 97 87.**Russian Federation****CEPT T/R 61-01:** Not yet implemented.**Reciprocal licence:** Unilateral, UK A only.**Licensing address:** Apply via national society.**National society:** Union of Radioamateurs of Russia, PO Box 59, Moscow 105122, Russia. Tel: 00 7 095 9393741. E-mail: srr@dateline.ru Web: www.dateline.ru/srr**Samoa****Reciprocal licence:** Unilateral, UK A only?**Licensing address:** Director, Post Office & Radio, Chief Post Office, Apia, Samoa.**National society:** Western Samoa ARC, PO Box 2015, Apia, Samoa.**San Marino****CEPT T/R 61-01:** Not yet implemented.**Licensing address:** Direzione Generale Post e Telecomms., San Marino. Tel: 378 991349.**National society:** Associazione Radioamatori Della Repubblica Di San Marino, PO Box 77, RSM 47031, San Marino. E-mail: arrsm@inthenet.sm Web: www.inthenet.sm**Seychelles****Reciprocal licence:** Unilateral, UK A only, S79 series.**Licensing address:** Seychelles Licensing Authority, PO Box 3, Victoria Mahe, Republic of Seychelles.**Sierra Leone****Reciprocal licence:** UK A + B?**Licensing address:** Licensing Office, Posts & Telegraphs Dept, GPO, Freetown, Sierra Leone.**National society:** Sierra Leone ARS, PO Box 10, Freetown, Sierra Leone.

Singapore

Reciprocal licence: Unilateral, UK A only, 9V1 series.

Licensing address: Telecoms Authority of Singapore, Radio Licensing Dept, 4-8 George Street #04-00, Singapore 0104. Tel: 00 65 322 1905.

National society: Singapore ARTS, GPO Box 2728, Singapore 9047, Singapore. Web: www.sarts.org.sg

Slovakia

CEPT T/R 61-01: UK A + B, OM/own call.

Licensing address: Telekomunikacny Vrad SR, Povolovame Radiostamic, Jarosova 1, SK-830 08 Bratislava, Slovakia. Tel: 00 42 7 2792704.

National society: Slovak Amateur Radio Assn, Wolkrova 4, 851 01 Bratislava, Slovakia. Tel: 00 42 7 847 501. Fax: 00 42 7 845 138.

Slovenia

CEPT T/R 61-01: Not yet implemented.

National society: Zveza Radioamaterjev Slovenije, Lepi Pot 6, SI 1000 Ljubljana, Slovenia. Tel: 00 386 61 22 24 59. Fax: 00 386 61 22 24 59. Web: www.hamradio.si

Solomon Is

Reciprocal licence: Unilateral, UK A + B, H44 series.

Licensing address: Director, Ministry of Posts & Communications, PO Box G25, Honiara, Solomon Is.

National society: Solomon Island Radio Soc, PO Box 418, Honiara, Solomon Islands.

† South Africa

CEPT T/R 61-01: UK A = ZS#/own call, UK B = ZR#/own call.

Reciprocal licence: UK A = ZS#/own call, UK B = ZR#/own call.

Licensing address: Apply via national society.

National society: South African Radio League, PO Box 807, Houghton 2041, South Africa. Tel: 00 11 484 2830. E-mail: sarl@global.co.za Web: www.sarl.org.za

Spain

CEPT T/R 61-01: UK A = EA/own call, UK B = EB/own call.

Reciprocal licence: UK A = EA/own call, UK B = EB/own call.

Licensing address: Direccion General de Telecomunicaciones, Pza. Cibeles, Palacio de Comunicaciones, 28014 Madrid, Spain. Tel: 00 34 1 3461500. Fax: 00 34 1 3962229.

National society: Union de Radioaficionados Espanoles, PO Box 220, 28080 Madrid, Spain. Tel: 00 34 1 4771413. Fax: 00 34 1 4772071. E-mail: ure@ure.es Web: www.ure.es

Sri Lanka

Reciprocal licence: UK A + B.

Licensing address: The Director General of Telecomms. Regulatory Authority, EH Cooray Bldg, 4th floor, 411 Galle Rd, Colombo 3, Sri Lanka.

National society: Radio Society of Sri Lanka, PO Box 907, Colombo, Sri Lanka. E-mail: rssl@mailexcite.com

Swaziland

Reciprocal licence: UK A + B.

Licensing address: Attn: Engineer Frequency Management, Managing Director of Posts & Telecoms, PO Box 125, Mbabane, Swaziland.

National society: Radio Society of Swaziland, PO Box 3744, Manzini, Swaziland.

Sweden

CEPT T/R 61-01: UK A + B, SM/own call.

Reciprocal licence: UK A + B, SM/own call.

Licensing address: Post & Telestyrelsen, Frequency Division, Box 5398, S-102 49 Stockholm, Sweden. Tel: 00 46 8 678 5500. Fax: 00 46 8 678 5505.

National society: Foreningen Sveriges Sandareamatorer, Box 45, 19121 Sollentuna, Sweden. Tel: 00 46 8 51570273. Fax: 00 46 8 58570274. E-mail: hq@svessa.se Web: www.svessa.se

Switzerland

CEPT T/R 61-01: UK A + B, HB9/own call.

Reciprocal licence: UK A + B.

Licensing address: Direction Generale, Radio und Fernsehen, Speichergasse 6, 3030 Bern, Switzerland. Tel: 00 41 31 338 51 91.

National society: Union Schweizerischer Kurzwellen-Amateure, PO Box 9, CH-4539 Rumisberg, Switzerland. Tel: 00 41 65 763676. E-mail: hq@uska.ch Web: www.uska.ch

Thailand

Reciprocal agreement not yet signed.

Tonga

Reciprocal licence: UK A + B, A35 + 2 letters.

Licensing address: Tonga Telecom. PO Box 46, Nukualofa. Tonga. Tel: 00 676 24255. Fax: 00 676 22200.

National society: Amateur Radio Club of Tonga, c/o Manfred Schuster, PO Box 1078, Nuku'alofa, Tonga.

Turkey

CEPT T/R 61-01: UK A + B, TA/own call.

Reciprocal licence: Unilateral, UK A only?

Licensing address: Directorate General of PTT, Ankara, Turkey. Tel: 00 90 43 12 52 52.

National society: Telsiz Radyo Amatorleri Cemiyeti, PO Box 699, Karakoy 80005, Istanbul, Turkey. Tel/Fax: 00 90 212 245 3942. E-mail: hq@trac.org.tr Web: www.trac.org.tr

Ukraine

CEPT T/R 61-01: UK A + B, UR/own call.

Licensing address: Apply via national society.

National society: Ukrainian Amateur Radio League, PO Box 56, 01001, Kyiv 1. E-mail: em5u@carrier.kiev.ua

Uruguay

Reciprocal licence: Unilateral, UK A only.

Licensing address: Apply via national society.

National society: Radio Club Uruguayo, PO Box 37, Montevideo, Uruguay. E-mail: rcuhq@adinet.com.uy

† USA

CEPT T/R 61-01: UK A + B (A/B Licence will also count if available), W#/own call.

Reciprocal licence: UK A + B, W#/own call.

Licensing address: Federal Communications Commission, Gettysburg, PA 17326, USA.

National society: American Radio Relay League, 225 Main St, Newington, CT 06111, USA. E-mail: hq@arrl.org Web: www.arrl.org

Vanuatu

Reciprocal licence: UK A only, YJ0A series.

Licensing address: Director of Posts & Telecomms, Dept of Post & Telecomms, Vila, Vanuatu.

National society: Vanuatu Amateur Radio Society, PO Box 665, Port Vila 3092, Vanuatu.

Virgin Is

Reciprocal licence: Unilateral, UK A + B, VP2V/own call.

Licensing address: Telecommunications (Radio) Officer, Ministry of Communications & Works, Government of BVI, Road Town, Tortola, British Virgin Islands.

National society: British Virgin Is Radio League, PO Box 4, West End, Tortola, British Virgin Islands.

Zimbabwe

Reciprocal licence: UK A + B, own call/Z2.

Licensing address: Manager, National Telecommunications Services, PO Box 8061, Causeway, Harare, Zimbabwe. Tel: 00 263 4 731989.

National society: Zimbabwe ARS, PO Box 2377, Harare, Zimbabwe.

† These countries, although not part of CEPT, have adopted T/R 61-01.

The appropriate call district must be included as part of the foreign country prefix. Please refer to the appropriate licensing address shown for details. A map of USA call areas can be found at www.arrl.org/awards/was/map.gif

Spectrum Abuse

Spectrum abuse is handled in two ways. Unauthorised non-amateur transmissions within our amateur bands are covered by RSGB's Intruder Watch organisation, while UK amateurs operating outside the terms of their licences or in breach of established operating practices are covered by the Society's Amateur Radio Observation Service.

Intruder Watch

The RSGB Monitoring System, more popularly known as the Intruder Watch, forms part of the IARU Monitoring System. As such it submits reports of non-amateur transmissions heard on the exclusive HF amateur bands to both the RA Monitoring Station at Baldock and the IARU Region 1.

Intruders removed from the 14MHz band as a direct result of Intruder Watch reports being acted on by Baldock include two Russian broadcast station harmonics and a French military data transmission. On 18MHz the list includes an Argentine weather fax, military stations in Somalia and India, and diplomatic stations located at foreign embassy stations in Paris, Ankara and New Dehli.

Although the Intruder Watch has a sufficient number of monitors for non-data type intruders, the co-ordinator would like to hear from potential monitors who possess data decoders as manufactured by companies such as 'Hoka', 'Wavecom' and 'Universal' for analysis of data signals. Data intruders are by far the most common and it is an area where we could do with more support.

Other non-data categories of intruding signals include CW, broadcast stations, speech, and over-the-horizon radar (OTHR). Any report should include as much information as possible, but preferably frequency, date, time (UTC), mode of transmission, any identification signal or callsign, language used, text (where appropriate), and beam heading where possible. For data transmissions a 'zero beat' frequency will be accurate enough for monitors without decoders. This information can then be passed on to a suitably equipped monitor for further investigation.

Most information received by the co-ordinator arrives from regular monitors, but occasional reports are also welcome from anyone who finds what may be an intruding signal on one of our exclusive amateur bands. All reports are welcome and will be acknowledged.

AROS

The Amateur Radio Observation Service is an advisory and reporting service of the RSGB which is intended to assist radio amateurs and others who may be affected by problems which occur within the amateur bands or which develop on other frequencies as a result of amateur transmissions. The service investigates reports of licence infringements, or instances of poor operating practice which might bring the Amateur Service into disrepute. Reports, complaints and associated supplementary information are accepted from any source and the contents of each communication is regarded as confidential material. The

source of any report or supplementary information is not disclosed without the permission of the originator. The originator of any report or complaint should be prepared to respond to further enquiries. Requests for further details may be made to the originator and in addition, independent verification on an individual case basis may be supplied by AROS Observers. A report to AROS should contain details of the alleged infringement and should include: dates, times, modes, details of what was heard – supported, if possible, by a tape recording. The originator should also state where he/she considers the 'offender' to have infringed the terms of the licence or where the 'offender' has acted in a manner contrary to codes of operational practice which have been agreed nationally or internationally. The identity of the 'offender' or his/her location, where this is known positively, should be included. However, reports where the identity or the location of the offender is not known, or not known with certainty, are still of value and are required.

After investigation and where there is evidence of deliberate malpractice or malicious abuse of amateur radio facilities, a formal report may be made to the appropriate authorities. This report will contain sufficient detail and evidence to enable further investigations to be made and the authorities may take such action as is appropriate. However, AROS prefers to settle problems – great or small – within the Amateur Service. Problems arising are referred to the authorities as a last resort.

Prefixes:

1st Character: Intermediate: 2 Full: G or M
Foundation: M

2nd Character:	Intermediate	Full	Club (Full)
England	E	(none)	X
Isle of Man	D	D	T
Northern Ireland	I	I	N
Jersey	J	J	H
Scotland	M	M	S
Guernsey	U	U	P
Wales	W	W	C

GB3 + 2 letters: Repeaters
 GB3 + 3 letters: Beacons
 GB7 + 2 letters: Data repeaters
 GB7 + 3 letters: Data mailboxes
 GB + other digits: Special event stations (class of call sign normally corresponds to the appropriate M format)

M/foreign call: Class A reciprocal or Class 1 CEPT
 M/foreign call: Class B reciprocal or Class 2 CEPT

Suffixes:

-M mobile (includes inland waterways or pedestrian)
 -P portable (temporary location or address)
 -MM maritime mobile

Approximate Issue Dates

Two letters:

G2AA 1920-39
 G3AA 1937-8
 G4AA 1938-9
 G5AA 1921-39
 G6AA 1921-39
 G8AA 1936-7

Three letters:

G2AAA Pre-war
 G3AAA 1946
 G3CAA 1947
 G3EAA 1948
 G3GAA 1949-50
 G3HAA 1950-1
 G3IAA 1951-2
 G3JAA 1952-4
 G3KAA 1954-6
 G3LAA 1956-7
 G3MAA 1957-8
 G3NAA 1958-60
 G3OAA 1960-61
 G3PAA 1961-2
 G3QAA not issued
 G3RAA 1962-3
 G3SAA 1963-4
 G3TAA 1964-5
 G3UAA 1965-6
 G3VAA 1966-7
 G3WAA 1967
 G3XAA 1967-8
 G3YAA 1968-9
 G3ZAA 1969-71
 G4AAA 1971-72
 G4BAA 1972-3
 G4DAA 1974-75
 G4EAA 1975-6
 G4GAA 1977
 G4IAA 1979
 G4MAA 1981
 G4QAA not issued
 G4RAA 1982
 G4SAA 1983
 G4WAA 1984
 G0AAA 1985
 G0EAA 1986
 G0HAA 1987
 G0JAA 1988
 G0LAA 1989
 G0MAA 1990
 G0NAA 1991
 G0SAA 1992
 G0TAA 1993
 G0VAA 1994
 G0WAA 1995
 M0AAA 1996
 M0BAA 1997-8
 M0CAA 1998-00
 M5AAA 1999-00

Class B:

G8AAA 1964-7
 G8BAA 1967-8
 G8CAA 1968-9
 G8DAA 1969-70
 G8EAA 1970-1
 G8FAA 1971-2
 G8HAA 1973
 G8IAA 1973-4
 G8JAA 1974-5
 G8KAA 1975
 G8MAA 1976-7
 G8NAA 1977
 G8OAA 1977-8
 G8PAA 1978
 G8QAA not issued
 G8TAA 1979
 G8ZAA 1981
 G6CAA 1981
 G6QAA not issued
 G6RAA 1982
 G1AAA 1983
 G1DAA 1984
 G1LAA 1985
 G1QAA not issued
 G1SAA 1986
 G1XAA 1987
 G7AAA 1988
 G7EAA 1989
 G7FAA 1990
 G7HAA 1991
 G7MAA 1992
 G7OAA 1993
 G7SAA 1994
 G7TAA 1995
 G7WAA 1996
 M1AAA 1996
 M1CAA 1997
 M1DAA 1998-9
 M1EAA 1999-00

Intermediate Class A:
 2E0AAA 1991+

Intermediate Class B:
 2E1AAA 1991
 2E1BAA 1992
 2E1CAA 1993
 2E1DAA 1994
 2E1EAA 1995
 2E1GAA 1997-9
 2E1HAA 1999-00

Note:

From April 2000, out-of-sequence callsigns could be requested, so calls in later series may be heard.

Foundation:

M3AAA 2002



Intruder Watch: Chris Cummings, G4BOH, QTHR. E-mail: iw@rsqb.org.uk
AROS: PO Box 113, Potters Bar, Herts EN6 3ZY. E-mail: aros@rsqb.org.uk

2001- 2002

The Amateur Radio Year Reviewed

Events from July
2001 to June
2002 from the
pages of the
RSGB's monthly
journal,
RadCom

July

New President Elected

At its May meeting, the National Council elected Bob Whelan, G3PJT, as President for 2002-2003. Commenting on his election, Bob said, "I am honoured to have been elected by the National Council to be your next President. I look forward to working with you in the advancement of amateur radio."

Opportunity to Help

Society President, Don Beattie, G3BJ, put out an appeal for members to consider applying to join the Board or Regional Council. Portfolios of responsibilities were available in a variety of areas.

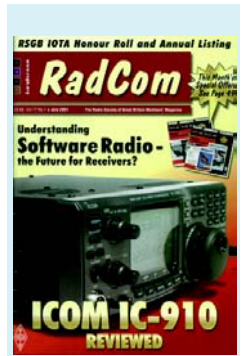
Equipment Sought

The organisers of an RAE crash course for school teachers put out an appeal when they ran short of suitable equipment to donate to the schools. Eleven strong cases for donation had been made, but they only had five items of equipment available.

Richard Pullen, G000I, made good use of the repeater he is keeper of - GB3YC ('Yorkshire Coast') - while he was working as a voluntary ranger during the foot and mouth crisis. Whilst in the nearby National Park he discovered a moorland fire that was getting out of control. There was no cellphone coverage to the part of the park affected and it was beyond the range of the local fire brigade's communication system, so the repeater was used to summon assistance and relay status messages.



It was reported that on 5 May Bob McTait, G2BKZ, in Stevenage, worked Vincent Diak, WB2PDW/M. It was Vincent's first SSB DX contact and was all the more remarkable as he was running just 5W from a Yaesu FT-817 to a mobile whip on a bicycle.



If you're not an RSGB member but would like to receive RadCom every month, join up!
Tel: 0870 904 7373. Fax: 0870 904 7374. Web: www.rsgb.org



August

Prize Contest

It was announced that the UK single operator station making the most contacts with Canada in the Marconi Centenary Contest would win a silver commemorative Marconi £2 coin. In addition, 50 copies of *Marconi's Atlantic Leap* by Gordon Bussey would be awarded to other UK stations making the most contacts with Canada.

'£81 Licence' Clarification

Society President, Don Beattie, G3BJ, reassured members that the RSGB would be continuing to resist any attempt by the RA to re-scale the costs of an amateur licence. The figure of £81 had been published in a report produced by RA economists, even after the Society had been given reassurances by the RA that there was no reason to be concerned about price rises.

RSGB AGM Goes North

Following the success of the 2001 AGM at Harrogate, it was announced that the 2002 AGM would be held in Hamilton, Scotland.

Seven staff members at the Radiocommunications Agency HQ in London attended an RAE course, run by one of their colleagues. All of them passed the exam. Six are pictured here around the instructor Alan Betts, G0HIQ (third from left).



GB3CV was operated by members of Stratford upon Avon Amateur Radio Society from Compton Verney House Trust near Warwick, as part of a performing arts project. Those worked by the station were asked to imitate bird calls. The 'chirpy' responses were recorded and compiled on a CD.



September

PLT and xDSL Still a Threat

It was reported that the RSGB Board had reviewed the current state of discussions on emission standards for PLT and xDSL systems. The Board noted that pressure from commercial sources meant that a decision on acceptable emission levels from wideband data systems were likely to be made on more than technical grounds.

New Sporadic-E Researcher

Former TV meteorologist Jim Bacon, G3YLA, was appointed as the new IARU Region 1 Sporadic-E Propagation Research Co-ordinator.

VHF Portable Contests Resume

Following the abandonment of all /P events during the foot and mouth outbreak, the VHF Committee announced the recommencement of events.

Project 'JJ'

AMSAT North America announced the specification for Project 'JJ', the next generation of amateur satellites. Robin Haighton, VE3RFH, President of AMSAT North America, said that it would "open up a new era for ham radio in space".



Some people will go to extraordinary lengths to activate 'rare squares', a case in point being Jim, G10PGC, and Ernie, G10GDF, who activated three Worked All Ireland squares for the first time ever. J06, J07 and J08, located on the central areas of Lough Neagh, can only be reached by boat.

GB4FUN, the Society's mobile shack and amateur radio demonstration vehicle, was scheduled to make its first outing on 15-16 September to the Bedfordshire Steam Fayre. One week later it was to visit the Leicester Show.



October

Museums Event Grows

After its successful inaugural weekend it was announced that in 2002 the National Museums Weekend would become the International Museums Weekend. The aim of the event is to present amateur radio in action to the general public at some of the most popular and well-attended museums, with the award scheme that accompanies it raising money for charity.

New IOTA Contest Manager

RadCom HF columnist Don Field, G3XTT, was appointed Manager of the RSGB IOTA Contest, taking over from Chris Burbanks, G3SJJ, who had established the position.

Morse Campaigns

The first ever Morse Campaign weekend to be held in Northern Ireland was hailed as a great success, with all eight students attending walking away with 5 WPM pass certificates. Meanwhile, HQ Morse Campaign weekends had resulted in a shortage of examiners in Hertfordshire, with more being sought.



November

ITU Adopts RSGB-based Proposal

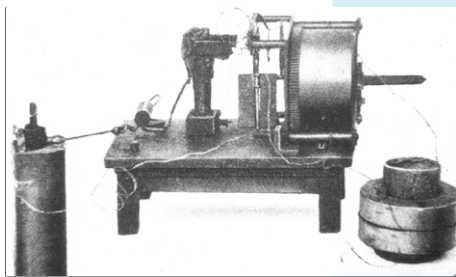
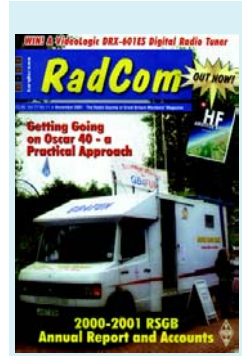
The International Telecommunication Union adopted a recommendation outlining the basic qualifications for amateur radio worldwide. The recommendation was originally proposed by the RSGB in a paper at the IARU Region 1 Conference, held at Lillehammer, Norway, in 1999.

New Committee Formed

Ed Taylor, G3SQX, was appointed chairman of the newly-formed Amateur Radio Development Committee. This new body developed out of the committee chaired by Richard Horton, G3XWH, which had been working on the structure for the Foundation Licence.

Canadians Lower Hurdle

It was reported that Canada had joined the growing band of countries to reduce the Morse requirement for a full HF licence from 12 WPM to 5 WPM.



Ralph Barrett, G2FQS, gave a presentation in which he demonstrated apparatus built by David Edward Hughes. The apparatus, which was built 19 years before Marconi's first transmitter and was demonstrated in the street outside the inventor's house. Hughes used a clockwork motor to interrupt the flow of electricity from a Daniel cell to an inductor.



A special Merit Award being presented to Madeley Smith, G8KVU (left), the co-ordinator of Raynet West Midlands. The award was presented for his lifetime's contribution to community and fire safety.



Tony Whitaker, G3RKL (also ZL6RTB) went on a walk - along the entire length of New Zealand. During the walk, which was expected to take 72 days, he kept in touch with UK stations on a daily basis, via local repeaters which were Internet linked.



A montage of all nine QSL cards that will be issued by the special event stations that will be active from the Manchester area during the 17th Commonwealth Games.

December

Transatlantic Centenary

To commemorate the reception by Marconi 100 years ago of the letter S in Morse code across the Atlantic, a number of special event stations on both sides of the Atlantic were active. Additionally, the RSGB teamed up with the Radio Amateurs of Canada (RAC) to promote a joint contest.

Foundation Pilot Courses Announced

12 pilot courses for the Foundation Licence were announced. The sites chosen were a mix of clubs, youth organisations and schools, plus a number of disabled candidates. The trial was designed to test the syllabus, tutor guide, examination software and administrative procedures prior to the introduction of the new grade of licence on 1 January 2002.

E-mail Please!

American amateur radio magazine *CQ* announced that, due to concern in the United States about hazardous material being sent through the post, in future it would prefer e-mailed logs for its contests. So that British stations not equipped for e-mail would not be disadvantaged, Roger Western, G3SXW, offered to e-mail files from floppy discs and even have hand-written logs keyed in.



The RSGB donated £200 for the foundation of a memorial garden and plaque in memory of Gerald Marcuse, G2NM, a founder member of the RSGB and its President in 1929-30. Marcuse Road is in Caterham, Surrey.



There was much jubilation during Jamboree on the Air, when the Cawston Scouts in Norfolk made contact with Frank Culbertson, KD5OPQ, on board the International Space Station.

January

Radio...Telephone

Dave Gould, G3UEG, received a special research permit from the RA to establish an HF station that is remotely controlled over the telephone network. His work could lead to the establishment of more remotely operated stations, a practice which would undoubtedly appeal to those who cannot erect suitable antennas or who suffer severe EMC problems at home.

Russians to Keep Morse

Whatever the outcome of the 2003 World Administrative Radio Conference, the Russian Federation has informed the ITU that it intends to keep the Morse requirement for operation below 30MHz.

Afghanistan Calling

Following the fall of the Taliban regime in Afghanistan, the Islamic Republic of Afghanistan government issued club call sign YA5T to a group of radio amateurs who were working in Afghanistan for the UN World Food Programme. The ARRL DXCC Desk confirmed that the operation was legitimate and approved it for DXCC credit.



As the Foundation Licence scheme got under way, students at Colchester, Essex, received a hands-on demonstration of HF radio.



Members of Port Seton & Cockenzie Amateur Radio Club presented a cheque for £1610.10 to their adopted charity, the British Heart Foundation. Over the years they have raised £6920.10 for the BHF.

February

Foundation Award

To coincide with the introduction of the Foundation Licence, the Society introduced a new VHF award that would be available to a foundation licensee. Persons could qualify only during the first year of holding a licence.

Foundation Morse

The introduction of the Foundation Licence resulted in so many requests for Morse assessment that sessions were to be held at RSGB headquarters three Fridays running in February. This was in addition to assessment sessions being run at other locations.

Foundation Courses

In 'Club News' there was a report by the Chelmsford Amateur Radio Society, who had established a Foundation Licence course and had found it to be of such interest that it was 50% over-subscribed. In 'RSGB Matters' an update appeared to the list of clubs offering such courses.



Charitable pursuits, as members of the Cray Valley Radio Society present a cheque for £2167 to the British Wireless for the Blind Fund. The cash was raised by sponsorship during the BWBF's annual fund-raising event 'Transmission'.



To celebrate the 60th anniversary of the formation of the Air Training Corps, Peter Park, GM3PIP, set up and made several 40m contacts using his WWII-vintage T1154 and R1155 at the headquarters of the Turriff squadron in Aberdeenshire.

March

Raynet Position Reviewed

Recognising the important role that Raynet groups play in the community, the RSGB Board agreed to carry out a thorough review of Raynet activity in the UK and the role that the RSGB plays in support. Board member Gordon Adams, G3LEQ, was appointed to co-ordinate the review. Meanwhile, the Radio Amateurs' Emergency Network announced a national membership recruitment drive.

Hazardous Occupation

The long-term health risks of working with rosin-cored solder were highlighted by a Society member who had spent 37 years as a TV service engineer. He now suffers from asthma and back problems, both of which doctors have attributed to his former work.

ARRL President Re-elected

The ARRL Board of Directors unanimously re-elected Jim Haynie, W56JBP, to a second term as its President.

Key Player Recognised

Richard Horton, G3XWH, who chaired the forum that was responsible for much of the work that went into shaping the Foundation Licence was awarded the Kenwood Trophy for his significant contribution to training and development in amateur radio.

15-year-old Annick Morris has been blind since birth, but it hasn't stopped her becoming an active and well-known radio amateur. Now she has passed the RAE and is the proud owner of the callsign M0HDE.



Professor Sir Bernard Lovell (right), who took to the microphone of GB4QQ to send a greetings message to the Poldhu Amateur Radio Club during the Marconi Trans-Atlantic 100th Anniversary.



April

M3 Revolution

It was reported that the introduction of the Foundation Licence has resulted in the Society having to take on extra staff to handle the workload. The Society was said to be 'overwhelmed' by the interest shown. 1407 M3 licences had been issued by the RA in the first two months of the scheme, over 400 members joined (or re-joined) the Society, 135 clubs registered as Foundation course centres and 239 Foundation Instructors were registered.

World Amateur Radio Day

In a guest editorial from IARU HQ, we were reminded of the century of development that had taken place since Marconi spanned the Atlantic for the first time. It was a century in which great advances in communication technology were made, and we were reminded that radio amateurs had been - and continued to be - at the heart of it. We were invited to "pause and reflect" on current achievements on World Amateur Radio Day, 18 April.

Where Next?

The Five Star DXers Association, the group that staged the Spratly Island (9MOC) and Comoros (D68C) DXpeditions, asked for suggestions as to where they should go for their next DXpedition. Being mainly a European group, they would prefer an African location.



A new award scheme called 'Summits on the Air' (SOTA) began, designed to be especially suited to the QRP fraternity. Richard Newstead, G3CWI, is pictured at the summit of Caer Caradoc.

It was announced that the very special Special Event call sign GB50 had been issued by the RA, for use at Windsor Castle during the period of Her Majesty the Queen's Golden Jubilee.



May

Jubilee Awards

To celebrate the Golden Jubilee of Her Majesty the Queen, the Society announced two special operating awards - one for HF and one for VHF.

A Busy Week

It was reported that GB4FUN, the Society's mobile shack and demonstration vehicle, had covered 1300 miles visiting schools up and down the country during National Science Week. But it wasn't just the RSGB who had brought amateur radio to the public's attention that week, as several local clubs and societies operated Special Event Stations. Amateur radio was rewarded with reports in local newspapers from Cornwall to Scotland.

GB50 Details Announced

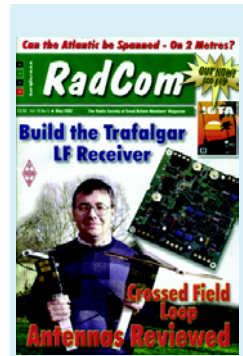
The Society was pleased to announce that the forthcoming GB50 operation, scheduled to take place from the grounds of Windsor Castle, was to be visited by HRH Prince Philip, Patron of the Society. Members of the Cray Valley Radio Society would operate GB50, while members of the Burnham Beeches Radio Club and RSGB staff would handle the 'Meet and Greet' area.



Sunday lunch meeting of the Cyprus Amateur Radio Club, at which Pat Gowen, G3IOR, was a guest.



Amateur radio's newest satellite Koliibri-2000 (RS-21), was launched on 20 March. It was built with the co-operation of students in Russia and Australia, and launched from a Russian M-1-7 launcher that had taken supplies to the International Space Station.



June

Quicker HF Access for Class-Bs

A press release by the Radiocommunications Agency stated that anyone who had held a Class-B Full or Intermediate amateur radio licence for three months or more could be granted an M3 Foundation licence, subject to them passing the Morse Assessment. Previously the qualifying period was 12 months.

Foundation Numbers Rise

According to the RA, by 18 April 2283 Foundation licences had been issued. Many of these were to existing Class-B Full or Intermediate licensees taking the Morse Assessment, but 701 were completely new entrants to amateur radio. 226 of these were under the age of 21.

Positions Vacant and Filled

Separate notices appeared, inviting members to become EMC Co-ordinators and GB2RS Newsreaders. A vacancy on the Repeater Management Committee for a voice over IP specialist was also announced. Along with notices of new QSL Bureau Sub-Manager appointments and the co-option of two Regional Councillors, it underlined the ongoing process of keeping the Society's committees up to strength.



A new memorial was erected at St Albans Head, Dorset, to commemorate the work done during WWII by the Telecommunications Research Establishment, based at nearby Worth Matravers. TRE was instrumental in the development of aircraft and ship radar detection systems between 1940 and 1942. There is a nearby museum devoted to radar.



Seen here enjoying themselves during the 2001 International Lighthouse/Lightship Weekend are Peter Caldwell, G4PAC, and David Blackford, G3NPB. Readers were encouraged to participate in ILLW2002.



Chris Chapman, G0IPU, explains propagation with the aid of a torch to Foundation licence students at the class run by Chelmsford Amateur Radio Society.



Improvements to Amateur Radio in 2001/2002

The Society is constantly working on behalf of all radio amateurs to improve licence conditions and privileges, to stave off threats to existing frequency allocations, to gain new ones, and to represent UK radio amateurs at international level. In the past year progress was made on several fronts.

Packet radio adverts

The RA announced that, following consultation with the RSGB, the holders of packet radio mailbox NoVs could have them amended to permit the placing of unpaid adverts on their systems.

Internet Video Linking

GB3TM (Anglesey) became the first repeater to be licensed to link video as well as audio to the Internet.

24-hour Internet Linking

GB3US (Sheffield) became the first audio repeater to be linked to the Internet 24 hours a day.

Foundation Licence

The biggest change in amateur radio licensing for over a decade took place when the first Foundation Licensees took to the air. The training course for this new class of licence was quick and simple, concentrating on operating, and incorporating practical elements.

Novices Upgraded

The Novice licence was renamed 'Intermediate', and the power limit raised to 50W.

HF Access for Class-B Licensees

The RA agreed that Full and Intermediate Class-B licence holders could be granted access to the HF bands and an M3 callsign, so long as they have passed a Morse Assessment. Such licensees would still retain their old callsign and its associated privileges when operating above 30MHz.

Times to Come

Provided the obligation on administrations to conduct Morse tests for HF access is removed at the World Radio Conference in 2003, RSGB supports the intention to merge the Class-A and Class-B licences, granting full Class-A privileges to all.



Trophy Winners

The Society is fortunate to have a large number of trophies. Many of these are awarded to winners of various contests, whilst others give public recognition to some particular aspect of Society work. They are presented at a number of RSGB events - typically at the HF and VHF Conventions. Below you will find details of the winners of trophies presented during 2001/2002.

Council

Bennett Prize

(For any significant contribution or innovation which furthers the art of radio communication)

Not awarded

Calcutta Key

(For work associated with international friendship through amateur radio)

Mr J F C Johnson, ZL2AMJ

Founder's Trophy

(For outstanding service to the Society)

Dave Lauder, G0SNO

Raynet Trophy

(For outstanding service to the Radio Amateur's Emergency Network)

Ian Kyle, G18AYZ

EMC Committee

G5RV Trophy

(For outstanding contributions in the EMC field)

Not awarded

HF Committee

ROTAB Trophy

(For outstanding and consistent DX work)

Not awarded

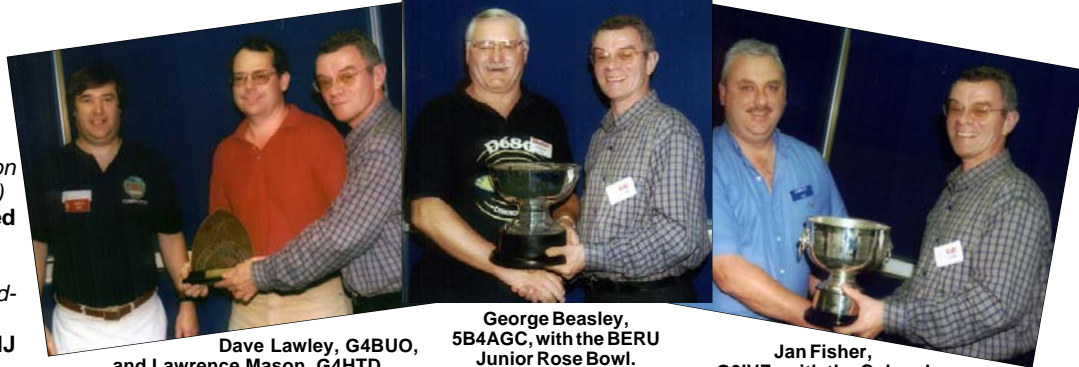
G5RP Shield

(For greatest progress in the DX field made by an RSGB member resident in the UK during the year)

Dominic Smith, M0BLF



Dominic Smith, M0BLF, clearly delighted as he is presented with the G5RP Shield.



Dave Lawley, G4BUO, and Lawrence Mason, G4HTD, with the G3PSH Memorial Trophy.

George Beasley, 5B4AGC, with the BERU Junior Rose Bowl.

Jan Fisher, G0IVZ, with the Colonel Thomas Rose Bowl.

LF Experimenter's Award - The Nevada Cup

(For the most significant contribution by an RSGB member towards scientific or other engineering development of receiver and/or transmitter design, modulation technique, aerial design or propagation on the 73kHz and/or 136kHz amateur bands)

Not awarded

HF Contest Committee

Ariel Trophy

(Leading club in Club Calls Contest)

Harwich ARIG, G0RGH

BERU Senior Rose Bowl

(Winner of Commonwealth Contest)

Jeff Morris, 9H1EL

BERU Junior Rose Bowl

(Runner-up in Commonwealth Contest)

George Beasley, 5B4AGC

BERU Receiving Rose Bowl

(Winner of Commonwealth Contest receiving section)

Not awarded

Braaten Trophy

(Leading G station in the ARRL DX CW Contest)

Andy Cook, G4PIQ

Bristol Trophy

(Highest score in the 'other' section of NFD)

Not awarded

Col. Thomas Rose Bowl

(Highest placed G in the Commonwealth Contest)

Jan Fisher, G0IVZ

David King G3PFS Trophy

(Leading G station in the 12-hour section of the IOTA Contest)

K Hudspeth, GW0ARK

DX News Sheet Trophy

(Leading British Single Operator entrant in the 24hr SSB section of the IOTA contest)

Andy Cook, G4PIQ

Edgware Trophy

(Winning team in AFS CW Contest)

Chiltern DX Club 'A'

Flight Refuelling ARS Trophy

(Winning team in AFS SSB Contest)

Lichfield ARS

Frank Hoosen Trophy

(Leading 14MHz score in NFD)

Not awarded

Gravesend Trophy

(Runner-up in the Restricted section of NFD)

Not awarded

HFCC Cup

(Winner of the LF (3.5/7MHz) Contest)

Clive Penna, GM3POI

Houston Fergus Trophy

(Winner of the 10W section of Low Power Field Day)

Not awarded

IOTA Trophy

(Leading Islands Expedition Station in the IOTA Contest)

Windy Yett CG, GM5V

L H Thomas G6QB Memorial Trophy

(Winner of the 7MHz CW DX Contest)

Clive Penna, GM3POI

Maitland Trophy

(Scottish station with highest aggregate score in both Top Band Contests)

Clive Penna, GM3POI

Marconi Trophy

(Highest individual score in AFS CW Contest)

Chris Burbanks, G3SJJ



During 2001, an outbreak of Foot & Mouth Disease in Britain resulted in a number of contests being called off.



Sid Will, GM4SID, with the G3YDD Memorial Trophy.

Metcalf Cup

(SWL winner of the 21/28MHz SSB Contest)
Bob Treacher, BRS32525

Milne Cup

(Leading GD, GI, GJ, GM, GU or GW station in the ARRL DX CW Contest)
Clive Penna, GM3POI

NFD Shield

(Winner / overall highest score in NFD)
Not awarded

Northumbria Cup

(Winner of the Open Section of SSB Field Day)
Bristol CG, G6YB

Powditch Receiving Trophy

(SWL winner of the 28MHz section of the 21/28MHz Phone Contest)
Bob Treacher, BRS32525

Powditch Transmitting Trophy

(Leading single operator station in the 28MHz section of the 21/28MHz Phone Contest)
Steve Reed, G0AEV

R Whelan G3PJT Medal

(Most improved score in the Commonwealth Contest)
John Tutton, VK3ZC & Frank Cooper, G2QT

RSGB Lichfield Trophy

(Highest individual score in AFS SSB Contest)
R Smethers, G3NLY

Reading QRP Trophy

(Leading station in the Low Power Section of NFD)
Not awarded

Ross Cary Rose Bowl

(Leading G entry in the Restricted Section of Commonwealth Contest)
Dave Lawley, G4BUO

Scottish NFD Trophy

(Leading GM station in NFD)
Not awarded

Somerset Trophy

(Winner of first 1.8MHz CW Contest)
Clive Penna, GM3POI

Southgate Trophy

(Winner of the 3W section of Low Power Field Day)
Not awarded

T E Wilson G6VQ Cup

(Winner of the 21/28MHz CW Contest)
Clive Penna, GM3POI

Verulam Silver Jubilee Trophy

(Most accurate log in RoPoCo 1 Contest)
Fraser Robertson, G4BJM

Victor Desmond Cup

(Winner of the 2nd 1.8MHz Contest)
Clive Penna, GM3POI

Whitworth Cup

(Winner of the 21/28MHz Contest)
Andy Cook, G4PIQ

G2QT Cup

(Winner of the RSGB HF Contest Championship)
Clive Penna, GM3POI

G3DYY Memorial Trophy

(Highest scoring CW, single operator G entry, regardless of section, in the IOTA Contest)
S Will, GM4SID

G3PSH Memorial Trophy

(Winner of the Restricted section of SSB Field Day)
Windmill CG, G3GRS

G3XTJ Memorial Trophy

(Most accurate log in RoPoCo 2 Contest)
Fraser Robertson, G4BJM

G5MY Trophy

(Highest aggregate score in the RoPoCo Contests)
Fraser Robertson, G4BJM

G6ZR Memorial Trophy

(Runner-up in the Open section of NFD)
Not awarded

G8KW Trophy

(Leading G in the CQWW CW Contest)
Dave Lawley, G4BUO

1930 Committee Cup

(Winner of the Low Power 80m Contest, single operator section)
Tim Raven, G4ARI

G4IQM Memorial Trophy

(Club Calls Contest club having the highest aggregate score)
Cheltenham ARA



G3PHO received the 10GHz Trophy.

Geoff Watts Memorial Trophy

(Leading IOTA Islands Home station)
GU8D

Cyril Leyden G4RYY - Memorial Trophy

(Winner of the 7MHz CW DX Contest, Restricted Section)
Clive Whelan, GW3NJW

Microwave Committee

Fraser Shepherd Award

(For research into microwave applications to radio communication)
Not awarded

G3RPE Memorial Cup

(Winner of the 10GHz Cumulative Contest)
Not awarded

10GHz Trophy

(Winner of the May 10GHz Trophy event, organised by the VHF Contest Committee)
Peter Day, G3PHO

G3VVB Memorial Trophy

(For the best home-constructed microwave equipment exhibited at a microwave round table or convention)
Not awarded

Les Sharrock G3BNL Memorial Award

(For innovation or technical development of microwave equipment or techniques)
Not awarded

Technical & Publications Committee

Courtney-Price Trophy

(For the most outstanding published technical contribution to amateur radio)
Peter Martinez, G3PLX

Ostermeyer Trophy

(For most meritorious description of a piece of home-constructed or electronic equipment published in RadCom)
Peter Rhodes, G3XJP

Norman Keith Adams Prize

(For the most original article published in RadCom)
Brian Horsfall, G3GKG

Wortley-Talbot Trophy

(For outstanding experimental work in amateur radio)
John Hey, G3TDZ



Training & Education Committee

Horace Freeman

(Winner of Home Constructors' Competition at RSGB National Convention)

Not awarded

Kenwood Trophy

(For making a significant contribution to training and development in amateur radio within the United Kingdom)

Not awarded



G4CLA and G4HWA of the Parallel Lines Contest Group being presented with the VHF Contest Committee Cup.

VHF Committee

Harold Rose Trophy

(To the person making an outstanding contribution to 50MHz)

Not awarded

Louis Varney Cup

(For advances in space communication)

Not awarded

1962 Committee Cup

(Awarded at VHF Convention for the best home-constructed equipment)

Not awarded

VHF Contests Committee

Arthur Watts Trophy

(Awarded to the winner of the restricted section of VHF NFD)

Not awarded

144MHz Backpackers Trophy

(Leading station in the 144MHz Backpackers Contest)

Not awarded

50MHz Backpackers Trophy

(Leading station in the 50MHz Backpackers Contest)

Not awarded



The 1951 Council Cup being presented to members of the Five Bells Contest Group.

Cockenzie Quaiich

(Leading resident GM station in the Restricted section of VHF NFD)

Not awarded

Hanson Trophy

(VHF Listeners Championship)

Not awarded

John Pilags Memorial Trophy

(Leading single operator fixed station in the RSGB VHF Contests Championship)

Roger Piper, G3MEH

Martlesham Trophy

(Winner of VHF NFD, Restricted section)

Not awarded

Mitchell-Milling Trophy

(Winner of 144MHz Trophy Contest, multi-operator section)

Parallel Lines Contest Group

Racal Radio Cup

(Winner of RSGB VHF Contests Championship, Open section)

Five Bells CG

Scottish Trophy

(Leading GM station in VHF NFD, Restricted section)

Not awarded

SMC Six Metre Cup

(Highest scoring single operator UK entry in the 50MHz Trophy Contest)

Howard Taylor, M0XXX

Surrey Trophy

(Winner of the Open section of VHF NFD)

Not awarded

Tartan Trophy

(Leading Scottish station in VHF NFD)

Not awarded

Telford Trophy

(Leading fixed station in 50MHz Contest)

The Northern Lights

European Cup (Thorogood Trophy)

(Winner of 144MHz Trophy Contest, Single Operator section)

Mike Tubby, G8TIC

VHF Contests Committee Cup

(Overall winner of the 1.3GHz Trophy Contest)

Parallel Lines Contest Group

VHF Manager's Trophy

(Winner of 70MHz Trophy Contest)

The Northern Lights

G6ZR Memorial Trophy

(Winner of 2.3GHz Contest)

Colchester Contest Group

1951 Council Cup

(Winner of 430MHz Trophy Contest)

Five Bells Contest Group

Low Power VHF Championship

(Leading single-operator fixed-station in the RSGB VHF Contests Championship, low power section)

Frank Howe, G3FIJ

G5BY Trophy

(Winner of the 'Mix & Match' section of VHF NFD)

Not awarded

Other trophies awarded at the AGM

Jack Wylie Trophy

(Awarded for his hard work, especially during the last 12 months, to promote the hobby of amateur radio and the RSGB as its representative body. He has especially been putting across details of the re-organisation of zonal representatives and the appointment of Regional and Deputy Managers. It has been this hard work that has successfully got across to members and others the message about the re-organisation and the promotion of the hobby of amateur radio.)

Tommy Menzies, GM1GEQ

Jock Kyle Memorial

(Awarded as they have been responsible for the many technical aspects associated with continued maintenance of a number of voice repeaters within Scotland. Of particular note is the re-installation of repeaters away from commercial sites and the heavy and time consuming workload this placed on the group's members.)

Central Scotland FM Group, RS38728

Don Cameron, G4STT Memorial Award

(For his outstanding contribution to low power amateur radio communications, it is the express wish of the Harrogate Radio Society that this award be the gift of the National Council.)

George Dobbs, G3RJV

Life Presidency

(For his outstanding contribution to Society affairs, in particular his work on the establishment of the new Regional Organisation.)

Peter Sheppard, G4EJP

Repeaters

Repeater stations are unattended installations on good radio sites such as hilltops or high buildings that relay amateur transmissions to provide wide area coverage for stations that might otherwise have restricted range. The installations are provided by amateurs generally as part of a group or club for the benefit of all licensed amateurs. In the UK most of the populated areas are within the 'service area' of at least one repeater.

Repeater operation is most popular on the 2m and 70cm bands using NBFM, but innovative groups have provided units on bands from 10m to 3cm, occasionally offering 'cross band' or 'linked' operation and other modulation methods.

Co-ordination of operation and frequencies used by repeaters is the responsibility of the RSGB Repeater Management Committee, which carries out this aspect on behalf of the Radiocommunications Agency. Permission to set up and operate a repeater station is by way of a Notice of Variation of an individual amateur's licence; the licensee is then designated 'keeper' and is responsible for the correct operation of the repeater.

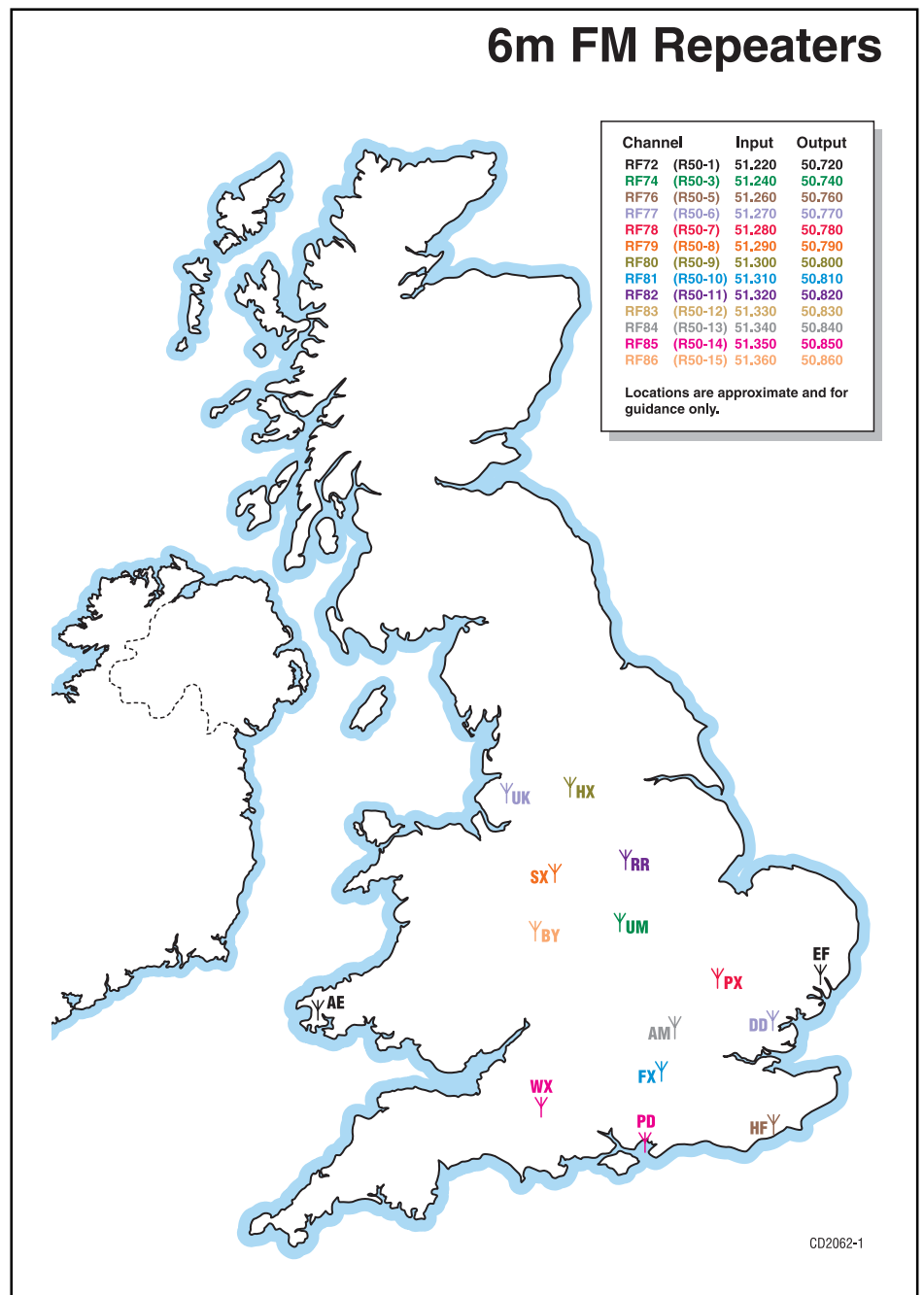
What is a Repeater?

A simple block diagram of a repeater is shown on page 77. The transmitter and receiver are conventional high specification units. Generally a common receive and transmit aerial is used and the receiver and transmitter are isolated from each other by a frequency 'split' and very narrow bandpass filters as part of a combiner unit. Silver-plated cavity filters with high Q factors are most common providing at least 60dB rejection in each path although other solutions are just as successful. Sometimes separate transmit and receive aerials are used, but this can introduce non-reciprocity of coverage between transmit and receive service areas.

The logic unit provides a number of functions. The repeater's transmitter is keyed by this unit which detects a valid access tone on the receiver's input frequency. This access tone can either be an audible tone lasting about half a second at a frequency of 1750Hz (a 'tone-burst') or a 'Continuous Tone-Coded Squelch System' (CTCSS) sub-audible tone continuously injected on the user's transmission. Not all repeaters use CTCSS but there are considerable technical advantages to this system, particularly when the repeater is co-sited on a busy radio site with potential interference sources.

Once the repeater is 'accessed' it will relay the input frequency signal for a pre-set time or until the input carrier is dropped. After a short 'courtesy' gap to allow any other user to call in, an 'invitation to transmit' tone (often a Morse Code T, K or a pip tone) is given, whereby another station can reply. The logic timer is reset until the next cycle. If the repeater receives no further input signal the transmitter is de-keyed after a short interval.

Because the repeater is available to all ama-



teurs it is often necessary to restrict the time for each 'over' and the logic provides a time-out. The period varies depending on the desire of the operating group between one minute and up to half an hour. This time-out period prevents the transmitter from being continually keyed if a stray interfering signal appears on the input frequency. Reactivation of the cycle is only possible thereafter on receipt of a valid tone burst or a signal with the correct CTCSS tone. It is necessary for the repeater to periodically identify itself using Morse code at a speed of about 12 words per minute and the logic unit provides this function.

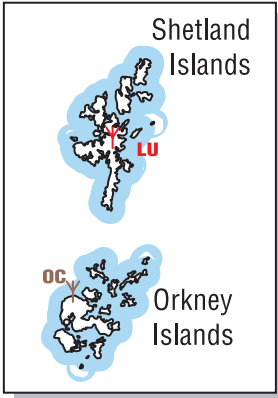
When not in talk-through mode most repeat-

ers send a short identification every 15 minutes or so. If CTCSS is in use this is also sent as a Morse code character corresponding to the tone frequency after the repeater callsign. A table of CTCSS code letters and frequencies is shown overleaf. It is also permissible to use additional voice identification.

There is no restriction as to other functions provided by the logic unit. Some in use on UK repeaters include indication of over-modulation of the input signal, frequency high or low, or if the repeater is on standby power if the site mains supply fails. To avoid the repeater being kept open by an un-modulated carrier, modulation detectors are becoming popular.

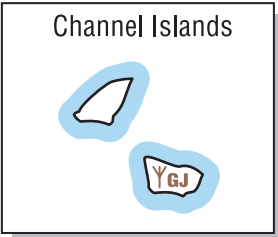
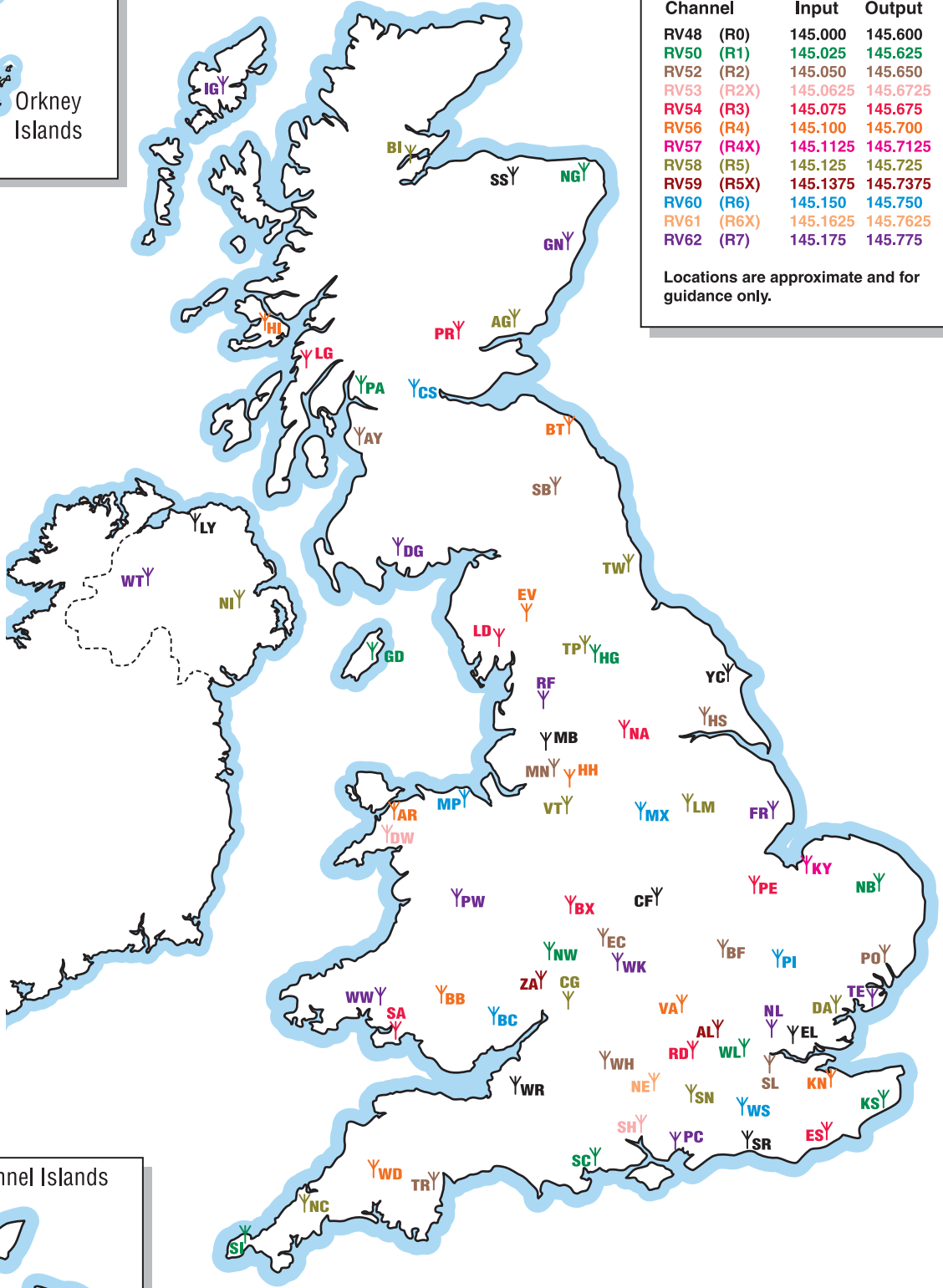


2m FM Repeaters



Channel	Input	Output
RV48 (R0)	145.000	145.600
RV50 (R1)	145.025	145.625
RV52 (R2)	145.050	145.650
RV53 (R2X)	145.0625	145.6725
RV54 (R3)	145.075	145.675
RV56 (R4)	145.100	145.700
RV57 (R4X)	145.1125	145.7125
RV58 (R5)	145.125	145.725
RV59 (R5X)	145.1375	145.7375
RV60 (R6)	145.150	145.750
RV61 (R6X)	145.1625	145.7625
RV62 (R7)	145.175	145.775

Locations are approximate and for guidance only.



CD2001-1



Repeater Frequencies

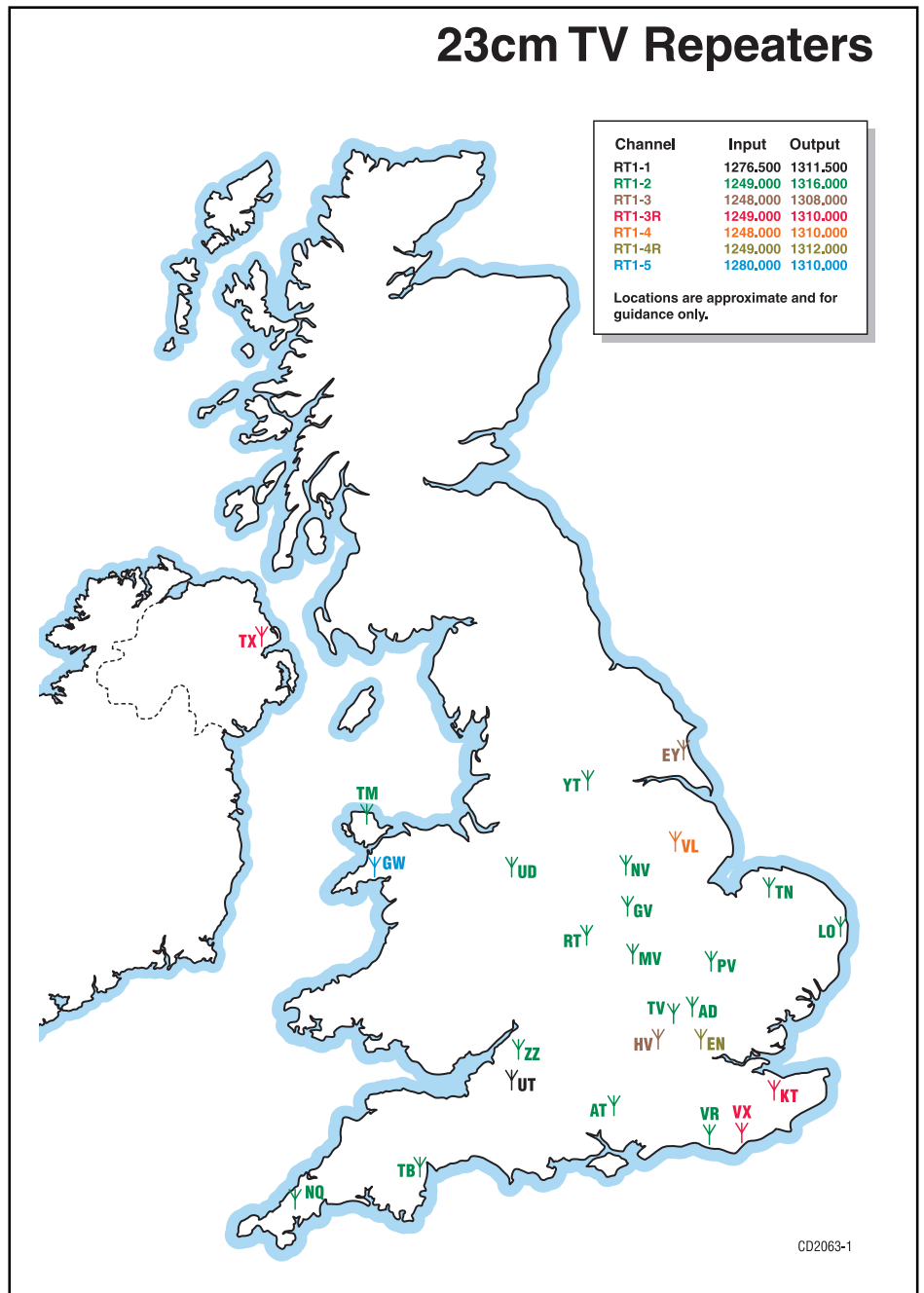
Because of the need to share the available bandwidth with other amateur users, repeater operation is restricted to sub-bands with standard frequency splits. These sub-bands are then split into channels and it is necessary to specify operating parameters in order to avoid co-channel interference. Depending on the band in use, channel spacing of 10, 12.5 and 25kHz are in use in Europe on VHF and UHF. Channel designators are commonly used as shown in the following tables. Frequencies for repeaters are chosen to protect where possible against ground-wave interference between units. Such is the nature of amateur radio and the restricted number of channels available this is not always possible. Techniques of service area pattern tailoring using cardioid antenna patterns and appropriate power limitations are sometimes necessary. Often the 'ideal' site for a desired service area is just not available and compromises need to be made.

The cost of renting high sites has increased markedly in the last few years. One solution being developed by some groups is to use clusters of linked repeaters to provide the desired area coverage. This is especially so on 2m where, due to site rental increases, many of the high-sited units have needed to be closed down. The introduction at the beginning of 2000 of 12.5kHz channel spacing on 2m in accordance with IARU recommendations facilitates new units providing equivalent coverage.

Technical Aspects

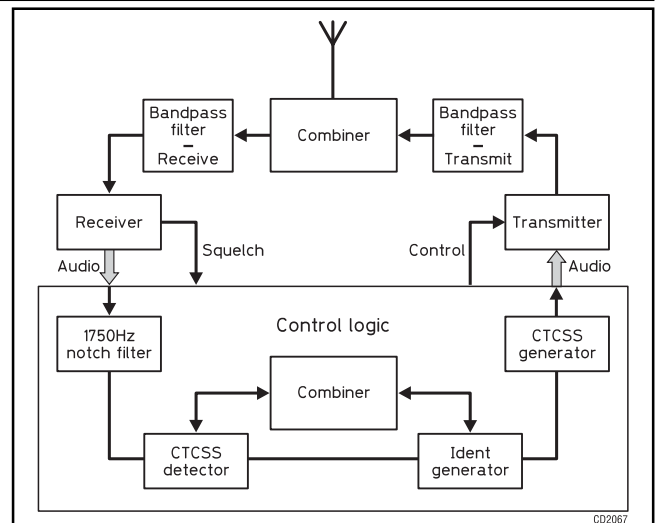
Building and operating a repeater presents a considerable technical challenge. The equipment is required to operate continuously unattended within tight technical parameters. Safety must always be the prime consideration and the dangers of servicing aerials on high structures are obvious. It is essential the equipment does not cause any interference to other services both within and outside the amateur bands. The receiver has to be sensitive but also needs a very wide dynamic range. The close frequency spacing between receive and transmit frequencies demands very narrowband filters, which must not drift. The environment of available sites may well be far from ideal so attention must be given to suitable protection of the electronic components. Few sites are really suitable for on-site maintenance so the equipment should be reasonably portable. All outdoor equipment needs to be waterproof and fixings must be solid. Feeder cables require adequate clamping throughout their length and must not obstruct access for site sharers. Aerial and feeder materials need careful choice to avoid corrosion or ultra-violet damage. Particular attention must be given to appropriate earthing of equipment and feeder cables. Many repeater groups have discovered lightning does strike in the same place twice. Most site-sharing organisations have a code of practice which they will require the repeater keeper to adhere to.

None of the problems are impossible to overcome, however. The vast majority of repeaters are based on ex-commercial Private Mobile Radio (PMR) base stations. This equipment is designed, built, and constructed for



Tone A	67.0Hz
Tone B	71.9Hz
Tone C	77.0Hz
Tone D	82.5Hz
Tone E	88.5Hz
Tone F	94.8Hz
Tone G	103.5Hz
Tone H	110.9Hz
Tone J	118.8Hz

List of CTCSS tones used by repeaters.

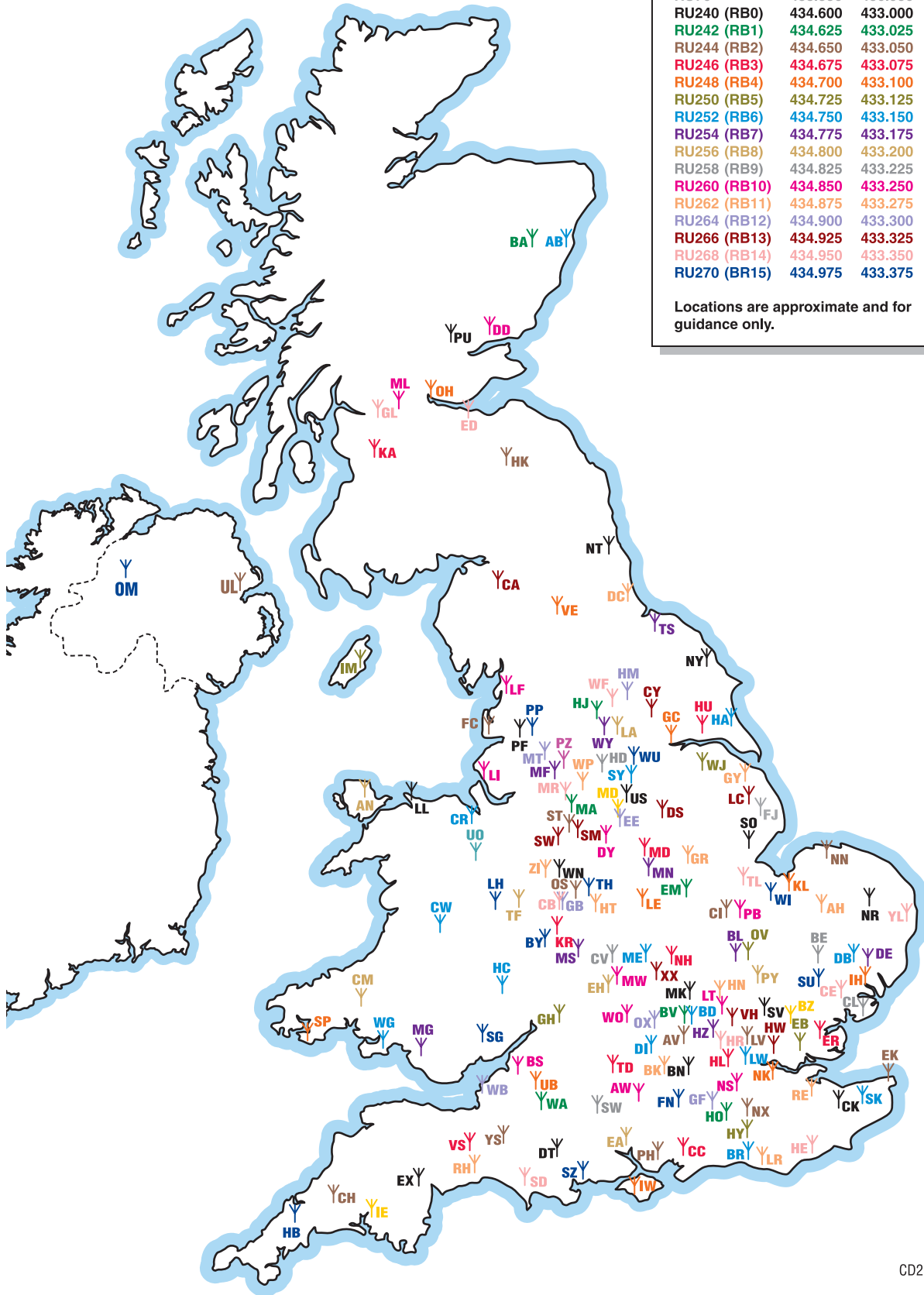


Block diagram of a typical repeater.

70cm FM Repeaters

Channel	Input	Output
RU66	438.425	430.825
RU68	438.450	430.850
RU72	438.500	430.900
RU76	438.550	430.950
RU240 (RB0)	434.600	433.000
RU242 (RB1)	434.625	433.025
RU244 (RB2)	434.650	433.050
RU246 (RB3)	434.675	433.075
RU248 (RB4)	434.700	433.100
RU250 (RB5)	434.725	433.125
RU252 (RB6)	434.750	433.150
RU254 (RB7)	434.775	433.175
RU256 (RB8)	434.800	433.200
RU258 (RB9)	434.825	433.225
RU260 (RB10)	434.850	433.250
RU262 (RB11)	434.875	433.275
RU264 (RB12)	434.900	433.300
RU266 (RB13)	434.925	433.325
RU268 (RB14)	434.950	433.350
RU270 (BR15)	434.975	433.375

Locations are approximate and for guidance only.



CD2000-1



exactly this kind of service. The exception is the close transmit-receive frequency spacing used by amateurs. Commercial operators have considerably more spectrum available and the RF filtering requirements are not so severe. There are many excellent designs for cavity and transmission line filters. Suitable units are available commercially but are very expensive. Home construction of cavities requires considerable precision engineering skills. System design can ease the filtering requirements; for example an aerial system with appreciable gain reduces required transmitter power for a given ERP. This is certainly worth considering when planning the repeater. At first sight it might be assumed that the higher the antenna the better. However, feeder losses mean very often that there is a diminishing return for all the difficulties high aerials present.

Crystal control of transmit and receive oscillators is preferred. Synthesisers are inevitably somewhat noisier than a well designed crystal oscillator and the circuitry is more complicated. The general rule of electronic design is that the fewer components involved the more reliable the overall system.

The majority of modern logic controllers are based on microprocessors but can easily be built using discrete components and simple integrated circuits. The use of electro-mechanical relays is best avoided and electronic switching is far more reliable if properly designed.

Power supplies should be adequately rated paying particular attention to cooling. If battery standby is provided, some automatic means of battery conditioning (cyclical charge / discharge) is advisable. Ventilation is very important to prevent gas build up when batteries are charging. Hilltop site mains supplies are often somewhat poor in regulation and surge protection should be a basic design requirement if equipment is to be protected from the inevitable 'spikes'.

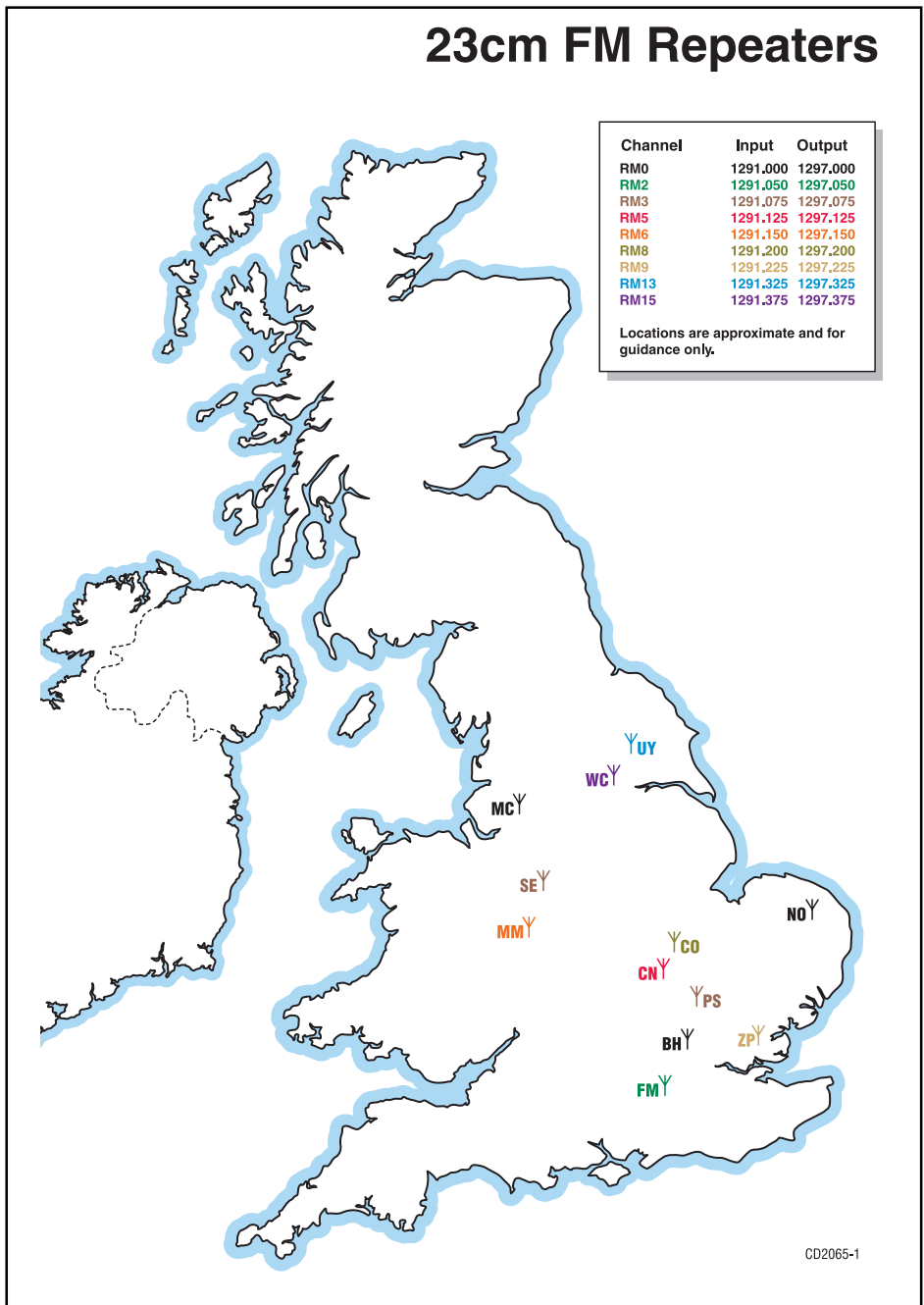
Financing a Repeater

Before proposing to build and operate a repeater, consideration needs to be given to the costs likely to be incurred. The actual costs will of course vary in different circumstances but a rough indication of the order of expenses that might arise are as follows: Equipment costs (transmitter, receiver, aerials, logic, power sup-

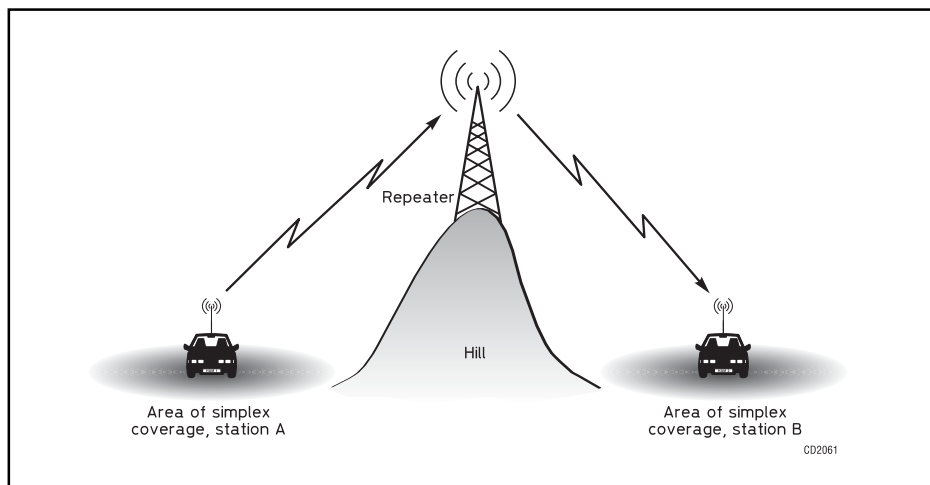
23cm FM Repeaters

Channel	Input	Output
RM0	1291.000	1297.000
RM2	1291.050	1297.050
RM3	1291.075	1297.075
RM5	1291.125	1297.125
RM6	1291.150	1297.150
RM8	1291.200	1297.200
RM9	1291.225	1297.225
RM13	1291.325	1297.325
RM15	1291.375	1297.375

Locations are approximate and for guidance only.



CD2065-1



How a repeater can increase the distance that can be covered.

plies etc), up to £5000. Legal costs, up to £3000. Planning permission (including drawings), up to £1000. Initial site rental, up to £5000. Aerial erection, up to £4000. Electricity supply connection, up to £2000.

Enterprising groups will of course substantially reduce or eliminate some of these costs, but it is as well to understand the sort of financial liability that can be involved. Once the repeater is up and running there will be ongoing costs such as site rental, electricity charges, rates, third party liability insurance and other administration costs.

It is unlikely that many individual amateurs can afford to finance a repeater and normally a support group is formed. Advice regarding the constitution of groups can be obtained from RSGB Headquarters. Repeater users are encouraged to contribute towards the running costs and details are usually available from the keeper. A further detailed *Guide to Repeater*



Licensing jointly produced by the Radiocommunications Agency and RSGB is available free of charge from the society together with all of the necessary forms. Help and advice regarding completion of the paperwork and other technical advice is available from Repeater Management Committee members.

Using a Repeater

There is normally only one repeater in an area on any particular band and these can become very busy. It is therefore necessary to make transmissions as short as possible to enable the best utilisation. The golden rule when operating via (or 'through') a repeater is the same as operation on other modes, ie **listen** before attempting to transmit!

Listening to users on the output frequency will usually give a good indication of the protocol to adopt. If the repeater is not in use, set your transmitter to the required input frequency together with a 1750Hz toneburst (or the correct CTCSS tone set) and make a short transmission in the form of: "This is G7KFU mobile listening through GB3FN."

Some repeaters need some five seconds of audio in which to enter repeat mode. When you release the transmission there will be a short period of unmodulated carrier followed by a tone or Morse character inviting others to reply. Stations replying will use the format: "G7KDU mobile, this is G0AKI portable in Harrow."

Again you should wait for the 'invitation to transmit character' after the 'courtesy' gap, after which the contact proper can commence. Remember, there is likely to be a time limit (timeout), so keep the reply brief and speak clearly. There is no need to repeat both callsigns, you ought to identify yourself however by saying "From xxxxxx" at the beginning and end of each transmission. Other stations may well join the QSO and will call in during the courtesy gap. If all stations can hear each other on the input frequency it is good manners to suggest moving to another frequency where a simplex QSO can take place, hence leaving the repeater for others to use.

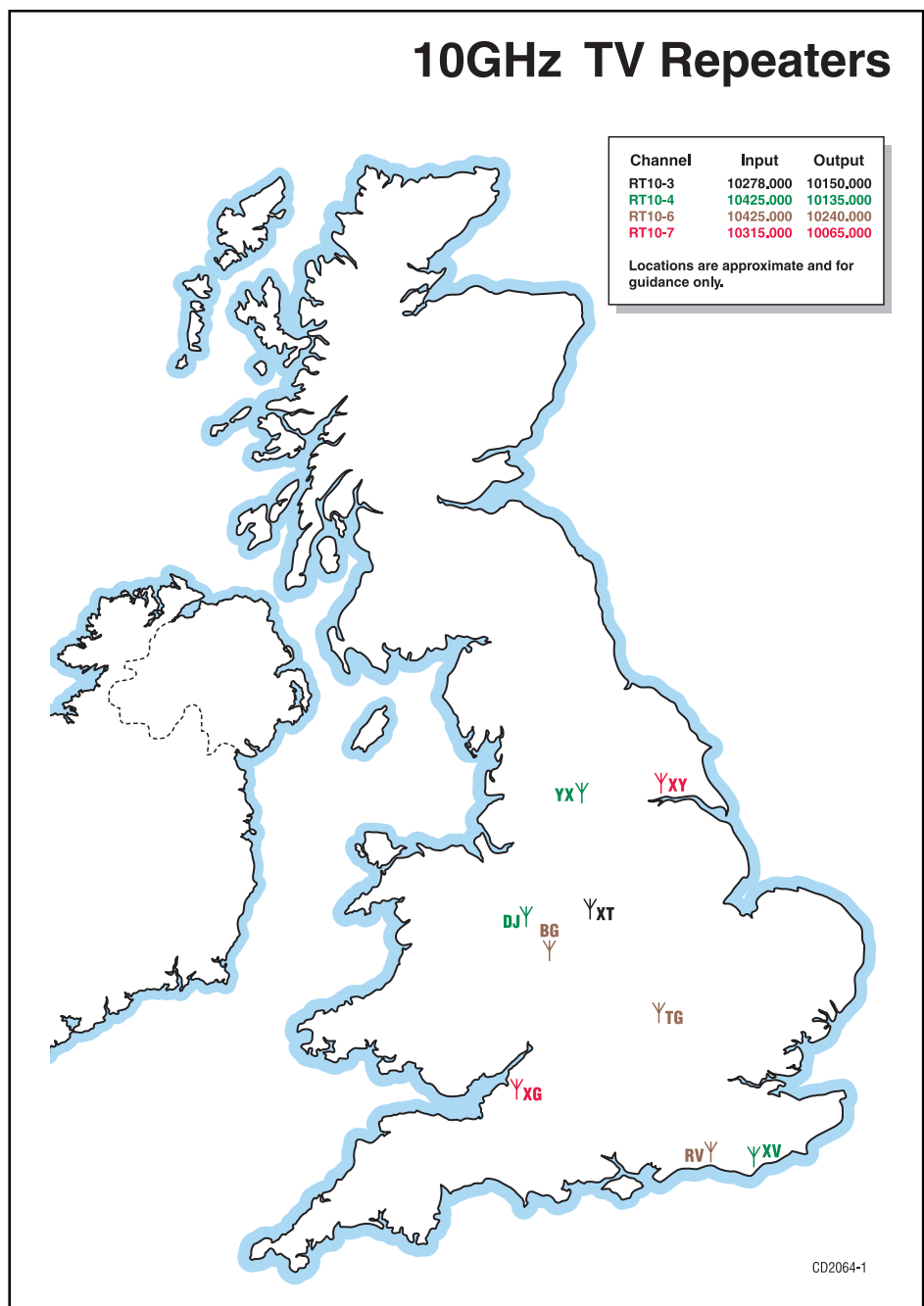
Remember that not only radio amateurs but many others listen to voice repeaters, and it may be the first introduction to the hobby for many people. Local repeaters are very often the on-air meeting points for local amateurs and operation via them is a lot of fun.

Internet Connectivity

The Radiocommunications Agency (RA) has agreed that where the local group providing a repeater is in agreement, local amateurs can apply for a Notice of Variation to their own licences to provide a 'gateway' to the Internet using Voice over IP techniques. The RA has also permitted a number of dedicated Internet gateway repeaters to be established. Further information is available in the *Guide to Repeater Licensing*.

Repeater Abuse

Regrettably there are individuals who see repeaters as targets for abuse. It is a fact of life that the input to a repeater can be easily blocked



and this denies the facility to legitimate users. Such behaviour, along with use of abusive language and obscenities, is heavily punished if the perpetrator is caught. The Radiocommunications Agency regularly monitors repeater output, and techniques of transmitter fingerprinting have led to numerous successful prosecutions. Whilst sometimes it is hard to ignore such abuse, repeater users are strongly advised to ignore any abuse that might arise and not respond in any way. Very often if the culprits get no reply they move elsewhere. If users have any information regarding abuse this should be reported to the Amateur Radio Observation Service at RSGB HQ. There is regular feedback of intelligence regarding abuse to the Radiocommunications Agency which is well equipped to take any action necessary. Do not approach suspected offenders in any way as this may prejudice investigations already in progress.

Role of the RMC

The Repeater Management Committee is a full committee of the RSGB, with responsibility to set and agree specifications in accordance with the Radiocommunications Agency, check new proposals prior to forwarding to the RA, issue NoVs on behalf of RA, monitor technical compliance and deal with abuse in conjunction with the RA.

In addition, it consults with other interested bodies and RSGB committees regarding matters of mutual interest. It keeps repeater keepers informed of any news relating to repeaters, by circulation of an occasional *Repeater Report* newsletter. This is sent to all keepers, regardless of whether he/she is an RSGB member. It is also freely available via the committee's web pages.

Committee Organisation

Chaired by Carlos Eavis, G0AKI, since October 1998, the committee consists of a member from each RSGB region, designated a 'Regional Repeater Manager'. As members move on, each post is advertised in *RadCom* and on GB2RS in accordance with the *RSGB Green Book*. In addition to their regional duties, several managers take on a second role such as vice chairman, proposals manager, publicity officer, etc. There are also a few technical specialists as members for dealing with particular facets such as television. In order to gain as wide a view as possible a number of corresponding members also serve on the committee.

Committee members make themselves available to speak to clubs and repeater groups in their zone, and have stands at major rallies throughout the UK, where users can discuss directly with representatives of the RMC.

Repeater Developments

Analogue speech repeaters will be around for some years yet. Most will continue to use NBFM. Equipment is easily and cheaply available to users that gives good performance when assisted by repeaters. There will undoubtedly be change and it cannot be long before digital techniques start to be used for operation by amateurs. One pilot-tone SSB repeater has been in operation in Sheffield for some years and gives good results. Some groups will probably experiment on microwave bands other than 10GHz as components become available at sensible prices.

The RMC is particularly keen to solve the problem of demands for 2m units by taking advantage of the IARU changes. New channels are now available and this means that some long overdue proposals have become a reality. There might be some advantage in moving the frequencies of some of the existing units on 2m, where mutual interference is experienced. Repeater linking or clusters of low power units may be a way of emulating the coverage of previous high site units. There are examples of repeaters that have been linked using RF and also dedicated Internet links, both to great effect.

There are many other possibilities and the RMC would like to solicit the views of all groups and users so that a comprehensive but flexible strategy can be developed. We know we cannot satisfy everybody, but we are determined to encompass the aspirations of all radio amateurs wherever possible. Keepers and users are encouraged to let RMC members know what they wish to see in the future.

RMCWEB

The RMC has its own site on the Internet, maintained by committee member Colin Dalziel, GM8LBC. It is regularly updated.

Repeaters (alphabetical)

Call	Channel	Location	Call	Channel	Location
GB3AB	RU268 (RB14)	Aberdeen	GB3EM	RU242 (RB1)	Waltham
GB3AD	RT1-2	Stenage	GB3EN	RT1-4R	Enfield
GB3AE	RF86 (R50-15)	Tenby	GB3ER	RU246 (RB3)	Chelmsford
GB3AF	-		GB3ES	RV54 (R3)	Hastings
GB3AG	RV58 (R5)	Forfar	GB3EV	RV56 (R4)	Cumbria
GB3AH	RU262 (RB11)	Swaffham	GB3EX	RU240 (RB0)	Exeter
GB3AL	RV59 (R5X)	Amersham	GB3EY	RT1-3	Hull
GB3AM	RF84 (R50-13)	Amersham	GB3FC	RU244 (RB2)	Blackpool
GB3AN	RU256 (RB8)	Amlwch	GB3FJ	RB21	Lincolnshire
GB3AR	RV56 (R4)	Caernarfon	GB3FM	RM2	Farnham
GB3AS	RV48 (R0)	Carlisle	GB3FN	RU270 (RB15)	Farnham
GB3AT	RT1-2	Winchester	GB3FR	RV62 (R7)	Spilsby
GB3AV	RU244 (RB2)	Aylesbury	GB3FX	RF81 (R50-10)	Surrey
GB3AW	RU260 (RB10)	Newbury			
GB3AY	RV52 (R2)	Ayrshire			
GB3BA	RU242 (RB1)	Aberdeen	GB3GB	RU264 (RB12)	Great Barr
GB3BB	RV56 (R4)	Brecon	GB3GC	RU248 (RB4)	Goole
GB3BC	RV60 (R6)	Newport, Gwent	GB3GD	RV50 (R1)	Douglas
GB3BD	RU252 (RB6)	Ampthill, Beds	GB3GF	RU264 (RB12)	Guildford
GB3BE	RU258 (RB9)	Bury St Edmunds	GB3GH	RU250 (RB5)	Gloucester
GB3BF	RV52 (R2)	Bedford	GB3GL	RU268 (RB14)	Glasgow
GB3BG	RT10-6	West Midlands	GB3GN	RV62 (R7)	Aberdeen
GB3BH	RM0	Watford	GB3GR	RU262 (RB11)	Grantham
GB3BI	RV58 (R5)	Inverness	GB3GU	RU266 (RB13)	St Peter Port, CI
GB3BK	RU262 (RB11)	Reading	GB3GV	RT1-2	Leicestershire
GB3BL	RU254 (RB7)	Bedford	GB3GW	RT1-5	Braich Y Saint Fm
GB3BN	RU240 (RB0)	Bracknell	GB3GY	RU262 (RB11)	Grimsby
GB3BR	RU252 (RB6)	Brighton			
GB3BS	RU260 (RB10)	Bristol	GB3HA	RU252 (RB6)	Hornsea
GB3BT	RV56 (R4)	Berwick on Tweed	GB3HB	RU270 (RB15)	St Austell
GB3BV	RU242 (RB1)	Hemel Hempstead	GB3HC	RU252 (RB6)	Hereford
GB3BX	RV54 (R3)	Wolverhampton	GB3HD	RU258 (RB9)	Huddersfield
GB3BY	RF86 (R50-15)	Kidderminster	GB3HE	RU268 (RB14)	Hastings
GB3BZ	RU68 (RU68)	Braintree	GB3HF	RF76 (R50-5)	Hastings
			GB3HG	RV50 (R1)	Ripon
GB3CA	RU266 (RB13)	Carlisle	GB3HH	RV56 (R4)	Buxton
GB3CB	RU268 (RB14)	Birmingham	GB3HI	RV56 (R4)	Oban
GB3CC	RU246 (RB3)	Chichester	GB3HJ	RU242 (RB1)	Harrogate
GB3CE	RU268 (RB14)	Colchester	GB3HK	RU244 (RB2)	Selkirk
GB3CF	RV48 (R0)	Leicester	GB3HL	RU246 (RB3)	West London
GB3CG	RV58 (R5)	Gloucester	GB3HN	RU262 (RB11)	Hitchin
GB3CH	RU244 (RB2)	Liskeard	GB3HO	RU242 (RB1)	Horsham
GB3CI	RU244 (RB2)	Corby	GB3HR	RU268 (RB14)	Harrow
GB3CJ1	R29	Northampton	GB3HS	RV52 (R2)	Hull
GB3CJ2	R23	Northampton	GB3HT	RU262 (RB11)	Hinckley
GB3CK	RU240 (RB0)	Ashford	GB3HU	RU246 (RB3)	Weedley Farm
GB3CL	RU258 (RB9)	Clacton	GB3HV	RT1-3	High Wycombe
GB3CM	RU256 (RB8)	Clarmarthen	GB3HW	RU266 (RB13)	Romford
GB3CN	RM5	Northampton	GB3HX	RF80 (R50-9)	Huddersfield
GB3CO	RM8	Corby	GB3HY	RU250 (RB5)	Haywards Heath
GB3CQ	RV49 (R0X)	Corby	GB3HZ	RU254 (RB7)	Amersham
GB3CR	RU252 (RB6)	Wrexham			
GB3CS	RV60 (R6)	Lanarkshire	GB3IE	RB22	Plymouth
GB3CV	RU258 (RB9)	Coventry	GB3IG	RV62 (R7)	Stornoway
GB3CW	RU252 (RB6)	Powys	GB3IH	RU248 (RB4)	Ipswich
GB3CY	RU266 (RB13)	York	GB3IM	RU250 (RB5)	Douglas
			GB3IW	RU248 (RB4)	IoW
GB3DA	RV58 (R5)	Chelmsford	GB3KA	RU246 (RB3)	Kilmarnock
GB3DC	RU262 (RB11)	Sunderland	GB3KL	RU248 (RB4)	Kings Lynn
GB3DD	RU260 (RB10)	Dundee	GB3KN	RV56 (R4)	Maidstone
GB3DE	RU254 (RB7)	Ipswich	GB3KR	RU246 (RB3)	Kidderminster
GB3DG	RV62 (R7)	Gatehouse of Fleet	GB3KS	RV50 (R1)	Dover
GB3DI	RU252 (RB6)	Didcot	GB3KT	RT1-3R	Kent
GB3DJ	RT10-4	Telford	GB3KY	RV57 (R4X)	Norfolk
GB3DS	RU266 (RB13)	Worksop			
GB3DT	RU240 (RB0)	Blandford Forum	GB3LA	RU256 (RB8)	Leeds
GB3DV	RU242 (RB1)	Rotherham	GB3LC	RU266 (RB13)	Louth, Lincs
GB3DW	RV53 (R2X)	Criccieth	GB3LD	RV54 (R3)	Lancaster
GB3DY	RU260 (RB10)	Derby	GB3LE	RU248 (RB4)	Leicester
			GB3LF	RU268 (RB14)	Kendal
GB3EA	RU256 (RB8)	Eastleigh	GB3LG	RV54 (R3)	Lochgilphead
GB3EB	RU250 (RB5)	Brentwood	GB3LH	RU270 (RB15)	Shrewsbury
GB3EC	RV52 (R2)	Birmingham	GB3LI	RU260 (RB10)	Liverpool
GB3ED	RU268 (RB14)	Edinburgh	GB3LL	RU240 (RB0)	Llandudno
GB3EE	RU264 (RB12)	Chesterfield	GB3LM	RV58 (R5)	Lincoln
GB3EF	RF72 (R50-1)	Ipswich	GB3LO	RT1-2	Lowestoft
GB3EH	RU256 (RB8)	Banbury	GB3LR	RU266 (RB13)	Newhaven
GB3EK	RU244 (RB2)	Margate	GB3LS	RU244 (RB2)	Lincoln
GB3EL	RV48 (R0)	East London	GB3LT	RU260 (RB10)	Luton



Call	Channel	Location	Call	Channel	Location	Call	Channel	Location
GB3LU	RV54 (R3)	Lerwick	GB3PO	RV52 (R2)	Ipswich	GB3UB	RU248 (RB4)	Bath
GB3LV	RU244 (RB2)	Enfield	GB3PP	RU270 (RB15)	Preston	GB3UD	RT10-3	Stoke on Trent
GB3LW	RU252 (RB6)	London	GB3PR	RV54 (R3)	Perth	GB3UD	RT1-2	Stoke on Trent
GB3LY	RV48 (R0)	Limavady	GB3PS	RM3	Royston	GB3UK	RF77 (R50-6)	Bolton
			GB3PU	RU240 (RB0)	Perth	GB3UL	RU244 (RB2)	Belfast
GB3MA	RU242 (RB1)	Bury	GB3PV	RT1-2	Cambridge	GB3UM	RF74 (R50-3)	Leicester
GB3MB	RV48 (R0)	Bury	GB3PW	RV62 (R7)	Newtown, Powys	GB3UO	RB16	Wrexham
GB3MC	RM0	Bolton	GB3PX	RF78 (R50-7)	Hertfordshire	GB3US	RU240 (RB0)	Sheffield
GB3MD	RB22	Mansfield	GB3PY	RU256 (RB8)	Cambridge	GB3UT	RT1-1	Bath
GB3ME	RU252 (RB6)	Rugby	GB3PZ	7.6	Manchester	GB3UY	RM13	York
GB3MG	RU254 (RB7)	Bridgend				GB3VA	RV56 (R4)	Aylesbury
GB3MK	RU240 (RB0)	Milton Keynes	GB3RD	RV54 (R3)	Reading	GB3VE	RU248 (RB4)	Great Dunfell
GB3ML	RU260 (RB10)	Airdrie	GB3RE	RU262 (RB11)	Maidstone	GB3VH	RU266 (RB13)	Welwyn Garden City
GB3MM	RM6	Wolverhampton	GB3RF	RV62 (R7)	Burnley	GB3VL	RT1-4	Lincoln
GB3MN	RV52 (R2)	Stockport	GB3RH	RU262 (RB11)	Axminster	GB3VR	RT1-2	Brighton
GB3MP	RV60 (R6)	Denbigh	GB3RR	RF82 (R50-11)	Nottingham	GB3VS	RU246 (RB3)	Taunton
GB3MR	RU268 (RB14)	Stockport	GB3RT	RT1-2	Coventry	GB3VT	RV58 (R5)	Stoke on Trent
GB3MS	RU254 (RB7)	Worcester	GB3RV	RT10-6	Brighton	GB3VV	13cm2	Brighton
GB3MT	RU264 (RB12)	Bolton				GB3VW	13cm	Hull
GB3MV	RT1-2	Northampton	GB3SA	RV54 (R3)	Swansea	GB3VX	RT1-3R	Eastbourne
GB3MW	RU260 (RB10)	Leamington Spa	GB3SB	RV52 (R2)	Selkirk			
GB3MX	RV60 (R6)	Mansfield	GB3SC	RV50 (R1)	Bournemouth			
			GB3SD	RU268 (RB14)	Weymouth	GB3WA	RU242 (RB1)	Great Ground Farm
GB3NA	RV54 (R3)	Barnsley	GB3SE	RM3	Stoke on Trent	GB3WB	RU264 (RB12)	Weston Super Mare
GB3NB	RV50 (R1)	Norwich	GB3SF	RV63 (R7X)	Buxton	GB3WC	RM15	Wakefield
GB3NC	RV58 (R5)	St Austell	GB3SG	RU270 (RB15)	Pontypool	GB3WF	RU268 (RB14)	Otley Chevin
GB3ND	RU268 (RB14)	Bideford	GB3SH	RV53 (R2X)	Canterbury	GB3WG	RU252 (RB2)	Swansea
GB3NE	RV61 (R6X)	Berkshire	GB3SI	RV50 (R1)	St Ives	GB3WH	RV52 (R2)	Swindon
GB3NG	RV50 (R1)	Fraserburgh	GB3SK	RU252 (RB6)	Canterbury	GB3WI	RU270 (RB15)	Wisbech
GB3NH	RU246 (RB3)	Northampton	GB3SL	V52 (R2)	Crystal Palace	GB3WJ	RU250 (RB5)	Scunthorpe
GB3NI	RV58 (R5)	Belfast	GB3SM	RU266 (RB13)	Leek	GB3WK	RV62 (R7)	Leamington
GB3NK	RU248 (RB4)	Bexleyheath	GB3SN	RV58 (R5)	Alton	GB3WL	RV50 (R1)	West London
GB3NL	RV62 (R7)	Enfield	GB3SO	RU240 (RB0)	Boston	GB3WN	RU240 (RB0)	Wolverhampton
GB3NM	RU254 (RB7)	Nottingham	GB3SP	RU248 (RB4)	Pembroke	GB3WO	RU260 (RB10)	Witney
GB3NN	RU244 (RB2)	Wells Next The Sea	GB3SR	RV48 (R0)	Brighton	GB3WP	RU262 (RB11)	Hyde
GB3NO	RM0	Norwich	GB3SS	RV48 (R0)	Moray	GB3WR	RV48 (R0)	Wells
GB3NR	RU240 (RB0)	Norwich	GB3ST	RU244 (RB2)	Stoke on Trent	GB3WS	RV60 (R6)	Crawley
GB3NS	RU260 (RB10)	Reigate	GB3SU	RU270 (RB15)	Sudbury	GB3WT	RV62 (R7)	Omagh
GB3NT	RU240 (RB0)	Newcastle u Tyne	GB3SV	RU240 (RB0)	Bishops Stortford	GB3WU	RU270 (RB15)	Wakefield
GB3NV	RT1-2	Nottingham	GB3SW	RU258 (RB9)	Salisbury	GB3WV	RT1-2	Plymouth
GB3NW	RV50 (R1)	Worcester	GB3SX	RF79 (R50-8)	Stoke on Trent	GB3WW	RV62 (R7)	Cross Hands
GB3NX	RU244 (RB2)	Crawley	GB3SY	RU252 (RB6)	Barnsley	GB3WX	RF83 (R50-12)	Wincanton
GB3NY	RU240 (RB0)	Scarborough	GB3SZ	RU270 (RB15)	Bournemouth	GB3WY	RU254 (RB7)	Halifax
						GB3XG	RT10-7	Bristol
GB3OC	RV52 (R2)	Kirkwall	GB3TB	RT1-2	Barton	GB3XT	RT10-3	Burton on Trent
GB3OH	RU248 (RB4)	Bo'ness	GB3TD	RU246 (RB3)	Swindon	GB3XX	RU266	Daventry
GB3OM	RU270 (RB15)	Omagh	GB3TE	RV62 (R7)	Clacton-on-Sea	GB3XY	RT10-7	Hull
GB3OS	RU244 (RB2)	Stourbridge	GB3TF	RU256 (RB8)	Telford			
GB3OV	RU250 (RB5)	Huntingdon	GB3TG	RT2RR	Bletchley	GB3YC	RV48 (R0)	Driffield
GB3OX	RU264 (RB12)	Oxford	GB3TH	RT10-6	Bletchley	GB3YL	RU268 (RB14)	Lowestoft
			GB3TI	RU270 (RB15)	Tamworth	GB3YS	RU244 (RB2)	Yeovil
GB3PA	RV50 (R1)	Renfrewshire	GB3TL	RU268 (RB14)	Spalding	GB3YT	RT1-2	Halifax
GB3PB	RU260 (RB10)	Peterborough	GB3TM	RT1-2	Amlwch	GB3YX	RT10-6	Halifax
GB3PC	RV62 (R7)	Portsmouth	GB3TN	RT1-2	Fakenham			
GB3PD	RF85 (R50-14)	Portsmouth	GB3TP	RV58 (R5)	Keighley	GB3ZA	RV59 (R5X)	Hereford
GB3PE	RV54 (R3)	Peterborough	GB3TR	RV52 (R2)	Torquay	GB3ZI	RU262 (RB11)	Stafford
GB3PF	RU240 (RB0)	Blackburn	GB3TV	RT1-2	Dunstable	GB3ZZ	RT1-2	Bristol
GB3PH	RU244 (RB2)	Portsmouth	GB3TW	RV58 (R5)	Durham			
GB3PI	RV60 (R6)	Royston	GB3TX	RT1-3R	Belfast			

Repeaters (by channel)

Call	Channel	Input/Output	CTCSS	Location	Keeper	Call	Channel	Input/Output	CTCSS	Location	Keeper
GB3CJ1	R29	29.540/29.640	-	Northampton	G4SCJ	GB3AS	RV48 (R0)	145.000/145.600	C	Carlisle	G4KFN
GB3CJ2	R23	29.540/29.640	-	Northampton	G4SCJ	GB3CF	RV48 (R0)	145.000/145.600	C	Leicester	MOBKH
						GB3EL	RV48 (R0)	145.000/145.600	D	East London	G4RZZ
GB3EF	RF72 (R50-1)	51.220/50.720	H	Ipswich	G0VDE	GB3LY	RV48 (R0)	145.000/145.600	H	Limavady	GI3USS
GB3UM	RF74 (R50-3)	51.240/50.740	C	Leicester	G8OBP	GB3MB	RV48 (R0)	145.000/145.600	D	Bury	G8NSS
GB3HF	RF76 (R50-5)	51.260/50.760	-	Hastings	G1DVU	GB3SR	RV48 (R0)	145.000/145.600	E	Brighton	G4PAP
GB3UK	RF77 (R50-6)	51.270/50.770	D	Bolton	G8NSS	GB3SS	RV48 (R0)	145.000/145.600	A	Moray	GM7LSI
GB3PX	RF78 (R50-7)	51.280/50.780	C	Hertfordshire	G4NBS	GB3WR	RV48 (R0)	145.000/145.600	F	Wells	G0TJP
GB3SX	RF79 (R50-8)	51.290/50.790	G	Stoke on Trent	G8DZJ	GB3YC	RV48 (R0)	145.000/145.600	-	Driffield	G0OII
GB3HX	RF80 (R50-9)	51.300/50.800	D	Huddersfield	G0PRF						
GB3FX	RF81 (R50-10)	51.310/50.810	D	Surrey	G4EPX	GB3CQ	RV49 (R0X)	145.0125/145.6125	C	Corby	G1DIW
GB3RR	RF82 (R50-11)	51.320/50.820	B	Nottingham	G4TSN						
GB3VX	RF83 (R50-12)	51.330/50.830	C	Wincanton	G3ZXX	GB3GD	RV50 (R1)	145.025/145.625	H	Douglas	GD3LSF
GB3AM	RF84 (R50-13)	51.340/50.840	C	Amersham	GORDI	GB3HG	RV50 (R1)	145.025/145.625	E	Ripon	G0RHI
GB3PD	RF85 (R50-14)	51.350/50.850	B	Portsmouth	G4JXL	GB3KS	RV50 (R1)	145.025/145.625	G	Dover	M1BKI
GB3AE	RF86 (R50-15)	51.360/50.860	F	Tenby	GW0VBQ	GB3NB	RV50 (R1)	145.025/145.625	F	Norwich	G8VLL
GB3BY	RF86 (R50-15)	51.360/50.860	A	Kidderminster	G8EPR	GB3NG	RV50 (R1)	145.025/145.625	A	Fraserburgh	MM1CAC

Call	Channel	Input/Output	CTCSS	Location	Keeper	Call	Channel	Input/Output	CTCSS	Location	Keeper
GB3NW	RV50 (R1)	145.025/145.625	A	Worcester	G4IDF	GB3BN	RU240 (RB0)	434.600/433.000	J	Bracknell	G4HLF
GB3PA	RV50 (R1)	145.025/145.625	-	Renfrewshire	GM7OAW	GB3CK	RU240 (RB0)	434.600/433.000	G	Ashford	G6ZAA
GB3SC	RV50 (R1)	145.025/145.625	B	Bournemouth	G0API	GB3DT	RU240 (RB0)	434.600/433.000	F	Blandford Forum	G8BXQ
GB3SI	RV50 (R1)	145.025/145.625	C	St Ives	G3NPB	GB3EX	RU240 (RB0)	434.600/433.000	F	Exeter	G8UWE
GB3WL	RV50 (R1)	145.025/145.625	D	West London	G8SUG	GB3LL	RU240 (RB0)	434.600/433.000	H	Llandudno	GW8WFS
GB3AY	RV52 (R2)	145.050/145.650	G	Ayrshire	GM0WUX	GB3MK	RU240 (RB0)	434.600/433.000	C	Milton Keynes	M5AET
GB3BF	RV52 (R2)	145.050/145.650	C	Bedford	G8MGP	GB3NR	RU240 (RB0)	434.600/433.000	F	Norwich	G8VLL
GB3EC	RV52 (R2)	145.050/145.650	A	Birmingham	G4KQV	GB3NT	RU240 (RB0)	434.600/433.000	J	Newcastle u Tyne	G8YWK
GB3HS	RV52 (R2)	145.050/145.650	E	Hull	G7JZD	GB3NY	RU240 (RB0)	434.600/433.000	E	Scarborough	G4EEV
GB3MN	RV52 (R2)	145.050/145.650	D	Stockport	G8LZO	GB3PF	RU240 (RB0)	434.600/433.000	D	Blackburn	G0DFO
GB3OC	RV52 (R2)	145.050/145.650	C	Kirkwall	GM0HQG	GB3PU	RU240 (RB0)	434.600/433.000	F	Perth	GM8KPH
GB3PO	RV52 (R2)	145.050/145.650	H	Ipswich	G8CJL	GB3SO	RU240 (RB0)	434.600/433.000	B	Boston	G8SFU
GB3SB	RV52 (R2)	145.050/145.650	J	Selkirk	GM0FTJ	GB3SV	RU240 (RB0)	434.600/433.000	H	Bishops Stortford	G1NOL
GB3SL	RV52 (R2)	145.050/145.650	D	Crystal Palace	G4PEB	GB3US	RU240 (RB0)	434.600/433.000	G	Sheffield	G3RKL
GB3TR	RV52 (R2)	145.050/145.650	F	Torquay	G8XST	GB3WN	RU240 (RB0)	434.600/433.000	A	Wolverhampton	G4OKE
GB3WH	RV52 (R2)	145.050/145.650	J	Swindon	G4LDL						
GB3DW	RV53 (R2X)	145.0625/145.6625	H	Criccieth	GW4KAZ	GB3BA	RU242 (RB1)	434.625/433.025	A	Aberdeen	GM1XEA
GB3SH	RV53 (R2X)	145.0625/145.6625	B	Cantell School	M1AFM	GB3BV	RU242 (RB1)	434.625/433.025	D	Hemel Hempstead	G8BQH
						GB3DV	RU242 (RB1)	434.625/433.025	B	Rotherham	G4LUE
GB3BX	RV54 (R3)	145.075/145.675	A	Wolverhampton	G4JLI	GB3EM	RU242 (RB1)	434.625/433.025	-	Waltham	G8WWWJ
GB3ES	RV54 (R3)	145.075/145.675	G	Hastings	G7LEL	GB3HJ	RU242 (RB1)	434.625/433.025	J	Harrogate	G3XWH
GB3LD	RV54 (R3)	145.075/145.675	H	Lancaster	G7MCE	GB3HO	RU242 (RB1)	434.625/433.025	E	Horsham	G7JRV
GB3LG	RV54 (R3)	145.075/145.675	G	Lochgilphead	GM4WMM	GB3MA	RU242 (RB1)	434.625/433.025	D	Bury	G8NS
GB3LU	RV54 (R3)	145.075/145.675	C	Lerwick	GM4SWU	GB3WA	RU242 (RB1)	434.625/433.025	-	Great Ground Farm	G3ZXX
GB3NA	RV54 (R3)	145.075/145.675	B	Barnsley	G4LUE	GB3AV	RU244 (RB2)	434.650/433.050	D	Aylesbury	G8BQH
GB3PE	RV54 (R3)	145.075/145.675	F	Peterborough	G1ARV						
GB3PR	RV54 (R3)	145.075/145.675	F	Perth	GM8KPH	GB3CH	RU244 (RB2)	434.650/433.050	C	Liskeard	G7DQC
GB3RD	RV54 (R3)	145.075/145.675	J	Reading	G8DOR	GB3CI	RU244 (RB2)	434.650/433.050	B	Corby	G8MLA
GB3SA	RV54 (R3)	145.075/145.675	F	Swansea	GW4JGU	GB3EK	RU244 (RB2)	434.650/433.050	G	Margate	G4TKR
						GB3FC	RU244 (RB2)	434.650/433.050	D	Blackpool	G6AOS
GB3AR	RV56 (R4)	145.100/145.700	H	Caernarfon	GW4KAZ	GB3HK	RU244 (RB2)	434.650/433.050	J	Selkirk	GM0FTJ
GB3BB	RV56 (R4)	145.100/145.700	G	Brecon	GW0ABT	GB3LS	RU244 (RB2)	434.650/433.050	B	Lincoln	G8VGF
GB3BT	RV56 (R4)	145.100/145.700	J	Berwick on Tweed	GM1JFF	GB3LV	RU244 (RB2)	434.650/433.050	D	Enfield	G3TZZ
GB3EV	RV56 (R4)	145.100/145.700	C	Cumbria	G0IYQ	GB3NN	RU244 (RB2)	434.650/433.050	F	Wells Next The Sea	G0VVF
						GB3NX	RU244 (RB2)	434.650/433.050	E	Crawley	G0DSU
GB3HH	RV56 (R4)	145.100/145.700	B	Buxton	G4IHO	GB3OS	RU244 (RB2)	434.650/433.050	A	Stourbridge	G1PKZ
GB3HI	RV56 (R4)	145.100/145.700	E	Oban	GM1YUO	GB3PH	RU244 (RB2)	434.650/433.050	B	Portsmouth	G8PGF
GB3KN	RV56 (R4)	145.100/145.700	G	Maidstone	G3YCN	GB3ST	RU244 (RB2)	434.650/433.050	G	Stoke on Trent	G8DZJ
GB3VA	RV56 (R4)	145.100/145.700	J	Aylesbury	G8BQH	GB3UL	RU244 (RB2)	434.650/433.050	H	Belfast	G1USS
						GB3YS	RU244 (RB2)	434.650/433.050	F	Yeovil	G3UGR
GB3KY	RV57 (R4X)	145.1125/145.7125	F	Norfolk	G1SCQ						
						GB3CC	RU246 (RB3)	434.675/433.075	E	Chichester	G3UEQ
GB3AG	RV58 (R5)	145.125/145.725	F	Forfar	GM1CMF	GB3ER	RU246 (RB3)	434.675/433.075	H	Chelmsford	G6JYB
GB3BI	RV58 (R5)	145.125/145.725	A	Inverness	GM0JFK	GB3HL	RU246 (RB3)	434.675/433.075	D	West London	G8SUG
GB3CG	RV58 (R5)	145.125/145.725	-	Gloucester	G6AWT	GB3HU	RU246 (RB3)	434.675/433.075	E	Weedley Farm	G3TEU
GB3DA	RV58 (R5)	145.125/145.725	H	Chelmsford	G6JYB	GB3KA	RU246 (RB3)	434.675/433.075	-	Kilmarnock	GM0WUX
GB3LM	RV58 (R5)	145.125/145.725	B	Lincoln	G8VGF	GB3KR	RU246 (RB3)	434.675/433.075	-	Kidderminster	G8NTU
GB3NC	RV58 (R5)	145.125/145.725	C	St Austell	G3IGV	GB3NH	RU246 (RB3)	434.675/433.075	C	Northampton	G4IIO
GB3NI	RV58 (R5)	145.125/145.725	H	Belfast	G13US	GB3TD	RU246 (RB3)	434.675/433.075	J	Swindon	G4XUT
GB3SN	RV58 (R5)	145.125/145.725	B	Alton	G4EPX	GB3VS	RU246 (RB3)	434.675/433.075	F	Taunton	G4UVZ
GB3TP	RV58 (R5)	145.125/145.725	D	Keighley	G7HEN						
GB3TW	RV58 (R5)	145.125/145.725	J	Durham	G8YWK	GB3GC	RU248 (RB4)	434.700/433.100	E	Goole	G0GLZ
GB3VT	RV58 (R5)	145.125/145.725	G	Stoke on Trent	G8DZJ	GB3IH	RU248 (RB4)	434.700/433.100	H	Ipswich	G8CJL
						GB3IW	RU248 (RB4)	434.700/433.100	B	IoW	G1VGM
GB3AL	RV59 (R5X)	145.1375/145.7375	C	Amersham	G0RDI	GB3KL	RU248 (RB4)	434.700/433.100	F	Kings Lynn	M1ANH
GB3ZA	RV59 (R5X)	145.1375/145.7375	J	Hereford	G0JWJ	GB3LE	RU248 (RB4)	434.700/433.100	C	Leicester	M0BKH
						GB3NK	RU248 (RB4)	434.700/433.100	G	Bexleyheath	G8JNZ
GB3BC	RV60 (R6)	145.150/145.750	F	Newport, Gwent	GW8ERA	GB3OH	RU248 (RB4)	434.700/433.100	F	Bo'ness	GM0MZB
GB3CS	RV60 (R6)	145.150/145.750	G	Lanarkshire	GM4COX	GB3SP	RU248 (RB4)	434.700/433.100	F	Pembroke	GW4VRO
GB3MP	RV60 (R6)	145.150/145.750	H	Denbigh	G7OBW	GB3UB	RU248 (RB4)	434.700/433.100	J	Bath	G4KVI
GB3MX	RV60 (R6)	145.150/145.750	B	Mansfield	G6CUK	GB3VE	RU248 (RB4)	434.700/433.100	-	Great Dunfell	G0IYQ
GB3PI	RV60 (R6)	145.150/145.750	C	Royston	G4NBS						
GB3WS	RV60 (R6)	145.150/145.750	E	Crawley	G4EFO	GB3EB	RU250 (RB5)	434.725/433.125	H	Brentwood	G6IFH
						GB3GH	RU250 (RB5)	434.725/433.125	J	Gloucester	G3LVP
GB3NE	RV61 (R6X)	145.1625/145.7625	J	Berkshire	G8JIP	GB3HY	RU250 (RB5)	434.725/433.125	E	Haywards Heath	G3XTH
						GB3IM	RU250 (RB5)	434.725/433.125	H	Douglas	GD3LSF
GB3DG	RV62 (R7)	145.175/145.775	G	Gatehouse of Fleet	MM1DWJ	GB3OV	RU250 (RB5)	434.725/433.125	F	Huntingdon	G8LRS
GB3FR	RV62 (R7)	145.175/145.775	B	Spilsby	G8SFU	GB3WJ	RU250 (RB5)	434.725/433.125	B	Scunthorpe	G3TMD
GB3GN	RV62 (R7)	145.175/145.775	A	Aberdeen	GM1XEA						
GB3IG	RV62 (R7)	145.175/145.775	E	Stornoway	GM0LZE	GB3BD	RU252 (RB6)	434.750/433.150	C	Amphill, Beds	G8MGP
GB3NL	RV62 (R7)	145.175/145.775	D	Enfield	G3TZZ	GB3BR	RU252 (RB6)	434.750/433.150	E	Brighton	G4PAK
GB3PC	RV62 (R7)	145.175/145.775	B	Portsmouth	G4NAO	GB3CR	RU252 (RB6)	434.750/433.150	-	Wrexham	G8UEK
GB3PW	RV62 (R7)	145.175/145.775	G	Newtown, Powys	GW4NQJ	GB3CW	RU252 (RB6)	434.750/433.150	G	Powys	GW4NQJ
GB3RF	RV62 (R7)	145.175/145.775	D	Burnley	G0DFO	GB3DI	RU252 (RB6)	434.750/433.150	-	Didcot	G8CUL
GB3TE	RV62 (R7)	145.175/145.775	G	Clacton-on-Sea	G7HJK	GB3HA	RU252 (RB6)	434.750/433.150	E	Horsea	G4YTV
GB3WK	RV62 (R7)	145.175/145.775	A	Leamington	G6FEO	GB3HC	RU252 (RB6)	434.750/433.150	J	Hereford	G0JWJ
GB3WT	RV62 (R7)	145.175/145.775	H	Omagh	G13NVV	GB3LW	RU252 (RB6)	434.750/433.150	D	London	G7OMK
GB3WW	RV62 (R7)	145.175/145.775	F	Cross Hands, Dyfed	GW4FOI	GB3ME	RU252 (RB6)	434.750/433.150	A	Rugby	G0JEW
						GB3SK	RU252 (RB6)	434.750/433.150	G	Canterbury	G6DIK
GB3SF	RV63 (R7X)	145.185/145.785	D	Buxton	G4IHO	GB3SY	RU252 (RB6)	434.750/433.150	B	Barnsley	G4LUE
						GB3WG	RU252 (RB6)	434.750/433.150	-	Swansea	GW3VPL



Call	Channel	Input/Output	CTCSS	Location	Keeper	Call	Channel	Input/Output	CTCSS	Location	Keeper
GB3BL	RU254 (RB7)	434.775/433.175	C	Bedford	G8MGP	GB3FN	RU270 (RB15)	434.975/433.375	D	Farnham	G4EPX
GB3DE	RU254 (RB7)	434.775/433.175	H	Ipswich	G1NRL	GB3HB	RU270 (RB15)	434.975/433.375	C	St Austell	G3IGV
GB3HZ	RU254 (RB7)	434.775/433.175	-	Amersham	G0RDI	GB3LH	RU270 (RB15)	434.975/433.375	G	Shrewsbury	G8DIR
GB3MG	RU254 (RB7)	434.775/433.175	F	Bridgend	GW3RVG	GB3OM	RU270 (RB15)	434.975/433.375	H	Omagh	G14SXV
GB3MS	RU254 (RB7)	434.775/433.175	-	Worcester	G7WIG	GB3PP	RU270 (RB15)	434.975/433.375	D	Preston	G3SYA
GB3NM	RU254 (RB7)	434.775/433.175	B	Nottingham	G2SP	GB3SG	RU270 (RB15)	434.975/433.375	F	Pontypool	GW8ERA
GB3WY	RU254 (RB7)	434.775/433.175	D	Halifax	G8NWK	GB3SU	RU270 (RB15)	434.975/433.375	H	Sudbury	G8LTY
GB3AN	RU256 (RB8)	434.800/433.200	H	Amlwch	GW6DOK	GB3SZ	RU270 (RB15)	434.975/433.375	B	Bournemouth	G0API
GB3CM	RU256 (RB8)	434.800/433.200	F	Carmarthen	GW0IVG	GB3TH	RU270 (RB15)	434.975/433.375	A	Tamworth	G4JBX
GB3EA	RU256 (RB8)	434.800/433.200	B	Eastleigh	G4MYS	GB3WI	RU270 (RB15)	434.975/433.375	F	Wisbech	MDUQU
GB3EH	RU256 (RB8)	434.800/433.200	A	Banbury	G4OHB	GB3WU	RU270 (RB15)	434.975/433.375	D	Wakefield	G0COA
GB3LA	RU256 (RB8)	434.800/433.200	D	Leeds	G8ZXA	GB3UO	RB16	438.425/430.825	-	Wrexham	G4UDE
GB3PY	RU256 (RB8)	434.800/433.200	C	Cambridge	G4NBS	GB3BZ	RU68 (RU68)	438.450/430.850	H	Braintree	G0DEC
GB3TF	RU256 (RB8)	434.800/433.200	G	Telford	G3UKV	GB3IE	RB22	438.450/430.850	C	Plymouth	G7DQC
GB3BE	RU258 (RB9)	434.825/433.225	H	Bury St Edmunds	G8KMM	GB3MD	RB22	438.450/430.850	B	Mansfield	G6CUK
GB3CL	RU258 (RB9)	434.825/433.225	G	Clacton	G7HJK	GB3PZ	7.6	438.500/430.900	D	Manchester	G4ZPZ
GB3CV	RU258 (RB9)	434.825/433.225	A	Coventry	G3ZFR	GB3FJ	RB21	438.550/430.950	B	Lincolnshire	G8LXI
GB3HD	RU258 (RB9)	434.825/433.225	D	Huddersfield	G1FYS	GB3EY	RT1-3	1248.000/1308.000	-	Hull	G4YTV
GB3SW	RU258 (RB9)	434.825/433.225	B	Salisbury	G4SXQ	GB3HV	RT1-3	1248.000/1308.000	-	High Wycombe	G8LES
GB3AW	RU260 (RB10)	434.850/433.250	B	Newbury	G8DOR	GB3VL	RT1-4	1248.000/1310.000	-	Lincoln	G7AVU
GB3BS	RU260 (RB10)	434.850/433.250	J	Bristol	G4SDR	GB3AD	RT1-2	1249.000/1316.000	-	Stevenage	G0OVO
GB3DD	RU260 (RB10)	434.850/433.250	F	Dundee	GM4UGF	GB3AT	RT1-2	1249.000/1316.000	-	Winchester	G8GTZ
GB3DY	RU260 (RB10)	434.850/433.250	B	Derby	G3ZYC	GB3EN	RT1-4R	1249.000/1312.000	-	Enfield	G4DVG
GB3LI	RU260 (RB10)	434.850/433.250	D	Liverpool	G3WIC	GB3GV	RT1-2	1249.000/1316.000	C	Leicestershire	G8OBP
GB3LT	RU260 (RB10)	434.850/433.250	C	Luton	G6OUA	GB3KT	RT1-3R	1249.000/1310.000	-	Kent	G8SUY
GB3ML	RU260 (RB10)	434.850/433.250	G	Airdrie	GM3SAN	GB3LO	RT1-2	1249.000/1316.000	-	Lowestoft	G4RKP
GB3MW	RU260 (RB10)	434.850/433.250	A	Leamington Spa	G6FEO	GB3MV	RT1-2	1249.000/1316.000	-	Northampton	G1IRG
GB3NS	RU260 (RB10)	434.850/433.250	D	Reigate	G0OLX	GB3NV	RT1-2	1249.000/1316.000	-	Nottingham	G6SKO
GB3PB	RU260 (RB10)	434.850/433.250	C	Peterborough	G1ARV	GB3PV	RT1-2	1249.000/1316.000	-	Cambridge	G4NBS
GB3WO	RU260 (RB10)	434.850/433.250	J	Witney	G4GUN	GB3RT	RT1-2	1249.000/1316.000	-	Coventry	G1GPE
GB3AH	RU262 (RB11)	434.875/433.275	-	Swaffham	G8PON	GB3TB	RT1-2	1249.000/1316.000	-	Barton	G0EKH
GB3BK	RU262 (RB11)	434.875/433.275	J	Reading	G8DOR	GB3TM	RT1-2	1249.000/1316.000	-	Amlwch	GW8PBX
GB3DC	RU262 (RB11)	434.875/433.275	J	Sunderland	G6LMR	GB3TN	RT1-2	1249.000/1316.000	-	Fakenham	G4VVU
GB3GR	RU262 (RB11)	434.875/433.275	B	Grantham	G4WFK	GB3TV	RT1-2	1249.000/1316.000	-	Dunstable	G4ENB
GB3GY	RU262 (RB11)	434.875/433.275	E	Grimsby	G1BRB	GB3TX	RT1-3R	1249.000/1310.000	-	Belfast	G16IXD
GB3HN	RU262 (RB11)	434.875/433.275	D	Hitchin	G4LOO	GB3UD	RT1-2	1249.000/1316.000	-	Stoke on Trent	G0KBI
GB3HT	RU262 (RB11)	434.875/433.275	C	Hinckley	G4ALB	GB3VR	RT1-2	1249.000/1316.000	-	Brighton	G8KOE
GB3RE	RU262 (RB11)	434.875/433.275	G	Maidstone	G4AKQ	GB3VX	RT1-3R	1249.000/1310.000	-	Eastbourne	G11FV
GB3RH	RU262 (RB11)	434.875/433.275	F	Axminster	G6WVY	GB3WV	RT1-2	1249.000/1316.000	-	Plymouth	G4ALY
GB3WP	RU262 (RB11)	434.875/433.275	-	Hyde	G6YRK	GB3YT	RT1-2	1249.000/1316.000	-	Halifax	G3TQA
GB3ZI	RU262 (RB11)	434.875/433.275	G	Stafford	G1UDS	GB3ZZ	RT1-2	1249.000/1316.000	-	Bristol	G4BVK
GB3EE	RU264 (RB12)	434.900/433.300	B	Chesterfield	G6SVZ	GB3UT	RT1-1	1276.500/1311.500	-	Bath	G8CPF
GB3GB	RU264 (RB12)	434.900/433.300	A	Great Barr	G8NDT	GB3GW	RT1-5	1280.000/1310.000	-	Braich Y Saint Farm	GW4KAZ
GB3GF	RU264 (RB12)	434.900/433.300	E	Guildford	G4EML	GB3BH	RM0	1291.000/1297.000	D	Watford	G7LXP
GB3MT	RU264 (RB12)	434.900/433.300	D	Bolton	G8NSS	GB3MC	RM0	1291.000/1297.000	D	Bolton	G8NSS
GB3OX	RU264 (RB12)	434.900/433.300	J	Oxford	G4WXC	GB3NO	RM0	1291.000/1297.000	F	Norwich	G8VLL
GB3WB	RU264 (RB12)	434.900/433.300	C	Weston Super Mare	G4SZM	GB3FM	RM2	1291.050/1297.050	J	Farnham	G4EPX
GB3CA	RU266 (RB13)	434.925/433.325	C	Carlisle	G4KFN	GB3PS	RM3	1291.075/1297.075	C	Royston	G4NBS
GB3CY	RU266 (RB13)	434.925/433.325	E	York	G4FUO	GB3SE	RM3	1291.075/1297.075	G	Stoke on Trent	G8DZJ
GB3DS	RU266 (RB13)	434.925/433.325	B	Worksop	G3XXN	GB3CN	RM5	1291.125/1297.125	C	Northampton	G6NYH
GB3GU	RU266 (RB13)	434.925/433.325	C	St Peter Port, CI	GU4EON	GB3MM	RM6	1291.150/1297.150	A	Wolverhampton	G4OKE
GB3HW	RU266 (RB13)	434.925/433.325	H	Romford	G4GBW	GB3CO	RM8	1291.200/1297.200	C	Corby	G8MLA
GB3LC	RU266 (RB13)	434.925/433.325	B	Louth, Lincs	M5ZZZ	GB3UY	RM13	1291.325/1297.325	J	York	G7AUP
GB3LR	RU266 (RB13)	434.925/433.325	E	Newhaven	G7PUV	GB3WC	RM15	1291.375/1297.375	D	Wakefield	G0COA
GB3SM	RU266 (RB13)	434.925/433.325	G	Leek	G8DZJ	GB3TG	RT2RR	1316.000/1249.000	C	Bletchley	G3LMX
GB3VH	RU266 (RB13)	434.925/433.325	D	Welwyn Garden City	G4THF	GB3VW	13cm	2330.000/2435.000	-	Hull	G7MFO
GB3XX	RU266 (RB13)	434.925/433.325	C	Daventry	G1ZJK	GB3VV	13cm2	2335.000/2435.000	-	Brighton	G8KOE
GB3AB	RU268 (RB14)	434.950/433.350	A	Aberdeen	MM0BLR	GB3UD	RT10-3	10278.000/10150.000	-	Stoke on Trent	G0KBI
GB3CB	RU268 (RB14)	434.950/433.350	A	Birmingham	G8AMD	GB3XT	RT10-3	10278.000/10150.000	-	Burton on Trent	G8OZP
GB3CE	RU268 (RB14)	434.950/433.350	H	Colchester	G7BKU	GB3XG	RT10-7	10315.000/10065.000	-	Bristol	G4BVK
GB3ED	RU268 (RB14)	434.950/433.350	F	Edinburgh	GM4GZW	GB3XY	RT10-7	10315.000/10065.000	-	Hull	G3RMX
GB3GL	RU268 (RB14)	434.950/433.350	G	Glasgow	GM3SAN	GB3BG	RT10-6	10425.000/10240.000	-	West Midlands	G6WJJ
GB3HE	RU268 (RB14)	434.950/433.350	G	Hastings	G4FET	GB3DJ	RT10-4	10425.000/10135.000	-	Telford	G8VZT
GB3HR	RU268 (RB14)	434.950/433.350	D	Harrow	G1NOC	GB3RV	RT10-6	10425.000/10240.000	-	Brighton	G8KOE
GB3LF	RU268 (RB14)	434.950/433.350	H	Kendal	G3VVT	GB3TG	RT10-6	10425.000/10240.000	-	Bletchley	G3LMX
GB3MR	RU268 (RB14)	434.950/433.350	D	Stockport	G8LZO	GB3YX	RT10-6	10425.000/10240.000	-	Halifax	G3TQA
GB3ND	RU268 (RB14)	434.950/433.350	F	Bideford	G4SOF						
GB3SD	RU268 (RB14)	434.950/433.350	B	Weymouth	G0EVW						
GB3TL	RU268 (RB14)	434.950/433.350	B	Spalding	G0UOQ						
GB3WF	RU268 (RB14)	434.950/433.350	D	Otley Chevin	G0NIG						
GB3YL	RU268 (RB14)	434.950/433.350	F	Lowestoft	G4RKP						

Beacons

Beacons are intended mainly as propagation indicators although, especially on the microwave bands, they may also serve as signal sources for alignment purposes. The table lists a selection, some of which may be heard regularly in the UK, so that variation in strength gives an indication of conditions; others may be heard occasionally, and the appearance of one can indicate exceptional propagation.

For example, the 144MHz beacon GB3VHF can always be heard over much of the UK so, if its strength is above average, then there is a 'lift' on. If the 50MHz beacon in Newfoundland, not usually audible in the UK, appears then there is a path to North America. Conversely, the 28MHz beacon GB3RAL is of little interest to UK stations

but can indicate to overseas operators the presence of propagation to the UK.

Some 20 years ago, to avoid interference between 144MHz beacons in Europe, the RSGB was asked by the International Amateur Radio Union (IARU) to co-ordinate their frequencies. The Society has done so since and has extended the service to other bands above 30MHz.

Co-ordination

On HF, beacons are co-ordinated by IARU. At 28MHz, 28.190 - 28.199 is reserved for regional networks, 28.200 is shared by the International Beacon Project beacons and 28.201 - 28.225 is allocated to approved continuous cycle beacons.

Interested in setting up a beacon?

The UK licence does permit a private station to operate as a low-power unattended beacon, but only in some bands above 2.3GHz, together with 70MHz and part of 432MHz.

Establishing a permanent and reliable beacon at a remote site can be a complex undertaking, maybe more suited to a group than an individual. Site clearance by the RA is required before a licence (which will be GB3 + three letters) can be issued.

Full details are given in *Guide to Beacon Licensing* available from RSGB HQ on receipt of a large SASE.

HF Beacons

Freq	Call	Nearest Town	Locator	ERPw	Antenna	Direction	Mode	Status
1805	VO1NA	St John's		1	Omni			24
1817	ZS1J	Plettenberg Bay	KF15PF	0.2	1/2 Dip	E-W	A1	24
1840	OK0EK	Kromeriz	JN89QG	4	Vertical	Omni	A1	T NonOp
1845	OK0EV	Near Prague	JN79EV	100	25m Vert	Omni	A1	PT
3579	DK0WCY	Scheggerott	JO44VQ	30	Dipole		A1	0700-0800zz
3585	ZS1J	Plettenberg Bay	KF15PF	0.2	1/2 Dip		A1	24
3600.0	OK0EN	Kam. Zehrovice	JO70AC	0.15	Corner Dip	90/270	A1	24
5471.5	LN2A	Sveio	JO29PO	1kw	Vert Monop	Omni	A1/F1	ITU24+
7025	ZS1AGI	George Airport	KF16EA	0.2	1/2 Dipole	E-W	A1	24
7871.5	LN2A	Sveio	JO29PO	1kw	Vert Monop	Omni	A1/F1	ITU24+
10125	ZS1J	Plettenberg Bay	KF15PF	0.2	1/2 Dip		A1	24
10134	OK0EF	Nr Kladno	JO70BC	.1/.2/.5	1/2 Vert	Omni	A1	24
10139.2	HP1RCP	Cerro Jefe	FJ09HD	2	Inv Vee	Omni	A1	24
10139.6	PY3PSI	Porto Alegre	GF49KX	1.6	Hor. Dip	N-S	A1	Int
10144.0	DK0WCY	Scheggerott	JO44VQ	30	Hor. Loop	Omni	A1	24zz
10408.5	LN2A	Sveio	JO29PO	1kw	Vert Monop	Omni	A1/F1	ITU24+
14100.0	4U1UN	UN NY	FN20AS	100-0.1	Vertical	Omni	A1	IBP cycle
14100.0	VE8AT	Eureka, Nunavut	EQ79AX	100-0.1	Vertical	Omni	A1	IBP cycle
14100.0	W6WX	Nr San Jose CA	CM87	100-0.1	Vertical	Omni	A1	IBP cycle
14100.0	KH6WO	Honolulu	BL11BK	100-0.1	Vertical	Omni	A1	IBP cycle
14100.0	ZL6B	Nr Masterton	RE77TW	100-0.1	Vertical	Omni	A1	IBP cycle
14100.0	VK6RBP	28k SE Perth	OF87BW	100-0.1	Vertical	Omni	A1	IBP cycle
14100.0	JA2IGY	Mt Asama	PM84JK	100-0.1	Vertical	Omni	A1	IBP cycle
14100.0	RR9O	Novosibirsk	NO14KX	100-0.1	Vertical	Omni	A1	IBP cycle
14100.0	VR2B	Hong Kong	OL72CG	100-0.1	Vertical	Omni	A1	IBP cycle
14100.0	4S7B	Colombo	MJ96	100-0.1	Vertical	Omni	A1	IBP nonop
14100.0	ZS6DN	Pretoria	KG44DC	100-0.1	Vertical	Omni	A1	IBP cycle
14100.0	5Z4B	Kilifi	KI95	100-0.1	Vertical	Omni	A1	IBP cycle
14100.0	4X6TU	Tel Aviv	KM72JC	100-0.1	Vertical	Omni	A1	IBP cycle
14100.0	OH2B	Karkkila	KP20BN	100-0.1	Vertical	Omni	A1	IBP cycle
14100.0	CS3B	Madeira	IM12	100-0.1	Vertical	Omni	A1	IBP cycle
14100.0	LU4AA	Buenos Aires	GF05	100-0.1	Vertical	Omni	A1	IBP cycle
14100.0	OA4B	Lima	FH17KV	100-0.1	Vertical	Omni	A1	IBP cycle
14100.0	YV5B	Caracas	FK60NL	100-0.1	Vertical	Omni	A1	IBP cycle
14396.5	LN2A	Sveio	JO29PO	1kw	Vert Monop	Omni	A1/F1	ITU24+
18068.1	IK6BAK	Montefelcino	JN63KR	3	Inv Vee	Omni	A1	24
18101	VE3RAT	Thornhill Ont.	FN03GL	1	Vertical	Omni	A1	24
18102	I1M	Bordighera	JN33UT	10	5/8 Vert	Omni	A1	24
18102	HB9AFZ	Bellinzona	JN46ME	5	Inv Vee	?	A1	TNonOp
18108.6	HP1AVS	Cerro Jefe	FJ09HD	15	Dipole		A1	24
18110	DL0AGS	Kassel	JO41NL	10	GP	Omni	A1	24
18110.0	4U1UN	U. Nations NY	FN20AS	100-0.1	Vertical	Omni	A1	IBP cycle
18110.0	VE8AT	Eureka, Nunavut	EQ79AX	100-0.1	Vertical	Omni	A1	IBP cycle
18110.0	KH6WO	Honolulu	BL11BK	100-0.1	Vertical	Omni	A1	IBP cycle
18110.0	ZL6B	Nr Masterton	RE77TW	100-0.1	Vertical	Omni	A1	IBP cycle
18110.0	VK6RBP	28k SE Perth	OF87BW	100-0.1	Vertical	Omni	A1	IBP cycle
18110.0	JA2IGY	Mt Asama	PM84JK	100-0.1	Vertical	Omni	A1	IBP cycle
18100.0	RR9O	Novosibirsk	NO14KX	100-0.1	Vertical	Omni	A1	IBP cycle



Freq	Call	Nearest Town	Locator	ERPw	Antenna	Direction	Mode	Status
18100.0	VR2B	Hong Kong	OL72CG	100-0.1	Vertical	Omni	A1	IBP cycle
18110.0	4S7B	Colombo	MJ96	100-0.1	Vertical	Omni	A1	IBP nonop
18110.0	ZS6DN	Pretoria	KG44DC	100-0.1	Vertical	Omni	A1	IBP cycle
18110.0	5Z4B	Kilifi	KI95	100-0.1	Vertical	Omni	A1	IBP cycle
18110.0	4X6TU	Tel Aviv	KM72JC	100-0.1	Vertical	Omni	A1	IBP cycle
18110.0	OH2B	Karkkila	KP20BN	100-0.1	Vertical	Omni	A1	IBP cycle
18110.0	CS3B	Madeira	IM12	100-0.1	Vertical	Omni	A1	IBP cycle
18110.0	OA4B	Lima	FH17KV	100-0.1	Vertical	Omni	A1	IBP cycle
18110.0	LU4AA	Buenos Aires	GF05	100-0.1	Vertical	Omni	A1	IBP cycle
18110.0	YV5B	Caracas	FK60NL	100-0.1	Vertical	Omni	A1	IBP cycle
20948.5	LN2A	Sveio	JO29PO	1kw	Vert Monop	Omni	A1/F1	ITU24+
21149	HB9AFZ	Bellinzona	JN46ME				A1	Test
21150.0	4U1UN	UN New York	FM20AS	100-0.1	Vertical	Omni	A1	IBP cycle
21150.0	VE8AT	Eureka,Nunavut	EQ79AX	100-0.1	Vertical	Omni	A1	IBP cycle
21150.0	W6WX	Nr San Jose CA	CM87	100-0.1	Vertical	Omni	A1	IBP cycle
21150.0	KH6WO	Honolulu	BL11BK	100-0.1	Vertical	Omni	A1	IBP cycle
21150.0	ZL6B	Masterton	RE77TW	100-0.1	Vertical	Omni	A1	IBP cycle
21150.0	VK6RBP	28k SE Perth	OF87BW	100-0.1	Vertical	Omni	A1	IBP cycle
21150.0	JA2IGY	Mt Asama	PM84JK	100-0.1	Vertical	Omni	A1	IBP cycle
21150.0	RR9O	Novosibirsk	NO14KX	100-0.1	Vertical	Omni	A1	IBP cycle
21150.0	VR2B	Hong Kong	OL72CG	100-0.1	Vertical	Omni	A1	IBP cycle
21150.0	4S7B	Colombo	MJ96	100-0.1	Vertical	Omni	A1	IBP nonop
21150.0	ZS6DN	Pretoria	KG44DC	100-0.1	Vertical	Omni	A1	IBP cycle
21150.0	5Z4B	Kilifi	KI95	100-0.1	Vertical	Omni	A1	IBP cycle
21150.0	4X6TU	Tel Aviv	KM72JC	100-0.1	Vertical	Omni	A1	IBP cycle
21150.0	OH2B	Karkkila	KP20BN	100-0.1	Vertical	Omni	A1	IBP cycle
21150.0	CS3B	Madeira	IM12	100-0.1	Vertical	Omni	A1	IBP cycle
21150.0	LU4AA	Buenos Aires	GF05	100-0.1	Vertical	Omni	A1	IBP cycle
21150.0	OA4B	Lima	FH17KV	100-0.1	Vertical	Omni	A1	IBP cycle
21150.0	YV5B	Caracas	FK60NL	100-0.1	Vertical	Omni	A1	IBP cycle
21151.0	I1M	Bordighera	JN33UT	10	2 x 5/8 Vert	Omni	A1	24
21171	KA5FYI	Austin TX	EM10	1.25	1/4 Vert	Omni	A1	Int
21393	PY3PSI	Porto Alegre	GF49KX	4	Dipole	N-S	A1	Int
24915.0	IK6BAK	Montefelcino	JN63KR	10	Inv Vee	Omni	A1	24
24920.0	IY4M	Bologna	JN54QK				A1	Int/Robot
24930.0	4U1UN	UN NY	FN20AS	100-0.1	Vertical	Omni	A1	IBP cycle
24930.0	VE8AT	Eureka,Nunavut	EQ79AX	100-0.1	Vertical	Omni	A1	IBP cycle
24930.0	KH6WO	Honolulu	BL11BK	100-0.1	Vertical	Omni	A1	IBP cycle
24930.0	ZL6B	Nr Masterton	RE77TW	100-0.1	Vertical	Omni	A1	IBP cycle
24930.0	VK6RBP	28k SE Perth	OF87BW	100-0.1	Vertical	Omni	A1	IBP cycle
24930.0	JA2IGY	Mt Asama	PM84JK	100-0.1	Vertical	Omni	A1	IBP cycle
24930.0	RR9O	Novosibirsk	NO14KX	100-0.1	Vertical	Omni	A1	IBP cycle
24930.0	VR2B	Hong Kong	OL72CG	100-0.1	Vertical	Omni	A1	IBP cycle
24930.0	4S7B	Colombo	MJ96	100-0.1	Vertical	Omni	A1	IBP nonop
24930.0	ZS6DN	Pretoria	KF44DC	100-0.1	Vertical	Omni	A1	IBP cycle
24930.0	5Z4B	Kilifi	KI95	100-0.1	Vertical	Omni	A1	IBP TNonOp
24930.0	4X6TU	Tel Aviv	KM72JC	100-0.1	Vertical	Omni	A1	IBP cycle
24930.0	OH2B	Karkkila	KP20BN	100-0.1	Vertical	Omni	A1	IBP cycle
24930.0	CS3B	Madeira	IM12	100-0.1	Vertical	Omni	A1	IBP cycle
24930.0	LU4AA	Buenos Aires	GF05	100-0.1	Vertical	Omni	A1	IBP cycle
24930.0	OA4B	Lima	FH17KV	100-0.1	Vertical	Omni	A1	IBP cycle
24930.0	YV5B	Caracas	FK60NL	100-0.1	Vertical	Omni	A1	IBP cycle
24930.5	GB3...			100			A1	UC
24931	DK0HHH	Hamburg	JO53AM	10	Dipole	Omni	A1	24
24986	JE7YNQ	Fukushima	QM07	5	Dipole		A1	24
28110	F5KCK						A1	Robot
28125	KA5FYI	Austin TX	EM10	QRP			A1	Int
28165	KA1EKS	Millinocket ME	FN55OO	4	A99 GP	Omni	A1	24
28175	VE3TEN	Ottawa	FN25	10	GP	Omni	A1	24
28176.8	HP1RCP	Cerro Jefe	FJ09HD	5	Vertical	Omni	A1	24
28180.3	I1M	Bordighera	JN33UT	5/20	2 x 5/8 Vert	Omni	A1	24
28182.0	SV3AQR	Amalias	KM07QS	4	GP	Omni	A1	24
28188	JE7YNQ	Fukushima	QM07	50	Stack Dip	Omni	A1	24
28189	XE1SRF	50k S Mexico C	EK09LA	20	5/8 4.2db	Omni	A1	24
28189.3	A47RB	Oman	LL93FO	50	AR-10	Omni	A1	NonOp
28190	VA3XCD	Ennismore ON					A1	Op?
28190.2	LU4XS	Tierra/d/Fuego	FD65PA	5	Inv Vee	Omni	A1	24
28191	GB...			100			A1	UC
28191	VE6GTE	Bassano AB	DO30HW	25	R7 Vert	Omni	A1	24
28192	LU0ARC			QRP			A1	?
28192	LU2DT		GF11FX				A1	Irreg
28192	LU2FFV			5	GP	Omni	A1	Irreg
28193	LU2EOR		GF15AB				A1	?
28193.2	VE4ARM	Austin MB	EM09HW	5	GP	Omni	A1	24
28195.1	IY4M	Bologna	JN54QK	20	5/8 GP	Omni	A1	24
28195.5	VA2MGL	La Malbaie PQ	FN47UQ	2	Inv Vee	Omni	A1	24
28195.7	WA2NTK	Horsehead NY	FN12NE	5	Vertical	Omni	A1	?
28196	LU4JJ	Concordia ER	GF08XO				A1	Irreg
28196.0	LU6DTS	La Plata	GF15AE	5	GP	Omni	A1	Irreg
28197	LU7VVV	Chabut State	FE77LF	5	6-el		A1	Irreg
28197	LW9DAH						A1	Irreg
28197.0	VE7MTY	Vancouver BC	CN89	5	Vertical	Omni	A1	24



Please notify errors/changes to Martin Harrison, G3USF, HF Beacon Coordinator, Region 1 of the International Amateur Radio Union, 1 Church Fields, Keele, Staffs ST5 5HP, England.

Tel (home): +44 (0)1782 627396. Fax (work): +44 (0)1782 583592. E-mail: hf.beacons@rsqb.org.uk

Freq	Call	Nearest Town	Locator	ERPw	Antenna	Direction	Mode	Status
28198	IZ0AIS		JN61JQ	5			A1	?
28198.0	HB9AFZ	Bellinzona	JN46ME	10	3-el		A1	TNonOp
28199.3	LU1FHH	El Trebol SF					A1	24
28200.0	4U1UN	UN New York	FM20AS	100-0.1	Vertical	Omni	A1	NonOp
28200.0	VE8AT	Eureka,Nunavut	EQ79AX	100-0.1	Vertical	Omni	A1	IBP cycle
28200.0	W6WX	Nr San Jose CA	CM87	100-0.1	Vertical	Omni	A1	IBP cycle
28200.0	KH6WO	Honolulu	BL11BK	100-0.1	Vertical	Omni	A1	IBP cycle
28200.0	ZL6B	Nr Masterton	RE77TW	100-0.1	Vertical	Omni	A1	IBP cycle
28200.0	VK6RBP	28k SE Perth	OF87BW	100-0.1	Vertical	Omni	A1	IBP cycle
28200.0	JA2IGY	Mt Asama	PM84JK	100-0.1	Vertical	Omni	A1	IBP cycle
28200.0	RR9O	Novosibirsk	NO14KX	100-0.1	Vertical	Omni	A1	IBP cycle
28200.0	VR2B	Hong Kong	OL72CG	100-0.1	Vertical	Omni	A1	IBP cycle
28200.0	4S7B	Colombo	MJ96	100-0.1	Vertical	Omni	A1	IBP nonop
28200.0	ZS6DN	Pretoria	KG44DC	100-0.1	Vertical	Omni	A1	IBP cycle
28200.0	5Z4B	Nr Mombasa	KI95	100-0.1	Vertical	Omni	A1	IBP nonop
28200.0	4X6TU	Tel Aviv	KM72JC	100-0.1	Vertical	Omni	A1	IBP cycle
28200.0	OH2B	Karkkila	KP20BN	100-0.1	Vertical	Omni	A1	IBP cycle
28200.0	CS3B	Madeira	IM12	100-0.1	Vertical	Omni	A1	IBP cycle
28200.0	LU4AA	Buenos Aires	GF05	100-0.1	Vertical	Omni	A1	IBP cycle
28200.0	OA4B	Lima	FH17KV	100-0.1	Vertical	Omni	A1	IBP cycle
28200.0	YV5B	Caracas	FK60NL	100-0.1	Vertical	Omni	A1	IBP cycle
28200.7	SV8J	Tinos I.	KM27	2	1/4 Vert	Omni	A1	24?
28201	WA4SZE	Manchester TN		15	GP@190ft	Omni	A1	UC
28201.5	N3PFF	Muncy PA	FN11OE	25	A99 Vert	Omni	A1	UC
28202	ZS1J	Plettenberg Bay	KF15PF	5	1/2 Vert	Omni	A1	24
28202.9	WB5UAA	Ft Huachuca AZ	DM41	5			A1	24?
28203.5	K6LLL	Laguna BeachCA	DM13CN	3	Vertical	Omni	A1	24
28204	LU9LC	Corrientes					A1	?
28204.5	N3NIA	Nr Ridgway PA	FN01PK	5	Dipole		A1	24
28205.0	DL0IGI	Hohenpeissenb'g	JN57MT	150	1/4 Vert	Omni	A1	24
28206	KB0LHB	Zimmerman MN	EN35	2	R5 Vert	Omni	A1	TNonOp
28206.1	VA3GRR	Brampton ON	FN03	1.75	1/2 Vert	Omni	A1	24
28207.5	S5ZRS	Mt Kum	JN76MC	10	1/4 GP	Omni	A1	24
28208.1	JR0YAN	Nr Toyama	PM86JW	25	GP	Omni	A1	24
28208.5	WN2A	Budd Lake NJ	FN20	3			A1	24
28209	EI0TEN	Poer Head, Cobh	IO51UU	25	1/4 V.Dip	Omni	A1	24
28209	W4JE	Hayesville NC	EM85EB	7	Horiz. Dip	N-S	A1	24*
28209	KH6AP	Kikei Maui HI	BL10SS	20	3/8 Vert	Omni	A1	24
28209.8	AF4OD		EM72				A1	Int
28210	W5SXD	Mineral Wells TX					A1	?
28211.2	LA4TEN	Sotra I.	JP20LG	250	Vertical	Omni	A1	24
28211.5	KK7PG	Buckeye AZ					A1	?
28212	W3AW	Springfield IL		1			A1	Op?
28212.5	K0KP	Fredenberg MN	EN36	0.5			A1	?
28213.5	W5AB	Missouri City TX					A1	Op?
28214	LU7DQP	Buenos Aires	GF05TH				A1	Int
28214	N3BUB	Kresgeville PA	FN20FV	5	Omni		A1	NonOp
28215	KA9SZX	Champagne IL	EN50VD	1	CX 1000	Omni	A1	24
28215	GB3RAL	Nr Didcot	IO91IN	25	1/4 GP	Omni	F1	24
28217	WB0FTL	Alden MN		5	Vertical	Omni	A1	24
28217	WB9VMY	Calumet OK	EM05				A1	24
28217.9	W6GY	Roseda CA	DM04	1			A1	24
28218.5	W8MI	Mackinaw C. MI	EN75	0.5	Vertical	Omni	A1	24
28218.5	KA0PSE	Duluth MN	EN36VT	4	Inv V @35ft	Omni	A1	24
28219	K2KL	Monsey NY	FN21WC	3	Horiz Dip	Omni	A1	24
28219.9	KB9DJA	Mooreville IN	EM69RO	35	GP	Omni	A1	24
28220	5B4CY	Zyzi	KM64PR	26	GP	Omni	F1	24
28220.7	PY2XW	Campinas SP	GH68LK				A1	NonOp
28221.7	W6TOD	Ridgecrest CA	DM15	10	dipole		A1	24
28222	F8NBX		JN05	5				Op?
28222.8	KC6UFE	Chico CA		10			A1	24?
28224	F5SN	Dole	JN27RB	5	3-el Yagi	N-S	F1	24
28225.2	KW7Y	Marysville WA	CN88SD	4	Vertical	Omni	A1	24
28225.4	KD5ITC	TX	EL17	3	Vertical	Omni	A1	24
28227	PY3IBZ	Porto Alegre	GF49KW	20	Vertical	Omni	A1	24
28227	KC0W	MN	EN34	5			A1	Op?
28228	ZL3TEN	Rolliston	RE66	20	1/2 Vert	Omni	A1	24
28228	9A0TEN		JN85OO	50			A1	Op?
28230	WH6P	Kanohe Bay HI	BL11CK	10	R7 Vert	Omni	A1	Int
28230	WI9X	Belleville IL					A1	?
28230	N9BPE	Tuscaloosa IL		2	Vertical	Omni	A1	24
28230.2	W4GFA	Walhalla SC		5			A1	NonOp
28230.4	PY3ARL	Port Alegre	GF49JW	5	GP@287m	Omni	A1	24
28231.4	HP1AC	Cerro Azul	FJ09HD	5	1/2 dipole	Omni	A1	24
28232	W7JPI	Sonoita AZ	DM41QP	5	3 el Yagi	045	A1	24
28233.5	N9RET	Broadside IL	EN61	7	A99 Vert	Omni	A1	24
28236	VE3GOP	Mississauga ON	FN03GD	0.5	A99 Vert	Omni	A1	24
28235.2	VE1CBZ	Fredericton NB	FN65	3	Vertical	Omni	A1	24
28237.6	LA5TEN	Nr Oslo	JO59JV	10	5/8 GP	Omni	A1	24
28239.5	KC8QNO	Matville MI						
28240	YO2X	Timisoara	KN05PS	3/.3/.1	Dipole		A1	24
28241.0	VA3SBB	Thunder Bay ON	EN58JJ	3	Antron99	Omni	A1	24
28241.0	VE9MS	Fredericton NB	FN65	5	Loop	F1		NonOp
28242.6	W2IK	Islip NY	FN30GR	25	Vertical	Omni	A1	24
28243.3	F5TMJ	Nr Toulouse	JN03SM	5	Horiz Loop	Omni	A1	24



Freq	Call	Nearest Town	Locator	ERPw	Antenna	Direction	Mode	Status
28243.5	WA1RAJ	Hollis NH					A1	24
28244.0	WA6APQ	Long Beach CA	DM13	30	Vertical	Omni	A1	24
28244.8	VE9BEA	Crabbe Mtn NB	FN66	3	Vertical	Omni	A1	24
28246.0	KG2GL	Nutley NJ	FN20	5	R5 Vert	Omni	A1	24
28246.2	EA3JA	Barcelona	JN11BI				A1	24
28247.5	KG7RS	Mesa AZ		1	Vertical	Omni	A1	24?
28248.2	N1ME	Bangor ME	FN54PS	5			A1	24
28248.5	N7LT	Bozeman MT	DN45LQ	4/.4/.04	1/2 GP	Omni	A1	24
28249.3	PY5ND	Curittba PR	GG54IN				A1	Irreg
28249.7	PI7BQC	Haarlem	JO22HK	2			A1	24
28250	PY3PSI	Cidreira	GF49VU	2.8	GP	Omni	A1	Int
28250	K0HTF	Des Moines IA		2.5			A1	Op?
28250.1	Z21ANB	Bulawayo	KG47	25	GP	Omni	F1	24
28252.5	W6PC	Mt Woodson CA	DM13NB	10	Dipole	Omni	A1	24
28253.5	VK3SIX	Nr Hamilton						24
28254.7	W4STT	Hastings FL	EL99GQ	20	Vertical	Omni	A1	12-2400
28255	N0AR	St Paul MN	EN35KB	0.125	1/2 Vert	Omni	A1	24
28256.5	VK3RMH	25kNEMelbourne	QF22OH	20/2	1/2 Vert	Omni	A1	24
28257.5	DK0TEN	Konstanz	JN57NP	40	GP	Omni	F1	24
28257.8	WY5I	Jupiter FL	EL	5	7db Coll.	Omni	A1	07-2200LT
28259	F5KMD	Boussieres 59	JO10SI	5	3dbi Vert	Omni	A1	24
28259.5	W6ZIP	VictoriavilleCA	DM23	2	Indoor Dip		A1	24
28259.8	KA1NSV/4	Green Bay VA	FM07	25	Vert.Dip.	Omni	A1	24
28269.3	VK5WI	Nr Adelaide	PF95GD	10	GP	Omni	A1	NonOp
28260.4	PY3PAG	RS					A1	Irreg
28261	KF4OTI	North Temple ME					A1	Irreg
28261.8	VK2RSY	Sydney	QF56MH	25	1/2 Vert	Omni	A1	24
28262	WB8KRN	Lexington OH	EN80QQ	3	1/2 Vert	Omni	A1	TNonOp
28263.0	N6PEQ	Tustin CA	DM13	5	Dip@25ft	NE/SW	A1	24
28263.0	VA3QDX	Meaford ON	EN94	5	Vertical	Omni	A1	24
28264.0	AB8Z	Parma OH	EN91DJ	5	5/8 Vert	Omni	A1	24
28264	VK6RWA	Nr Perth	OF78WB	20	Vertical	Omni	A1	24
28264	JA5ZQM	Tokushima	PM74GA	10	1/2 GP	Omni	A1	24
28264.1	N8WLC	Lexington OH	EN80RQ	5	180ft dip	E-W	A1	TNonOp
28264.5	K7NWS	Seattle WA		1	GP	Omni	A1	24
28265	DF0ANN	Moritzberg Hill	JN59PL	5	Dipole	E-W	A1	24
28265	N7SCQ	Sacramento CA		3			A1	24
28268	OH9TEN	Pirttikoski	KP36OI	20	1/2 GP	Omni	A1	24
28268.3	VK8VF	Darwin	PH57KP	40	Vertical	Omni	A1	NonOp
28269.5	W3HH	Pittsburgh PA	EN90	8	Sl/dip		A1	24
28270	VK4RTL	Townsville	QH30JS	5			F1	24
28270.3	W8BEP	Sault S Marie MI	EN76				A1	24?
28271.7	W4TIY	Dallas GA		4	1/4over5/8	Omni	A1	24
28273	KA2GKA	Apopka FL		30	Vertical		A1	Irreg?
28277	KD4MZM	Sarasota FL	EL87	1	Vertical		A1	24
28277.6	DF0AAB	Kiel	JO54GH	10	GP	Omni	F1	24
28280.0	K5AB	Austin TX	EM10DH	20	5/8 GP@45ft	Omni	A1	24
28281.2	KG8CO	Cllnton MI	EN71	0.5	1/4 GP	Omni	A1	24
28282.6	OK0EG	Hradec Kralove	JO70WE	10	GP	Omni	F1	24
28282.5	WOERE	Highlandville MO	EM36IW	5	Vertical	Omni	A1	24
28283.7	K8PY	Whitehall MI	EN63				A1	Op?
28284	KJ7AZ	Rawlins WY	DN61JS	5	Vertical	Omni	A1	24
28285.0	VP8ADE	Adelaide I.	FC52WK	8	Horiz Dip	EU/JA	A1	24
28285.0	N2JNT	Troy NY	FN32DR	1	GP	Omni	A1	24
28286	N5AQM	Chandler AZ	DM43AH	2	Vertical	Omni	A1	24
28286.6	WA8YWO	Nr Richwood WV	EM98	0.1	Slope dip		A1	24
28287.3	NQ2RP	Brockport NY	FN02	0.25	2xwire		A1	24
28288.0	WA7LNV	Hurricane UT	DM37ID	5	FWave Loop	EU/PAC	A1	24
28289.0	WJ5O	Cor. Christi TX	EL17	2	Yagi	NE	A1	24
28289.8	VR2TEN	Hong Kong	OL72	5	1/4 GP	Omni	A1	24
28290.3	SK5TEN	Strengnes	JO89KK	75	GP	Omni	A1	24
28290.3	WB4WOR	Randleman NC	FM06BT	3	Vertical	Omni	A1	24
28290.9	N7CZ	Great Falls MT		10	4el Yagi		A1	?
28291	VE3LZ	Hamilton ON					A1	24
28292.0	N7GSU	McMinnville OR	CN85IF	0.250	Vertical	Omni	A1	24
28292.5	KM4GS	KentuckyLakeKY	EM56	0.5	Vertical	Omni	A1	24
28292.5	WD8AQS	Fremont MN	EN73				A1	?
28292.5	SK0CT	Sollentuna	JO89XK	10	Windom		A1	24
28293	K8FLY	Muskegon MI	EN63	30	Vertical	Omni	A1	Op?
28295.1	SK2TEN	Kristineberg	JP95HB	5	Vertical	Omni	A1	Op?
28295.8	W3VD	Laurel MD	FM19NE	10	Vert Dip	Omni	A1	24
28296	KA7BGR	CentralPointOR	CN82				A1	24
28297	NS9RC	Winnetka IL	EN62DC	8	1/2 Vert	Omni	A1	24
28298.1	SK7TEN	Eksjo	JO77LS	10	Horiz Dip	E-W	A1	?
28298.0	V73TEN	Roi Namur I	RJ39RJ		Horiz OA50	Omni		24
28298.9	K4JDR	Raleigh NC					A1	24
28299.3	SK3TEN	Osterfernebo	JP80FD	50	2 x 6el Yagi	West	A1	Op?
28300	KF4MS	Tallahassee FL	EM70VM	1	10m Ringo	Omni	A1	24?
28301.0	PI7ETE	Amersfoort	JO22QD	0.5	Vertical	Omni	F1A	24
28302.2	UA4NM	Kirov	LO48UO					24?

? = Activity uncertain

Int = Intermittent

PT = Part-time

Irreg = Irregular

UC = Under Construction

Exp = Experimental

LT = Local Time

Op? = Operational?

(T)NonOp = (Temporarily) NotOperational



Schedule of IBP/NCDXF Beacon Transmissions

International Beacon Project (IBP) beacons transmit for ten seconds on each frequency in turn in the sequence shown below. They send their callsign at 22 WPM and 100 watts, then four 1-second dashes at 100W, 10W and 0.1W. Equipment is a TS-50, a Cushcraft R-5 multiband vertical and a Trimble Navigation GPS receiver to ensure synchronisation, with a control unit built by NCDXF.

Location	Call	Frequency				
		14100	18110	21150	24930	28200
United Nations NY	4U1UN	00.00	00.10	00.20	00.30	00.40
Northern Canada	VE8AT	00.10	00.20	00.30	00.40	00.50
USA (CA)	W6WX	00:20	*	00:40	*	01:00
Hawaii	KH6WO	00.30	00.40	00.50	01.00	01.10
New Zealand	ZL6B	00.40	00.50	01.00	01.10	01.20
West Australia	VK6RBP	00.50	01.00	01.10	01.20	01.30
Japan	JA2IGY	01.00	01.10	01.20	01.30	01.40
Siberia	RR9O	01.10	01.20	01.30	01.40	01.50
China	VR2HK	01.20	01.30	01.40	01.50	02.00
Sri Lanka	4S7B	01.30	01.40	01.50	02.00	02.10
South Africa	ZS6DN	01:40	01.50	02:00	02:10	02:20
Kenya	5Z4B	01.50	02.00	02.10	02.20	02.30
Israel	4X6TU	02:00	02:10	02:20	02:30	02:40
Finland	OH2B	02:10	02:20	02:30	02:40	02:50
Madeira	CS3B	02.20	02.30	02.40	02.50	00.00
Argentina	LU4AA	02:30	02:40	02:50	00.00	00:10
Peru	OA4B	02.40	02.50	00.00	00.10	00.20
Venezuela	YV5B	02:50	00.00	00:10	00:20	00:30

*W6WX is not currently licensed for 18 or 24 MHz.

LN2A (note +)

Operated for the ITU field-strength measuring programme.

The schedule is:

5470kHz	08-12 28-32 48-52
7870kHz	12-16 32-36 52-56
10407kHz	16-20 36-40 56-00
14395kHz	00-04 20-24 40-44
20945kHz	04-08 24-28 44-48mins

Note: These are the nominal frequencies. Morse IDs will be heard at 1650Hz above nominal, and that frequency is the one given in the listings above.

DK0WCY (note zz)

Normal transmission:
DK0WCY beacon (x3) + 4 secs dash

During auroras:
DK0WCY beacon (x3) aurora + short dashes or
DK0WCY beacon (x3) strong aurora + 9secs dash

At every full five minutes, basic solar/geophysical information is forecast on CW. 3.5MHz may not operate on contest weekends and is 1 hour earlier in summer.

RSGB beacon co-ordinators:

HF IARU: Martin Harrison, G3USF.
 RSGB VHF: David Butler, G4ASR.
 50, 70, 144, 432MHz RSGB/IARU: John Wilson, G3UUT.
 RSGB microwave: Graham Murchie, G4FSG.
 Thanks are due to G4ICD of the UK 6m group for details on the many 50MHz beacons.

VHF Beacons

Freq	Call	Nearest Town	Locator	m ASL	Antenna	Direction	Power	Keeper	Status
50.000	GB3BUX	Buxton, Derbys	IO93BF	457	Turnstile	Omni	20	G4IHO	
50.000	9A1CAL		JN86EL		Turnstile	Omni	1		
<i>50.001</i>	<i>VE1SMU</i>	<i>Halifax NS</i>	<i>FN84</i>		<i>3 el Yagi</i>	<i>90°</i>	<i>40</i>		
50.0025	7Q7SIX	Malawi	KF75						
50.004	I0JX	Rome	JN61HV	100	5/8 Vertical	Omni	5		
50.0047	4N0SIX	Belgrade	KN04FU		Dipole	Omni	1		
50.005	ZS2SIX	Port Elizabeth	KF25XD		Dipole	0°/180°	25		
50.005	9M2TO	Penang Island	OJ05DJ		5/8 GP	Omni	25		
50.0062	PY0FF		HI36TD		Ringo	Omni	30		
<i>50.008</i>	<i>VE8SIX</i>	<i>Inuvik NWT</i>	<i>CP38</i>		<i>Double Bay</i>	<i>0°/180°</i>	<i>80</i>		
<i>50.008</i>	<i>XE2HWB</i>	<i>La Paz Baja</i>	<i>DL44</i>		<i>GP</i>	<i>Omni</i>	<i>50</i>		
50.0095	PY2SFY		GG77GA		5/8 Vert	Omni	5		
50.010	JA2IGY	Mie	PM84JK		5/8 G/Plane	Omni	10		
50.0108	SV9SIX	Iraklio	KM25NH		Vertical dipole	Omni	30		
50.011	OK0EK	Kromeriz	JN89QG	300	2 x Dipole	Omni	10	OK2PWM	Temp QRT
50.012	OX3SIX	Kulesuk	HP15EO	1500	Dipole	90°/270°	100		
50.013	CU3JURA	Terceira, Azores	HM68		5/8 Vertical		5		
50.013	LZ1JH		KN22TK		GP	Omni	1		
50.014	V73SIX	Roi Namur Is	RJ39RJ		Pan Loop		70	V73AT	
500145	9M6SMC	Keningau	OJ85AX		2 Turnstile	Omni			
50.0155	LU9EHF	Lincoln City	FF95		Dipole		15		
50.017	JA6YBR	Miyazaki	PM51RT		Turnstile		50		
50.0174	V51VHF	Windhoek	JG87		5/8 Vert	Omni	30		Non op
50.019	CX1CCC	Montevideo	GF15		Ground Plane	Omni	5		
50.020	GB3SIX	Anglesey					25		Planned
<i>50.020</i>	<i>VE8WD</i>	<i>Yellowknife NWT</i>	<i>DP22</i>		<i>J pole</i>	<i>Omni</i>	<i>20</i>		
50.0207	IK5ZUL		JN52						
50.021	S5ZRS	Mt. Kum	JN76HD	1216	Ground Plane	Omni	8	S57C	
50.0213	OZ7IGY	Tollose	JO55VO	92	Turnstile	Omni	20	OZ7IS	
50.0225	FR5SIX	Reunion Is	LG78	1700	dipole	0°/180°	1.5	F5QT	
50.0225	XE1KK	Mt Popocatepetl	EK09QC		Ringo	Omni	20		
50.023	LX0SIX	Bourscheid	JN39BF	500	Horizontal Dipole	0°/180°	10	LX1JX	
<i>50.0235</i>	<i>JA1ZYK</i>	<i>Chiba</i>	<i>QM07</i>		<i>2x Turnstile</i>	<i>Omni</i>	<i>50</i>	<i>JE1BMJ</i>	
50.0235	ZP5AA	Asuncion	GG14		Vertical	Omni	5		

50MHz beacons in italics are in regions 2 or 3.



Freq	Call	Nearest Town	Locator	m ASL	Antenna	Direction	Power	Keeper	Status
50.0242	SR5SIX	Wesola	KO02OF	130	Ground Plane	Omni	3	SP5TAT	
50.0247	UN1SIX	Kazakhstan	MN83KE	3400	GP	Omni	12		
50.025	9H1SIX	Attard, Malta	JM75FV	75	Ground Plane	Omni	7	9H1ES	
50.025.4	OH1SIX	Ikaalinen	KP11QU	157	4 x Turnstile	Omni	40		
50.025	YV4AB	Valensia	FK50		Ringo		15		
50.027	CN8LI	Rabat	IM64		J Pole	Omni	8	CN8LI	
50.027	SK7SIX	Hultsfred	JO77UM			Omni	15		
50.027	JE7YNQ	<i>Fukushima</i>	QM07		2 x Turnstile	Omni	50		
50.0276	SR6SIX	Sztobno / Wolow	JO81HH		Ground Plane	Omni	10	SP6GZZ	
50.028	SR8SIX	Sanok	KN19CN						Non op
50.028	XE2UJL	San Quintin	DM10		2 Sq Loops		25		
50.029	P29BPL	Port Moresby	QI30				25		
50.030	CT0WW	Joao da Pesq.	IN61GE	400	H. Dipole	45°/225°	40		
50.031	ZD8VHF	Ascension Is	II22TB	723	5/8 Vertical	Omni	50		
50.0315	CT0SIX	Tavarde	IN50NE						
50.032	JR0YEE	Niigata	PM97		Loop		2		
50.035	HC8GR	Galapagos Is	EI59		Halo	Omni	30		
50.035	OY6SMC	Faroe Is	IP62MB						
50.0366	SR2SIX	Bydgoszcz	JO93BC						
50.037	VE4VHF	Headingly MB	EN19		Vertical	Omni	35		
50.037	JR6YAG	Okinawa	PL36		2 x 5/8 G Planes	Omni	10		
50.0375	ES0SIX	Hiiuma Island	KO18CW	105	Hor. dipole	90°/270°	15	ES1CW	
50.038	FP5XAB	St Pierre Miquelon Is	GN16		Dipole	Omni	15	FP5EK	
50.039	FY7THF		GJ35		Ground plane	Omni	50	FY7F1AWX	
50.039	VO1ZA	St Johns	GN37		1/4 Wave Vert	Omni	10		
50.040	SV1SIX	Athens	KM17UX	130	Vertical Dipole	Omni	30		
50.040	ZL3SIX	<i>Christchurch</i>	RE66			45/225/135/315	70		
50.041	VE6EMU	<i>Camrose</i>	DO33		4el Yagi	22°	35		
50.041	ON0SIX	Waterloo	JO20EP		X dipole	Omni	5		
50.0424	GB3MCB	St Austell	IO70OJ	320	Dipole	90°/270°	40	G3YJX	
50.043	VE6ARC		DO05		Ground Plane	Omni	25		
50.0433	ZL1VHF	Whitford	RF73MB		½ vertical	Omni	20	ZL3VTV	
50.044	ZS6TWB	Haenertsburg	KG46XA		5/8 vertical	Omni	15		
50.045	OX3VHF	Qaqortoq	GP60XR	15	Ground Plane	Omni	20	OX3JUL	
50.046.5	VK8RAS	Alice Springs	PG66		X Dipole	Omni	15		
50.047	JW7SIX	Svalbard	JQ68TB	10	3 el Yagi	180°	30	LA0BY	
50.047	YO2S	Timisoara	KN05PS		Dipole		1	YO2IS	
50.0472	4N1SIX	Belgrade	KN04OO		Vee	Omni	10		Non op
50.0482	VE8BY	Iqaluit NT	FP53BS		Vert dipole	Omni	25		
50.0485	TR0A	Libreville	JJ40		5 el Yagi	0°	15		
50.049	VA3BCN		FN03		Horiz Dipole				
50.050	Proposed for IARU IBP								
50.050	ZS6DN	Pretoria	KG44DE		5 el Yagi	135°	100	ZS6DN	
50.051	LA7SIX	Hofsoy	KP09JQ		5 el Yagi	200°	20		
50.053	PI7SIX	Utrecht	JO22NC	40	Dipole	0°/180°	12	PA3FYM	
50.054	OZ6VHF	Oestervraa	JO57EI		Turnstile	Omni	50	OZ1IPU	
50.055	V44KAI	St Kitts/Nevis	FK87QH		5/8 Vertical		2		
50.0565	VA7SIX	Coquitlam BC	CN89		Halo	Omni	10		
50.0565	J6EOC		FK92		Halo	Omni	2		
50.057	TF3SIX	Reykjavik	HP94BC	120	5/8 Vertical	Omni	22	TF3GW	
50.057	VK7RAE	Kelcy Tier	QE38		X Dipoles	Omni	20		
50.057	VK8VF	Darwin	PH57		1/4 Vertical		100		
50.0575	VK4RGG	Nerang	QG62		Turnstile	Omni	10		
50.058	HB9SIX	Zurich	JN47KM	520	J Pole	Omni	0.1	HB9RUZ	
50.0593	PY2AA	Sao Paulo	GG66		Ground Plane		25		
50.0595	VE3UBL	Brougham	FN03		Turnstile	Omni	10		
50.0595	K4TQR	Birmingham AL	EM63QM		Dipole		4		
50.060	W5VAS	Lacombe LA	EM50		Squalo		100		
50.060	KD4NMI	Knightdale NC	FM05RT		Vert. Dipole	Omni	10		
50.060	GB3RMK	Inverness	IO77UO	270	Dipole	0°/180°	10	GM3WOJ	
50.060	WB0RMO	Fairbury NE	EN10		Squalo		25		
50.061	EA3VHF	Gerona	JN11MV		Vertical	Omni	1		Intermittent
50.061	W1VHF	W, Greenwich RI	FN41		Vertical		25		
50.0617	KH6HME	Pahoe HI	BK29		Dipole		20		
50.062	GB3NGI	Ballymena	IO65PA	240	Dipole	140°/320°	10	G16ATZ	Planned
50.062	OZ2VHF	Esbjerg	JO45FL		Horiz Dipole	0°/180°	1		
50.0625	W7HAH	Marion Mt	DN28NB		Halo stack	Omni	25		
50.063	LY0SIX		KO24PS		Dipole	Omni	7	LY2MW	
50.063	W4HFN	Memphis TN	EM55AB		5 el Yagi		10		
50.0635	NL7Z	Wasilla	BP51		Vert dipole	Omni	20		
50.0635	K7UV	N. Utah	DN31XM		H loop	Omni	10		
50.064	GB3LER	Lerwick	IP90JD	104	Dipole	0°/180°	30	GM4SWU	
50.064	W3VD	Laurel MD	FM19NE		Squalo		7		
50.065	GB3IOJ	St Helier	IN89WE	115	Vertical	Omni	10		
50.065	W0LJR	Aurora CO	DM79		2 x Ring Halo	Omni	20		
50.0652	KH6HI	Haleiwa HI	BL01		Turnstile	Omni	50		
50.0655	W0MTK	Fruita CO	DM59		4 V Dipoles		4		
50.066	VK6RPH	Nr Perth	OF88		U Dipole		10		
50.0666	WA1OJB	Bowdoinham ME	FN54		2 el colinear		10		
50.067	KQ4E	Morristown TN	EM86		Halo	Omni	10		
50.067	OH9SIX	Pirttikoski	KP36OI	192	2 x Turnstile	Omni	35	OH6DD	

Freq	Call	Nearest Town	Locator	m ASL	Antenna	Direction	Power	Keeper	Status
50.067.5	W3HH	Coraopolis PA	EN90		Horizontal Loop		10		
50.067.5	N8PUM	Felch MI	EN65BX		Dipole	Omni	10		
50.068	LZ0SIX		KN12QP		Ground Plane	Omni	20	LZ2HM	
50.0685	K2ZD	Union City NJ	FN20		5/8	Omni	20		
50.0689	K6FV	Woodside CA	CM87UL			55°/275°	100		
50.0699	W1RA	Cape Cod MA	FN41		V Dipole		15		
50.070	SK3SIX	Edsbyn	JP71XF	505	Hor X dipole	Omni	10	SM3EQY	
50.070	ZS1SES								Non op?
50.0706	KOETC	Joplin MO	EM27		Turnstile	Omni	10		
50.073	KOKP	Duluth MN	EN36WT		Loop	Omni	100		
50.0735	EA8SIX		IL28GD			Omni	14		
50.074	KD4HLG	Conyers GA	EM73		AR6		3/30		
50.075	VR2SIX	Hong Kong	OL72		Ground Plane		7		Test
50.075	N4RT	Orange Beach AL	EM60		Halo	Omni	10		
50.075	YO3KWJ		KN34BJ		Ground Plane	Omni	5	Y03JW	
50.755	YV5LIX	Caracas	FK60NM		5 el Yagi	45°	5		
50.077	DL????								Planned
50.077	N3FTI	Reading PA	FN20AJ		Halo	Omni	10		
50.0775	VK4BRG	Sarina	QG48		Turnstile		5		
50.0776	NOLL	Smith Centre KS	EM09		2 x Halo		21		
50.078	OD5SIX	Lebanon	KM74WK		1/4 Vertical	Omni	7	OD5SB	
50.078	PT7BCN	Fortaleza CE	HI06RF						
50.0785	TI2NA	San Jose	EJ79		Dipole		20		
50.079	JX7DFA	Jan Mayen Island	IQ50OV		5 el yagi	160°	40	LA7DFA	
50.080	W4CHA	Tampa FL	EL88		5/8 Vertical	Omni	30		
50080.0	4X4SIX	Tel Aviv	KN72JB		Dipole		3		
50.080	PP1CZ		GG99UQ		5 el Yagi	0°	3		
50.080	UU5SIX	Nr Yalta	KN74AL		Dipole		10		
50.080	ZS1SIX	Cape Town	JF96FB		Halo		10		
50.083	VE3UHF	Brereton Lake MB	EN29		¼ Vertical	Omni	10		
50.084	UT5G	Petri UKR	KN66LS	105	Ground plane	Omni	10	UT7GA	
50.0847	UR4LL		KO70XG	106	H dipole	Omni	8	UR4LL	
50.283	VK3RMH	Melbourne	QF22OH		Double loop	Omni	10		
50.293	VK3SIX	Hamilton	QF02WK		9 el Yagi	0°	12		
50.297	VK7RST	Hobart	QE37		Dipole		15		
50.304	VK6RSX	Dampier	OG89		Horizontal dipole		50		
50.306	VK6RBU	Bunbury	OF76		3 el Yagi	260°/80°	25		
50.308	VK6RTW	Albany WA	OF84		Slope dipole		10		
50.315	FX4SIX	Neuville	JN06CQ	153	Turnstile	Omni	25	F5GTW	
50.321	ZS5SIX	Hilton	KG50		Halo	Omni	10	ZS5QR	
50.325	F1X??	Cany-Barville	JN09HS	130	2 x Turnstile	Omni	5	F1EHX	Planned
50.480	JH8ZND	Chitose	QN02UW		5/8 Ground Plane	Omni	10		
50.490	JG1ZGW	Tokyo	PM95VP		7 el Yagi	180°	10		
50.4995	5B4CY	Zyghi, Cyprus	KM64PR	30	Ground Plane	Omni	20	5B4BBC	
50.5203	SZ2DF		KM25		4 x 16 el	30°/330°	1000		
52.325	VK2RHV	Newcastle NSW	QF57		Vertical dipole	Omni	10		
52.3465	VK4ABP	Longreach	QG26		1/4 Vertical	Omni	10		
52.420	VK2RSY	Sydney NSW	QF56MH		Turnstile	Omni	25		
52.438	VK3FGN	Mildura Victoria	QF15BT						
52.445	VK4RIK	Mt Haren	QH23		Dipole		15		
52.450	VK5VF	Mt Lofty Adelaide	PF95		Turnstile	Omni	10		
70.000	GB3BUX	Buxton, Derbys	IO93BF	456	2 x Turnstile	Omni	20	G4IHO	
70.002	ZS1FOR/B	Western Cape	JF96FB		Horiz. Dipole		15		
70.005	ZS5MTL		KG50IG			Omni	50		
70.014	S55ZRS	Mt. Kum	JN76MC	1219					Planned
70.015	ZR6FOR								Planned
70.020	GB3ANG	Dundee	IO86MN	370	3 el Yagi	160°	100	GM4ZUK	
70.025	GB3MCB	St Austell	IO70OJ	320	2 el Yagi	45°	40	G3YJX	
70.029	S55ZMB		JN76VK	250	4 el Yagi	310°	5	S51DI	
70.030	G Personal Beacons								
70.030	S56A		JN76GB				1		Personal
70.050	Proposed for IARU IBP								
70.114	5B4CY	Zyghi, Cyprus	KM64PR	30	4 el Yagi	315°	15	5B4BBC	
70.130	EI4RF	Dublin	IO63WD	120	2 x 5 el Yagi	45°/135° seq	25	EI9GK	
144.282	W1RJA/B	Rhode Is	FN41CJ	140	5 el Yagi		500	W1RJA	QRT
144.300	VE1SMU/H	Nova Scotia	FN84CM		4 x 9 el Yagi	61°	4.8kW	VE1KG	
144.400	VO1??	Transatlantic beacon			Ground plane	Omni	1	VO1NA	
144.402	EA8VHF	Grand Canary Is	IL28GC			Omni	10		
144.4025	EA1VHF	Curtis	IN53RE	615	Halo	Omni	25	EA1DKV	
144.403	EI2WRB	Portlaw	IO62IG	248	5 el Yagi	95°	200	EI6GY	
144.405	F5XAR	Lorient	IN87KW	165	9 ele Yagi	290°	400	F6ETI	Trans Atl.
144.407	GB3SSS	Poldhu	IO70IA	50	8/8 slot Yagi	300°	200	G3AGA	Trans Atl.
144.409	F5XSF	Lannion	IN88GS	145	9 el Yagi	90°	50	F6DBI	
144.410	DB0SI	Schwerin DOK V14	JO53QP	90	Big wheel	Omni	10 TX	DL1SUZ	
144.410	YO2X	Timisoara	KN05PS		Turnstile		3/0.5	YO2IS	
144.410	ZS2VHF	Port Elizabeth	KF25UX		5 el Yagi	45°	160	ZS2FM	
144.411	I1G	La Spezia	JN44VC	745	Turnstile	Omni	1	IK1LBW	
144.412	SK4MPI	Borlaenge	JP70NJ	520	4 x 6 el Yagi	45°/315°	1500	SM4HFI	
144.414	DB0JW	Wurselen DOK G05	JO30DU	238	7 el Yagi	22°	50	DL9KAS	



Freq	Call	Nearest Town	Locator	m ASL	Antenna	Direction	Power	Keeper	Status
144.415	I1M	Bordighera IM	JN33UT	300	Big wheel	Omni	20	IK1PCB	
144.416	PI7CIS	Scheveningen	JO22DC	40	Dipole	90/270°	50	PA0CIS	
144.417	OH9VHF	Pirttikoski	KP36OI	310	10dBd gain	200°	200	OH6DD	
144.418	ON4VHF	Louvain La Neuve	JO20HP	180	Clover leaf	Omni	15	ON7ZV	
144.419	I2M	Cremona	JN55AD	46	Big wheel	Omni	10	IK2THZ	
144.420	DB0RTL	DOK P60	JN48PL	480	Big wheel	Omni	15	DL8SDL	
144.422	DB0TAU	DOK F11	JO40HG	326	4 x 4 el Yagi	Omni	15	DL3DC	
144.423	PI7FHY	Heerenveen	JO22WVV	52		Omni	10	PA3FHY	
144.424	IN3A	Trento	JN56NB	225	Ground plane	Omni	0.1	IN3IYD	
144.425	F5XAM	Blaringhem	JO10EQ	99	Big wheel	Omni	14	F6BPB	
144.426	EA6VHF	San Jose, Ibiza	JM08PV	150		Omni	20	EA6FB	
144.427	OK0EJ	Frydek-Mistek	JN99FN	1323	4 el Yagi	270°	0.3	OK2UWF	
144.427	PI7PRO	Nieuwegein	JO22NA	10	Halo	Omni	10	PI4VRZ	
144.428	DB0JT	Oberndorf DOK C16	JN67JT	785	4 x Dipole	0°	30	DJ8QP	
144.429	IV3A	Cormons Go	JN65RW	130	2 x Turnstile	Omni	4	IV3HWT	
144.430	GB3VHF	Wrotham, Kent	JO01DH	268	2 x 3 el Yagi	315°	40	G8JNZ	
144.431	9A0BVH		JN85JO	489	V Dipole	Omni	1		QRT ?
144.432	9H1A	Malta	JM75FV	160	Turnstile	Omni	1.5	9H1BT	QRT ?
144.433	TF?								Planned
144.434	DB0LBV	DOK S30	JO61EH	232	2 x Dipole	Omni	0.4 TX	DL1LWM	
144.435	HB9H	Locarno	JN46KE						Uncertain
144.435	SK2VHG	Svappavara	KP07NN	380	16 el Yagi	180°	800	SK2CP	
144.436	I3A		JN55						
144.437	LA1VHF	Oslo	JO59MS	358	X300 (Vert)	Omni	20	LA4PE	Temp QRT
144.438	3A2B	Monaco	JN33RR	50	Ground Plane	Omni	50	3A2LF	
144.438	OK0EO	Olomouc	JN89QQ	602	Ring dipole	Omni	0.05	OK2VLX	Planned
144.440	DL0UH	Melsungen DOK Z25	JO41RD	385	V Dipole	Omni	1	DJ3KO	
144.440	ZS0VST	Orange Free State			8 el Yagi	0°	30	ZS4NS	Planned
144.441	LA4VHF	Bergen	JP20LG	30	2 x 8 el Yagi	0°	380	LA6LU	
144.442	I4A	Bologna	JN54QK	300	4 x Dipole	Omni	1/10	IK4PNJ	
144.443	OH2VHF	Nurnmi	KP10VJ	76	9 el yagi	0°	150		Temp QRT
144.444	DB0KI	Bayreuth DOK Z42	JO50WC	1025	Dipole	Omni	2.5	DC9NL	
144.444	I5A	Lucca	JN53GW	1000	Big wheel	Omni	6	IW5BHY	On Test
144.445	GB3LER	Lerwick	IP90JD	108	2 x 6 el Yagi	45°/135°	500/500	GM4IPK	QRT
144.446	OK0EB	Ceske Budejovice	JN78DU	1084	Miniwheel	Omni	0.07/0.007	OK1APG	
144.447	SK1VHF	Klinterhamn	JO97CJ	65	2 x Cloverleaf	Omni	10		
144.448	HB9HB	Biel	JN37OE	1300	3 el Yagi	345°	120	HB9AMH	
144.449	I0A	P.Mirteto RI	JN62IG	300	2 x Big wheel	Omni	10	IW0BCF	
144.450	DL0UB	Trebbin	JO62KK	120	4 x Dipole	Omni	10 TX	DL7ACG	
144.450	F5XAV	Remoullins	JN23GX	100	Halo	Omni	5	F5IHN	
144.451	LA7VHF	Maalselv	JP99EC	30	10 el Yagi	180°	500	LA5TFA	Temp QRT
144.452	OK0EC	As	JO60CF	778	3 el Yagi	90°	0.7	OK1MO	
144.453	GB3ANG	Dundee	IO86MN	370	4 el Yagi	160°	20	GM4ZUK	
144.454	IS0A	Olbia SS	JN40QW	350	Turnstile	Omni	1	IW0UGR	
144.455	I0G	Foligno PG	JN63IB	1200	4 x dipole	Omni	10	IW0QIT	
144.455	OH5ADB	Hamina	KP30NN	65	Dipole	135°/315°	0.1		
144.456	DB0GD	Rhoen DOK Z62	JO50AL	930	Dipole	0°/180°	1 TX	DG6ZX	
144.457	SK2VHF	Vindeln	JP94TF	300	2 x 10 el Yagi	0°/225°	100		
144.458	F1XAT	Brive	JN15AO	913	Big wheel 6dB	Omni	25	F1HSU	
144.459	LA5VHF	Bodo	JP77KI	260	2 x 6 el Quad	15°/180°	100	LA1UG	QRT
144.460	HG1BVA	Szentgotthard	JN86CW	370	Hybrid Quad	80°	40	HA1YA	
144.460	TF?								Plan ?
144.461	SK7VHF	Falsterbo	JO65KJ	25	2 x Cloverleaf	Omni	10		
144.462	I6A		JN72						Plan 1/99
144.463	LA2VHF	Melhus	JP53EG	710	10 el Yagi	15°	500	LA1K	
144.464	I7A	Bari	JN81EC	685	Big wheel	Omni	8	I7FNW	
144.465	DF0ANN	DOK B25	JN59PL	630	V Dipole	Omni	0.3 TX	DL8ZX	
144.465	CN8LI	Rabat	IM64		5 el Yagi	25°	30 TX	CN8LI	
144.466	OZ4UHF	Osterlars Bornholm Is	JO75LD	130	Big wheel	Omni	10	OZ1HTB	
144.467	HB9RR	Zurich	JN47FI	871	4 x Dipole	Omni			
144.467	I8A	Reggio C.	JM78WD	1778	SqLo	Omni	8	I8GMP	
144.467	OK0ED	Frydek-Mistek	JN99DQ	290	2 x Dipole	Omni	0.1	OK2UWF	
144.468	F1XAW	Beaune	JN26IX	561	Big wheel	Omni	10	F1RXC	
144.468	LA6VHF	Kirkenes	KP59AL	70	9 el Yagi	210°	300	LA4OO	
144.469	GB3MCB	St Austell	IO70OJ	320	3 el Yagi	45°	40	G3YJX	
144.469	IT9A	Alcamo TP	JM67LX	825	2 x Big wheel	Omni	10	IT9QPF	
144.470	OH2VAN	Vantaa	KP20			Omni			Temp QRT
144.470	OK0EZ	Chrudim	JN79VV	350	X dipoles	Omni	2/0.5	OK1DXF	
144.471	OZ7IGY	Tollose	JO55VO	96	Big wheel	Omni	25	OZ7IS	QRT Q1/00
144.472	IT9G	Mondello PA	JM68QE	50				IT9BLB	Plan 1/99
144.472	TF?								Plan ?
144.473	OE3XAA	Hoher Lindkogel	JN88BA	834	Halo	Omni	0,2	OE1BKW	QRT
144.474	OK0EL	Benecko	JO70SQ	1030	Dipole	90°/270°	0.005	OK1AIY	
144.475	DL0SG	DOK U14	JN69KA	1024	4 x 4 el Yagi	Omni	5 TX	DJ4YJ	
144.475	LY2WN	Jonava	KO25GC		2 x Dipole	Omni	15	LY2WN	
144.475	YU1VHF	Pozarevac	KN04OO	200	2 x QQ	135°/337°	10	YU1AU	
144.476	F5XAL	Pic Neulos	JN12LL	1100	5 el Yagi	180°	40	F6HTJ	
144.477	DB0ABG	DOK U01	JN59WI	522	Big Wheel	Omni	4 TX	DJ3TF	
144.478	LA3VHF	Mandal	JO38RA	30	9 el Yagi	180°	120	LA3BAA	
144.478	OM0MVA	Bratislava	JN88NE	570	Dipole	90°/270°	0.11	OM3ID	
144.478	S55ZRS	Mt.Kum	JN76MC	1219	Dipole	Omni	1	S57C	

Freq	Call	Nearest Town	Locator	m ASL	Antenna	Direction	Power	Keeper	Status
144.479	SR5VHF	Wesola	KO02OF	130	Turnstile	Omni	0.75	SP5TAT	
144.479	IT9S	Acireale CT	JM77NO	800	2 x Loop	Omni	3	IW9AFI	QRT
144.480	EA3VHF		JN11MV						
144.480	LA8VHF		JO48XX	300	3x2 el Yagi	150°	100	LA6LCA	
144.482	GB3NGI	Ballymena	IO65VB	528	2 x 4 el Yagi	45°/135°	120/120	G16ATZ	
144.486	DL0PR	Garding DOK Z69	JO44JH	75	4 x 6 el Yagi	0°/180°	200 TX	DL8LD	
144.490	DB0FAI	Langerringn DOK T01	JN58IC	590	16 el Yagi	305°	1000	DL5MCG	
144.825	OY6VHF	Faeroes (pl 144.402)	IP62OA	300	2 x 4 el Yagis	45°/135°	50		QRT Q2 99
144.855	LZ1VHF		KN12PO		GP		1		
144.922	ZS6TLB	Peitersburg	KG46RC		2 x 5 el Yagis	215°	10		QRT
431.999	LZ1UHF		KN12PO		GP	Omni	1		
432.000	YO2U	Timisoara	KN05PS		4 el Yagi	315°	0.2	YO2IS	
432.128	S55ZNG	Trstelj	JN65UU	643	Horizontal Loop	Omni	0.1	S50M	
432.800	DB0GD	Rhoen	JO50AL	930	Dipole	0°/180°	1 TX	DG6ZX	
432.800	OE3XMB	Muckenkogel	JN77TX	1154			2	OE3FFC	
432.804	F1ZNI		JN23MM			Omni		F1AAM	Planned
432.810	DB0ZW	DOK U17	JN69EQ	825	Schlitz	Omni	1 TX	DC9RK	
432.816	PI7CIS	Scheveningen	JO22DC	40		Omni	100		
432.820	LA8UHF	Tonsberg	JO59FB	30	8 el Yagi	90°/180°	50	LA6LCA	
432.825	DB0ABG	DOK U01	JN59WI	522	Big Wheel	Omni	1 TX	DJ3TF	QRT
432.830	F5XBA	Preaux	JN18KF	166	4 x HB9CV	Omni	10	F6HZA	
432.830	LA7UHF	Bergen	JP20LG	30	4 el Yagi	0°	200	LA6LU	
432.835	ES0UHF	Hiiumaa Island	KO18CW	105	Alford slot	Omni	50	ES0NW	
432.840	DB0KI	Bayreuth	JO50WC	925	Dipole	Omni	10	DC9NL	
432.840	OH6UHF	Uusikaarlepyy	KP13GM	55	3 x Big wheel	Omni	7	OH6UH	
432.845	DB0LBV	DOK S30	JO61EH	234	Schlitz	Omni	2 TX	DL1LWVM	
432.845	LA9UHF	Geilo	JP40CM	1000	2 x 13 el Yagi	33°	250	LA3SP	QRT
432.847	9A0BUH		JN85JO	489	V dipole	Omni	1		
432.850	DL0UB	DOK Z20	JO62KK	120	Malteser	Omni	10 TX	DL7ACG	
432.850	I5B	Vinci FI	JN53KN	300	2 x 10 el Yagi	16°/260°	2	I5WBE	
432.852	OH2UHF	Nummi	KP10VJ	76	2 x dipole	90°/270°	50		
432.855	LA5UHF	Bodo	JP66WX	1110	10 el Yagi	15°	100	LA1UG	QRT
432.855	SK3UHF	Nordingra	JP92FW	200	4 x Double quad	Omni	10	SM3AFT	
432.860	LA1UHF	Oslo	JO59MS	380	X300 (Vert)	Omni	30	LA4PE	Temp QRT
432.863	F5XAG	Lourdes	IN93WC	550	2 x 10 el	22°	40	F5HPQ	Temp QRT
432.865	LA6UHF	Kirkenes	KP59AL	70	15 el Yagi	210°	40	LA4OO	
432.870	EI2WRB	Portlaw	IO62IJ	248	5 el Yagi	95°	250	EI9GO	
432.870	LA2UHF	Melhus	JP53EG	710				LA1K	
432.873	PI7HVN	Heerenveen	JO22WVW	50	Horizontal	Omni	0.5	PE1HUE	
432.875	DB0FAI	DOK T01	JN58IC	610		Omni	10	DL5MCG	
432.875	OH7UHF	Kuopio	KP32TW	215	6dBd	225°	15/1.5/.15		
432.875	SK2UHF	Vindeln	JP94WG	445	2 x 20 el coll	0°/225°	300	SK2AT	
432.880	LA3UHF	Mandal	JO38RA	12	13 el Yagi	180°	50	LA3BAA	
432.882	OE3XAA	Hoher Lindkogel	JN88BA	834			0.2	OE1BKW	QRTMCU
432.885	OY6UHF	Faroe Is	IP62OA	300	7dB Group	135°	50	OY1A	QRT Q2 99
432.886	F5XAZ	St Savin	JN06KN	144	Big wheel	Omni	50	F5EAN	
432.886	OK0EP	Sumperk	JO80OB	1505	2 x 4 el Yagi	90°	15	OK1VPZ	
432.888	OM0MUA	Bratislava	JN88NE	570	Dipole	90°/270°	0.08	OM3ID	
432.890	GB3SUT	Sutton Coldfield	IO92CO	270	2 x 8 el Yagi	0°/135°	10	G8XGG	
432.890	LA4UHF	Haugesund	JO29PJ	75	10 el Yagi	200°	50		
432.895	PI7YSS	Zutphen	JO32CD	60	Halo	Omni	2	PA0JAZ	
432.895	OZ4UHF	Bornholm Island	JO75KC	115	Clover leaf	Omni	30	OZ1HTB	QRT Q2/99
432.900	DB0YI	Hildesheim DOK Z35	JO42XC	480	Big wheel	Omni	3 TX	DL4AS	
432.900	LY2WN		KO25GC	96	2 x dipole	Omni	5	LY2WN	Planned
432.900	ZS6UHF	Pietersburg	KG46RC		13 el Yagi	215°	10		QRT
432.905	PI7QHN	Zandvoort	JO22KH	20	3dB Gain	Omni	2	PA0QHN	
432.905	SK4UHF	Garphyttan	JO79LH	270	Horizontal	Omni	50	SM4RWI	
432.908	EA8UHF	Grand Canary Is	IL28GC			Omni	10		
432.910	GB3MLY	Emley Moor	IO93EO	600	6 el Yagi	150°	40	G3PYB	
432.918	DB0AD		JO40AQ						
432.918	EA6UHF	Ibiza Is	JM08PV			Omni	10	EA6FB	
432.920	DB0UBI	DOK N59	JO42GE	125	8 el Coll	45°	12	DB8QA	
432.925	DB0JG	Bocholt DOK N17	JO31GT	45	Clover Leaf	Omni	1 TX	DL3QP	
432.925	SK6UHF	Varberg	JO67EH	175	Clover Leaf	Omni	10	SM6ESG	
432.930	HG7BUA	Dobogoko	JN97KR	700	Slot	Omni	2	HG5ED	
432.930	OZ7IGY	Tollose	JO55VO	93	Omni / 9 el Yagi	Omni/22°	30/300	OZ7IS	
432.934	GB3BSL	Bristol	IO81QJ	252	4 x 3 el Yagi	90°	250	GW8AWM	
432.935	OK0EA	Trutnov	JO70UP	1355	2 x 15 el Yagi	180°/270°	10 erp	OK1AIY	
432.940	DL0UH	Melsungen DOK Z25	JO41RD	385	V-Dipole	Omni	1	DJ3KO	
432.940	SK7MHH	Faerjestaden	JO86GP	45	Alford slot	Omni	100		
432.942	GB3NGI	Ballymena	IO65VB		12 el Yagi	125°	250	G16ATZ	Planned
432.945	DB0LB	DOK P06	JN48NV	367	Corner dipole	0°/180°	0.2 TX	DK3PS	
432.945	DB0OS	Erndtebruck DOK N32	JO40CV	730	2 el Yagi	270°	0.3	DG6YW	
432.945	HG3BUA	Tubes	JN96CC	612		Omni	0.5 TX		
432.945	OH9UHF	Pirttikoski	KP36OI	307	9dBd gain	200°	70	OH6DD	
432.947	HG6BUA	Kekes	KN07AU	1050	Slot	Omni	2	HG5ED	
432.950	DB0IH	Oberthal DOK Q18	JN39ML	630	Big wheel	Omni	1	DC8DV	
432.950	S55ZRS	Mt Kum	JN76MC	1219	Slot Dipole	Omni	1	S50M	
432.950	SK1UHF	Klinterhamn	JO97CJ	65	2 x Big wheel	Alford slot	50	SM1IUX	
432.955	OZ1UHF	Frederikshavn	JO57FJ	150	Big wheel	Omni	10	OZ9NT	



Freq	Call	Nearest Town	Locator	m ASL	Antenna	Direction	Power	Keeper	Status
432.965	DF0ANN	Altford	JN59PL	630	Big wheel	Omni	1 TX	DL8ZX	
432.965	GB3LER	Lerwick	IP90JD	104	12 el Yagi	165°	675	GM4IPK	QRT
432.966	OK0EO	Olomouc	JN89QQ	602	Ring Dipole	Omni	0.05	OK2VLX	Planned
432.970	GB3MCB	St Austell	IO70OJ	320	4 el Yagi	45°	12	G3YJX	QRT
432.970	OK0EB	Ceske Budejovice	JN78DU	1084	Mini Wheel	Omni	0.03/0.16	OK1APG	
432.970	SK7MHL	Lund	JO65OR	100	Alford slot	Omni	40	SM7ECM	
432.975	DB0JUV	Aachen DOK G05	JO30DU	238	2 x 11 el Yagi	45°	50	DL9KAS	
432.975	DL0SG	DOK U14	JN69KA	1024	4 x 11 Yagi	Omni	5 TX	DJ4YJ	
432.975	HG1BUA	Hormann	JN87FI	700	Slot	Omni	0.5 TX		
432.978	F5XAS	Eyne	JN12BL	2400	3 el	0°	50	F6HTJ	
432.980	GB3ANG	Dundee	IO86MN	370	9 el Yagi	170°	100	GM4ZUK	
432.980	OK0EC	As	JO60CF	778	10 el Yagi	90°	1	OK1MO	
432.980	S55ZCE	Sv. Jungert	JN76OH	574	Ground plane (V)	Omni	0.07	S51KQ	
432.982	SR5UHF	Wesola	KO02OF	130	Turnstile	Omni	0.25	SP5TAT	
432.983	OZ2ALS	Sonderborg	JO45UB	28	4 x dipole	Omni	40	OZ9DT	
432.984	HB9F	Interlaken	JN36XN	3573	Corner reflector	0°	15	HB9MHS	
432.990	DB0VC	DOK Z10	JO54IF	300	4 x DQ	Omni	10	DL8LAO	
432.994	ON4UHF	Brussels	JO20ET	180	Clover leaf	Omni	0.5	ON4LC	
432.995	DL0IGI	Mt Predigstuhl DOK Z57	JN67KQ	1618	2 x DQ	315°	50	DJ1EI	
1296.000	W2ETI	EME Beacon	FN21TA		4 x rh helix	Tracks moon	64dBmi	www.setileague.org	
1296.000	YO2U	Timisoara	KN05PS		10 el Yagi	0°	0.05	YO2IS	
1296.063	S55ZNG	Trstelj	JN65UU	643	V-J Slot	Omni	0.1	S50M	
1296.380	S55ZRS	Kum	JN76MC	1219	Turnstile	Omni	1	S57C	
1296.739	F5XHB	Strasbourg	JN38PJ	1070	Big wheel	Omni	4	F6BUF	
1296.800	DB0GD	DOK Z62	JO50AL	930	Dipol	Omni	1 TX	DG6ZX	
1296.800	DB0HEG	DOK T09	JN59GB	700	4 x Slot	Omni	0.5 TX	DL2QQ	
1296.800	OE3XMB	Muckenkogel	JN77TX	1154			0.1	OE3FFC	
1296.800	SK6MHI	Hoeno	JO57TQ	40	Alford slot	Omni	30		
1296.805	DB0RIG	DOK P17	JN48WQ	780	4 x Yagi Box	Omni	50	DG9SQ	
1296.805	SK6UHI	Tjoem	JO57TX	120	Alford slot	Omni	30		
1296.810	DB0ZV	DOK U17	JN69EQ	825	Slot	Omni	1 TX	DC9RK	
1296.810	GB3NWK	Orpington	JO01BI	180	15/15 Slot Yagi	293°	50	G8BJG	
1296.810	PI7DIJ	Dokkum	JO33AI	20	9 el Yagi	200°	1	PA3DIJ	
1296.810	SK7MHF	Naessjoe	JO77IP	505	Alford slot	Omni	30	SM7MXO	
1296.812	F1XBI	Petit Ballon	JN37NX	1278	4 el Yagi	135°	1	F1AHO	
1296.815	DB0VI	Saarbrücken DOK Z19	JN39MF	400	13 el Yagi		1 TX	DK1ME	
1296.820	DB0OT	Lathen DOK I26	JO32QR	80	Big wheel	Omni	1 TX	DL1BFZ	
1296.820	LA1SHF	Oslo	JO59		14 el Yagi	160°	10	LA4PE	
1296.825	DB0ABG	DOK U01	JN59WI	522	Slot	Omni	0.5 TX	DJ3TF	
1296.825	DB0HF	Wandsbek DOK E27	JO53BO	65	Big wheel	Omni	0.3 TX	DK2NH	
1296.825	OE1XTB	Vienna	JN88EE	170	4 x dipole	Omni	10	OE1MOS	QRT
1296.830	GB3MHL	Martlesham	JO02PB	80	4 x 16 Slot wg	90°/270°	700	G3XDY	
1296.835	DB0AJ	DOK C09	JN57	620	12 el Yagi	0°	50	DK2RV	QRT
1296.835	SK0UHG	Vaellingby	JO89WI	60	Horizontal	Omni	10		
1296.840	DB0KI	Bayreuth DOK Z42	JO50WC	925	Slot	Omni	80	DC9NL	
1296.840	OH6SHF	Uusikaarlepyy	KP13GM	55	Dipole	Omni	8		
1296.845	DB0LBV	DOK S30	JO61EH	234	4 x Slot	Omni	2 TX	DL1LWM	
1296.845	SR3SHF	Kalisz	JO91CQ					SP3JBI	
1296.847	F5XBK	Faviers	JN18IR	160	Alford Slot	Omni	10	F6ACA	
1296.850	DL0UB	Berlin DOK Z20	JO62KK	120	4 x Box	Omni	10 TX	DL7ACG	
1296.850	GB3FRS	Farnborough	IO91PH	120	Disc	Omni	3	G8ATK	
1296.854	DB0JO	Witten DOK Z03	JO31SL	312	4 x 15 el Yagi	270°	350	DG8DCI	
1296.855	OZ3UHF		JO56CE	150	5 el Yagi	180°	6	OZ1GMP	QRT Q2 99
1296.855	SK3UHG	Nordingra	JP92FW	200	Horizontal	Omni	10		
1296.860	GB3MCB	St Austell	IO70OJ	300	15/15	45°	50	G3YJX	
1296.860	LA8SHF	Toensberg	JO59FB	30	13dB Horn	180°	60	LA6LCA	
1296.862	F1XAK		JN23	114		Omni		F1AAM	QRT 99
1296.865	DB0JK	Koln DOK Z12	JO30LX	260	4 x 8 el Yagi	Omni	40	DK2KA	
1296.865	HB9VVV	Neuchatel	JN37LA	1145	15 el loop	125°	30	HB9HLM	
1296.870	DB0IBB	DOK N49	JO32VG	200	4 x Slot	Omni	170	DB7QW	
1296.872	F1ZMT		JN07CX	40	Panel	180°	12	F1BJD	
1296.875	DB0FAI	DOK T01	JN58IC	610		Omni	10	DL5MCG	
1296.875	FX3UHX	Landerneau	IN78UK	121	Quad	90°	1	F6CGJ	
1296.875	GB3USK	Bristol	IO81QJ	235	Slotted waveguide	90°	250	GW8AWM	
1296.880	LA3SHF	Flekkeroy	JO38XB	5	2 x 15 el Yagi	180°	10	LA8AK	QRT
1296.880	ON4SHF	Ellignies St Ann	JO10UN	130	Slotted	90°	10	ON5PX	
1296.883	DB0INN	DOK C15	JN68GI	504	Schlitz	Omni	1 TX	DL3MBG	
1296.885	DB0TUD	DOK S07	JO61UA	260	Quad	Omni		DL4DTU	
1296.885	OE3XEA	Kaiserkogel	JN78SB	725			1	OE3EFS	QRT
1296.886	F1XBC	Loudun	JN06BX	140	Alford Slot	Omni	25	F1AFJ	
1296.888	OM0MSA	Bratislava	JN88NE	570	Dipole	90°/270°	0.045	OM3ID	
1296.890	GB3DUN	Dunstable, Beds	IO91RV	263	Alford slot	Omni	2	G3ZFP	
1296.890	HG6BUB	Kekes	KN07AU	1050	Slot	Omni	1 TX	HG5ED	
1296.890	LA4SHF	Jaeren	JO28UO	175	Collinear	180°	45	LA9VFA	
1296.895	ON4RUG	Gent	JO11UB	95	Slotted	Omni	20	ON6UG	
1296.900	DB0AN	Muenster-Nienberger	JO31SX	100	Big wheel	Omni	1 TX	DF1QE	
1296.900	GB3IOW	Newport, IOW	IO90IO	250	Alford Slot	Omni	100	G8MBU	
1296.900	OK0EA	Trutnov	JO70UP	1355	4 x 15 el Yagi	S/SW/W/NW	1.6	OK1AIY	
1296.902	LX0SHF	Walferdange	JN39BP	420	2 x Big wheel	Omni	3	LX1JX	
1296.905	DB0AD	DOK R14	JO40AQ	693	V dipole	Omni	1	DL7AJA	

Freq	Call	Nearest Town	Locator	m ASL	Antenna	Direction	Power	Keeper	Status
1296.905	OH4SHF	Haukivuori	KP31OX	200	Alford Slot	Omni	15		Temp QRT
1296.905	SK4UHI	Garphyttan	JO79LH	270	Horizontal	Omni	10	SM4RWI	
1296.907	F5XAJ	Pic Neulos	JN12LL	1100	Slotted WG	Omni	100	F6HTJ	
1296.910	DB0UX	Karlsruhe DOK A35	JN48FX	275	Big wheel	Omni	1	DK2DB	
1296.910	GB3CLE	Clee Hill, Salop	IO82RL	540	2 x 15/15 Yagi	0°	20	G3UQH	
1296.915	DB0UBI	DOK N59	JO42GE	165	Horn	45°	2.5	DD8QA	
1296.915	ES0SHF	Saarema	KO18DN		2 x Dbl diamond	90°/270°	60/60	ES5PC	
1296.920	9A0BLB		JN83HG	778	Dipole		1		
1296.920	DB0VC	Lutjenberg DOK Z10	JO54IF	300	2 x Big wheel	Omni	12	DL8LAO	
1296.920	GB3COA	Paisley	IO75SU	52	2 x Quagi	0°/90°	10	GM1SXX	Planned
1296.923	PI7QHN	Zandvoort	JO22KH	20	6dB Gain	Omni	4 erp	PA0QHN	
1296.925	DB0KME	DOK C 35	JN67HT	800	Vertical	Omni	1 TX	DL8MCG	
1296.930	GB3MLE	Emley Moor	IO93EO	600	Corner Reflector	160°	50	G8AGN	
1296.930	OK0EL	Benecko	JO70SQ	1030	Horn	270°	0.8	OK1AIY	
1296.930	OZ7IGY	Tollse	JO55VO	95	4 x Big wheel	Omni	45	OZ7IS	
1296.935	DB0YI	Hucksheim DOK Z35	JO42XC	480	Big wheel	Omni	3 TX	DL4AS	
1296.935	OH5SHF	Kuusankoski	KP30HV	145	Alford Slot	Omni	25		
1296.940	DL0UH	Melsungen DOK Z25	JO41RD	385	V-Dipole	Omni	1	DJ3KO	
1296.940	SK7MHM	Farjestaden	JO86GP	45	Alford slot	Omni	10		
1296.945	DB0OS	Hitchembach DOK N32	JO40CW	730	6 el array	270°	1	DG6YW	
1296.945	HB9F	Bern	JN46SW	1015	Corner reflector	0°	15	HB9MHS	
1296.945	HG3BUB	Tubes	JN96CC	612	Slot	Omni	0.3 TX		
1296.945	OH9SHF	Pirttikoski	KP36OI	236	10dBd	200°	30	OH6DD	
1296.948	F5XBF	St Aignan	IN94UW	88	2 x Big wheel	Omni	50	F6CIS	Temp QRT
1296.950	DB0HG	DOK F11	JO40HG	300	Big wheel	Omni	3	DL3DC	
1296.950	OZ5UHF	Kobenhavn	JO65GQ	35	Collinear	Omni	1	OZ3TZ	
1296.955	OZ1UHF		JO57FJ	150	Big wheel	Omni	10	OZ9NT	
1296.960	HG7BUB	Dobogoko	JN97KR	700	Slot	Omni	0.5 TX		
1296.965	DF0ANN	Lauf DOK B25	JN59PL	630	4 x DQ	Omni	0.5	DL8ZX	
1296.965	GB3ANG	Dundee	IO86MN	319	Slot Yagi	170°	40	GM4ZUK	
1296.970	GB3ESB	Hastings	JO00GP	120	Alford slot	Omni	10	G4PRJ	Non op
1296.970	SK7MHM	Lund	JO65OR	100	Alford slot	Omni	15	SM7ECM	
1296.975	DL0SG	DOK U14	JN69KA	1024	4 x DQ	Omni	5 TX	DJ4YJ	
1296.975	HG1BUB	Hormann	JN87FI	700	Slot	Omni	2.5		
1296.975	OH3RNE	Tampere	KP11UM	247	Alford slot	Omni	35	rep/beac	Temp QRT
1296.975	ON4AZA	Antwerp	JO21EE	60	Clover leaf	Omni	1	ON1BPS	
1296.980	DB0JU	DOK L04	JO31CV	150	Helical	Omni	2.4 TX	DF5EO	
1296.983	OZ2ALS		JO45UB	28	2 x slot	Omni	8	OZ9DT	
1296.985	DB0AS	DOK C29	JN67CR	1565	Dipolfeld	10°	0.5 TX	DL2AS	
1296.990	DB0FB	DOK Z06	JN47AU	1495	8 el Group	45°	5 TX	DJ3EN	
1296.990	GB3EDN	Edinburgh	IO85HW	117	2 x Corner Refl	45°/315°	25	GM8BJF	
1296.995	DB0WOS	DOK U16	JN68ST	850	4 x DQ	Omni	5	DF8RU	
1297.010	DB0JW	DOK G05	JO30DU	238	4 x 12 el Yagi	45°	70	DL9KAS	
1297.040	DB0LB	DOK P06	JN48NV	367	Big wheel	Omni	0.3 TX	DK3PS	
2301.000	ON0EHF	Heist Op Den Burg						ON7WP	
2304.040	S55ZNG	Trstelj	JN65UU	643	V-J Slot	Omni	0.1	S50M	
2304.160	I3D		JN55		Slot	Omni	32	IW3FZQ	
2320.800	SK6MHI	Goeteborg	JO57XQ	135	Slotted WG	Omni	10	SM6EAN	
2320.810	DB0ZV	DOK U17	JN69EQ	825	6 x Slot	Omni	1	DC9RK	
2320.810	SK7MHF	Naessjoe	JO77IP	505	2 x Big wheel	Omni	0.1	SM7MXO	
2320.812	SK0UHH	Taebj	JO99BM	90	Horizontal	Omni	25		
2320.815	DB0IH	Nohfelden DOK Q18	JN39ML	630	Big wheel	Omni	5	DC8DV	
2320.820	DB0OT	Esterwegen DOK I26	JO32QR	80	Big wheel	Omni	1 TX	DL1BFZ	
2320.825	DB0HF	Harksheide DOK E27	JO53BO	65	Big wheel	Omni	0.3 TX	DK2NH	
2320.825	OE1XTB	Vienna	JN88EE	170	4 x dipole	Omni	1	OE1MOS	QRT
2320.830	DB0JX	Willich DOK R21	JO31FF	115	Double helical	Omni	0.1 TX	DK4TJ	
2320.830	GB3MHS	Martlesham	JO02PB	85	Slotted WG	Omni	25	G3XDY	
2320.833	DB0FGB	DOK B09	JO50WB	1150	Slot	Omni	12	DB8UY	
2320.838	F5XAC	Pic Neulos	JN12LL	1100	Slotted WG	Omni	20	F6HTJ	
2320.840	DB0KI	Bayreuth DOK Z42	JO50WC	925	Slot	Omni	40	DC9NL	
2320.845	DB0LBV	DOK S30	JO61EH	234	DQ	135°/225°	1.5 TX	DL1LWM	
2320.845	SR3SHF	Kalisz	JO91CQ					SP3JBI	
2320.850	DB0GW	DOK L01	JO31JK	80	2 x Helix	Omni	8	DL4JK	
2320.850	DL0UB	DOK Z20	JO62KK	120	5 x Dipole	Omni	10 TX	DL7ACG	
2320.850	GB3NWK	Orpington	JO01BI	180	Alford Slot	Omni	5	G8BJG	
2320.855	DB0SHF	DOK Z46	JN48XS	800	6 x Dipole	260°	0.2	DL1SBE	
2320.857	PI7GHG	Europoort	JO21CV	30	10 el Yagi	270°	30	PE1GHG	
2320.860	HG7BUC	Dobogoko	JN97KR	700	Slot	Omni	1 TX		
2320.860	LA8SHF	Toensberg	JO59FB	30	13dB Horn	180°	50	LA6LCA	
2320.865	PI7TGA	Nijmegen	JO21VT	75		135°/270°	50	PA0TGA	
2320.870	DB0IBB	DOK N49	JO32VG	200	10 x Slot	Omni	4	DB7QW	
2320.880	DB0GO	DOK N32	JO41ED	738	10 x Slot	Omni	50	DB1DI	
2320.880	DB0YI	Hildesheim DOK Z35	JO42XC	480	Big Wheel	Omni	3 TX	DL4AS	
2320.880	LA3SHF	Flekkeroy	JO38XB	5	2 x 6dB Horn	90°/180°	1	LA8AK	
2320.883	DB0INN	DOK C15	JN68GI	504	Slot	Omni	1 TX	DL3MBG	
2320.885	DB0TUD	DOK S07	JO61UA	260	Slot	Omni		DL4DTU	
2320.885	PI7RMD	Roermond	JO31AE	100	2 x Quad	180°	10	PE1KXH	
2320.886	F5ZMF	Adriers	JN06JG	230	4 x horn	45°/315°	25	F5BJL	
2320.888	OM0MTA	Bratislava	JN88EE	570		90°/270°	0.012	OM3ID	

Freq	Call	Nearest Town	Locator	m ASL	Antenna	Direction	Power	Keeper	Status
2320.890	GB3ANT	Norwich	JO22PP	75	Alford slot	Omni	5	GBVLL	
2320.895	HG3BUA	Tubes	JN96CC	612	Slot	Omni	1 TX		
2320.900	DB0UX	Grotzingen DOK A35	JN48FX	275	Big wheel	Omni	1	DK2DB	
2320.900	DB0JUV	DOK G05	JO30DU	238	6 el Array	45°	25	DL9KAS	
2320.902	LX0THF	Walferdange	JN39BP	420	Double quad	Omni	0.5	LX1JX	
2320.905	GB3SCS	Blandford	IO80UU	274	Alford slot	Omni	60	GJAPI	
2320.912	DL0UH	DOK Z25	JO41RD	385	6 x Dipole	0°	2	DJ3K0	
2320.915	DB0UBI	DOK N59	JO42GE	165	Collinear	45°	0.5	DD8QA	
2320.920	DB0VC	Albersdorf DOK Z10	JO54IF	300	Big wheel	Omni	3	DL8LAO	
2320.920	PI7QHN	Zandvoort	JO22KH	20		Omni	0.2 TX	PA0QHN	QRT
2320.925	GB3PYS	Newtown	IO82HL	436	Alford Slot	270°	10	GW4NQJ	
2320.930	OK0EL	Benecko	JO70SQ	1030	Horn	270°	0.8	OK1AIY	
2320.930	OZ7IGY	Tollose	JO55VO	91	Alford slot	Omni	20	OZ7IS	
2320.930	PI7PLA	Zuidlaren	JO33IC	50		Omni	0.15 TX	PA0PLA	
2320.937	DB0JO	Kamp-Lintfort DOK Z03	JO31SL	312	Horn	270°	0.2 TX	DG8DCI	
2320.940	DB0DON	DOK T21	JN58KR	532	Slot	Omni	1	DL5MEL	
2320.940	GB3WYE	Cardiff	IO81KO	369	Dipole panel	90°	100	GW8AWM	Proposal
2320.940	SK7MHH	Farjestaden	JO86GP	45	30cm dish	0°	50		
2320.945	DB0QS	Hitchinbach DOK N32	JO40CW	730	8 el array	270°	2	DG6YW	
2320.950	DB0KP	DOK P09	JN47TS	435	Slot	Omni	0.1 TX	DL1GBQ	
2320.950	OZ9UHF		JO65HP	30	Slot	Omni	5	OZ2TG	
2320.955	GB3LES	Leicester	IO92IQ	220	Slot	160°	30	G3TQF	
2320.955	OZ1UHF		JO57FJ	150	Slot	Omni	8	OZ9NT	
2320.963	HG6BUC	Kekes	KN07AU	1050	Slot	Omni	1 TX		
2320.965	DF0ANN	Lauf DOK B25	JN59PL	630	4 x D Q	Omni	5 TX	DL8ZX	
2320.967	DB0AS	Rosenheim DOK C14	JN67CR	1560	28 el Yagi	337°	0.5 TX	DL2AS	
2320.970	SK7MHL	Lund	JO65OR	100	WG slot	Omni	25	SM7ECM	
2320.975	DB0JL	DOK R25	JO31MC	195	Slot	Omni	2	DF1EQ	
2320.975	HG1BUC	Hormann	JN87FI	700	Slot	Omni	1 TX		
2320.980	DB0JU	Doesburg DOK L04	JO31CV	150	Helical	Omni	1 TX	DF5EO	
2320.990	PI7EHG	Schipol	JO22JH	80		Omni	10	PA0EHG	
2360.000	F1XAH	Istres	JN23mm	114	Slotted WG	Omni	15	F1AAM	QRT 99
3400.018	PI7SHF	Schipol	JO22JH	80	10dB Slot	Omni	2 TX	PA0EZ	
3400.020	DB0AS	DOK C29	JN67CR	1565	Double 8	10°	0.5 TX	DL2AS	
3400.025	DB0HF	DOK E27	JO53BO	65		202°		DK2NH	
3400.040	DB0KI	Bayreuth DOK Z42	JO50WC	925	Slot	Omni	50	DC9NL	
3400.050	DB0JL	DOK R25	JO31MC	195	Helical	Omni	1	DF1EQ	
3400.170	PI7CKK	Groningen	JO33GE	55	10dB Slot	Omni	5/30 erp	PE1CKK	
3400.400	OK0EL	Benecko	JO70SQ	1030	Horn	270°	0.2	OK1AIY	Planned
3400.830	GB3MHS	Martlesham	JO02PB	80	Slotted WG	90/270	8	G3XDY	
3400.850	DB0GW	Duisburg DOK L01	JO31JK	80	Double Helical	Omni	8	DL4JK	
3400.905	GB3SCF	Blandford	IO80UU	274	Alford slot	Omni	60	G0API	
3400.910	GB3ZME	Telford	IO82SQ	215	Slotted WG	Omni	100	G3UKV	Non op
3456.800	DB0KHT	DOK F13	JO40FE	247	Horn	Omni	10	DJ1RV	
3456.830	DB0JX	DOK R21	JO31FF	115	Helical	Omni	0.1 TX	DK4TJ	
3456.850	DL0UB	DOK Z20	JO62KK	120	12 x Slot	Omni	10 TX	DL7ACG	
3456.855	DB0SHF	DOK Z46	JN48XS	800	Horn	260°	0.5 TX	DL1SBE	
3456.883	DB0INN	DOK C5	JN68GI	504	Slot	Omni	1 TX	DL3MBG	
3456.885	DB0TUD	DOK S07	JO61UA	260	Slot	Omni		DL4DTU	
3456.900	GB3OHM	S Birmingham	IO92AJ	171	16 Slot waveguide	Omni	8	G6KOA	
5760.030	OK0EL	Benecko	JO70SQ	1030	Horn	270°	0.08	OK1AIY	
5760.040	PI7EHG	Schipol	JO22JH	80	Horizontal	Omni	2 TX	PA0EHG	
5760.050	OK0EA	Trutnov	JO70UP	1355	12 el Slot	180°/270°	0.5	OK1AIY	
5760.060	F1XAO	Plougonver	IN88HL	326	Slotted WG	Omni	10	F1LHC	
5760.070	DB0JL	DOK R25	JO31MC	195	Slot	Omni	0.8	DF1EQ	
5760.100	DB0AS	DOK C29	JN67CR	1565	Double 8	10°	0.5 TX	DL2AS	
5760.800	DB0KHT	DOK F13	JO40FE	247	Horn	Omni	0.5 TX	DJ1RV	
5760.800	SK6MHI	Goeteborg	JO57XQ	135	Sectoral Horn	270°	5	SM6EAN	
5760.805	DB0RIG	DOK P17	JN48WQ	780		Omni	15	DG9SQ	
5760.830	DB0JX	DOK R21	JO31FF	115	Slot	Omni	0.08 TX	DK4TJ	
5760.830	F5XBE	Favières	JN18JS		Slot	Omni	2	F5HRY	
5760.833	DB0FGB	DOK B09	JO50WB	1150	Slot	Omni	12	DB8UY	
5760.840	DB0KI	Bayreuth DOK Z42	JO50WC	925	Slot	Omni	20	DC9NL	
5760.845	F1XBB	Orleans	JN07WV		Slot	Omni	2	F1JGP	
5760.850	DL0UB	DOK Z20	JO62KK	120	12 x Slot	Omni	0.2 TX	DL7ACG	
5760.850	I3E	M.te PIZ (BL)	JN55WV	1400	Slot 10dB	170°	1	I3EME	
5760.855	DB0SHF	DOK Z46	JN48XS	800	Array	260°	0.4 TX	DL1SBE	
5760.855	F????		IN94		WG slot	Omni	10	F5FLN	Planned
5760.860	DB0ARB	DOK U02	JN69NC	1456	Slot	Omni	3	DJ4YJ	
5760.860	LA8SHF	Toensberg	JO59FB	30	13dB Horn	180°	25	LA6LCA	
5760.865	OE1XVB	Vienna Simmering	JN88EF	191	Slotted WG	Omni	4	OE1WRS	QRT
5760.875	GB3RBY	Rugby	IO92JJ	165	Slotted WG	Omni	1	G4LRT	Non op
5760.883	DB0INN	DOK C15	JN68GI	504	Slot	Omni	1 TX	DL3MBG	
5760.885	DB0TUD	DOK S07	JO61UA	260	Slot	Omni		DL4DTU	
5760.900	DB0CU	DOK A28	JN48BI	970	Slot	Omni	5	DJ7FJ	
5760.900	HG6BSB	Kekes	KN07AU	1050	Slot	Omni	0.2 TX		
5760.905	GB3SCC	Blandford	IO80UU	274	Slotted WG	Omni	6	G0API	Planned
5760.905	SK0UX/B	Taeby	JO99BM		Horizontal				
5760.910	GB3ZME	Telford	IO82SQ	215	Slotted WG	Omni	100	G3UKV	Non op

Freq	Call	Nearest Town	Locator	m ASL	Antenna	Direction	Power	Keeper	Status
5760.930	OZ7IGY	Tollose	JO55VO	91	Slotted Waveguide	90°/270°	15	OZ7IS	
5760.945	OE2XRO	Sonnblick	JN67LA	3105	Slotted WG	Omni	35	OE1MCU	
5760.950	OZ9UHF		JO65HP	30	Slotted Waveguide	Omni	50	OZ2TG	
5760.950	F????		JN03		WG slot	Omni	2	F6CXO	Planned
5760.955	OZ1UHF		JO57FJ	150	Slotted Waveguide	Omni	8	OZ9NT	
5760.970	SK7MHL	Lund	JO65OR	100	WG slot	Omni	10	SM7ECM	
5760.970	ON4C	Leuven	JO20IV						Planned
5760.975	HG1BSA	Hormann	JN87FI	700	Slot	Omni	0.2 TX		
10100.000	GB3IOW	Newport, IOW	IO90IO	250	Slotted waveguide	Omni	1	G8MBU	
10120.000	GB3ALD	Alderney	IN89VR	90	Sectoral horn	30°	1		
10368.037	PI7SHY	Eindhoven	JO21RK	80	16dB Horn	300°	1/10 erp	PA0SHY	
10368.040	F5XBD	Favieres	JN18JS		Slot	Omni	4	F5HRY	
10368.050	I5X	Canossa (MS)	JN44XH		Alford	Omni	0.05	I5JRV	
10368.050	F5XAY	Mont Alembre	JN24BW	1691	Slot / horn	Omni / 0°	3 / 10	F6DPH	
10368.050	LX0DU	Soleuvre	JN29XM	280	1.3m Dish	63°	20 kW		
10368.050	OK0EL	Benecko	JO70SQ	1030	12 el slot WG	90°/270°	0.15	OK1AIY	
10368.050	OZ9UHF		JO65HP	30	Slotted WG	Omni	3	OZ2TG	
10368.060	F1XAI	Orleans	JN07WT	160	Slotted WG	Omni	10	F1JGP	
10368.075	PI7GOE	Kapelle	JO11XL		Slotted WG	Omni	0.1	PE1CIG	Non op
10368.080	OK0EA	Trutnov	JO70UP	1355	12 el Slot	180°/270°	0.5	OK1AIY	
10368.090	PA0TGA/A	Nijmegen	JO21VT	75	16dB	270°	4 erp	PA0TGA	
10368.108	F1XAP	Plougouver	IN88HL	326	Slotted WG	Omni	5	F1LHC	
10368.120	DB0JL	DOK R25	JO31MC	195	Slot	Omni	0.15	DF1EQ	
10368.142	ON4TNR	Namur	JO20KJ	250	17dB Horn	292°	7	ON5VK	QRT?
10368.150	I3F	M.te PIZ (BL)	JN55WV	1400	Slot 10dB	170°	1.5	I3EME	
10368.150	OE8XXQ	Dobratsch	JN76UO	2166	Horn	0°	1	OE8MI	
10368.175	DB0AS	DOK C29	JN67CR	1565	Horn	10°	0.5 TX	DL2AS	
10368.180	PI7EHG	Schipol	JO22JH	90	13dB Slot	Omni	30erp	PA0EHG	
10368.240	GB3SWH	Watford	IO91TP	187	Slotted waveguide	45°/225°	1	G4KUJ	
10368.270	DL0WY	Rosenheim DOK C29	JN67AQ	1838	10dB Slot horn	45°/270°	0.1 TX	DJ8VY	
10368.325	F????		IN94		Horns	45°/135°		F5FLN	Planned
10368.755	F1XAE	Mt Ventoux	JN24PE	1910	Horn	270°	5	F1AAM	
10368.800	SK6MH	Goteborg	JO57XQ	135	Slotted WG	Omni	5	SM6EAN	
10368.805	DB0XL	DOK E-IG	JO53HU	45	Slot	Omni	1	DK1KR	
10368.810	GB3XGH	Rochdale	IO83VO	175	Slotted WG	Omni	40	G6GKX	Planned
10368.815	DB0MAX	DOK B41	JN58SP	420				DL4MDQ	
10368.820	DB0KHT	DOK F13	JO40FE	247	Horn	Omni	3	DJ1RV	
10368.825	DB0HRO	DOK V09	JO64AD	185	Slot	Omni	0.2 TX	DL5CC	
10368.830	DB0JX	Wickrath DOK R21	JO31FF	115	10dB Slot	Omni	0.09 TX	DK4TJ	
10368.830	GB3MHX	Martlesham	JO02PB	80	12 Slot waveguide	Omni	1	G3XDY	
10368.833	DB0FGB	DOK B09	JO50WB	1150	Slot	Omni	7	DB8UY	
10368.840	DB0JO	Kamp-Lintfort DOK Z03	JO31SL	312	6 x Slot	Omni	1	DG8DCI	
10368.840	DB0KI	Bayreuth DOK Z42	JO50WC	925	Slot	Omni	13	DC9NL	
10368.840	SK0SHI	Edsberg	JO89XK		Horizontal	Omni	1		
10368.845	DB0SZB	DOK S45	JO60JM	767	Slot	Omni	15	DG0YC	
10368.850	DB0GG	DOK P24	JN48NS	400	Slot	Omni	0.05 TX	DL5AAP	
10368.850	DL0UB	DOK Z20	JO62KK	120	12 x Slot	Omni	0.1 TX	DL7ACG	
10368.850	GB3SEE	Reigate	IO91VG	250	Slotted waveguide	Omni	3	G00LX	
10368.850	SR0CWK	Czestochowa	JO90NS	280	Slotted waveguide	Omni	8	SP9NLY	
10368.855	DB0SHF	DOK Z46	JN48XS	800	Horn	260°	0.1 TX	DL1SBE	
10368.860	DB0ARB	DOK U02	JN69NC	1456	Slot	Omni	3	DJ4YJ	
10368.860	F1BDB	Nice	JN33OQ		Slot	Omni	1	F1BDB	
10368.860	F5XAD	Pic Neulos	JN12LL	1100	Slotted WG	0°	3	F6HTJ	
10368.860	LA8SHF	Toensberg	JO59FB	30	13 dB Horn	180°	10	LA6LCA	
10368.865	DB0JK	Koln DOK Z12	JO30LX	260	Slot	Omni	200	DK2KA	
10368.870	DB0IBB	DOK N49	JO32VG	245	Slot	Omni	2	DB7QW	
10368.870	GB3KBQ	Taunton	IO80LW	167	Slotted waveguide	Omni	1	G4UVZ	
10368.870	HG3BSB	Tubes	JN97CC	612	Slot	Omni	0.2		
10368.870	OE8XGQ	Gerlitze	JN66WQ	1909	Slotted WG	Omni	1.5	OE8MI	
10368.875	OE5XBM	Breitenstein	JN78DJ	985	Slotted WG	Omni	10	OE5VRL	
10368.875	ON4AZB	Antwerp	JO21EE	95				ON1BPS	
10368.880	GB3CEM	Wolverhampton	IO82WO	165	Slotted waveguide	Omni	30	G4PBP	
10368.880	OE1XVB	Vienna, Simmering	JN88EF	185	Slotted WG	Omni	1.5	OE1WRS	
10368.883	DB0INN	DOK C15	JN68GI	504	Slot	Omni	1 TX	DL3MBG	
10368.884	HB9G	Geneva	JN36BK	1600	Slotted waveguide	Omni	2	HB9PBD	
10368.885	DB0TUD	DOK S07	JO61UA	285	Slot	Omni	5	DL4DTU	
10368.890	DB0K LX	DOK K16	JN39VK	350	Slot	Omni	1 TX	DC2UG	
10368.895	DB0ECA	DOK C08	JN57UV	705	Slot	Omni	10	DC8EC	
10368.900	DB0UX	DOK A35	JN48FX	275	Slot	Omni	1	DK2DB	
10368.900	DB0CU	DOK A28	JN48BI	970	Slot	Omni	5	DJ7FJ	
10368.900	GB3AZA	Scarborough	IO94TF	75	Single 18in dish		50	G8AZA	QRT
10368.900	GB3SCX	Blandford	IO80UU	274	Slotted waveguide	Omni	1	G0API	
10368.900	OZ5SHF		JO45WX	170	Slotted WG	Omni	4	OZ2OE	*10368.895
10368.910	DB0HEX	DOK Z85	JO51HT	1341	Slot	Omni	8	DG0CBP	
10368.910	GB3RPE	Swansea	IO81AO	60	Slotted Waveguide	Omni	4	GW4ADL	
10368.915	OZ4SHF		JO65BV	22	Slotted WG	Omni	10	OZ1UM	*10368.907
10368.920	DB0VC	DOK Z10	JO54IF	291	Slot	Omni	1	DL8LAO	
10368.920	OE2XBO	Haunsberg	JN67MW	740	Slotted WG	Omni	1.5	OE2HFO	
10368.920	SK7MHF	Naessjoe	JO77IP	505	Slotted WG	Omni	4	SM7MXO	
10368.925	F1XAU	Sombornon	JN27IH	516	Slot WG	Omni	1.5	F1MPE	



Freq	Call	Nearest Town	Locator	m ASL	Antenna	Direction	Power	Keeper	Status
10368.925	OE3XMB	Muckenkogel	JN77TX	1154	Slotted WG	Omni	1.5	OE3FFC	QRT
10368.930	DB0HO	DOK Z49	JN47QT	487	Slot	Omni	10	DF6TK	
10368.930	GB3MLE	Emley Moor	IO93EO	600	Sectoral horns	0°/180°	1	G8AGN	
10368.930	OZ7IGY	Tollose	JO55VO	92	WG Slot	90°/270°	0.4 TX	OZ7IS	
10368.940	DB0DON	DOK T21	JN58KR	532	Slot	Omni	1	DL5MEL	
10368.940	GB3CCX	Cheltenham	IO81XW	342	SlottedWG	Omni	3	G6AWT	
10368.940	SK7MHH	Faerjestaden	JO86GP	45					
10368.945	HG7BSA	Dobogoko	JN97KR	700	Slot	Omni	0.2 TX		
10368.945	OE2XRO	Sonnblick	JN67LA	3105	Slotted WG	Omni	12.5	OE1MCU	
10368.950	DB0FHR	DOK C31	JN67BU	474	Slot	Omni	1	DL5MEA	
10368.950	ON4RUG	Gent	JO11UB	95	Slotted	Omni	7	ON6UG	
10368.953	SK1SHF	Klintehamn	JO97CJ	52	Horizontal				
10368.955	OZ1UHF		JO57FJ	150	Slotted WG	Omni	0.8	OZ9NT	
10368.960	GB3CMS	Chelmsford	JO01GR	107	Slotted waveguide	Omni	3	G4GUJ	
10368.960	SK4SHI	Garphyttan	JO79LH	270	Horizontal	Omni	8		
10368.965	DF0ANN	DOK B25	JN59PL	630	12 x Slot	Omni	0.2 TX	DL8ZX	
10368.970	SK7MHL	Lund	JO65OR	100	WG slot	Omni	10	SM7ECM	
10368.975	HG1BSB	Hormann	JN87FI	700	Slot	Omni	0.2 TX		
10368.975	ON4LVN	Leuven	JO20IV	100	Slotted	Omni	5	ON7VQ	*10368.860
10368.975	OZ3SHF		JO45NL	58	Slotted WG	Omni	2	OZ1IN	
10368.977	HG6BSB	Kekes	KN07AU	1050	Slot	Omni	0.2		
10368.994	F5XBG	Chalon sur Saone	JN26KT		Slotted waveguide	Omni	5	F6FAT	
10369.000	F1XAN	Bus St Remy	JN09TD	300	Slotted WG	Omni	1.5	F1PBZ	
24000.860	LA8SHF	Toensberg	JO59FB	30	13dB horn	180°	?	LA6LCA	
24025.000	GB3IOW	Newport, IOW	IO90IO	250	Sectoral horn		8	G8MBU	
24048.905	GB3SCK	Blandford	IO80UU	274	Slotted WG	Omni	3	G0API	
24050.000	OK0EL	Benecko	JO70SQ	1030	12 el slot WG	90°/270°	0.015	OK1AIY	
24100.000	GB3ALD	Alderney	IN89VR	90	Sectoral horn	30°	8		Planned
24192.000	ON4RUG	Gent	JO11UB	95	Slotted	Omni	0.1	ON6UG	
24192.050	DB0KHT	DOK F13	JO40FE		Horn	Omni	0.02 TX	DJ1RV	
24192.050	I3G	M.te PIZ (BL)	JN55WV	1400	Slot 8dB	170°	0.25	I3EME	
24192.055	DB0JO	DOK Z03	JO31SL	312	6 x Slot	Omni	0.6	DG8DCI	
24192.120	DB0JL	DOK R25	JO31MC	195	Slot	Omni	0.01	DF1EQ	
24192.160	PI7EHG	Schiphol	JO22JH	90	30cm dish	266°	2	PA0EHG	
24192.160	I6G	Ancona	JN63RO		0.4m Dish		0.155	I0LVA	
24192.200	LX0DUF	Soleuvre	JN29XM	280	0.4m Dish	63°	1.2 kW		
24192.252	F1XQA	Plougonver	IN88HL	326	Slotted WG	Omni	0.1	F1LHC	
24192.405	DB0AS	DOK C29	JN67CR	1565	Horn	10°	0.5 TX	DL2AS	
24192.800	SK6MHI	Goteborg	JO57XQ	135	2 x Sectoral horn	225°/315°	1	SM6EAN	
24192.830	GB3MHK	Martlesham	JO02PB	85	SlottedWG	Omni	25	G3XDY	Planned
24192.830	F5XAF	Paris	JN18DU		Parabola	90°	0.1	F5ORF	
24192.833	DB0FGB	DOK B09	JO50WB	1150	Slot	Omni	0.6	DB8UY	
24192.840	DB0KI	Bayreuth DOK Z42	JO50WC	925	Slot	0°	0.5	DC9NL	
24192.853	DL0WY	DOK C29	JN67AQ	1838	Sectoral horn	45°/270°	0.01	DJ8VY	
24192.860	DB0ARB	DOK U02	JN69NC	1456	Parabola	225°	0.03	DJ4YJ	
24192.865	DB0JK	DOK Z12	JO30LX	260	2 x H-Horn	Omni	1	DK2KA	
24192.875	DB0HW	DOK H46	JO51GT	1016	Slot	Omni	1	DL3AAS	
24192.875	GB3RBY	Rugby	IO92JJ	165	Slotted WG	Omni	0.1	G4LRT	Non op
24192.875	OE5XBM	Breitenstein	JN78DJ	985	Slotted WG	Omni	0.5	OE5VRL	
24192.875	ON4AZC	Antwerp	JO21EE	60	Slotted	Omni	1	ON1BPS	
24192.885	DB0TUD	DOK S07	JO61UA	260	Slot	Omni		DL4DTU	
24192.890	GB3DUN	Dunstable	IO91RV	260	Slotted WG	Omni	1	G3ZFP	
24192.895	DB0ECA	DOK C08	JN57UV	705	Slot	0°		DC8EC	QRT
24192.900	DB0CU	DOK A28	JN48BI	970	Horn	180°	5	DJ7FJ	
24192.900	SK0UX/B	Taebj	JO99BM		Horizontal				
24192.910	DB0HEX	DOK Z85	JO51HT	1341	Slot	Omni	8	DG0CBP	
24192.910	GB3ZME	Telford	IO82SQ	215	Slotted WG	Omni	10	G3UKV	
24192.915	OZ4SHF		JO65BV	22	Slotted WG	Omni	10	OZ1UM	
24192.940	GB3AMU	Cardiff	IO81JN	266	Sectorial horn	135°	1	GW3PPF	
24192.945	OE2XRO	Sonnblick	JN67LA	3105	Slotted WG	Omni	5	OE1MCU	
24192.955	OZ1UHF		JO57FJ	150	Slotted WG	Omni	0.5	OZ9NT	
24192.970	SK7MHL	Lund	JO65OR	100	WG slot	Omni	1	SM7ECM	
24192.975	ON4KUL	Leuven	JO20IV	120	Slotted Waveguide	Omni	0.5	ON4AOD	
47088.100	DB0AS	DOK C29	JN67CR	1565	Horn	10°	0.5 TX	DL2AS	
47088.240	I3H	M.te PIZZOC (TV)	JN66EB	1570	Horn 25dB	180°	1.2	I3OIB	
47088.833	DB0FGB	DOK B09	JO50WB	1150	Slot	Omni	0.2	DB8UY	
47088.853	DL0WY	DOK C29	JN67AQ	1830	Horn	0°/90°/270°	0.1	DJ8VY	
47088.865	DB0JK	DOK Z12	JO30LX	260	2 x H-horn	Omni	0.1 TX	DK2KA	
47088.875	OE5XBM	Hellmonsoedt	JN78DK	855	Slotted WG	Omni	0.25	OE5VRL	
47088.895	DB0ECA	DOK C08	JN57UV	705	Horn	0°		DC8EC	
76032.833	DB0FGB	DOK B09	JO50WB	1150	Slot	Omni	0.01	DB8UY	QRT
76032.895	DB0ECA	DOK C08	JN57UV	705	Horn	0°		DC8EC	QRT

UK Band Plans

136kHz	No rigid band plan is proposed for the 136kHz band, but amateurs are asked to work within the following conventions, giving long-distance communications and experimentation priority:
135.7 - 136.0	Station tests & transatlantic reception window 135.900 - 135.980 preferred transatlantic window for Europe to North American transmissions of very slow CW (QRSS)
136.0 - 137.4	CW 135.980 - 136.050 preferred transatlantic window for Europe / North American contacts
137.4 - 137.6	Non-CW modes (Hell, Wolf, PSK etc)
137.6 - 137.8	Very slow CW (QRSS centred on 137.7kHz) 137.700 - 137.800 preferred transatlantic window for North America to Europe transmissions

CD1900-2

1.8MHz (160m)	Licence Notes: 1.810 - 1.850MHz, Primary. Remainder secondary. Available on the basis of non-interference to other services (inside or outside the UK) Power limit: 1.810 - 1.850MHz: 26dBW PEP. Remainder 15dBW Permitted modes: Morse, telephony, RTTY, data, fax, SSTV
IARU	UK Usage
1.810	
CW only	
1.838	
Digimodes (and CW but excluding AX25 packet)	RTTY (Baudot) is the preferred digital mode on this band Phone may be used above 1.840
1.842	
Phone (and CW)	1.843 QRP 1.960 DF contest beacons (14dBW) 12.5kHz b/w max
2.000	Note: AX25 packet should not be used on the 1.8MHz band.

CD1902-2

7MHz (40m)	Licence Notes: Amateur and Amateur Satellite Services: Primary. Power limit: 26dBW PEP. Permitted modes: Morse, telephony, RTTY, data, fax SSTV
IARU	UK Usage
7.000	
CW only	7.030 QRP
7.035	
Digimodes (and CW, SSTV, Fax, but excluding AX25 packet)	(Phone may be used above 7.040)
7.045	
Phone (and CW)	
7.100	Note: AX25 packet should not be used on the 7MHz band.

CD1901-2

3.5MHz (80m)	Licence Notes: Primary. Shared with other services. Power limit: 26dBW PEP. Permitted modes: Morse, telephony, RTTY, data, fax, SSTV
IARU	UK Usage
3.500	
CW only	3.500 - 3.510 Priority for CW inter-continental working 3.500 - 3.560 CW contest preferred segment 3.560 QRP
3.580	
Digimodes (and CW)	3.590 - 3.600 AX25 packet frequencies (Phone may be used and has priority above 3.600MHz)
3.620	
Phone (and CW)	3.600 - 3.650 Phone contest preferred segment 3.690 QRP 3.700 - 3.800 Phone contest preferred segment 3.730 - 3.740 SSTV/fax recommended 3.775 - 3.800 Reserved for inter-continental phone working
3.800	

CD1903-2

10MHz (30m)	Licence Notes: Amateur Service: Secondary. Power limit: 26dBW PEP. Permitted modes: Morse, telephony, RTTY, data, fax, SSTV
IARU	UK Usage
10.100	
CW only	10.106 QRP
10.140	
Digimodes (and CW, but excluding AX25 packet)	(Unattended digimode stations should avoid the use of the 10MHz band)
10.150	Notes: 1. AX25 packet should not be used on the 10MHz band. 2. The 10MHz bandplan is allocated to the Amateur Service only on a secondary basis. Therefore, IARU has agreed on a worldwide basis that only CW and digimodes, being narrow bandwidth modes, are to be used on this band. Likewise, the band is not to be used for contests and bulletins.

Shown here are the UK licence conditions, and national and international band plans for most amateur bands. The licence conditions are for guidance only, are subject to change and must be read in conjunction with the appropriate RA booklet for your class of licence. These band plans, including any updates, are sent to all RSGB members with the April issue of *RadCom*.



CD1904-2

14MHz (20m)	Licence Notes:		
	U/A Rem Ctrl	U/A Digital	U/A Beacon
IARU	Amateur Service: Primary. Amateur Satellite Service: 14.000 - 14.250MHz Primary Power limit: 26dBW PEP. Permitted modes: Morse, telephony, RTTY, data, fax, SSTV		
14.000	UK Usage		
CW only	14.000 - 14.060	CW only contest preferred segment	
14.070	14.060	QRP	
Digimodes (and CW)	No digimode mailbox or forwarding		
14.099	14.089 - 14.099	AX25 packet preferred frequencies	
Beacons only	14.099 - 14.101	Reserved exclusively for beacons	
14.101	Digimode mailbox and forwarding		
Digimodes (+ phone & CW)	14.101 - 14.112	AX25 packet preferred frequencies	
14.112	14.125 - 14.300	SSB only contest preferred segment	
Phone (and CW)	14.230	SSTV/fax calling frequency	
14.350	14.285	QRP	

CD1906-2

21MHz (15m)	Licence Notes:		
	U/A Rem Ctrl	U/A Digital	U/A Beacon
IARU	Amateur and Amateur Satellite Services: Primary. Power limit: 26dBW PEP. Permitted modes: Morse, telephony, RTTY, data, fax, SSTV		
21.000	UK Usage		
CW only	21.060	QRP	
21.080	No digimode mailbox or forwarding		
Digimodes (and CW)	21.100 - 21.120	AX25 packet preferred	
21.120	Digimode mailbox and forwarding		
CW only	21.149	Beacons exclusive	
21.149	21.149 - 21.151	Beacons only	
21.151	21.285	QRP	
Phone (and CW)	21.340	SSTV/fax calling frequency	
21.450			

CD1905-2

18MHz (17m)	Licence Notes:		
	U/A Rem Ctrl	U/A Digital	U/A Beacon
IARU	Amateur and Amateur Satellite Services: Primary. Power limit: 26dBW PEP. Permitted modes: Morse, telephony, RTTY, data, fax, SSTV		
18.068	UK Usage		
CW only			
18.100			
Digimodes (and CW)			
18.109	18.109 - 18.111	Exclusively beacons	
18.111			
Phone (and CW)			
18.168			

CD1907-2

24MHz (12m)	Licence Notes:		
	U/A Rem Ctrl	U/A Digital	U/A Beacon
IARU	Amateur and Amateur Satellite Services: Primary. Power limit: 26dBW PEP. Permitted modes: Morse, telephony, RTTY, data, fax, SSTV		
24.890	UK Usage		
CW only			
24.920			
Digimodes (and CW)			
24.929	24.929 - 24.931	Beacons exclusive	
24.931			
Phone (and CW)			
24.990			

Notes to the HF Band Plans

1. The word 'phone' includes all permitted forms of telephony.
2. If transmitting very close to a band edge, take care not to radiate outside of the band.
3. Before transmitting, all operators should check that the frequency is not already occupied. The normal advice is to use the question "Is this frequency in use?" on SSB or "QRL?" using Morse.
4. Digimodes are defined as including AmTOR, PacTOR, Clover, ASCII, RTTY (Baudot), PSK31 and AX25 packet.
5. LSB is recommended on bands below 10MHz, and USB on bands above 7MHz.
6. The Region 1 IARU HF band plans are designed to enable the best utilisation of the HF spectrum space available. They achieve this objective because the vast majority of licensed amateurs observe the voluntary recommendations. In some countries (eg the USA), licence regulations require that specific modes be confined to specific sections of each band.
7. The frequencies 14.230, 21.230 and 28.680MHz should be used as calling frequencies for SSTV and fax operators. After having established contact, they should move to another free frequency within the telephony section of the band.



The power levels shown in these band plans are for UK Full licences. Intermediate licensees are limited to 50W and Foundation licensees are limited to 10W. The holders of Intermediate and Foundation licences should refer to the appropriate RA licence booklet for full details.

CD1908-2

28MHz (10m)	Licence Notes:		
	U/A Rem Ctrl	U/A Digital	U/A Beacon
IARU			
28.000			
CW only			
28.050			
Digimodes (and CW)			
28.150			
CW only			
28.199			
Beacons only			
28.201			
Phone (and CW)			
29.200			
AX25 packet (+ phone and CW)			
29.300			
Satellite downlinks			
29.550			
Phone (and CW)			
29.700			

Amateur and Amateur Satellite Services: Primary.
Power limit: 26dBW PEP.
Permitted modes: Morse, telephony, RTTY, data, fax, SSTV
Unattended beacons: Only for DF contests 14dBWPEP max (not within 50km of NGR SK985640 Waddington)

UK Usage

[28.050 - 28.190 Novice]
28.060 QRP
28.120 - 28.150 AX25packet preferred

28.190 - 28.199 Regional time shared
International Beacon Project - Exclusive

28.199 - 28.201 Worldwide time shared
International Beacon Project - Exclusive

28.201 - 28.255 Continuous duty International
Beacon Project - Exclusive

28.360 QRP

28.680 SSTV/fax calling frequency

29.300 - 29.500 Reserved exclusively for
satellite downlinks

Some experimental FM repeaters may be established in
IARU Region 1

CD1909-2

50MHz (6m)	Licence Notes:		
	U/A Rem Ctrl	U/A Digital	U/A Beacon
IARU			
50.000			
CW only			
50.100			
SSB and CW only			
50.500			
All modes			
51.000			
All modes			
51.410			
All modes			
51.830			
All modes			
52.000			

Amateur Service: 50.0 - 51.0MHz Primary,
51.0 - 52.0MHz Secondary. Available on the basis of
non-interference to other services (inside or outside
the UK).
Power limit: 50.0 - 51.0MHz 26dBW PEP,
51.0 - 52.0MHz 20dBW PEP.
Permitted modes: Morse, telephony, RTTY, data, fax,
SSTV

UK Usage

50.020 - 50.080 Beacons
50.090 CW calling frequency

50.100 - 50.130 DX window - Note 1
50.110 International calling - Note 2
50.150 SSB Centre of Activity
50.185 Cross-band activity centre
50.200 MS Reference frequency (CW &
SSB)

50.500 - 50.700 Digital communications
50.510 SSTV
50.550 Fax
50.600 RTTY
50.710 - 50.910 FM repeater outputs

51.210 Emergency comms, priority
51.210 - 51.410 FM repeater inputs

51.430 - 51.590 FM telephony - Note 3
51.510 FM calling
51.530 Note 4

51.940 - 52.000 Emergency comms priority

- Notes:**
1. Only to be used for QSOs between stations in different continents.
 2. No QSOs on this frequency. Always QSX when working intercontinental DX.
 3. 20kHz channel spacing. Channel centre frequencies start at 51.430MHz.
 4. Used by GB2RS news and for slow Morse transmissions.
 5. 50.385MHz ± 0.005 designated for PSK31 use in the UK.

CD1910-2

70MHz (4m)	Licence Notes:		
	U/A Rem Ctrl	U/A Digital	U/A Beacon
IARU			
70.000			
Beacons			
70.030			
SSB and CW only			
70.250			
All modes			
70.300			
Channelised operation using 12.5kHz channels			
70.500			

Amateur Service: Secondary. Available on the basis of
non-interference to other services (inside or outside
the UK).
Power limit: 22dBW PEP.
Permitted modes: Morse, telephony, RTTY, data, fax,
SSTV

UK Usage

70.030 Personal beacons

70.150 Meteor scatter calling
70.185 Cross-band activity centre
70.200 SSB/CW calling

70.260 AM/FM calling

70.3000 RTTY/fax calling/working
70.3125 Digital modes
70.3250 Digital modes
70.3375 Digital modes
70.3500 Emergency comms priority
70.3625 Digital modes
70.3750 Emergency comms priority
70.3875 Digital modes
70.4000 Emergency comms priority
70.4125 Digital modes
70.4250 FM simplex - used by GB2RS
70.4375 Digital modes
70.4500 FM calling
70.4625 Digital modes
70.4875 Digital modes

- Notes:**
1. 70.085MHz ± 0.005 designated for PSK31 use in the UK.

Notes on the VHF Band Plans

1. The beacon and satellite services must be kept free of normal communication transmissions to prevent interference with these services.
2. The use of the FM mode within the SSB/CW section and CW and SSB in the FM-only sector is not recommended.
3. Repeater stations are primarily intended as an aid for mobile working and they are not intended to be used for DX communication. FM stations wishing to work DX should use the all-modes section, taking care to avoid frequencies allocated for specific purposes.

Unattended (U/A) Operation

Frequencies on which unattended (U/A) operation is permitted are shown in these band plans. Remember that unattended operation requires the prior consent of the local Radio Investigation Service before operation can begin, to enable closedown arrangements to be made. Unattended beacons are limited to 14dBW ERP max. Do not confuse this type of unattended beacon operation with the normal beacon sections of the bands (these are fully site cleared, have special licences and are co-ordinated on an international basis). Unattended low power remote control is limited to -20dBW ERP and should not radiate outside the boundary of the premises from which you are operating. Unattended digital operation is limited to 10dBW on the 50MHz band and 14dBW on the other bands where it is permitted.

CD1911-2

144MHz (2m)	Licence Notes:		
	U/A Rem Ctrl	U/A Digital	U/A Beacon
IARU	Amateur Service: Primary. Amateur Satellite Service: Primary Power limit: 26dBW PEP. Permitted modes: Morse, telephony, RTTY, data, fax, SSTV Unattended beacons: Only for DF contests.		
144.000	UK Usage		
EME (SSB/CW)	144.000 - 144.035 Moonbounce (only)		
144.035	144.050 CW calling frequency		
CW only	144.100 MS CW ref frequency (Note 1)		
144.150	144.140 - 144.150 CW FAI/EME working		
SSB and CW only	144.150 - 144.160 SSB FAI/EME working		
	144.175 Microwave talk-back (UK)		
	144.195 - 144.205 SSB random MS		
	144.250 GB2RS and slow Morse		
	144.260 Emergency comms priority		
144.400	144.300 SSB calling frequency		
Beacons	144.390 - 144.400 SSB random MS		
144.490			
Guard band			
144.500			
All modes non-channelised	144.500 SSTV calling frequency		
	144.525 ATV talkback (SSB)		
	144.600 RTTY calling frequency		
	144.600± RTTY working (FSK)		
	144.625 - 144.675 Emergency comms priority		
	144.700 Fax calling frequency		
	144.750 ATV calling+talk-back		
	144.775 - 144.800 Emergency comms priority		
144.800	144.800 - 144.990 Digital Modes (including unattended)		
144.990	Guard band		
145.000	145.000 RV48		
FM Repeater Inputs	145.025 RV50		
	145.050 RV52		
	145.075 RV54		
	145.100 RV56		
	145.125 RV58		
	145.150 RV60		
	145.175 RV62		
	145.200	145.200 V16 Emergency comms priority	
FM Simplex Channels	145.225 V18 Emergency comms priority		
	145.250 V20 Used for slow Morse transmissions		
	145.275 V22		
	145.300 V24 RTTY AFSK		
	145.325 V26		
	145.350 V28		
	145.375 V30		
	145.400 V32		
	145.425 V34		
	145.450 V36		
	145.475 V38		
	145.500 V40 FM calling channel		
	145.525 V42 Used for GB2RS		
	145.550 V44 Recommended channel for rally and exhibition talk-in		
	145.600	145.575 V46	
FM Repeater Outputs (Note 2)	145.600 RV48		
	145.625 RV50		
	145.650 RV52		
	145.675 RV54		
	145.700 RV56		
	145.725 RV58		
	145.750 RV60		
145.800	145.775 RV62		
Satellites			
146.000			

Notes:

- Meteor scatter operation can take place up to 26kHz higher than the reference frequency.
- 144.085MHz ± 0.005 designated for PSK31 use in the UK.

CD1913-2

430MHz (70cm)	Licence Notes:		
	U/A Rem Ctrl	U/A Digital	U/A Beacon
IARU	Amateur Service: Secondary. Amateur Satellite Service: 435 - 438MHz Secondary. Exclusion: 431-432MHz not available within 100km radius of Charing Cross, London. Power limit: 430-432MHz 16dBW ERP PEP, 432 - 440MHz 26dBW. Permitted modes: Morse, telephony, RTTY, data, fax, SSTV, FSTV		
430.000	UK Usage		
All modes	430.000 - 430.810 Digital communications (Notes 6,7)		
	430.0125 Internet voice linking (Note 9)		
	430.0250 Internet voice linking (Note 9)		
	430.0375 Internet voice linking (Note 9)		
	430.0500 Internet voice linking (Note 9)		
430.810	430.0625 Internet voice linking (Note 9)		
	430.0750 Internet voice linking (Note 9)		
	430.600 - 430.800 Note 5		
Repeater outputs Note 1	430.810 - 430.990 7.6MHz split repeaters		
431.000			
All modes Note 1	430.990 - 431.900 Digital communications (Note 6)		
432.000			
CW only	432.000 - 432.025 Moonbounce		
	432.050 CW centre of activity		
432.150	432.200 SSB centre of activity		
SSB and CW only	432.350 Microwave talk-back calling frequency (Europe)		
432.500	432.500 IARU Region 1 linear transponder outputs		
	432.600 IARU Region 1 linear transponder inputs		
	432.500 SSTV activity centre		
	432.600 RTTY (fsk) activity centre		
	432.625 Digital communications		
	432.650 Digital communications		
	432.675 Digital communications		
432.800	432.700 Fax activity centre		
	432.800 - 432.990 Beacons		
433.000			
FM repeater outputs in UK only Note 1	433.000 RU240 (RB0)		
	433.025 RU242 (RB1)		
	433.050 RU244 (RB2)		
	433.075 RU246 (RB3)		
	433.100 RU248 (RB4)		
	433.125 RU250 (RB5)		
	433.150 RU252 (RB6)		
	433.175 RU254 (RB7)		
	433.200 RU256 (RB8)		
	433.225 RU258 (RB9)		
	433.250 RU260 (RB10)		
	433.275 RU262 (RB11)		
	433.300 RU264 (RB12)		
	433.325 RU266 (RB13)		
433.350 RU268 (RB14)			
433.375 RU270 (RB15)			
433.400			

Notes:

- In Switzerland, Germany and Austria, repeater inputs are 430.600 - 431.825MHz with 25kHz spacing, and outputs are 438.200 - 439.425MHz. In France and the Netherlands repeater outputs are 430.025 - 430.375MHz with 25kHz spacing and inputs at 431.625 - 431.975MHz. In other European countries repeater inputs are 433.000 - 433.375MHz with 25kHz spacing and outputs at 434.600 - 434.975MHz, ie the reverse of the UK allocation.
- Emergency communications priority.
- IARU Region 1 fax/AFSK.
- Fast Scan Television carrier frequencies shall be chosen so as to avoid interference to other users, in particular the satellite service and repeater inputs. IARU Region 1 recommends that video carriers should be in the range 434.000 - 434.500MHz or 438.500 - 440.000MHz.

CD1914-2

430MHz (cont)	IARU	U/A Rem Ctrl	U/A Digital	U/A Beacon	UK Usage	
433.400						
FM simplex channels					433.400 U272 (SU16) 433.425 U274 (SU17) 433.450 U276 (SU18) 433.475 U278 (SU19) 433.500 U280 (SU20) FM calling channel 433.525 U282 (SU21) 433.550 U284 (SU22) Recommended channel for rally and exhibition talk-in	
			✓		433.575 U286 (SU23) 433.600 U288 (SU24) RTTY afsk 433.625 Digital communications 433.650 Digital communications 433.675 Digital communications 433.700 Notes 2, 3 and 5 433.725 Notes 2 and 5 433.750 Notes 2 and 5 433.775 Notes 2 and 5 433.800 - 434.250 Digital communications (Note 8)	
	434.600					
	FM repeater inputs (in UK only) - note 1; and fast scan television - note 4					434.600 RU240 (RB0) 434.625 RU242 (RB1) 434.650 RU244 (RB2) 434.675 RU246 (RB3) 434.700 RU248 (RB4) 434.725 RU250 (RB5) 434.750 RU252 (RB6) 434.775 RU254 (RB7) 434.800 RU256 (RB8) 434.825 RU258 (RB9) 434.850 RU260 (RB10) 434.875 RU262 (RB11) 434.900 RU264 (RB12) 434.925 RU266 (RB13) 434.950 RU268 (RB14) 434.975 RU270 (RB15)
		435.000				
		Satellites and fast scan TV - note 4				
		438.000				
		Fast scan TV				438.025 - 438.175 Note 5 438.200 - 439.425 Note 1
		438.425				
		Repeater inputs + fast scan TV				438.425 - 438.575 7.6MHz split repeaters
		438.575				
		Fast scan TV				438.200 - 439.425 Note 1 439.600 - 439.750 Digital communications (Note 6)
		439.750				
		Packet radio				439.750 - 440.000 Digital communications (Note 6)
440.000						

- Notes:**
- IARU Region 1 packet radio.
 - The DCC will recommend usage of this sub-band at a later date.
 - Users must accept interference from F/PA repeater output channels in 430.025 to 430.375MHz. Users with sites which allow propagation to other countries (notably F and PA) must survey the proposed frequency before use to ensure that they will not cause interference to users of repeaters in those countries.
 - 432.085MHz ± 0.005 designated for PSK31 use in the UK.
 - Internet voice linking channels: maximum deviation ± 2.4kHz, maximum effective radiated power 10dBW.

CD1915-2

1.3GHz (23cm)	IARU	U/A Rem Ctrl	U/A Digital	U/A Beacon	UK Usage
					Licence Amateur Service: Secondary. Notes: Amateur Satellite Service: 1260 - 1270MHz Secondary Earth to space only. Powerlimit: 26dBW PEP. Permitted modes: Morse, telephony, RTTY, data, fax, SSTV, FSTV Unattended operation: Not permitted in Northern Ireland. In the sub-based 1298 - 1300MHz, unattended operation is not allowed in Northern Ireland or within 50km of SS206127 (Bude) or SE202577 (Harrogate).
1,240.000					
All modes					1240.150 Packet radio (150kHz b/w) 1240.300 Packet radio (150kHz b/w) 1240.450 Packet radio (150kHz b/w) 1240.600 Packet radio (150kHz b/w) 1240.750 Packet radio (150kHz b/w)
1,243.250					
ATV					1248.000 FM TV repeater input 1249.000 FM TV repeater input
1,260.000					
Satellites					
1,270.000					
All modes					
1,272.000					
ATV					1276.500 AM TV input 1280.000 FM TV Repeater input
1,291.000					
Repeater inputs					1291.000 RM0 (UK) 25kHz spacing 1291.375 RM15
1,291.500					
All modes					
1,296.000					
CW only					1296.000 - 1296.025 Moonbounce
1,296.150					
SSB and CW					1296.200 Narrow band centre of activity 1296.400 - 1296.600 Linear transponder input 1296.500 SSTV 1296.600 RTTY 1296.700 Fax 1296.600 - 1296.800 Linear transponder output
	1,296.800				
	Beacons exclusive				1296.800 - 1296.990 Beacons
	1,297.000				
	Repeater outputs - note 1				1297.000 RM0 (UK) 25kHz spacing 1297.375 RM15
	1,297.500				
FM simplex - note 1					1297.500 SM20 1297.750 SM30
1,298.000					
All modes		✓	✓		Remote control Digital communications
1,299.000					
All modes			✓		1299.000 Packet radio (25kHz b/w) 1299.425 Packet radio (150kHz b/w) 1299.575 Packet radio (150kHz b/w) 1299.725 Packet radio (150kHz b/w)
1,300.000					
TV repeater outputs (UK only)					1308.000 FM TV repeater output 1310.000 FM TV repeater output 1311.500 AM TV repeater output 1312.000 FM TV repeater output 1316.000 FM TV repeater output
1,325.000					

- Notes:**
- Local traffic using narrow-band modes should operate between 1296.500 - 1296.800MHz during contests and band openings.
 - Stations in countries which do not have access to 1298 - 1300MHz (eg Italy) may also use the FM simplex segment for digital communications.

CD1917-2

2.3GHz (13cm)	Licence Notes: Amateur Service: Secondary. <i>Users must accept interference from ISM users.</i> Amateur Satellite Service: 2400 - 2450MHz Secondary. <i>Users must accept interference from ISM users.</i> Power limit: 26dBW PEP. Permitted modes: Morse, telephony, RTTY, data, fax, SSTV, FSTV NOTE: ISM = Industrial, Scientific and Medical. In the sub-bands 2310.00 - 2310.4125, 2355 - 2365 and 2392 - 2450MHz, unattended operation is not allowed in Northern Ireland or within 50km of SS206127 (Bude) or SE302577 Harrogate).		
	IARU	UK Usage	
2,310.000	U/A Rem Ctrl	U/A Digital	U/A Beacon
Sub-regional (national band plans)			
2,320.000			
CW exclusive			
2,320.150			
CW and SSB			
2,320.800			
Beacons exclusive			
2,321.000	✓	✓	✓
Simplex & repeaters (FM) - note 1			
2,322.000			
All modes			
2,400.000			
Satellites			
2,450.000			

Notes:

1. Stations in countries which do not have access to the All Modes section (2,322 - 2,390MHz), use the simplex and repeater segment 2,321 - 2,322MHz for data transmission
2. Stations in countries which do not have access to the narrow band segment 2,320 - 2,322 MHz, use alternative narrow band segments: 2,304 - 2,306MHz and 2,308 - 2,310MHz.
3. The segment 2427 - 2443MHz may be used for ATV if no satellite is using the segment.

CD1918-2

3.4GHz (9cm)	Licence Notes: Amateur Service: Secondary. Power limit: 26dBW PEP. Permitted mode: Morse, telephony, RTTY, data, fax, SSTV, FSTV In the sub-bands 3420 - 3430 and 3450 - 3455MHz, unattended operation is not allowed within 50km of SO916223 (Cheltenham), SS206127 (Bude) and SE302577 (Harrogate).		
	IARU	UK Usage	
3,400.000	U/A Rem Ctrl	U/A Digital	U/A Beacon
Narrow band CW/EME/SSB			
3,402.000			
All modes			
3,456.000	✓	✓	✓
Narrow band CW/EME/SSB			
3,458.000			
All modes			
3,475.000			

CD1919-2

5.7GHz (6cm)	Licence Notes: Amateur Service: 5.650 - 5.680GHz Secondary, 5.755 - 5.765GHz & 5820 - 5850GHz Secondary, <i>users must accept interference from ISM users.</i> Amateur Satellite Service: 5.650 - 5.670GHz Secondary <i>earth to space only.</i> 5.830 - 5.850GHz Secondary, <i>users must accept interference from ISM users, space to earth only.</i> Power limit: 26dBW PEP. Permitted modes: Morse, telephony, RTTY, data, fax, SSTV, FSTV NOTE: ISM = Industrial, scientific and medical. In the sub-band 5670 - 5680MHz, unattended operation is not allowed within 50km of SS206127 (Bude) or SE302577 (Harrogate).		
	IARU	UK Usage	
5,650.000	U/A Rem Ctrl	U/A Digital	U/A Beacon
Satellite uplinks			
5,668.000			
Narrow band CW/EME/SSB	✓	✓	✓
5,670.000			
All modes			
5,680.000			

5,755.000	U/A Rem Ctrl	U/A Digital	U/A Beacon
All modes			
5,760.000			
Narrow band CW/EME/SSB	✓	✓	✓
5,762.000			
All modes			
5,765.000			

5,820.000	U/A Rem Ctrl	U/A Digital	U/A Beacon
All modes			
5,830.000	✓	✓	✓
Satellite downlinks			
5,850.000			

Note:

1. IARU aims to move narrow band operation to this segment, but for the time being operation will continue in the 5760 - 5762GHz band.



Be a good neighbour - operate within the band plans

CD1920-2

10GHz (3cm)	Licence Amateur Service: Secondary. Notes: Amateur Satellite Service: 10,450 - 10,500MHz Secondary Power limit: 26dBW PEP. Permitted modes: Morse, telephony, RTTY, data, fax, SSTV, FSTV In the sub-band 10,000 - 10,125MHz, unattended operation is not allowed within 50km of SO916223 (Cheltenham), SS206127 (Bude), SK985640 (Waddington) or SE302577 (Harrogate).		
	IARU	UK Usage	
10,000.000	U/A Rem Ctrl	U/A Digital	U/A Beacon
Digital modes	✓	✓	
			10,002.5 - 10,027.5 <i>WB transponders 015 OUT</i> 10,027.5 - 10,052.5 <i>WB transponders 040 OUT</i> 10,052.5 - 10,077.5 <i>WB transponders 065 OUT</i> 10,080 - 10,090 <i>Packet links</i> 10,090 - 10,110 <i>Wideband Beacons & Operating</i> 10,110 - 10,120 <i>Speech repeaters OUT</i>
10,125.000			

10,225.000				10,227.5 - 10,252.5 <i>WB transponders 425 OUT</i>
All modes				10,252.5 - 10,277.5 <i>WB Simplex</i>
10,250.000				10,277.5 - 10,302.5 <i>WB transponders 015 IN</i>
Digital modes				10,302.5 - 10,327.5 <i>WB transponders 040 IN</i>
10,350.000				10,327.5 - 10,352.5 <i>WB transponders 065 IN</i>
All modes				10,352.5 - 10,368 <i>Wideband modes</i>
10,368.000				
Narrow band CW/EME/SSB beacons				10,368 - 10,370 <i>Narrowband modes</i> 10,368.1 <i>Centre of activity</i> 10,368.8 - 10,369 <i>Beacons</i>
10,370.000				
All modes				10,370 - 10,390 <i>Wideband modes</i> 10,390 - 10,410 <i>WB beacons and operating</i> 10,412.5 - 10,437.5 <i>WB transponders 425 IN</i> 10,440 - 10,450 <i>Speech repeaters IN</i> [10,400 - 10,475 <i>unattended operation</i>]
10,450.000	✓	✓		
All modes + satellites				10,450 - 10,452 <i>Alternate narrowband CW/EME/SSB - note 3</i>
10,475.000				
All modes + satellites				<i>Amateur satellite service only</i>
10,500.000				

- Notes:**
- 10,400 is the preferred frequency for wideband beacons, but 10,100 is still used.
 - Wideband FM is preferred around 10,350 - 10,400 to encourage compatibility with narrowband systems; however, there is still activity around 10,050 - 10,125.
 - The current NB sub-band is at 10,368; however, a sub-band at 10,450 is being considered as a possible future alternative.
 - Simplex TV operation should take place on wideband transponder inputs which are not used by local transponders.
 - Wideband transponder pairs are designated by input/output frequency. The pairings shown are recommended but occasionally variants may be needed to suit local circumstances.
 - Note that 10,475 to 10,500 is allocated ONLY to the Amateur Satellite Service and NOT to the Amateur Service.

CD1921-2

24GHz (12mm)	Licence Amateur Service: 24,000 - 24,050 Primary. <i>Users must accept interference from ISM users.</i> 24,050 - 24-150 Secondary. <i>May only be used with the written consent of the Secretary of State. Users must accept interference from ISM users.</i> 24,150 - 24,250MHz Secondary. <i>Users must accept interference from ISM users.</i> Amateur Satellite Service: 24,000 - 24,050 Primary. <i>Users must accept interference from ISM users.</i> Power limit: 26dBW PEP. Permitted modes: Morse, telephony, RTTY, data, fax, SSTV, FSTV In the sub-band 24,000 - 24,050MHz, unattended operation is not allowed within 50km SK985640 (Waddington) and SE302577 (Harrogate). NOTE: ISM = Industrial, scientific and medical.		
	IARU	UK Usage	
24,000.000	U/A Rem Ctrl	U/A Digital	U/A Beacon
Satellites	✓	✓	
			24,025 <i>Preferred operating frequency wideband equipment</i> 24,048 - 24,050 <i>LARU proposed narrowband operating</i>
24,050.000			
All modes			24,192 - 24,194 <i>Narrowband op</i>
24,250.000			

- Notes:**
- Will eventually be used if and when allocation changes force this.

CD1922-2

47GHz (6mm)	Licence Amateur and Amateur Satellite Service: Primary. Notes: Power limit: 26dBW PEP. Permitted modes: Morse, telephony, RTTY, data, fax, SSTV, FSTV Unattended operation is not allowed within 50km of SK985640 (Waddington) and SE302577 (Harrogate).		
	IARU	UK Usage	
47,000.000	U/A Rem Ctrl	U/A Digital	U/A Beacon
47,200.000	✓	✓	✓
			47,088 <i>Centre of narrowband activity</i>

CD1923-2

76GHz (4mm)	Licence Amateur and Amateur Satellite Service: Primary. Notes: Power limit: 26dBW PEP. Permitted modes: Morse, telephony, RTTY, data, fax, SSTV, FSTV		
	IARU	UK Usage	
75,500.000	U/A Rem Ctrl	U/A Digital	U/A Beacon
76,000.000	✓	✓	✓
			75,976 <i>Centre of UK activity</i>

- Notes:**
- Most continental activity is around 76,032MHz in the Secondary segment that is not currently available in the UK.

As part of a major reorganisation of allocations above 71GHz at WRC 2000, the amateur allocations were re-arranged, with the intention that a phased changeover should take place by 2005. The UK implementation of the new allocations and the details of the changeover process are under discussion with the Radiocommunications Agency, and it is hoped that the changeover can begin during 2002. Bandplanning information will be provided once the nature of the changeover is clearer; it is hoped that activity will focus on the Primary segments.

Current UK Allocation	New ITU Allocation
75,500 - 76,000	76,000 - 77,500 Secondary 77,500 - 78,000 Primary 78,000 - 81,000 Secondary
-	122,250 - 123,000 Secondary
142,000 - 144,000	134,000 - 136,000 Primary 136,000 - 141,000 Secondary
248,000 - 250,000	241,000 - 248,000 Secondary 248,000 - 250,000 Primary




RADIO SOCIETY OF GREAT BRITAIN



CONTEST SITE REGISTRATION REG2-97

CONTEST GROUP NAME	
ADDRESS FOR CORRESPONDENCE	SITE ADDRESS
TELEPHONE NUMBER IN CASE OF QUERY:	
MAIDENHEAD LOCATOR OF SITE	COUNTY
SECTION OF CONTEST ENTERED	RLO NAME AND AREA (for contest site)
CALLSIGNS TO BE USED: 50MHz 70MHz 144MHz 432MHz 1.3GHz 2.3GHz	QTH DETAILS TO BE SENT ON: 70MHz (CW): 70MHz (SSB):
FULL DETAILS OF ACCESS TO SITE Please ensure that this section is totally accurate	
Nearest large town: NGR of site:	
Use additional sheets if necessary Please attach map or drawing on reverse of form	
NOTE: Failure to allow free access to the registered site for any reason for the whole period of the contest will invalidate the site registration.	
Please supply TWO (2) copies of this form, all additional sheets and all maps and drawings.	
NO DUAL REGISTRATIONS. Groups may not register more than one site at a time. Changes of site can be registered on a new form up to one (1) week before the contest and this will cancel any previous registrations. Entries not adhering to this rule cannot be accepted.	

CALL SIGN



TOTAL CLAIMED SCORE

Radio Society of Great Britain HF CONTEST SUMMARY SHEET

Contest Date

Phone <input style="width: 40px; height: 20px;" type="checkbox"/>	Single operator <input style="width: 40px; height: 20px;" type="checkbox"/>	Single band <input style="width: 40px; height: 20px;" type="checkbox"/>
CW <input style="width: 40px; height: 20px;" type="checkbox"/>	Multi operator <input style="width: 40px; height: 20px;" type="checkbox"/>	Multi band <input style="width: 40px; height: 20px;" type="checkbox"/>

Section Name of group/club

Location of station

Contest exchange (e., County Code)

BAND	1.8MHz	3.5MHz	7MHz	14MHz	21MHz	28MHz	TOTAL
VALID QSOs							
QSO POINTS							
BONUS/MULT							
HFCC USE							

Transmitter/Receiver Output Power..... dBW

Antennas

Operators*.....

I declare that this station was operated strictly in accordance with the rules and spirit of the contest and within the conditions of my license. I agree that the decision of the Council of the RSGB shall be final in all cases of dispute.

DATA PROTECTION ACT: I agree to the data from this entry being entered into a computer for the sole purpose of the contest adjudication.¶

Signature Date

Name (Block letters) Callsign

Address

..... Post Code

- Notes:
1. Use separate log sheets for each band.
 2. Include list of bonus/multipliers where applicable.
 - *3. Multi-operator entries must indicate callsign of operator against each contact.
 - ¶4. Entrants information is erased after checking is completed.

RADIO SOCIETY OF GREAT BRITAIN

VHF-UHF-SHF COVER SHEET



Form 427-97

ENTRANTS - PLEASE COMPLETE ALL SECTIONS IN CLEAR PRINT OR TYPE

Contest Title		Number of QSOs made																	
Band	Section	Claimed Points																	
MHz																			
Callsign Used	Location as sent (QTH / Zone / County)		Multiplier																
Locator as sent			Overall Score																
Best DX QSO Station Callsign	Distance (km)	in Locator	Adjudicated Score																

Name or Group

Name and Callsign of all operators			
NAME	CALLSIGN	NAME	CALLSIGN

TX (brief description)		Power output (Watts)
RX (brief description)		QTH ASL (m)
Antenna Height AGL (m)	Antenna type	

CONDITIONS DURING CONTEST

PLEASE LIST CUMULATIVE SESSION SCORES AND MAKE ANY FURTHER COMMENTS ON THE REVERSE SIDE OF THIS SHEET

IMPORTANT NOTE
 BY SUBMITTING AN ENTRY TO THIS CONTEST YOU AGREE TO BE BOUND BY THE RULES OF THIS CONTEST AND YOU AGREE THAT THE DECISION OF THE RSGB SHALL BE FINAL IN CASES OF DISPUTE.

Name Callsign Address for correspondence Telephone No	Please tick appropriate box for further stationery supplies and enclose a large stamped addressed envelope	
	FORM LSVHF LOG SHEETS	
	FORM 427 COVER SHEETS	
	FORM REG2 SITE REGISTRATION	
	FORM MUL1 MULTIPLIER LIST	

Please enclose a stamped addressed post card if you require confirmation that your entry in the contest has been received.



CALL SIGN

TOTAL CLAIMED SCORE

Radio Society of Great Britain
SWL HF CONTEST SUMMARY SHEET

Contest Date

Phone

Single operator

Single band

CW

Multi operator

Multi band

Section Name of group/club

Location of station

Contest exchange (e.g., County Code).....

BAND	1.8MHz	3.5MHz	7MHz	14MHz	21MHz	28MHz	TOTAL
VALID QSOs							
QSO POINTS							
BONUS/MULT							
HFCC USE							

Receiver

Antennas

I declare that this station was operated strictly in accordance with the rules and spirit of the contest and that I do not hold a Class A transmitting license. I agree that the decision of the HF Contest Committee and the Council of the RSGB shall be final in all cases of dispute.

DATA PROTECTION ACT: I agree to the data from this entry being entered into a computer for the sole purpose of the contest adjudication. ¶

Signature Date

Name (Block letters) Callsign

Address

.....

..... Post Code

- Notes:
1. Use separate log sheets for each band.
 2. Include list of bonus/multipliers where applicable.
 - ¶3. Entrants information is erased after checking is completed.

Postal Areas Check List

Area	Location	1st QSO	2nd QSO
AB	Aberdeen		
AL	St Albans		
BM	Birmingham		
BA	Bath		
BB	Blackburn		
BD	Bradford		
BH	Bournemouth		
BL	Bolton		
BN	Brighton		
BR	Bromley		
BS	Bristol		
BT	Belfast		
CA	Carlisle		
CB	Cambridge		
CF	Cardiff		
CH	Chester		
CM	Chelmsford		
CO	Colchester		
CR	Croydon		
CT	Canterbury		
CV	Coventry		
CW	Crewe		
DA	Dartford		
DD	Dundee		
DE	Derby		
DG	Dumfries		
DH	Durham		
DL	Darlington		
DN	Doncaster		
DT	Dorchester		
DY	Dudley		
EL	London E1 - 18		
EC	London EC1 - 4		
EH	Edinburgh		
EN	Enfield		
EX	Exeter		
FK	Falkirk		
FY	Blackpool		

Area	Location	1st QSO	2nd QSO
GS	Glasgow		
GL	Gloucester		
GU	Guildford		
GY	Guernsey		
HA	Harrow		
HD	Huddersfield		
HG	Harrigate		
HP	Hemel Hempstead		
HR	Hereford		
HS	Scottish Islands		
HU	Hull		
HX	Halifax		
IG	Ilford		
IM	Isle of Man		
IP	Ipswich		
IV	Inverness		
JE	Jersey		
KA	Kilmarnock		
KT	Kingston upon Thames		
KW	Orkney		
KY	Kirkcaldy		
LA	Lancaster		
LD	Llandrindod Wells		
LE	Leicester		
LL	Llandudno		
LN	Lincoln		
LS	Leeds		
LU	Luton		
LR	Manchester		
ME	Medway		
MK	Milton Keynes		
ML	Motherwell		
NL	London N1 - 22		
NE	Newcastle upon Tyne		
NG	Nottingham		
NN	Northampton		
NP	Newport		
NR	Norwich		
NW	London NW1 - 11		
OL	Oldham		

Area	Location	1st QSO	2nd QSO
OX	Oxford		
PA	Paisley		
PE	Peterborough		
PH	Perth		
PL	Plymouth		
PO	Portsmouth		
PR	Preston		
RG	Reading		
RH	Redhill		
RM	Romford		
SD	Sheffield		
SA	Swansea		
SE	London SE1 - 28		
SG	Stevenage		
SK	Stockport		
SL	Slough		
SM	Sutton		
SN	Swindon		
SO	Southampton		
SP	Salisbury		
SR	Sunderland		
SS	Southend on Sea		
ST	Stoke on Trent		
SW	London SW1 - 20		
SY	Shrewsbury		
TA	Taunton		
TD	Tweed		
TF	Telford		
TN	Tonbridge		
TQ	Torquay		
TR	Turo		
TS	Teeside		
TW	Twickenham		
UB	Uxbridge		
WL	London W1 - 14		
WA	Warrington		
WC	London WC1 - 2		
WD	Watford		
WF	Wakefield		
WN	Wigan		
WR	Worcester		
WS	Walsall		
WW	Wolverhampton		
YO	York		
ZE	Shetland Isles		

Introduction to HF Contests

What are contests?

Contests are sporting competitions between amateur stations on specific bands and modes according to published rules. This contest guide specifically refers to HF contests, but many of the guidelines apply equally to contests on VHF/UHF.

Why take part?

Competition is fun and encourages entrants to stretch themselves and their stations to the limit. Contests are all about efficient operation. You can often tell a contest operator on a band because he is the one working DX quickly, or persevering through difficult conditions. He doesn't waffle, or give up entirely when things get difficult. His station is designed to cope well with both strong and weak signals and to be operated comfortably at speed, with controls, writing area and accessories all to hand (many of the best stations around were set up to compete in contests or other competitions – including DXing). Last, but not least, HF contests create and renew friendships among participants. Ask any Commonwealth Contest entrant about that!

How would I enter a contest?

The first step is to read the contest rules in *RadCom* (Rules Supplement in January, 'Contest' and 'HF' every month), *QST*, *CQ Magazine*, *Practical Wireless* etc. The rules for all RSGB contests throughout the year are published in the October *RadCom* and on the RSGB HF Contests Committee web site: www.g4tsh.demon.co.uk/HFCC/ If you are a packet cluster user, enter SH/HFTEST followed by a three-letter abbreviation of the month, to get date/time and other brief information, e.g. SH/HFTEST NOV to list the major contests in November.

If you can't find the rules, listen carefully to other entrants and make a note of the information they are exchanging (usually callsigns, reports and serial numbers).

Make contact with entrants and pass them the required information. Carefully log times, callsigns, reports and any other information such as serial numbers sent and received.

At the end of the contest rewrite your log onto contest logsheets or if you use a computer for logging, prepare a log entry file. Check that you have claimed the correct number of points for each contact, and work out any bonus points or multipliers as specified in the rules. Fill in an RSGB HF Contests Summary Sheet which has spaces for your callsign and station details and boxes for your claimed scores and grand total. If you have prepared a paper entry, post it together with the summary sheet to the contest adjudicator. If you logged on computer, send your log files on disk or use e-mail.

What are multipliers?

The final score in many contests is made up of the total of QSO points on each band, multiplied by the total number of countries worked on each band. This is an example of a multiplier. So if you work the USA on four bands, that counts as four multipliers.

What happens to my entry?

The adjudicator scrutinises all the entries, looking for details missed or logged incorrectly. They check for unmarked duplicate contacts and mathematical errors, and cross-check as many of the contacts as possible against other entries and check-logs. They tabulate the checked scores to identify the overall winners and winners in individual sections. They write a contest report for publication (this may take up to six months). Finally they arrange for the proper trophies and certificates to be presented to the winners. Soon afterwards it's time to draw up and publish the rules for the next event.

Adjudication of a major contest can take many hundreds of man-hours so please consider this when submitting your entries. Neat handwriting or typing makes the adjudicator's job much easier, as does an accurate 'dupe sheet' for each band. Remember, RSGB events are all adjudicated by unpaid volunteer members of the HF Contests Committee, who give up their spare time so that you can enjoy contesting.

Can I enter by myself?

If you want to get stuck in and have a go in a contest from home, there are plenty of events to choose from. For example, RSGB LF Cumulative Contests or QRS CW Contests provide a gentle introduction to contesting for new entrants. The RSGB HF Contests Committee organises all types of events. You might also care to participate in contests run by overseas societies or magazines. Some contests are restricted to particular types of station, eg QRP or Portable, and you may not be allowed to enter these events. Entrants may usually work you for points, however, and the adjudicators always welcome 'checklogs' – a photocopy of the relevant pages from your log would suffice. Most contests take place at weekends. To find one in progress just keep a listen out for lots of rapid exchanges of reports and serial numbers or other codes. Before you transmit, listen to find out who is working whom and what information is being exchanged (or look up the rules). Then get going! Aim to be clear and precise. Don't give name, QTH and details of the weather, or ask a DX station for QSL information which can usually be obtained from other sources. If you're on CW, don't be afraid to ask the other station to QRS (slow down) if you can't cope. All good operators will respond to such a request.

How do I enter a team contest?

If you want to participate in a group entry, why not go and help your local radio society enter a Field Day or an AFS contest. Clubs are often very grateful to receive enthusiastic assistance with team events. General helpers, loggers and dupe-checkers are just as important as operators, so you will be very welcome to take part even if you do not wish to operate at first. If you aren't a member of your local club you really don't know what you're missing. Contact the secretary or another official for information – club addresses are often available through your local library – they may certainly be had from RSGB HQ, the RSGB web site or from the *Yearbook*. Go along, learn how contests work and, most of all, *enjoy yourself*.

As a listener, can I enter contests?

Short-wave listeners (SWLs) are particularly encouraged to participate in contests. You may, of course, assist with logging in team events. Most contests include special SWL sections and there are also contests specifically for SWLs. Usually, for each exchange heard, SWLs must record the band, time and both callsigns, plus the report and serial number sent by either station. A given callsign can only appear a limited number of times in so many contacts logged (analogous to the requirement for transmitting entrants not to make duplicate contacts) and stations calling CQ do not count.

Why do events sometimes clash?

All the large international contests, by definition, involve amateurs around the world. The largest ones attract thousands of entrants and tens of thousands of participants. Since HF signals are audible world-wide under suitable conditions, this generates a considerable amount of traffic. Contest organisers go to some lengths to ensure that contests do not clash by publicising their proposed dates well in advance, including via the IARU. However, this is a free world and organisers cannot be bound to avoid a certain date simply because another group has arranged an event. In practice, major contests tend to retain the same relative dates from year to year (eg HF NFD is on the first weekend in June, and has been for many years) whereas minor contests are sometimes brought forward or postponed to avoid any large ones. Purely national contests are usually scheduled for bands/times when propagation is very limited. In addition, the WARC bands (10/18/24MHz) are kept contest-free, as a haven for non-contesters.



Cumulative Contests

What are Cumulative Contests?

Cumulatives consist of a set of separate contest sessions on different days, spread over a number of weeks. Each session runs like an individual contest. The final score for the event is obtained by adding together the scores from the best sessions. This format enables you to miss a couple of days, or just to disregard poor ones.

Cumulative sessions are short, so there is little of the stress of major events, but all the fun. Some overseas societies run low-key events called "Activity Periods" or "QSO Parties". There are usually awards for the winners, but the emphasis is on the social aspects of contacting other participating stations rather than amassing lots of points – these events are very suitable for newcomers.

When do they take place?

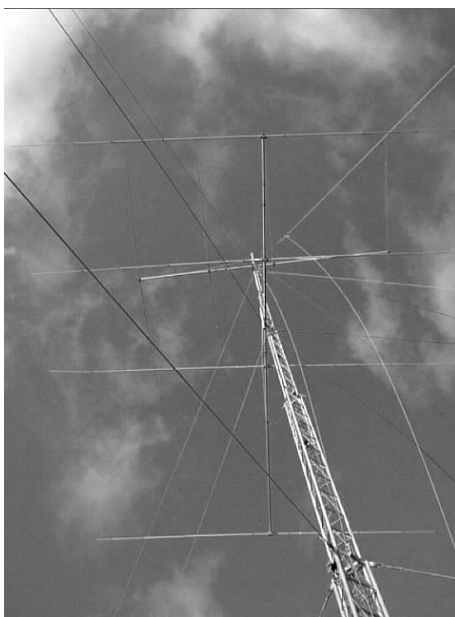
There are presently three cumulative contests run by the RSGB and all are CW events. In January/February the LF Cumulatives are held on 160, 80 and 40m. Sessions are two hours on the air. The top band sessions are on weekday evenings; those on 80 and 40m are at weekends. In spring and again in autumn there are the QRS Cumulatives, which are 90-minute sessions on weekday evenings on 80m only. There is a power limit of 10W and an absolute speed limit of 12WPM. In QRS events competitors are asked to use only a 'straight' key and not to use computers during the contest. They are thus ideal for newcomers to the contest scene.

What is involved in each session?

During a session contest exchanges are made as usual. Participants exchange callsign, report and serial number for the LF cumulatives, and callsign, report and name for the QRS ones. Duplicate contacts with a given station in any one session do not count for points, but since each period is a contest in its own right you can claim points for a contact with the same station in each of the sessions. Non-participants, including overseas stations, may not send you all the information (eg no serial number) but this is no problem. In RSGB HF contests (unless the rules specifically prohibit it), you may still claim points for the contact, provided you send all the required information to them and log correctly the callsign, incoming report and any other information which they may send. If on the other hand the contact was not completed, you cannot claim points simply for having sent information to the other station.

What happens after the contest?

Score each session separately according to the rules, then pick the best three sessions for your entry for QRS events and the two best for the LF ones. Prepare an extra summary sheet showing the date of each of the sessions and the number of points claimed, as well as the grand total, then send your entry to the address published with the rules. If you have logs for any other sessions that you excluded from your entry, send them in as well, clearly marked "CHECKLOG" – they are of great assistance to the adjudicator.



A look up the tower at M6T.

How do I start?

As with any contest, the best place to start is to read the rules published in *RadCom* and be sure you fully understand what is required. It is a good idea to prepare log sheets with your serial numbers already written in (starting from 001) to save time once the contest starts.

If you use a computer for the contest, make sure you are familiar with how to use the program before the contest starts. Try not to rush your first attempt, but take time to listen to the other contestants' exchanges and get a feel for how to send the information clearly and efficiently. Speed will come with practice.

HF Field Day Contests

What is a Field Day (FD)?

Field days were originally intended to test the ability of amateur radio groups to operate under emergency conditions, using temporary stations and portable power sources, as might be necessary after a natural disaster. When radio was still at an experimental stage almost all equipment was home-made. Nowadays commercial transceivers are the rule but ancillary equipment such as power supplies, keyers or SWR Bridges are often home-brew.

What do Field Days involve?

There are two HF Field Days: National Field Day (160 to 10m CW) and SSB Field Day (80 to 10m). In addition, the Low Power Contest in July has a portable section. They all require RSGB members to operate 'portable' stations. Permanent structures (buildings) may not be used to house the stations or hold up aerials, so entrants usually operate in tents, cars or caravans in fields, using tubular masts, mobile towers or trees as antenna supports and with power supplied from portable sources (generators, batteries etc, not the mains). Bonus points or multipliers may be scored for contacts with other portable stations or with new country prefixes, depending on the specific rules. There are dif-

ferent sections in each event such as open or restricted entries (restrictions on power or aeri-als) – details are published with the rules.

When are they?

NFD is held on the first weekend in June, SSB FD on the first weekend in September (the same weekend as the 144MHz Trophy Contest) and the Low Power contest is held in July. In 'portable' contests, stations may only be assembled, aeri-als erected etc within 24 hours of the start of the contest. In NFD and SSB FD equipment is often taken to the field late on Friday afternoon, when there may just be time to erect some antennas before dark. Station assembly is completed on the Saturday morning, leaving just enough time for testing before the event starts. The contests proper run for 24 hours. The Low Power Contest is shorter and there are two operating periods with a lunch break between. In addition, of course, there is a lot of preparation to do before each contest – collecting, building and testing rigs, aeri-als etc, and practising operating techniques.

What happens during the contests?

Most stations are operated under the guidance of a station organiser, according to a rota. They usually arrange for teams, perhaps consisting of operator and checklogger, to be replaced as they tire (maybe every hour or two) throughout the 24-hour period. During their time off, everyone takes a share of the collective duties, which may be anything from refuelling the generator to cooking, making tea and coffee or keeping cows away. Some groups set up their stations in parks or other public places and then one or two members are usually detailed to deal (politely) with inquisitive members of the public!

How do I get involved?

Your local radio club is probably the best place to find out about entries in your area since Field Days are group contests. Contact the club secretary or contest manager for more information. If your club doesn't enter field day at the moment, ask who is interested at the next meeting and you may find several like-minded people willing to have a go. Further guidance is available from the HFCC if needed.

Affiliated Societies (AFS) Contests

What are AFS Contests?

There are four RSGB AFS contests each winter. They involve 'teams' of operators belonging to RSGB-affiliated societies (though not necessarily all RSGB members) who operate on behalf of their group. You may already have entered the 2m or 70cm AFS contests on SSB or FM. Both the HF AFS contests are held on 80m, CW and SSB. The CW event usually attracts around 350 stations, representing 100 or so affiliated societies, and is one of the best-supported UK contests. In contrast to the usual multi-operator contests, HF AFS teams usually consist of a number of club members who operate their own stations at home. Their scores are then added together to arrive at the team total.

When are the HF AFS Contests held?

CW HF AFS takes place on the second Sunday in January. It lasts for four hours during the afternoon and, being a national contest, is timed to reduce interference to overseas amateurs. SSB HF AFS takes place on the Saturday afternoon following the CW event.

What sort of station do I need in order to take part?

Anyone can make a useful contribution to AFS – every year entries are received from newcomers and QRP stations, sometimes using as little as 1W output power, a direct-conversion receiver and a small wire or vertical antenna. If you don't make the 'A' team, you may be the leading entrant in the 'B' team. If you are not a member of a club (perhaps you should consider joining one!) why not go on and have fun anyway. Send in your log as an independent checklog. You will assist the adjudicators and receive the proper credit in the contest report.

What happens during the contests?

Contest exchanges consist of callsign, signal report and a three-digit serial number starting at 001. An aspect of the CW contest of particular interest is the 'QRS Corral'. This is a section of the band which is set aside for the exclusive use of stations sending at comparatively low speeds (12WPM or less) in order to encourage less experienced operators to take part and support their club. Notwithstanding, you can always ask another station to slow down by sending "QRS". Do not be afraid to use this request, as mistakes caused by excessive speed can cost points. All good operators should automatically attempt to match their speed to that of the person calling them.

What happens after the contest?

Each operator completes the contest and prepares their own entry individually before passing their log to the person who is responsible for the club entry (perhaps the secretary or contest manager). That person assigns the individual entrants into teams, adds up the claimed team scores and prepares a team summary sheet. They then send all the logs in one package to the adjudicator for marking.

How can I take part?

Get in touch with the contest manager or secretary at your local club to find out if they intend to take part in the next AFS contests. If not, why not organise an entry yourself? Coerce as many people as you can into having a go on behalf of the club and make sure they are all aware of the rules, which are published in the January issue of *RadCom*. After the contest collect the logs together, decide on the team composition (the adjudicator will not alter this, nor do it for you) and send the whole lot off in one package. You may also like to include a stamped, addressed postcard for the adjudicator to return so you will know your entry has arrived safely.



Richard, G3ZGS, operating the Newbury club station G5XV/P in NFD 2002.

Other RSGB HF Contests

IOTA Contest

This recent addition to the contest calendar is now a major international contest. Based around the RSGB IOTA Awards programme, you may work anyone but score premium points and collect multipliers for contacts with IOTA islands. The contest is at the end of July on 80 to 10m CW and SSB.

Single and dual band contests

A variety of single and multi-operator, CW and SSB contests take place on specific bands – 160m CW (Feb & Nov), 40m CW (Feb), 15 & 10m CW (Oct) and 15 & 10m SSB (Oct). These events are suited to novice and experienced contesters alike. They include sections for SWLs and are open to overseas entrants.

Commonwealth Contest (March)

This is a contest for DX enthusiasts which involves contacts between stations in the British Commonwealth and is a good opportunity to work stations with rare prefixes on 80 to 10m CW. Signal strengths from the more distant countries are often poor and good, low-angle antenna systems are advantageous. Even so, success can be had with the smallest of stations. This contest, which dates back to 1932, used to be called the "British Empire Radio Union" contest which is why so many entrants call "CQ BERU".

ROPOCO (April and August)

ROPOCO stands for ROfating POst COdes. For the first contact you send your own postcode and receive one back; in subsequent contacts you send the postcode you have just received and receive a new one in return, thus passing them on around the participants. These Sunday-morning 80m CW contests require great care in receiving, logging and sending accurately.

Club Calls Contest (November)

This top band team contest developed out of the Verulam ARC's 'Clubs Contest' and aims to promote social contact between club members and to activate club callsigns. Clubs, club members or individuals may enter using any mode, and

Class B licence-holders are encouraged to operate under the supervision of Class A holders.

Top Band DF Contests (throughout the year)

In Direction Finding (DF) contests, entrants attempt to locate hidden transmitters by triangulating bearings taken with special portable DF receivers which have highly directional aerials. The first operator to locate all the transmitters in each session is the winner. The transmitters are often cunningly concealed in open country and their signal strengths may well be deliberately adjusted in order to deceive the hunters as to their distance from the start. Finding them requires not only considerable technical skill but also a degree of physical fitness and acceptance of discomfort. DF contests are run by the RSGB ARDF Committee. Rules and results are published in *RadCom*.

Other specialist contests (throughout the year)

Other specialist contests (throughout the year)

Other special interest groups affiliated to the RSGB organise their own events. These include RTTY and SSTV contests, WAB contests and events for members of groups such as RNARS and FOC. The rules and results are generally published by the groups concerned and often appear in summary form in the 'HF' column of *RadCom*.

HF Contest Championship (yearly, Jan – Dec)

This is not a specific contest in its own right, but involves participation in a number of single-operator HF events during the year. The events concerned are listed in the rules. In order to qualify for the championship it is necessary to enter at least two of the events – qualifiers callsigns are put forward for inclusion automatically. A qualifier's championship points for each event they enter are calculated on the basis of his score expressed as a function of the score amassed by the event's winner, multiplied by a 'difficulty' factor for each contest. To win the championship requires consistently good performances and represents a great overall effort.

Non-RSGB International HF Contests

Can I enter non-RSGB contests?

In addition to the RSGB events detailed in this publication, most other national societies and amateur radio organisations have their own HF contests, many of which are open to all comers. In general they take place at weekends and the normal exchange is report and serial number, so casual entrants can usually participate. The exceptions are those events which specify contacts within the same country/ society (contacts with overseas stations or non-members although 'permitted' do not count for points – so entrants will avoid you if you call them!). Some contests use special exchanges like WAB locators – to

enter these it is necessary to know the correct information to send. If you cannot find a copy of the rules or figure it out from the information being exchanged you can always try asking one of the entrants (don't pick the station who is working a pile-up! Find someone who is not likely to be one of the winners – you stand a better chance of getting a reply).

What about the rules?

Brief summaries of the rules of most major international contests are published in the 'HF' column of *RadCom*, but anyone intending to make a serious entry is advised to contact the organisers directly for the full rules. The RSGB awards trophies for the UK winners of some overseas contests and these are presented annually at the HF Convention. There follow brief descriptions of some of the major overseas events.

CQ World-wide (CQWW) & World Prefix (WPX) Contests

CQ magazine runs these major events annually on both CW and SSB. Each is a full weekend (48hrs) long on each mode and literally thousands of amateurs enter. CQWW usually provides great opportunities to work rare countries, often activated by DXpeditions who go there specifically to operate in the contests. In CQWW the contest exchange is signal report and CQ Zone, which for the UK is '14'. DXCC Countries and CQ Zones worked on each band (160 – 10m) count as multipliers. In the WPX contests, scoring is by multipliers for each prefix, rather than country. . . G3IFB and G4IFB would be counted as different prefixes (multipliers). This contest is unusual in that multipliers may be counted only once, regardless of band. The full rules are published in *CQ* magazine, and a comprehensive summary in *RadCom*.

ARRL DX contests

The American Radio Relay League organises major DX contests on SSB and CW. These events, where the rest of the world works the 48 mainland US states plus Canadian provinces on all six bands 160 to 10m, are as popular as CQWW. US/VE stations send report and State/Province while all other stations send report and power output. The multiplier is the number of states/provinces contacted on all bands. ARRL also run contests on 160m and 10m.

IARU HF Championship

The International Amateur Radio Union runs this major event on all the HF bands in mid July. The RSGB Headquarters station GB5HQ is one of several stations around the world representing a country's national society. All such stations count as additional multipliers.

WAE DX Contests

Europe works the rest of the world. In this contest extra points can be earned by DX stations sending back to EU stations details of their previous QSOs (called QTCs). The rules are very complicated and anyone intending to enter should obtain a copy from the German national society (DARC) who organise the events.

Other Contests

Other societies throughout the world organise all

sorts of contests, some of which are very well supported. The certificates and plaques to be won in many of these events are well worth the effort. The rules are almost always available through the 'HF' column in *RadCom*. Whenever space permits, advance warning of both RSGB and overseas contests is given in *RadCom*.

Contest Paperwork

Paper logging

Already in this guide there have been references to computer logging, but newcomers to contesting must not get the impression that a computer is necessary to enter a contest.

Why do I need to do so much paperwork?

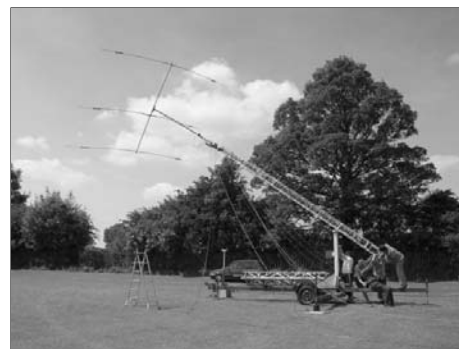
Contest adjudicators scrutinise each entrant's submission to ensure that all claimed contacts were accurately recorded. To do this they need a record of the information which was exchanged during each contact as well as other data needed for cross-checking, such as the time of QSO. In addition, the adjudicator needs to know about your station, to check that you were operating within the contest rules and possibly to publish details in the contest report, and your address in case of queries or to send your certificate if you win!

Must I use the proper forms?

Using the proper forms is not compulsory in RSGB contests – but it helps. It helps you by providing spaces for all the required data. It also helps the adjudicator, who has to scan through many hundreds of sheets, to find what they are looking for in the same place on every one. There is nothing worse for an adjudicator than trying to deal with a poorly-written log in which the sent and received columns are reversed. If you do make your own, please follow the RSGB format.

How do I fill in contest log sheets?

A contest log sheet is basically similar to a page in a log book. Each line has spaces for the time, callsign of station worked, report and serial number sent and received, other information exchanged, new bonus or multiplier and QSO points scored. Read the rules carefully to find out how many points to claim for each contact, and what the bonuses or multipliers are. Add up the points on each sheet and write the total at the bottom, along with the total bonus points or multipliers



Up she goes! Scunthorpe Steel ARC, G4FUH/P, raising their tribander on NFD 2002.

claimed on that sheet. If the contest was on more than one band be sure to log each band on separate sheets – different bands may be checked by different adjudicators.

What is a summary sheet?

The summary sheet is like a covering letter that says who you are and what contest and section you are entering. It has spaces for all the required information, including your address and details of your station. You MUST sign the form to say that you have abided by the rules and spirit of the contest and to give permission (under the Data Protection Act) for the adjudicator to enter data from your log into a computer for checking. Many people call the summary sheet a 'cover sheet', but that is in fact a separate form required only in National Field Day.

What is a 'dupe sheet'?

Not a list of duplicate QSOs, but a checklist of *all* the callsigns worked during a contest sorted into alphanumeric order and ideally showing the outgoing serial number or the time of contact beside each callsign. Preparing one of these enables duplicates to be spotted easily – keeping one during the event can help reduce the number of time-wasting duplicate contacts made. It also helps the adjudicator by reducing the time taken to check the log, sometimes by as much as 50%. Don't be tempted to include more information than specified above – it isn't needed, wastes paper and makes the list harder to read. Separate dupe sheets should be prepared for each band. Samples of a design approved by HFCC may be obtained from any committee member. Although A4 in size they are best enlarged (by photocopying to A3 if possible) for use.

Where do I get blank sheets?

HF (and VHF) Contest log sheets are available from RSGB HQ at cost price. Sample log, summary and dupe sheets are available from committee members (SAE please). Examples are also printed in the Yearbooks for you to photocopy. Equivalent sheets for other societies can normally be obtained from their headquarters, although RSGB paperwork is usually accepted.

Computers in Contests

Computer logging

If you run suitable software on your computer during the contest you may create the log directly at the keyboard. There are a number of programs available which keep the log, enter the time of QSO using the computer's internal clock, update the outgoing serial number automatically, and check for duplicate contacts in milliseconds. Most include a CW sender which (with the addition of a simple interface) will key the transmitter and send the outgoing exchange as well as CQ calls.

The more sophisticated programs offer statistical analysis of your performance as it happens, often on a band-by-band basis. If your software is programmed with the scoring rules for the contest all you have to do is enter the callsign and exchange. The computer determines whether it is a bonus or multiplier contact, works out the points to be claimed and often updates a running total display on screen. Several programs

have a packet interface enabling 'spots' from the packet cluster network to be picked up if needed as new multipliers. In the interest of contesters who truly wish to be single operators or who do not have access to packet, this facility may only be used in RSGB contests if you enter the multi-operator section. Preparing the entry for submission at the end of the event is usually a matter of putting paper in the printer and pressing the button. Even better, RSGB accepts log entries directly on disk or via e-mail to hf.contests@rsgb.org.uk which greatly assists the checking process while reducing the entrant's paper and postage costs.

Major RSGB and international HF contests 2003

Jan 12	RSGB AFS CW
Jan 18	RSGB AFS Phone
Jan 25-26	CQ 160 CW (www.cq-amateur-radio.com/cq160rules.html)
Feb 8-9	RSGB 1.8MHz CW
Feb 15-16	ARRL DX CW (www.arrl.org/contests)
Mar 1-2	ARRL DX Phone (www.arrl.org/contests)
Mar 8-9	RSGB Commonwealth CW
Mar 29-30	CQ WPX Phone (home.woh.rr.com/wpx/)
May 24-25	CQ WPX CW (home.woh.rr.com/wpx/)
June 7-8	RSGB NFD CW
July 12-13	IARU Radiosport Mixed (www.arrl.org/contests)
July 26-27	RSGB IOTA Mixed
Aug 9-10	WAE DX CW (www.waedc.de)
Sep 6-7	RSGB SSB FD
Sep 13-14	WAE DX Phone (www.waedc.de)
Oct 25-26	CQ WW DX Phone (www.cqww.com)
Nov 15-16	RSGB 1.8MHz CW
Dec 13-14	ARRL 10m Mixed (www.arrl.org/contests)
Nov 29-30	CQ WW DX CW (www.cqww.com)

Drawbacks

There are a number of potential problems with realtime logging:

- Computers and displays can radiate RF interference and may also be sensitive to the field from your transmitter. You may well need to do some screening and filtering, and cables should be kept as short as possible.
- Power cuts and hardware faults are not uncommon – unless you take precautions you could lose data. Make sure the logging program you choose saves to disk after each QSO and be prepared to disable any disk caching utilities. In any case, save your log to diskette frequently.
- Unless you write the software yourself it may not be suited to the contest you are entering, so check it thoroughly before you begin.
- You need to be fairly confident with the keyboard. 'Hunt and peck' is usually not fast enough. Also, everyone makes keyboard errors, and in the heat of a contest these may be worse than normal, bringing the possibility of mis-typing or even accidentally deleting information.
- In summer, you will have to remember to set your computer's clock to GMT.
- You will have to learn how to use the program you finally choose and become completely familiar with it. Try to start off in one of the smaller events. Despite all this, it is fair to say that most of the top contesters now use realtime computer logging.

Post-event logging

Some contesters prefer to log on paper during the event but use a computer for dupe-checking and printing afterwards. This avoids most of the problems mentioned above, but can introduce another problem: transcription errors. Ensure you copy the callsigns correctly, as mistakes here cost points. If your program prints a dupe sheet, please remember to send it in with the log. Finally, always double-check the printed log against the original. It takes a bit of time but it's worth it.

I don't have a printer!

No problem! The HFCC accepts contest entries on 3.5in diskettes and via e-mail. You don't even have to send a dupe sheet, just the disk and a summary sheet. If you post your disk, remember to enclose a paper summary sheet, fully filled in and signed.

Hints and Tips

Make notes

An important part of contesting is learning from your experiences and mistakes. Think about how you might improve your score next time. Preferably, do it right after the contest, while things are still fresh in your mind. Consider starting a contest notebook to record information about activity, band conditions, solar flux and A/K figures, your scoring rates and claimed score, etc. You could later add the winner's score from the published results. Noting your own checked score from the tables will give an indication of how accurate your log was.

Analyse what went wrong

Did you use the band(s) efficiently, or perhaps you missed some openings? Is the station layout comfortable and easy to use? Is your computer logging program really suited to contests? Did your checklogging system work or did you miss duplicates? Was it too slow? Do you need to keep one during this contest, or would it be better to dupe check afterwards? Did you fall asleep or run out of coffee? Was your operating strategy correct? Did you spend too much time calling CQ and miss multipliers which you could have found by 'hunt and pounce' (did the winner

get fewer contacts but more multipliers than you)?

Plan improvements

Entering a contest seriously involves some forethought. Many entrants spend the first three to six months after a contest planning improvements for next year.

Think about all aspects of the station, including yourself. Does the receiver need to be replaced or realigned? Would a different (or additional) antenna be useful (consider wave angle as well as horizontal directivity)? Should you practice your CW? Would you do better in a different section? Do you need to think about modifying your sleep pattern in advance? Can you improve participation from your club?

The *Amateur Radio Operating Manual* has an excellent section on contesting techniques, with lots of other hints.

Prepare the station

Use the remaining period up to the start of the next contest to prepare the station. Realign the rig if necessary. Build and test new aeriels. Sort out peripherals like keyers, voice recorders, headphones, comfy chairs and coffee flasks.

Make sure you can reach all the controls without having to stretch or strain (or, even worse, leave the operating position). Spend as much time on the air as you can, particularly participating in other contests, to become familiar with propagation and band occupancy.

Check the rules properly, and make sure that any other operators in your group are aware of them. Even if you are using computer logging, have some scrap paper and pens handy for jotting down notes. Make up checklog sheets in advance, eg suitably sized and ruled sheets for each band, perhaps taped to hardboard panels.

Some contesters like to fill in their outgoing serial numbers in advance – one tip here is to prepare a 'master' log sheet with just the last digit of your serial numbers written in (ie 1 to 9 and 0) and photocopy as many as you need.

If you change bands you can always leave blank lines for those numbers that don't fit the sequence on the new band.

Make sure you fire-up the station in sufficient time to fix any last-minute problems.

How to start (take the plunge)

There are two good ways to start contesting: helping out during a multi-operator event, or simply having a go yourself, preferably in one of the shorter events such as the Cumulatives. Team events like Field Day are a super introduction, because you can see and help experienced operators at first hand, but without the stress of actually operating unless you want to.

Alternatively, form a contest group so that you can all learn together. In the end, though, the only way to get wet is to come into the water. So keep an eye on *RadCom* for contest rules and other information, and keep an ear open for "CQ Contest" or "CQ TEST".



G00PB operating GB50 in the Jubilee Contest.



Introduction to VHF Contests

The RSGB VHF Contests Committee is dedicated to supporting and promoting contesting in all its forms, and one of our most important jobs is to encourage newcomers to the hobby to try contesting at VHF and UHF in the hope that the bug may bite. We try to structure contest formats in order to provide something for everyone in terms of a challenge and a reward. All of the contest rules are thoroughly reviewed annually in order to maximize the appeal of contesting across the board for beginners and die-hards alike.

This year's contest calendar and up-to-date rule information, together with a lot more useful contest related information, can be found on the VHFCC web site and in the RSGB Contesting Guide that appears in *RadCom*. If possible you should check the VHFCC web site and/or the GB2RS news bulletin for any late breaking contest news prior to planning an entry. For 2002, the VHFCC extended the UK activity contests to include the 50MHz, 144MHz, 432MHz, 1296MHz and 2320MHz bands. These activity contests are co-ordinated with European events held on each Tuesday evening and have proved to be very popular. We will be looking to continue them in 2003.

Getting started

As with so much else in life, contesting success is relative, and everyone has some kind of limitation to what can be achieved in terms of available time and equipment. To achieve consistent success requires sustained effort, but the rewards can be tangible in the form of the satisfaction obtained from improved table scores, place certificates and trophies that are awarded annually at the VHF Convention.

Contests are run on all of the VHF and UHF bands, and one of the key decisions to make will be which bands to enter. This will be heavily influenced by the quality of your location, particularly from a fixed station perspective. Site requirements generally become more demanding for the UHF and microwave bands. Geographical location is also a factor, as a higher level of equipment capability will be needed if you are located further from the centres of activity. Having said that, the further away you are the more points per QSO you will score.

Portable (P) contesting is a good way of combining your radio activities with outdoor pursuits, and of course you have the pick of the good locations (but check beforehand that nobody else uses the site). It is also a way of overcoming the EMC problems that arise when trying to run continuous QRO. Our very popular Backpackers series of events consistently demonstrates what can be achieved with minimal equipment set-ups.

The aspect of contesting that gives rise to most complaints received by the VHFCC is signal quality. Expect little sympathy if you consist-



G4VXE and GW5NF operating GW5NF/P in a 2m Backpackers event.

ently radiate poor quality and/or wide signals - you will have the problem brought to your attention in double quick time. If this happens you *must* make a note in your log and investigate it immediately. The use of a second receiver with the input terminated, or a friendly local can be invaluable in chasing down problems, and in helping to verify an effective solution.

If you run QRO, make sure you have a decent receiver to go with it. If you have a high background noise level and you can't hear the other stations in the clear, then reduce power until you can. You can easily gain a reputation for 'deafness' that takes a long time to overcome, and you will miss out as a result.

Make sure you have read the rules before submitting an entry, in order to avoid complications later on. The VHFCC tries hard to reduce the amount of detail in the rules without leaving loopholes that can be exploited or a level of ambiguity that makes them meaningless. If you are not clear on any aspect of the rules, contact a member of the committee.

Entries

Most entries now come to us via e-mail, but entries are always very welcome on paper or on floppy disk. Paper logs and cover sheets can be photocopied from this *Yearbook*. The logging program written by Mike Goodey, G0GJV, is available as freeware from his web site or from the VHFCC for the cost of an SASE and a floppy disk. It is currently capable of handling the logging requirements of all of the RSGB VHF contests, including the UK Cumulatives. Almost any logging format that contains the required information is acceptable - if in doubt please check first with the VHFCC. Basically, we want your logs in any readable format.

There is now an online claimed scores page on the VHFCC web site for all contests, where you can compare scores with other entrants.

Happy contesting!

Code of practice

1. Obtain permission from the landowner or agent before using the site and check that this permission includes right of access. Portable stations should observe the Country Code.
2. Take all possible steps to ensure that the site is not going to be used by some other group or club. Check with the club and last year's results table to see if any group used the site last year. If it is going to be used by another group, come to an amicable arrangement before the event. Groups are advised to select possible alternative sites.
3. All transmitters generate unwanted signals; it is the level of these signals that matters. In operation from a good site, levels of spurious radiation which may be acceptable from a home station may well be found to be excessive to nearby stations (25 miles away or more!).
4. Similarly, all receivers are prone to have spurious responses or to generate spurious signals in the presence of one or more strong signals, even if the incoming signals are of good quality. Such spurious responses may mislead an operator into believing that the incoming signal is at fault, when in fact the fault lies in his own receiver.
5. If at all possible, critically test both receiver and transmitter for these undesirable characteristics, preferably by air test with a near neighbour before the contest. In the case of transmitters, aim to keep all in-amateur-band spurious radiation, including noise modulation, to a level of -100dB relative to the wanted signal. Similarly, every effort should be made to ensure that the receiver has adequate dynamic range.
6. Above all, be friendly and polite at all times. Be helpful and inform stations apparently radiating unwanted signals at troublesome levels, having first checked your own receiver. Try the effect of turning the antenna or inserting attenuators in the feed line; if the level of spurious signal changes relative to the wanted signal, then non-linear effects are occurring in the receiver. Some recent synthesised equipment has excessive local oscillator phase noise, which will manifest itself as an apparent splatter on strong signals, even if there is no overloading of the receiver front-end. Pre-amplifiers should always be switched out, to avoid overload problems when checking transmissions. If you receive a complaint, perform tests to check for receiver overload and try reducing drive levels and switching out linear amplifiers to determine a cure. Monitor your own signal off-air if possible. Remember that many linear amplifiers may not be linear at high power levels under field conditions with poorly regulated power supplies. The effects of overdriving will be more severe if speech processing is used, so pay particular attention to drive level adjustment. If asked to close down by a government official or the site owner, do so at once and without objectionable behaviour.

Freeware logging program: <http://ourworld.compuserve.com/homepages/mjgoodey>

VHFCC web site: www.blacksheep.org/vhfcc

Entries: RSGB VHFCC, PO BOX 40, Newport, Isle of Wight PO32 6BF. **E-mail:** vhf.entry@rsgb.org.uk



Datacommunications

The RSGB's Datacommunications Committee (DCC) was set up to deal with all matters concerning datacommunications. It is responsible for the processing of applications for Notices of Variation (NoV's) for mailboxes and for the vetting of all requests for mailbox and node site clearances prior to submission to the Radiocommunications Agency. The DCC recommend general operating on datacommunications matters by issuing guidelines and has published *The Guide to Datacommunications Licensing in UK*, which is available from RSGB HQ free of charge on request or from the DCC web site. The web site not only contains the latest information about most digital modes, but also a comprehensive list of links to data communication related sites.

What is packet radio?

Packet radio is digital communications via radio. It first started in 1978 in Canada, and it was introduced into UK in the 1980s. Packet radio mailboxes (BBSs) were first licensed in UK in about 1988, and the numbers have continued to grow ever since.

As well as the large number of mailboxes in UK there are a large number of packet nodes, these help to link the mailboxes, and together they form the packet radio network that covers most of the UK.

What can I do on packet radio?

1. Live contacts

Like RTTY, packet radio can be used to talk to other amateurs, chatting keyboard to keyboard. Some mailboxes also have a conference mode, so people can log on and chat with many people at once just like an HF net.

2. Mailboxes

Mailboxes allow amateurs to connect their local mailbox and send and receive text messages. These messages can be sent as personal messages to another amateur anywhere in the World (or Space!). Alternatively, messages can be sent as a bulletin for any amateur to read.

Within the UK your messages will normally be relayed via other mailboxes and nodes on VHF and UHF frequencies. There also exists a limited number of HF and satellite mail forwarding gateways that are used to forward mail to more distant continental mailboxes. More recently, there have been an increased number of mailboxes that use the Internet to connect to other mailboxes to forward mail.

So it is possible to exchange mail with amateurs on the other side of the world by simply logging into your local mailbox using a low power VHF transceiver and a simple aerial system, as well as a TNC and computer.

3. File transfer

Packet radio also allows you to be able to transfer files between amateur packet stations in both text and binary format.

4. DX cluster

There are several DX cluster stations around the UK. These allow DXers to exchange valuable DX information on a close to real time network. This information on band conditions and stations heard is valuable to HF and VHF and above DX operators.

5. APRS/UI-View

Automatic Position Reporting System (APRS) was developed by Bob Bruninga, WB4APR, to track mobile GPS stations with two-way radio. APRS can be used in a number of applications for data, communications and telemetry.

Packet Radio User Groups

There are a large number of User Groups throughout the UK. Some of these groups are specific to a particular mailbox whilst others cover all the mailboxes and nodes in an entire county or region. These user groups have been generally set up to help new users and to help fund mailboxes and nodes. Some nodes are located on remote sites, so the cost of maintaining them can be considerable. All packet radio users are encouraged to join and support their local group.

What will I need?

As well as a VHF or UHF FM radio transceiver, you will also need a Terminal Node Controller (known as a TNC), a terminal or computer with some form of terminal software program or a specialist packet radio software program. And, finally, a great deal of patience and willingness to learn.

What other data modes are there?

RTTY or Radio Teletype

A frequency-shift-keying mode that has been in use longer than any other digital mode (except CW!). It uses a simple five-bit code to represent the alphabet, numbers, a few punctuation marks, and a few control codes. As there is no error-correction, QRM and QRN can have serious detrimental effects on copy. Despite all of that, it is still the most popular digital mode. The bandwidth of a RTTY signal is 230Hz, and at 45.45 Baud, it gives about 60 WPM throughput.

PSK31

Has the advantage of having a very narrow bandwidth, and is designed for 'real-time' keyboard-to-keyboard QSOs. It can be used to send almost all of the characters shown on your keyboards, and has even been used to send small pictures. If only lower case letters are used, you get about 53 WPM, but with all capitals, this is reduced to about 39 WPM. The bandwidth is, as the name suggests, 31Hz.

MFSK16

Uses 16 tones and has forward error correction,

where it sends all data twice with an interleaving technique to reduce errors from such things as static crashes. It has a comparatively wide bandwidth of 316Hz, which allows faster baud rates; and it has greater immunity to multi-path phase shifts. This wider bandwidth gives you around 42 WPM.

Hellschreiber

Uses facsimile techniques to transmit and receive characters, it has been in use since the 1920s, and has come on in leaps and bounds thanks to modern day DSP soundcard processing. Characters are painted on the screen in ticker-tape like fashion, and are read directly from the screen, as opposed to being decoded and printed. Although this mode has a relatively small bandwidth of about 75Hz, it can handle about 35 WPM.

MT63

An excellent mode for sending text over propagation paths that suffer from fading and interference from other signals. It works by encoding text with a matrix of 64 tones over time and frequency. Although this is rather complicated, it does provide error correction at the receiving end, and gives about 100 WPM. MT63 has a wide bandwidth of 1kHz.

Throb

Uses either 5 or 9 tones, depending on the version in use. The latest is the 9-tone version, and has speeds of 1, 2 and 4 Baud, enabling data rates of 10, 20 and 40 WPM respectively. It appears to be quite good under poor propagation conditions and although it isn't commonly heard, it does seem to be gaining popularity.

23Hz RTTY

A relatively new thing, and hasn't proved as popular as hoped. It sounds similar to PSK31, but is that bit narrower than PSK31. Although several programs now include this mode, it just hasn't taken off as well.

Where to find the other data communication signals

In recent years there has been an explosion in the number of digital modes, with many different people writing software to decode them. Some of the modes may be familiar to the reader, others perhaps not. Many of you will know the sound of RTTY, and maybe that of PSK31, but do you know what Throb or MFSK sound like, or where to find their signals in the amateur bands?

Within the amateur bands the data communications signals are to be found around the fol-



lowing frequencies:

3.580 - 3.600

7.032 - 7.040

10.140 - 10.145

14.070 - 14.100

14.070 for PSK31

14.080 - 14.090 for RTTY

14109.5 for MT63

18.100 - 18.105

21.070 - 21.130

21.070 for PSK31

21.080 - 21.0100 for RTTY

21.130 for MT63

24.920 - 24.925

28.080 - 28.150

28.080 - 28.100 for RTTY

28.120 for PSK31

28.130 for MT63

Throb, Hellschrieber and MFSK16 tend to congregate just below the RTTY segment.

These frequencies are approximate, but will give you an idea of where to start looking. A full set of datacommunications band plans is available on the DCC web site.

Getting started with the digital modes

The advent of soundcard software for the PC has heralded a new era in the digital modes, especially since most of the software is free!

The advice given here is intended for people who are newcomers to the data modes and is therefore presented at a beginner's level. It does not explore the theory behind the data modes in any depth, and nor does it cover all aspects. Once you have understood the basic principles, you can then start to learn the more advanced features at your own pace.

It is simply not possible to include instructions for connecting a particular make or model of radio here; for that you should consult the manual that came with your radio. The same goes for installing a soundcard in your computer. If you are not confident in wiring up cables then you should either buy one of the commercial interfaces or get someone to do it for you.

These explanations will refer mainly to RTTY and PSK31, as they are the most popular of the digital modes in use at present. However, we will discover what other modes are present on the bands.

Background

Computer soundcards use Digital Signal Processing (DSP) to handle sound and these techniques lend themselves very well to the processing and decoding of the audio data signals from the output of your radio.

Although RTTY, AmTOR and PacTOR have been around for quite some while, it is the general feeling that a renewed interest in the digital modes really came about when Peter Martinez, G3PLX, first came up with the PSK31 program for the Windows® operating system.

At first, it proved to be quite difficult to tune in a PSK signal, so much so that many gave up before they had even watched a QSO in progress.

For those of us who persevered, however, it proved to be something of an enlightenment. At that point, tuning was done aided only by turning the tuning knob, with the aid of the phase scope, and it took a great deal of patience and careful finger work to tune in one of these new sounds.

You only needed to be off by as little as 5Hz to get garbage on the screen. After several months, Peter, G3PLX, came up with a version that included a waterfall display. That really made a big difference, and was probably a key turning point. Now you could see which way to turn the dial, and you had a fair chance of getting it right quite quickly.

Later versions allowed you to point and click on a signal on the waterfall and it was tuned in instantly.

On the bands, one was quite likely to meet up with Peter, G3PLX, and although he wouldn't hesitate to tell you that you were over-driving the soundcard, if indeed you were, he would offer suggestions, and between you, it was possible to adjust the levels during the QSO to an optimum state.

Since then the number of operators has increased considerably, and unfortunately, many have not taken the advice offered by those with greater experience, especially with respect to the adjustments of sound levels and transmitter power. One common mistake is to leave the speech processor switched on, and this will definitely cause you problems with the transmitted tones.

In the early days it was the norm to use between 5 and 10 watts of transmitted power and many used much less than that. This level of signal is perfectly adequate for world-wide communications, although these days many stations seem to use several hundred watts into large beams. Apart from the fact that it is not necessary, it also tends to reduce the bandwidth available to others.

Some new modes, such as MFSK16, have been developed in the past few years with the idea of replacing RTTY, and although they do have a following, RTTY has remained at the forefront of the digital modes. PSK31 has gained respect mainly because it is so good at low power levels, making it ideal for QRP work.

Connecting between the PC and radio

A note of caution on soundcards: although some of the newer PCI soundcards work acceptably, others do not and can cause problems. If you have the choice, you will be better off with one of the older ISA type soundcards. The 'SoundBlaster 16' cards are very good, and can be found quite easily (and cheaply) in many stores or stalls at rallies. Don't feel restricted to genuine SB cards; any of the 16-bit ISA cards should work quite happily.

Your PC will probably need to be at least a Pentium 200, and preferably have at least 32 MB RAM, although 64MB is much better. Once you realise the work being done by the software, you

will soon see the need for all this extra processing power.

You are going to need two cables between the radio and the PC, one for transmit and one for receive. They should have 3.5mm stereo jack plugs at the PC end, and a suitable connector (or connectors for the radio end). For this, you will need to consult your radio manual.

You're going to need two stereo 3.5mm jacks for the PC end of the cables, and suitable connectors for the radio end.

For many of us, there is the choice of using the microphone socket or the data port. I would always advocate using the data port, as it is set up to handle such noise at the right levels. If you have to use the mic socket, then either use one of the proprietary interfaces that are on offer these days, or find a web site that shows the ideal way of connecting everything.

<http://www.qsl.net/wm2u> is the site of Ernie Mills, and is an excellent site if you want some ideas on how to connect your radio to the PC. There are some more web sites listed at the end.

So, the first thing to do is to start by making up a lead to go from the audio output of the rig, to the line input jack of your soundcard. Although you could use both channels, I use only one side.

Do not use the microphone input of the soundcard, as it is not designed to handle this level of audio. On the rig side, it is best to use a dedicated auxiliary audio output on the receiver, which does not vary in level with speaker volume.

For the transmit side, you need a screened audio lead to connect from the 'Line Out' socket on your PC soundcard to your radio. Use only one channel (left or right) if you use both, you will end up with a very distorted signal. Again, it's best to use a dedicated auxiliary audio input (labelled phone patch, for example) rather than the microphone input.

If you really do have to use the microphone input, you'll need to build a 100:1 attenuator. That can usually be done right inside the microphone plug (100k in series followed by 1k in parallel) to reduce the soundcard output level (which is about 1 volt) down to the level of a typical microphone (about 10mV). A suitable circuit is shown in Fig 1. If you use the auxiliary audio input, please make sure that your microphone is not live when you are working these digital modes, or other band users will hear all your shack noise! Best perhaps to simply unplug the microphone altogether. Also, remember to switch off the speech processor when using these digital modes, as although it's fine on SSB, it'll generate distortion products close-in which – for example – could easily make a PSK31 transmission unreadable.

To key the PTT, I use VOX. If you prefer to hard key the transmitter you can use a spare COM port on your computer and use either the RTS or DTR pin to operate the PTT. You will have

to enable the appropriate options in the PSK program's set up menu. Your radio may have a socket for connection to a computer; if so you can connect the COM port to this socket and set it up to key the PTT (again, consult your radio's manual). If your radio does not have the above socket you will have to connect either pin 7 or pin 4 of the DB9 (that's pin 4 or 20 of a DB25) to the base of a transistor, and connect the collector to the PTT line of your trans-

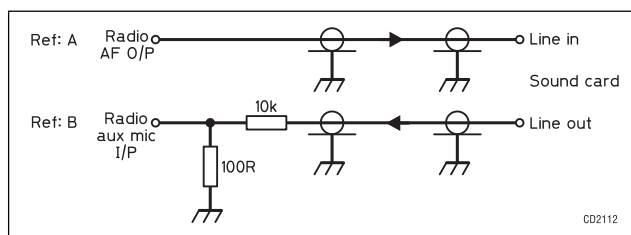


Fig 1: Connection between radio and PC soundcard, with attenuator.

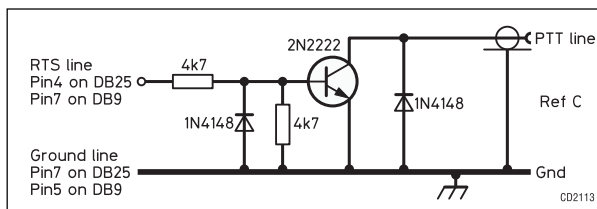


Fig 2: Circuit that permits RTS to key a transmitter.

ceiver, with the emitter to ground.

The example above (Fig 2) shows the RTS line in use.

Initially you are most likely to use the radio that you already own when starting out in the data modes. Some radios are better designed for the digital modes than others, but don't worry too much in the beginning about the pros and cons of each make and model of radio, try to use what you have. Later on, when you get hooked on the data modes, you may decide to purchase a radio that is more suited for this type of operation.

Setting Sound Levels

The most important part of setting everything up is getting the audio levels right. We would advise you to play around and adjust the settings several times, so that you feel comfortable with what you are trying to achieve, as the more you do it, the easier it will become. Once set, the levels should be pretty much the same for all of the programs you use, and you shouldn't need to start changing anything if you switch from one mode to another.

Once the connections between the PC and the radio are made, the next job is to set up the audio levels. I suggest that you use a PSK31 programme (like the one written by G3PLX) for setting up the soundcard; the audio levels are a bit more apparent, and you can see what is being achieved. Most of the PSK programs also have a TUNE control, which is a help in the setting up stage.

In the PC, the sound levels are controlled by software. This is done in Windows with the Volume control box. To access this box either double click on the speaker icon in the Windows desktop task bar (usually at the bottom left of the desktop screen) or go in via the Control Panel and the "Sounds/Multimedia" icon.

First set your receive levels. If you decide to use a PSK programme, tune your radio to the area of one of the bands where there is some PSK activity. 14.070 is probably the best place to start, as there is almost always some activity here. The waterfall indicator on the screen needs to be readable, and not overloaded; otherwise you won't distinguish any signals at all. Bring up the soundcard volume control window on the PC and position it so that you can see the waterfall display. Set all the sliders to minimum. Slowly increase the 'Line In' volume slider until the waterfall display shows clear signals. If you raise the volume too high, you won't see the difference between signals and background noise. Make sure the input audio is not set to mute. Some programmes have check boxes for mute, while others have check boxes for active.

Now, to set the transmit level. It is important to get this level right so as not to overdrive the transmitter and end up with distorted signals. For this you will need to bring up the soundcard volume/

mixer window once more.

Set the mic gain control on your radio to the normal level used for SSB voice, and set the output power for about 20 watts. Next, set the soundcard output level in the Volume control box to zero; this is usually the one marked 'Wave Balance'.

Now, from your PSK program, you need to transmit a Tuning Tone. Slowly turn up the soundcard output level while watching the transmitter output power. Stop when the power is just reaching the 20-watt level. At this point, the ALC meter should just start to read. This is should be the correct setting. Finally in your PSK programme, switch off the tuning tone and go back to receive.

If the transmitter power jumps to maximum as you begin to increase the soundcard output volume or is course to adjust (i.e. gives a big change in transmitted power for a very small change in output volume), you will need to add an attenuator between the Line Out socket of the soundcard and the radio to reduce the audio signal level.

Now you've got the basic set-up, and the best way to check it is to start typing, and see what happens to the transmitted power level. If you have the audio levels right, when you type the transmitted power should drop by about 50 per cent on its Tuning Tone level. This change in power is what you are looking for, and is due to the fact that you are alternating the phase of the tone. If the power only drops by about 20 or 30 per cent, then you are overdriving the transmitter and you will need to go through the adjustment process again. It may take a while to get past this stage, but it is well worth taking the trouble to get it right as it will save a lot of trouble later on.

Peter, G3PLX, states in his help files that it is acceptable to let the transmitter ALC operate on PSK31, as it will control the drive level without clipping in the same way that it does on voice operation. We suggest however that you back off the microphone gain so that ALC does not show. It may be OK for PSK, but for most of the other digital modes, and especially RTTY, ALC can cause problems. We usually turn up the audio gain until the ALC level is just showing, and then back it off a little. This should ensure a clean signal.

Operating the data modes

Now you have your levels set, you are ready to begin using the digital modes. If you are new to data communications I suggest that you spend some time just listening and watching QSOs in progress. This will give you an idea of how they are conducted, what sort of phrases are commonly used, and general etiquette.

When you are set up and as you begin operating you may find that RTTY and PSK give you greater scope for learning, mainly because they are more common, and also because they are easier to operate.

The world is waiting for you. It is quite feasible to achieve DXCC on the digital modes, and the one thing I have found encouraging is that there are many rare DX countries out there that regularly appear on one of the digital modes. A lot of the DXpeditions these days include RTTY and/or PSK31.

Remember that RTTY is 100% duty-cycle, so

please watch your output power! PSK31 is about 80% duty cycle but as it is used at much lower power this is of less importance. Curiously, Hellschreiber has a duty cycle of only about 21%, so is a lot more 'equipment friendly'.

If you change the output power when you change mode, you may need to adjust the mic gain, as the ALC may well have altered. Just hit the transmit key and adjust the gain so that the ALC is showing slightly, and then back it off a touch. It shouldn't make any difference to the indicated output power, and your signal will be cleaner.

If you use the DX Cluster while you are using RTTY, you may well find that the spots are not where they are listed. This is because in Europe we tend to use different standards to the rest of the world. In Europe, the norm is to use 'low tones' (1275 and 1445Hz) on USB, but everyone else seems to use 'high tones' (2125 and 2295Hz) on LSB. Although the tone values won't make any difference to your receiving, the sideband will.

Many of the RTTY programs cater for the US market, which means that 'Normal' equates to LSB. If you intend to use USB, as I do, then you may need to find the 'Reverse' button to invert the tones. If you have a RTTY signal with the audio tuned in nicely, but only get garbage on the screen, try hitting the 'Reverse' button and you will probably get clear text after that. It can be quite common to see someone operating 'Inverted', and although it will work equally well providing the other station is also inverted, it can reduce the chance of a reply to a CQ call.

If you want to work DX and increase your country count, then a good way to do this is to enter one of the many RTTY contests. There are about 14 or 15 such contests per year, and many have sections for single operators with low power. No matter how many contacts you make, always try to submit your log, as this helps the contest organiser get an idea of popularity. It also allows them to verify other logs. If you are unsure about your log, then simply send it as a checklog.

One thing you will regularly see in PSK31 is the use of all capitals in the transmitted text. PSK uses an alphabet called Varicode, which has shorter codes for the more common letters (similar to Morse) and which also includes both upper and lower case letters. The lower case letters being more common have the shorter codes, so any given sentence takes longer to send in capitals. There really isn't any need to use capital letters at all in PSK, even for call signs. RTTY uses ITC2 (5-element) code that doesn't include lower case, so all capitals is the only option.

Many operators use abbreviations much like a CW QSO, and it really depends on the type of QSO you are having as to how you will operate. Don't worry about typing mistakes, as these are normal, and anyway – who can tell if it wasn't a burst of static that caused his screen to mis-represent what you just typed?

If you are trying to work a rare DX station, listen for a while and see if the operator is working in any kind of pattern. Listen to the callers and see how they are working. It may be that timing is the key to making the contact. Unless you have big antennas, way up high, and a big linear and can drown everyone else out, don't try to be first in the pile; wait and let your call be the last one to be heard. That can often get you a response!

Don't forget that with most of the digital modes, if the transmissions of two or more stations over-

lap, all you get on screen is garbage. It is no good transmitting over the top of a QSO that is in progress, even though it may be nothing to do with the DX station, you will not be read and you will disrupt the QSO in progress.

When you do get through, the other station really doesn't need to know your working conditions, or your life history, so keep your QSO short and leave space for others to have a go. It's a good idea to create a macro just for responding to a DX station, perhaps something like this : CALLSIGN DE MYCALLSIGN - TNX - UR ALSO 599 599, VY 73 ES GD DX DE MYCALL. That is all that is needed, and anything more is only likely to get lost in the subsequent pile up that will follow.

PSK31 is an excellent mode if you have a limited set-up, and can only operate at low power. Running 5 to 10 watts is quite practical with this mode, and you can easily obtain DXCC at QRP levels.

RTTY is still a very popular mode, and continues to be the mainstay of the digital bandplan. There are now several good RTTY programs that utilise the soundcard, so there is none of the expense or hassle in setting up a dedicated Terminal Unit.

Summing-up

1. Check and re-check your volume settings.

2. Listen *before* you transmit.
3. Watch your power levels.
4. Don't worry too much about spelling mistakes.

Now you are ready to make that first contact on one of the digital modes!

RSGB Datacommunications Committee members (as of 1 June 2002)

Chairman & Voice Over IP Specialist
Iain Philipps, G0RDI

Vice Chairman & Mailbox Coordinator
Martin Green, M0BMD

Secretary & Frequency Clearance Coordinator
Steve Morton, G8SFR

Special Projects Coordinator
Pete Maile, M10BME

Technical Policies Coordinator
Malcolm Salmon, G3XVV

DX Cluster Coordinator
Dirk Koopman, G1TLH

High Speed Data Coordinator
Jason Flynn, G7OCD

TCP/IP Coordinator
Roger Harris, G3ZFR

Additionally, the committee has the following liaison members who provide effective interfaces to other committees and organisations:

RSGB Board
Fred Handscombe, G4BWP

RSGB HF Committee
Pete Maile, M10BME

RSGB VHF Committee
Iain Philipps, G0RDI

RSGB Microwave Committee
Jason Flynn, G7OCD

RSGB Repeater Management Committee
Tony Horsman, G0MBA

RSGB Licensing Advisory Committee
Iain Philipps, G0RDI

BARTG
Dick Whittering, G3URA

Frequencies currently approved for data communications

HF		50.550	Facsimile (FAX)
1.838-1.842MHz	Digimodes (and CW but excluding AX25 packet). RTTY (Baudot) is the preferred digital mode on this band. Note: AX25 packet should not be used on the 1.8 MHz band	50.570	20kHz packet channel
3.580-3.620MHz	Digimodes (and CW) Note: Phone may be used and has priority above 3.600MHz.	50.590	10kHz any digital mode
3.590-3.600MHz	AX25 Packet	50.600	RTTY calling channel
3.730-3.740MHz	SSTV/FAX recommended	50.610	10 kHz any digital mode
7.035-7.045MHz	Digimodes (and CW, SSTV, FAX but excluding AX25 packet)	50.630	20 kHz packet channel
10.140-10.150MHz	Digimodes (and CW but excluding AX25 packet) Note: Unattended digimode stations should avoid the use of the 10MHz band. AX25 packet should not be used on the 10MHz band.	50.650	20 kHz packet channel
14.070-14.099MHz	Digimodes (and CW)	50.670	20 kHz packet channel
14.089-14.099MHz	AX25 packet frequencies, no digimode mailbox or forwarding	50.690	20 kHz packet channel
14.101-14.112MHz	AX25 packet frequencies, Digimode mailbox and forwarding	50.990	10 kHz packet channel
18.100-18.109MHz	Digimodes (and CW)		Unconnected nets (APRS, UIView etc.)
21.080-21.120MHz	Digimodes (and CW)	70MHz band (all channels 12.5kHz wide)	
21.100-21.120MHz	AX25 packet preferred	70.3000	RTTY calling/FAX
24.920-24.929MHz	Digimodes (and CW)	70.3125	
28.050-28.150MHz	Digimodes (and CW)	70.3250	Packet cluster input
28.120-28.150MHz	AX25 packet preferred	70.3375	
29.200-29.300MHz	AX25 packet (+phone and CW)	70.3625	2400 bps or higher
		70.4125	
		70.4375	2400 bps or higher
		70.4875	BBS/node linking
		144MHz band (user access only)	
		144.800	Unconnected nets (UIView, APRS, etc)
		144.825*	High speed data only
		144.850	AX25 user access
		144.8625	Unallocated, available on NoV subject to local agreement
		144.875	TCP/IP user access
		144.8875	AX25, priority to DX cluster access subject to local agreement
		144.900	DX Cluster User Access
		144.9125	General packet, one to one users, not available on NoV
		144.925	TCP/IP user access
		144.9375	Unallocated, available on NoV subject to local agreement
		144.950	AX25 user access
		145.2875	Voice Internet links
		145.3375	Voice Internet links
		144.975*	High speed data only
			Channels marked with "*" are 25kHz wide, others are 12.5kHz wide

VHF/UHF and above

50MHz band

- 50.510 Slow Scan Television (SSTV)
- 50.530 20kHz packet channel



Frequencies currently approved for data communications

145.790 Special linking. VHF Committee have advised that due consideration should be given to the possibility that 145.7875MHz may be used for FM voice repeaters, within which assignment this frequency actually falls. A maximum of 16kHz (+/- 8kHz) bandwidth may be used, at a data rate of 4800 bps or faster. Horizontal, directional antennae must be employed. Applications will be coordinated with VHF and Repeater Management Committees.

430-439MHz band

Please note that the following 430-439 assignments are NOT covered by the existing Agency Mailbox Agreement, and therefore may NOT be issued on a Mailbox NoV without recourse to the RA's Frequency Clearance Process.

430.000 to 430.8000

430.0000 Sub-band edge
 430.0125 } Voice Internet linking channel
 430.0250 } Voice Internet linking channel
 430.0375 } Voice Internet linking channel
 430.0500 } Voice Internet linking channel
 430.0625 } Voice Internet linking channel
 430.0750 } Voice Internet linking channel
 430.0875 } - 12.5kHz channel

430.1000
 430.1250
 430.1500
 430.1750
 430.2000
 430.2250
 430.2500
 430.2750
 430.3000
 430.3500
 430.3750
 430.4000

Regenerative nodes paired with their 439MHz frequencies

430.4250 Rx 50kHz spacing
 430.4750 Tx
 430.5125 Rx 25kHz spacing
 430.5375 Tx

430.600 BBS/node linking
 430.625 BBS/node linking
 430.650 BBS/node linking
 430.675 BBS/node linking
 430.700 High speed linking 25kHz channel
 430.725 High speed linking 25kHz channel
 430.750 High speed linking 25kHz channel
 430.775 High speed linking 25kHz channel
 430.8000 Sub-band edge

431.000 to 431.9900

Note: This band is not available within a 100km radius of Charing Cross, London.

431.0000 Sub-band edge
 431.075 Voice Internet linking
 431.125 Voice Internet linking
 431.150 Voice Internet linking
 431.175 Voice Internet linking
 431.200 Voice Internet linking
 431.225 Voice Internet linking
 431.9900 Sub-band edge

432/433MHz User Access only

432.625 AX25 & TCP/IP user access 4800 bps or higher
 432.650 AX25

432.675 AX25
 433.625 TCP/IP
 433.650 AX25
 433.675 AX25
 433.800 Recommended for unconnected net traffic
 433.825 TCP/IP user access, 4800 bps or faster
 433.850 AX.25 user access, 4800 bps or faster
 433.875 DX cluster user access, 4800 bps or faster
 433.900 DX cluster user access, 1200 bps
 433.925 1200 bps traffic, subject to local co-ordination
 433.950 Experimental digital modes
 433.975 Experimental digital modes

434.00 to 434.250 Linking only

434.000 Linking only. Subject to local co-ordination. Speeds of 4800 bps or faster. Vertical polarisation, to minimise impact to ATV users.
 434.250 Split frequency working (full- or half-duplex) with 430 / 431MHz to be encouraged.

434.475 to 434.525 Voice Internet linking

434.475 Voice Internet linking
 434.500 Voice Internet linking
 434.525 Voice Internet linking

439.600 to 440.000MHz Linking only

Regenerative nodes paired with their 430MHz frequencies.

Note: Both nodes and mailboxes need clearance.

439.6250 Tx 50kHz spacing
 439.6750 Rx
 439.7125 Tx 25kHz spacing
 439.7375 Rx
 439.7625 BBS/node linking
 439.7875 BBS/node linking
 439.800 BBS/node linking
 439.825 BBS/node linking
 439.850 BBS/node linking
 439.875 BBS/node linking
 439.900 High speed linking 25kHz channel
 439.925 High speed linking 25kHz channel
 439.950 High speed linking 25kHz channel
 439.975 High speed linking 25kHz channel

1300MHz band

1240.150	150kHz channel	1299.000	25kHz channel
1240.300	150kHz channel	1299.025	25kHz channel
1240.450	150kHz channel	1299.050	25kHz channel
1240.600	150kHz channel	1299.075	25kHz channel
1240.700	50kHz channel	1299.100	25kHz channel
1240.750	50kHz channel	1299.125	25kHz channel
1240.800	50kHz channel	1299.175	50kHz channel
1240.850	25kHz channel	1299.225	50kHz channel
1240.875	25kHz channel	1299.275	50kHz channel
1240.900	25kHz channel	1299.325	50kHz channel
1240.925	25kHz channel	1299.425	150kHz channel
1240.950	25kHz channel	1299.575	150kHz channel
1240.975	25kHz channel	1299.725	150kHz channel

2320MHz band

2310.100	200kHz channel	2355.100	200kHz channel
2310.300	200kHz channel	2355.300	200kHz channel
		2364.000	1MHz channel

10000MHz band

10077.5 to 10090
 10400 to 10500 (subject to consultation with RMC)



Mailboxes, clusters, servers

Callsign	Owner	Type	Locator	Freq 1	Freq 2	Freq 3	Freq 4	Freq 5	Freq 6	Freq 7	Freq 8	Freq 9	Freq 10	Freq 11
GB7ABB	GW0ENT	AX25	IO73UC	144.950	70.4875	432.675	430.650							
GB7ABN	GM1THS	AX25		144.950	432.675	430.650	50.650	70.4875	439.825	433.675				
GB7AHE	G7AHE	AX25		144.9375	439.925	432.675								
GB7ATC	G4JDL	AX25	IO92UN	144.850	70.4875	432.650	439.850	430.675	433.650					
GB7AYI	G7AYI	AX25	IO92JO	144.950	430.775	439.925	432.650	1240.750						
GB7AYR	GM0JQE	AX25	IO75QP	144.950	432.675	70.325	439.925							
GB7BAS	G0TJW	AX25	JO01GN	144.850	432.675	439.825	50.670							
GB7BAY	GW8FVI	AX25	IO72VW	144.850	433.650	70.4875	50.650	430.625	432.625	439.925				
GB7BED	G0BKN	AX25	IO92SD	50.670	144.850	432.675	70.4875	430.725	439.925	430.5125	439.7125	434.225		
GB7BEN	G8TTK	AX25		50.670	144.950	70.4875	432.650	439.950	430.650					
GB7BEV	G8AEN	AX25		144.950	70.4875	50.650	432.675	1299.000	430.625	439.850				
GB7BHM	G1WXA	AX25	IO82XN	144.850	433.675	432.625	430.675	70.3375	439.825	1240.700	1299.175	439.875		
GB7BMR	G1GDB	AX25	IO84SO	144.950	70.4875	432.675	439.875							
GB7BMT	G1GRB	AX25	IO90BR	144.9375	439.850	432.650	70.4875							
GB7BMX	G3YRH	AX25	IO95FA	144.850	70.4875	430.675	439.975	50.650						
GB7BNM	G4WPT	AX25	IO90BV	50.650	144.850	432.625	439.850	70.4875	1299.000					
GB7BOB	G0RLT	AX25		144.850	432.650	430.725	439.925	1299.000	70.3375	50.650				
GB7CAO	GM1AHC	AX25	IO88FO	144.850	432.675									
GB7CFB	G0CFB	AX25		50.650	144.950	432.675	70.4875	439.825	430.625					
GB7COS	G0MBA	AX25	JO01MS	144.950	433.675	1299.025	1240.950	430.625	29.250					
GB7COV	G3ZFR	AX25	IO92FK	144.8625	430.625	432.650	1299.000	1240.150	70.4875	439.875	430.775	439.975	430.5875	439.7875
GB7COV	G3ZFR	AX25	IO92FK	431.750	433.825	430.275	439.875							
GB7DAA	G3TIK	AX25	IO91XT	144.950	433.650	439.825								
GB7DAD	G7NHL	AX25	IO93BF	144.850	433.650	1299.125	70.3625	439.7625	430.5625					
GB7DBY	G6KUI	AX25	IO92GV	144.850	144.975	50.670	70.4875	1299.000	432.625	432.675	430.625			
GB7DDX	G0DDX	AX25		70.4875	144.950	1299.425	432.675	439.975						
GB7DEE	GW1SYG	AX25	IO83ME	144.850	433.675	439.925								
GB7DEO	G0DEO	AX25	IO91SK	144.950	432.675	70.4875	50.570	439.850						
GB7DHI	G6DHI	AX25	IO83VT	144.850	433.675	1299.000	439.875	144.975						
GB7DID	G1SSL	AX25	IO91JO	144.850	432.675	439.850	70.4875	430.725	439.675	430.475	1299.425	1240.150		
GB7DIX	G7DIX	AX25		144.950	432.675	439.875	70.4875							
GB7EDN	GM7RYR	AX25	IO85KW	144.850	70.4875	430.625	432.650	439.850						
GB7ELS	G7ELS	AX25	IO93FU	144.950	50.610	433.650	439.950	70.3125						
GB7ESC	G0WDA	AX25	IO81VU	144.825	50.630	439.850	430.700	432.625						
GB7ESX	G1NNB	AX25	JO01HT	144.850	70.4875	432.675	50.650	433.650	439.825	430.650				
GB7EYM	G4HRM	AX25		50.650	144.850	1299.725	432.675	439.875						
GB7FLG	G0FLG	AX25		50.670	1299.000	70.4875	432.675	439.850	430.675					
GB7FLY	G4FLY	AX25	IO91MK	144.950	432.675	439.850	430.650	50.650	1299.725					
GB7FUR	G3VUS	AX25	IO84JC	144.8625	433.675	1240.300	439.925	70.4875	50.650	430.625				
GB7GBY	G0MUU	AX25	IO93XM	70.4875	144.850	430.775	439.975							
GB7GCV	G0GCW	AX25	IO93LT	144.850	432.650	430.725	70.3375	50.650	439.850	1299.000	29.250	24.923	21.107	14.107
GB7GCV	G0GCW	AX25	IO93LT	3.597	28.130	433.925								
GB7GLO	G4FPV	AX25	IO82UC	144.950	70.3375	50.650	430.625	432.675	439.825	1299.575	1240.300			
GB7GSY	GU4WRP	AX25	IO89RL	144.850	432.650	430.775	439.925	70.3125						
GB7GUR	GU4YMV	AX25	IN89RL	50.650	144.950	432.675	70.4875	439.875	430.650	3.597	7.038	14.107	14.093	14.097
GB7GUR	GU4YMV	AX25	IN89RL	14.103	21.107	21.103								
GB7HFG	G0DEO	AX25	IO91BK	14.112	14.107									
GB7HMI	G11WLJ	AX25	IO74DO	144.9375	430.625	70.3375	432.625	439.825						
GB7HOL	MOCKE	AX25	JO02AT	144.850	70.4875	439.850	432.650	430.675	433.925					
GB7HUL	G8UVQ	AX25	IO93TS	144.950	70.4875	50.650	439.925							
GB7HVU	MOCKO	AX25	IO83TS	144.950	432.625	430.650	70.4875	50.630	433.675					
GB7HXA	G4UXV	AX25	IO92VI	50.670	144.950	1299.425	432.675							
GB7IFI	G0IFI	AX25	IO81KD	144.9375	432.675	439.925								
GB7INV	GM4JNB	AX25	IO77WL	144.850	432.675	430.650	439.850							
GB7IOM	GD3YEO	AX25	IO74RD	144.950	70.3375	432.675	439.875	430.625	1240.450	1299.575				
GB7IPN	G8GCS	AX25	IO80EL	144.950	432.675	439.875	70.3375	1299.425	430.650					
GB7IZR	G7IZR	AX25	IO83PK	144.525	430.625	1240.600	1299.000							
GB7JED	GM4UPX	AX25	IO85RL	144.850	70.4875	1299.725	432.650	430.625	439.875					
GB7JEM	G6UNC	AX25	IO93DP	50.650	144.950	430.675	432.675	70.4875	439.850					
GB7JSC	GM1VBE	AX25		50.650	144.850	1299.425	439.925	433.650	432.650	70.4875				
GB7JYU	G4JYU	AX25	JO01QG	144.950	70.4875	430.625	433.650	439.975	1299.025	432.675				
GB7KAP	M1ADU	AX25	IO93JA	144.850	439.825	433.650	70.3125							
GB7KET	G7HIF	AX25	IO92PI	144.9375	430.625	432.650	439.825							
GB7KLY	G7HJT	AX25	IO93AU	144.950	50.650	432.675	1240.150	70.4875						
GB7LWB	G4JLB	AX25		144.850	70.4875	50.650	433.675	1299.100	439.825	430.650				
GB7MAD	G7BTI	AX25	IO82NA	144.850	70.325	430.775	439.925	432.650						
GB7MAM	G1EQT	AX25	IO93IC	144.950	432.650	50.690	439.875	430.650	70.4875					
GB7MAX	G0CNG	AX25	IO82XP	144.9375	432.675	430.750	430.675	70.3375	431.900	439.925	431.850			
GB7MRU	G4MRU	AX25	IO93FL	144.950	432.675	50.570	439.925	430.5125	439.7125	70.3125	431.500			
GB7MSF	G4MSF	AX25	IO94EW	14.093	14.097	14.103	14.107	29.250	3.593	3.597				
GB7MSW	G3MSW	AX25	IO91UT	432.675	144.850	1299.650	70.4875	439.850						
GB7MXM	G6SYW	AX25	JO02MG	70.4875	439.850									
GB7NLY	G8NLY	AX25	IO91PI	144.850	144.975	70.4875	430.650	433.650	439.850	1299.725	1240.150	432.650	50.670	
GB7NNA	G1NNA	AX25	JO01HT	50.650	144.950	1299.000	70.4875	432.675						
GB7NND	G0WTK	AX25	IO93KH	144.850	432.675	70.3375	430.775	439.975	50.630	1240.450	144.975	1299.725		
GB7NOS	GM0HBI	AX25		50.650	144.850	1299.000	432.675	430.650	439.850					
GB7NSY	G8ETC	AX25	IO91UI	144.850	70.4875	432.650	439.850	430.625	144.975					
GB7NXL	G0NXL	AX25	JO01AN	144.850	70.4875	433.675								
GB7OAR	G4OAR	AX25	IO83LI	144.950	433.625	70.4875	1299.575	1240.150	439.925	430.775	432.650			
GB7ODM	G1VSJ	AX25		144.850	70.4875	1299.425	50.650	430.625	439.825	432.650	1240.150			

An underscore character after a callsign indicates that it is a continuation.



Mailboxes, clusters and servers

Callsign	Owner	Type	Locator	Freq 1	Freq 2	Freq 3	Freq 4	Freq 5	Freq 6	Freq 7	Freq 8	Freq 9	Freq 10	Freq 11
GB7OMN	G7OMN	AX25	IO83MP	144.975	433.650	1240.600	430.725	1299.050						
GB7QZV	G0WEI	AX25	IO91TO	144.950	50.650	432.675	1299.575	439.850	70.4875					
GB7PAB	G1RXR	AX25	IO70WJ	144.850	432.675	439.875	70.4875							
GB7PET	G1ARV	AX25		144.950	433.675	70.4875	432.675	439.850						
GB7PFD	G6HJP	AX25	IO90CA	144.8625	432.650	50.690	70.4875	430.650						
GB7PLM	G7DQC	AX25	IO70VJ	144.9375	432.650	439.875								
GB7PLY	G3KFN	AX25	IO70WK	144.950	432.675	70.4875	50.650	1299.00	439.875					
GB7PMB	G3UQH	AX25	IO82MO	50.650	144.850	1299.725	439.900	70.3375	433.650	430.675				
GB7PZT	G8PZT	AX25	IO82VJ	144.975	144.850	70.4875	433.650	430.625	430.725	439.825	439.850	432.675	430.700	439.900
GB7PZT_	G8PZT	AX25	IO82VJ	430.750	439.975	1240.950								
GB7RMS	G7FHB	AX25	JO01ID	144.950	50.630	433.650	439.825	70.4875						
GB7RQT	GW3RQT	AX25	IO71OP	144.950	430.675	432.675	70.4875							
GB7RUG	G1KQH	AX25	IO92AS	144.850	432.650	70.4875	430.775	50.650	433.675	439.825	430.5875	439.7875		
GB7SAM	G6HCI	AX25	IO82VX	144.950	432.675	439.825	430.675							
GB7SAN	GM3SAN	AX25	IO75WU	50.650	144.950	70.4875	432.625	439.850	1299.575					
GB7SDN	G8VRI	AX25	IO91DN	144.850	432.675	1240.300								
GB7SDY	GM4PSX	AX25	IO98RE	144.850	432.675	50.630	70.4875	29.250	29.230	28.130	28.140	21.080	3.605	14.093
GB7SEK	G7SEK	AX25	IO92JU	144.850	432.675	439.850	70.3125							
GB7SFK	G3ZYP	AX25	JO02QC	70.4875	430.650	432.650	439.825	1299.000						
GB7SIG	G3WGM	AX25	IO80WU	50.650	70.4875	28.080	28.081	21.080	21.081	14.075	14.076	14.077	10.145	10.146
GB7SIG_	G3WGM	AX25	IO80WU	7.038	7.039	7.040	3.580	3.588	3.589					
GB7SJP	G8SJP	AX25	IO91QP	144.8625	70.3375	430.725	439.825	1240.450	1299.575	432.675	50.570	70.4875		
GB7SKG	G1ZCW	AX25	JO03AG	144.950	430.675	432.650	70.4875	439.975						
GB7SOL	G6URP	AX25	IO92DJ	144.9375	432.675	70.4875	430.675	439.825						
GB7SOU	G8IPG	AX25		144.950	439.850	432.650	430.625	70.3375						
GB7SQU	G1SQU	AX25	IO70VJ	144.8625	432.675	439.875								
GB7SRL	GM4SRL	AX25		144.950	432.650									
GB7SUF	GM4SUF	AX25	IO77VU	50.650	144.850	1299.000	432.675	430.650	439.850					
GB7SUN	G0OYN	AX25	IO90LT	144.850	432.675	439.850	50.650	430.725	1299.000	1240.150				
GB7SUT	G8AMD	AX25	IO92BN	50.650	144.950	1299.000								
GB7SWN	GW8TVX	AX25		144.950	70.4875	432.675								
GB7SYP	G6TVA	AX25	IO93GN	144.850	70.3375	50.690	433.925	430.675	439.950	1240.600	1299.575			
GB7TAS	G4ZZZ	AX25	IO70KE	144.950	432.675	70.4875	50.650							
GB7TCM	G8ADH	AX25		50.650	144.950	1240.600								
GB7TDG	G4VEL	AX25	JO02IJ	144.950	70.4875	432.675	430.675	439.825	433.675	433.925				
GB7TED	G1AHP	AX25	IO64XM	50.650	144.850	430.625	432.675	439.825	70.325					
GB7TJZ	G6TJZ	AX25	IO81RM	144.950	433.650	432.650	70.4875	430.750	439.850	439.825	439.875			
GB7TUT	G4TUT	AX25	IO91XP	144.850	432.650	439.850	70.4875							
GB7ULV	G4BDE	AX25	IO84KE	50.650	144.850	432.675	439.925	1240.300						
GB7VLS	G4VLS	AX25		50.65	144.950	432.675	70.4875	1299.425						
GB7WAM	G3SPX	AX25	IO93FR	144.8625	433.700	430.675	1240.600	70.3375	50.570					
GB7WAR	G8RDT	AX25	IO92DE	144.850	70.4875	430.675	430.775	433.650	439.825	439.850				
GB7WIG	G6YLW	AX25	JO01HI	50.610	70.3125	144.950	430.625	439.825	433.650					
GB7WIS	G7RAZ	AX25	JO02BQ	144.975	70.4875	1299.425	430.5125	439.7125	430.675	433.925				
GB7WNM	G4RKN	AX25	JO02ER	144.850	430.675	432.675	70.4875	439.975						
GB7WRC	G7DMS	AX25		50.630	144.850	432.675	439.925							
GB7WRI	G14WRI	AX25	IO64TR	50.650	144.950	432.675	430.625	439.825	70.4875					
GB7WXM	GW8HBP	AX25	JO82LX	144.950	432.675	439.900	70.4875	430.625						
GB7XDU	G4XDU	AX25		144.975	432.675	70.4875	50.670	70.4875	439.850					
GB7XJZ	G0SBV	AX25	IO90HT	144.950	430.625	432.650	70.3375	439.850						
GB7YEO	G7OGG	AX25	IO80QW	144.950	433.650	439.925								
GB7YEW	GM3YEW	AX25	IO88IH	144.950	432.675	70.325	430.625	432.625						
GB7YKS	G6TVA	AX25	IO93GN	70.3375										
GB7YUH	G3YUH	AX25	JO01??	144.950	430.625	439.875	433.650	70.4875	432.675	1299.025				
GB7ZET	GM4IPK	AX25		144.950	433.650									
GB7ZZZ	G0JDR	AX25		144.9375	432.650	439.825	430.625							
GB7ADX	GW4VEQ	DX Cluster	IO73SG	144.900	70.325	432.675	50.650	439.850	1299.000	430.675				
GB7BAA	G8TIC	DX Cluster	IO82VF	144.900	432.650	70.3375								
GB7BDX	GM6YRZ	DX Cluster	IO85SN	144.900	433.675	70.325	430.625	439.875						
GB7BPQ	G0INA	DX Cluster	IO92JX	144.900	430.675	50.650	70.325	433.675	432.625	1240.150	1299.975	439.900		
GB7CDX	G4BWP	DX Cluster	JO02FH	70.325	430.625	439.850	144.900							
GB7CGL	G0CGL	DX Cluster	IO80VQ	144.8875	70.325									
GB7DJK	G1TLH	DX Cluster		50.650	144.900	1299.000	432.675	70.325	430.625	439.825				
GB7DXA	G0RDI	DX Cluster	IO91QP	144.975	144.8875	1299.575	70.325	439.825	1240.450	50.530	430.650	432.675		
GB7DXB	G3VHB	DX Cluster		144.8875	70.325	439.900	433.675	1299.200						
GB7DXC	G0HDB	DX Cluster	IO81WA	144.900	1299.025	70.325	439.900	431.100						
GB7DXE	G1NNB	DX Cluster	JO01HT	144.8875	50.650	439.825								
GB7DXG	GU6EFB	DX Cluster	IN89RK	144.900										
GB7DXH	G0UHK	DX Cluster	IO91TN	144.900	144.8625	50.530	433.675	439.825	1299.950	1240.450	70.325			
GB7DXK	MOBMD	DX Cluster	JO00GV	144.900	1299.000	430.650	439.825	1240.975	50.650	70.3125	432.675	433.675		
GB7DXL	G6YIN	DX Cluster	IO93ES	144.900	433.675	70.325	430.625	439.825	439.875	144.975				
GB7DXM	G4PIQ	DX Cluster	JO02PB	144.900	432.650	1299.500	439.825	430.625	1240.750	70.325	432.625	430.700	439.800	
GB7DXN	GM4AFF	DX Cluster	IO87WD	144.900										
GB7DXP	GM0GAV	DX Cluster	IO86HL	144.900	70.325	433.675	432.675	430.775						
GB7DXS	G3VKW	DX Cluster		144.900	433.675	70.325	1299.875	430.650						
GB7DXW	G3PSM	DX Cluster	IO90GW	144.900	70.325	50.610	430.625	433.675	1299.000	439.875				
GB7DXX	G3RTU	DX Cluster	IO93UM	144.900	430.625	439.875	439.975	1299.050						
GB7DXY	G3RTU	DX Cluster	IO93UM	144.900	430.625	439.875	439.975	1299.050						
GB7DXZ	G0INA	DX Cluster	IO92JX	144.900	430.675	50.650	70.325	433.675	432.625	1240.150	1299.975	439.900		

Mailboxes, clusters and servers

Callsign	Owner	Type	Locator	Freq 1	Freq 2	Freq 3	Freq 4	Freq 5	Freq 6	Freq 7	Freq 8	Freq 9	Freq 10	Freq 11
GB7EDX	G0TSM	DX Cluster	IO90HX	144.8875	70.325									
GB7GDX	G0TYA	DX Cluster	IO81VU	144.900	1299.425	70.325	430.750							
GB7HDX	GM0VPG	DX Cluster	IO77UL	144.900	430.625	432.650								
GB7HFC	G0RDI	DX Cluster	IO91QP	144.975	144.8875	1299.575	70.325	439.825	1240.450	50.530	430.650	432.675		
GB7MBC	G0VGS	DX Cluster	IO84NB	144.900	70.325	430.675	1240.950	1299.325	439.800					
GB7MDX	G4UJS	DX Cluster	IO82PV	144.900	432.675	70.325	430.725	1240.950	439.825	1299.450				
GB7MRS	G4PIQ	DX Cluster	JO02PB	144.900	432.650	1299.500	439.825	430.625	1240.750	70.325				
GB7NDX	GM4WZY	DX Cluster	IO86QR	70.3250	144.900	432.625	430.625	439.825						
GB7ODX	GM4PSX	DX Cluster	IO89PF	144.900	432.650	70.4875	50.630	29.250	28.130	28.140	21.080	14.093	3.605	
GB7ORH	G3ORH	DX Cluster	IO80CU	432.625	433.650	439.875								
GB7PDX	G3ORH	DX Cluster	IO80CU	432.625	433.650	439.875								
GB7SDX	GM0OPS	DX Cluster	IO75TS	144.900	70.3375	430.775	439.875	432.675						
GB7TDX	G0GTM	DX Cluster	IO95FC	144.900	439.975	433.675	430.775							
GB7TLH	G1TLH	DX Cluster	JO02LQ	50.650	144.900	1299	432.675	70.325	430.625	439.825				
GB7UDX	G1ONL	DX Cluster	IO81UL	144.900	432.675	70.3125	439.850	430.675	433.650					
GB7UJS	G4UJS	DX Cluster	IO82PV	144.900	432.675	70.325	430.725	1240.950	439.825	1299.450				
GB7WDX	G7OPJ	DX Cluster		144.900	50.750	433.675	70.3125	430.650	439.925					
GB7WOK	G3WGV	DX Cluster	IO91OI	433.675	70.325	430.725								
GB7YDX	G6TVA	DX Cluster	IO93GN	144.8875	70.325	433.900	50.530	1299.075	439.875	1240.300	431.875			
GB7YRK	G6YIN	DX Cluster	IO93KW	144.8625	144.975	430.625								
GB7PFT	G7PFT	File Server		439.850	No user access									
GB7BIG	GD3UMWV	IP/AX25	IO74QD	144.975	70.4875	430.675	432.625	1240.450	1299.575	434.225	439.825			
GB7CAM	G7AOR	IP/AX25	IO94MM	144.925	432.675	70.4875	439.875							
GB7CIP	G4APL	IP/AX25	IO91WH	432.625	433.625	50.650	70.3125	432.675	439.825					
GB7CRV	G6CRV	IP/AX25	IO84NB	144.8625	432.625	430.675	439.825	70.3125	1240.300	434.100				
GB7DON	G0UQQ	IP/AX25	IO93KM	50.570	144.925	433.650	432.625	70.3125						
GB7FCR	M1CUK	IP/AX25	IO83LT	144.875	70.4875	430.700	433.625	1240.300	439.800	50.690				
GB7FYL	G1MET	IP/AX25	IO83LT	144.9375	432.675	70.3375	1299.000	1240.300	430.700	439.925	433.625			
GB7HER	G3ZRK	IP/AX25	IO94ET	144.950	430.675	439.975	70.4875	1299.000	432.625	50.690	70.3375			
GB7IPT	G8JVM	IP/AX25	IO82SP	144.925	432.625	430.625	70.325	439.800	430.5875	439.7875	439.900	430.700	439.825	1240.600
GB7IPW	G4MDP	IP/AX25	IO90SU	144.950	432.625	433.625	439.925	430.700	432.675	430.675				
GB7LPT	G7JJP	IP/AX25	IO92VO	144.8625	144.925	70.4875	432.625	433.625	439.850					
GB7LWS	G1TDM	IP/AX25	IO90XU	430.625	439.875									
GB7NET	GM7AOM	IP/AX25		50.650	144.825	1299.425	439.925	433.625	432.625	70.4875				
GB7NHT	G0GSR	IP/AX25	IO70XN	144.875	432.625	1240.150	70.4875	432.675	430.650					
GB7NOT	G1HTL	IP/AX25	IO92KX	144.950	144.875	433.625	439.825	1299.000	432.675	430.625	70.3375	50.690		
GB7NRY	G8NRY	IP/AX25		144.925	432.625	70.4875	433.625	50.650	439.950					
GB7OAK	G7NPW	IP/AX25	IO92GW	144.925	144.8875	70.3375	439.850	430.625	433.625	70.4875				
GB7OSP	GW6HVA	IP/AX25	IO83CH	144.9375	70.4875	50.650	432.675	430.725	1299.725	439.975				
GB7STU	G7JYF	IP/AX25	JO01EK	144.9375	432.625	439.950	430.725	433.625	439.675	430.475	430.700	70.3125		
GB7SXE	G1DVU	IP/AX25	JO00GV	430.650	144.850	439.825	50.650	70.3125	1240.975	433.650	1299.00	432.675	433.675	
GB7WSX	G8HQJ	IP/AX25	IO91VC	144.9375	432.650	439.825	430.625	430.700	439.925	433.625				
GB7ZPU	G1ZPU	IP/AX25	IO92VC	50.670	144.9375	1299.000	70.4875	433.650	439.825					
GB7DJT	G0DJT	NTS		439.825	14.103	or 14.107	70.3125							
GB7HAS	G4BCO	NTS	JO00GV	433.675	430.675	70.3125								
GB7NWP	G0CNG	NTS	IO82XP	1240.300										
GB7UMI	G3RTU	NTS	IO83VL	430.625	439.875	70.4875	1299.050	50.650						
GB7LAN	G8TZJ	SatGate		145.975	145.900	432.675								
GB7LDI	G3LDI	SatGate		144.850	145.970	145.900	70.4875	432.675	439.825	50.650	430.625	439.825		
GB7SAT	G3WGM	SatGate	IO80WU	50.650	70.4875	145.900	145.975	435.120						
GB7ALC	G4WSZ	TCP/IP	JO02BE	432.625										
GB7BBC	G4HIP	TCP/IP	IO91TM	144.925	70.4875	433.650	439.825	439.875						
GB7BIF	G4RWO	TCP/IP	IO84JD	144.925	430.650									
GB7BIP	M1BSX	TCP/IP	IO90LV	144.875	433.625	432.625	70.3125	50.690	430.700					
GB7BVG	G3VQP	TCP/IP	IO91OH	144.925	432.625	433.625	439.925	70.4875	430.725	1240.450	1299.425	144.825		
GB7DIP	M1ATV	TCP/IP	IO93HC	144.925	432.625	70.3375	439.975	430.775	144.825	433.625	1299.575	1240.300		
GB7DIY	GU0FYR	TCP/IP	IN89RK	144.875	433.625	439.875	430.650							
GB7DQY	G6DQY	TCP/IP	IO82NS	70.3125	144.925	430.625	432.625	439.825						
GB7ECR	G0AHJ	TCP/IP	IO83WH	144.925	433.625	430.675	439.850	432.625						
GB7EIP	G3XVY	TCP/IP	JO01HT	144.925	432.625	70.4875	430.775	439.975	433.625	430.625	430.425	439.625	430.5125	439.7125
GB7EIJ	GM8HBY	TCP/IP	IO85AU	70.4875	144.925	432.625	1299.850							
GB7EMC	G8CZE	TCP/IP	IO83WL	144.875	432.625	439.850	433.625	430.650						
GB7FDT	G17FDT	TCP/IP	IO64SK	144.925	432.625	439.825	430.625	70.4875						
GB7FLK	M1CMN	TCP/IP	JO01OC	144.875	430.725	439.900	432.625	50.650	433.625					
GB7FLX	G7OCD	TCP/IP		144.975	50.530	70.4875	432.625	1240.450	1299.575	439.950	430.700			
GB7GFD	G4HZA	TCP/IP	IO91RG	144.925	50.650	1299.725	433.625							
GB7HIP	G7PEW	TCP/IP	IO90LU	144.925	70.3125	432.625	439.850	430.725	1240.800	1299.000	433.625			
GB7IBK	G4CGS	TCP/IP	IO91OJ	144.875	433.625	70.3375	430.725							
GB7IDD	G8NRB	TCP/IP	IO91RV	144.875	430.675	439.900	70.3375	432.625						
GB7IHA	G1WKK	TCP/IP		144.875	433.625	439.875								
GB7IHH	G0TCD	TCP/IP	IO91SS	144.925	439.925	430.775	70.3375							
GB7IMK	G0TWN	TCP/IP	IO91OX	144.875	70.4875	433.625	439.900	430.625	430.675					
GB7IND	G7FCE	TCP/IP		144.925	432.625	439.925	70.3375	430.650						
GB7INE	G8DZH	TCP/IP	JO01AP	144.925	432.625	439.925								
GB7ING	G4XRT	TCP/IP		144.925	432.625	439.925								



Mailboxes, clusters and servers

Callsign	Owner	Type	Locator	Freq 1	Freq 2	Freq 3	Freq 4	Freq 5	Freq 6	Freq 7	Freq 8	Freq 9	Freq 10	Freq 11
GB7INH	G4YSJ	TCP/IP	IO91VP	144.925	433.625	439.925								
GB7IPB	G4HJG	TCP/IP	IO91SK	144.925	432.625	439.925	70.4875	1240.150	430.725					
GB7IPC	G4BIO	TCP/IP	IO91PP	144.825	1240.150	432.625	430.675	439.950						
GB7IPD	G8ECJ	TCP/IP		144.925	433.625	430.675	70.3375	439.825	439.950	439.875				
GB7IPE	G1LIG	TCP/IP	IO91PN	144.875	433.625	430.725	70.3375							
GB7IPF	G4TNU	TCP/IP	IO91RR	433.625	144.925	430.675	430.775	439.875	439.850					
GB7IPH	G4ZXI	TCP/IP	JO01HD		432.625	439.900	430.725	50.650	439.675	430.475				
GB7IPO	G4UDE	TCP/IP	IO82LV	144.925	70.3125	432.625	1299.425							
GB7IPR	G6PAP	TCP/IP	IO92AG	144.925	433.625	1299.725	1240.600							
GB7IPS	G7WVK	TCP/IP	IO82PR	144.925	439.825	432.625								
GB7IQB	G4ETG	TCP/IP	IO91VV	144.925	439.925	70.4875	433.625							
GB7ITG	G6DZJ	TCP/IP	IO91PS	144.925	439.800	433.625	430.625							
GB7IWL	G1FEF	TCP/IP	IO92PG	144.925	433.625	430.700	439.900							
GB7KHW	G6KHW	TCP/IP	IO92SG	144.875	50.670									
GB7LGS	G0LGS	TCP/IP	IO81VV	144.925	430.650	439.875	433.625	430.700	439.950					
GB7MAS	M0AGQ	TCP/IP	IO90WU	144.925	70.3375	50.630	430.650	432.625	433.625	439.925				
GB7MBB	G6PHF	TCP/IP	IO84NB	70.3375	144.925	432.625	430.650							
GB7MBR	M0AZM	TCP/IP	IO84NB	430.675	439.825	1299.325	1240.950							
GB7MIP	G6KMQ	TCP/IP	IO92CJ	144.925	430.675	432.625	433.625	439.825	431.750					
GB7NEW	G6RBP	TCP/IP	IO91IJ	144.925	433.625	432.625	430.700	439.925						
GB7NHV	G0TJH	TCP/IP		144.875	432.625	430.625								
GB7NIP	G4MCF	TCP/IP	IO94KN	144.925	439.875									
GB7NLW	G7PUN	TCP/IP	IO83QL	144.925	70.325	433.625	439.975	430.675						
GB7NWI	G4TUP	TCP/IP	IO83MP	50.650	144.925	430.675	70.4875	439.875	1240.950	1299.325	433.625			
GB7OIP	G6GZH	TCP/IP	JO02AH	144.925	432.625	439.975	1299.425	70.3125	430.5125	439.7125				
GB7OQJ	G6OQJ	TCP/IP	JO01FS	144.925	439.975	433.625	430.775							
GB7PAE	G0PAE	TCP/IP	JO01EN	144.925	439.975	433.625								
GB7PEJ	G0PEJ	TCP/IP		144.925	433.625	439.975	430.775							
GB7PIT	G7PIT	TCP/IP	IO92GS	144.925	70.4875	433.625								
GB7POZ	G7POZ	TCP/IP	JO02UK	144.925	430.675	439.825	1240.600	1299.575	432.625	439.925	430.700			
GB7PVO	G0WWF	TCP/IP	IO83VH	144.875	432.625	439.975	70.4875	1299.425	1240.150	430.675				
GB7RKN	G3RKN	TCP/IP	JO01BS	144.925	439.925									
GB7RTW	G8SFR	TCP/IP	JO01DD	144.925	432.625	430.725	439.675	430.475						
GB7SIP	G3ZIJ	TCP/IP	IO91WE	144.925	439.825									
GB7SPH	G0SPH	TCP/IP	IO83SG	144.875	434.200	433.625								
GB7STW	G8STW	TCP/IP	JO01KR	144.925	439.975	433.625	430.775							
GB7TVG	G4WQS	TCP/IP	IO91QL	144.925	70.3375	433.625	439.850							
GB7UOP	G0XAW	TCP/IP	IO70WJ	144.875	430.650									
GB7WFS	G0WFS	TCP/IP	IO92JN	433.625	144.925	70.3125	439.925							
GB7WIP	G1FIP	TCP/IP	IO92FG	144.925	439.975	430.675	432.625	1240.150	1299.000					
GB7WLR	G4EID	TCP/IP	IO83MQ	144.875	70.3375	430.675	439.875							
GB7WMD	G1WMD	TCP/IP		144.925	432.675	1299.727								
GB7WPJ	G6WPJ	TCP/IP	JO01HW	144.925	439.975	433.625	430.775							
GB7XJC	G4XJC	TCP/IP	IO81VV	144.925										
GB7YFS	G6VEY	TCP/IP	IO92TS	144.925										
GB7ZHR	G8ZHR	TCP/IP		144.875	50.730	1299.725	432.625	430.725	439.900					
MB7UAA	G4IDE	UI Server	IO92XX	144.800										
MB7UAN	G0AMO	UI Server	IO91FF	144.800										
MB7UAY	GMOJQE	UI Server	IO75QP	144.800										
MB7UDI	G0VRV	UI Server		144.800										
MB7UEK	G4MKI	UI Server	JO01NI	144.800										
MB7UEY	G4EJP	UI Server	IO93SV	144.800										
MB7UFO	G7VJA	UI Server	IO91SK	144.800										
MB7UGU	GU7DHI	UI Server	IN89RL	144.800										
MB7UIA	G0FSM	UI Server	IO92BR	144.800										
MB7UIH	G0VRM	UI Server	IO93SR	144.800										
MB7UIJ	M0CJY	UI Server	IO93IK	144.800										
MB7UIK	G4ZXI	UI Server	JO01HE	144.800										
MB7UIM	M1BJS	UI Server	JO00FH	144.800										
MB7UIP	G4MDP	UI Server	IO90SU	144.800										
MB7UIV	G6NHU	UI Server	JO01OU	144.800										
MB7UJI	G4NJI	UI Server		144.800										
MB7UPC	G0NSK	UI Server		144.800										
MB7UPG	G0TRT	UI Server	JO02LC	144.800										
MB7USA	G0THP	UI Server	IO83OI	144.800	433.800	50.990								
MB7USK	M1CMN	UI Server	JO01OC	144.800										
MB7USS	G0FZD	UI Server	IO93IJ	144.800										
MB7UST	M0AQM	UI Server	IO83WK	144.800										
MB7USW	M1ERS	UI Server	IO93GK	144.800										
MB7UTW	G8UXX	UI Server	IO90OP	144.800	50.990									
MB7UUI	G7OCW	UI Server	IO82SQ	144.800										
MB7UUL	MM1BJP	UI Server	IO75RX	144.800										
MB7UWE	G6TJZ	UI Server	IO81RM	144.800										
MB7UWF	M1AJG	UI Server	IO93EQ	144.800										
MB7UWM	M1DOZ	UI Server	JO01GO	144.800	433.800									
MB7UXX	G4MSF	UI Server	IO94FW	144.800										

The G-QRP Club

‘QRP’ in the international Q-Code means ‘reduce power’, and since the beginnings of amateur radio many operators have enjoyed using low power equipment on the amateur bands. Some do so because of the challenge, some because they believe it appropriate, many because it fits in well with the construction of their own station and many in more recent times because it lowers the chances of RF interference. Here we look at the British-based club devoted to communication at low power.

For the purposes of contests and awards, QRP is defined as transmitting with an output power equivalent to a continuous wave signal of 5 watts or less. It is possible to have a fulfilling amateur radio operating experience with such power levels. The human ear has a logarithmic response, so in the common amateur radio RST report system the signal strength (S1 to 9) is usually taken as a 6dB change per S-unit. 6dB is a 4-times power change, so if the power of a transmitter is reduced to one quarter, the result is only a one S-point reduction.

A station using 100 watts of RF power and being received at a theoretical S9 level, can reduce that power to 1.5 watts and still be a theoretical S6 level. A QRP station in good hands will make very similar contacts to a station running conventional power levels. It may take a little more skill, but it gives a lot more satisfaction.

Equipment

QRP has always been a field for the home constructor of amateur radio equipment. Many simple designs and kits for QRP equipment are available. A lot of QRP operators run a conventional station and choose to add a bit of spice to their hobby by building a few simple QRP items to use on the air. There is also a dedicated band of QRP operators who only run home made equipment, some of it very sophisticated.

Generally, QRP operators use simple home made antennas, which fit in with the QRP philosophy, so antenna construction and application forms a major part of the QRP literature. There are many books and magazine articles on the construction of QRP equipment, and suitable antennas. The QRP kit market has grown enormously since the 1970s, and kits to suit almost any level of electronic construction competence are readily available.

Although the majority of QRP operation is on CW, there are avid SSB QRP operators and many use digital modes such as PSK31 (which suits QRP operation very well).



G-QRP Club Secretary, George Dobbs, G3RJV, exchanges gifts with the Chairman of Mizuho, Japanese makers of QRP equipment.



Jim, K8IQY, shows off his home made 7MHz transceiver, with the circuit on his T-shirt.



A fine QRP transceiver with built-in keyer and paddles, built by JA2ESR.

The Club

The G-QRP Club was founded in 1975 and now has some 5000 members worldwide. The club exists to promote interest and growth in low power amateur radio communication (5 watts or less). Membership is open to any licensed radio amateur or short wave listener anywhere in the world.

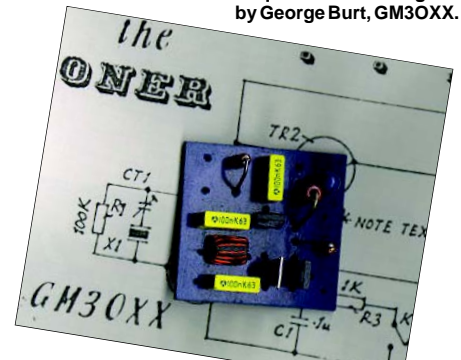
The club publishes a quarterly journal called *Sprat*, which is sent free to members. *Sprat* contains many circuits, technical hints and ideas for QRP construction projects, together with club news, contest and award information and other items of interest to QRP operators. It is an exclusive QRP journal and contains much practical information in each issue.

The club issues a number of operating awards to licensed and SWL members, most of them unique. It runs its own internal QSL Bureau, through which cards can be interchanged between members. From time to time the club makes special offers of components, printed circuit boards etc for members at reduced prices.

Activity

G-QRP club activity takes place on the International QRP Frequencies (3560, 7030, 10106, 14060, 21060 and 28060kHz). Special ‘Activity Weekends’ are held at least twice a year and at the end of December a ‘QRP Winter Sports’ event is promoted. The activity periods attract worldwide support. The club also supports other international QRP contests and activities.

The famous ONER transmitter - a complete transmitter on a 1in square board - designed by George Burt, GM3OXX.



Sheldon Hands (left) of Hands Electronics (makers of QRP Kits) speaks to a German QRPer in G3RJV's shack.

Secretary: Rev. George Dobbs, G3RJV, QTHR.

Membership enquiries: John Leak, GOBXO, Flat 7, 56 Heath Crescent, Halifax HX1 2PW.

Web site: www.gqrp.com



Internet Linking

It is now commonplace for those on the Internet to communicate with friends and family around the world using voice and video, which requires their computer to have a camera, microphone and soundcard fitted. For radio amateurs the next step was to link their FM VHF or UHF transceiver to the computer sound card, enabling audio from their transceiver onto the Internet. If a similar link was taking place on a remote computer and both computers were linked together via the Internet (in the UK or anywhere in the world) you could have a radio-to-radio QSO with the Internet providing the link in the middle. The transceiver could be operating on either a local VHF or UHF repeater, or an FM simplex channel. All Internet linking on repeaters takes place in the shack of the amateur providing the link, nothing is done at the repeater site. The audio quality is normally excellent, with DX stations sounding just like locals.

With the more liberal amateur radio laws in the USA and Canada, Internet repeater linking has been in use there for more than six years. The first program used was IPHONE from Vocaltec, but any program that allows audio over the Internet, eg MSN Messenger or Paltalk, can be used for linking and to provide basic radio communication. This would be done by holding the transceiver's microphone to the computer's speaker and transmitting the audio off the Internet over the air, then holding the computer's microphone to the transceiver's speaker and transmitting the audio over the Internet. TX/RX changeover would be made by manually pressing the PTT, but with more sophisticated programs like IRLP, changeover is done automatically using an interface board and the transceiver's 'COS' (carrier operated switch) data line, allowing repeaters to be connected to the Internet 24 hours a day.

In the UK, permission had to be obtained from the Radiocommunications Agency to link amateur radio to the Internet and a personal request to do so was made by Ian Abel, G3ZHI, to RA Chief Executive David Hendon at their Road Show in Leeds October 1999. Permission was granted in January 2000.

There are currently four Internet linking systems in use: IPHONE, iLINK, eQSO and IRLP. The first three run under Windows 95® and above, and each program can be downloaded from G3ZHI's web site. IRLP runs under Linux Redhat 6.2 (this version only). For those not familiar with Linux, the UKIRLP Group are willing to help with installing Linux and the IRLP software. Using Linux is straightforward when the Graphical User Interface (GNOME) is also installed, as the Desktop looks similar to that of Windows.

As of April 2002, 186 NoVs had been issued for simplex Internet gateways, 74 on 2m, 111 on 70cm and one 70cm 7.6MHz split repeater.

Getting connected

If you wish to install an Internet gateway, you first need to apply to the RA for a Notice of Variation (NoV) to your Amateur Radio Licence. For a simplex link the application can be made online on the RSGB DCC web site. It lists all the 2m and 70cm frequencies available.

If you wish to put the link on a repeater, you must first obtain written permission from the keeper which must then be forwarded with the application to the RSGB RMC Chairman Carlos Eavis, G0AKI, QTHR, supplying all the information required for a simplex link, plus the callsign of the repeater you wish to put the link on, a copy of your licence validation document and the written permission of the keeper. Alternatively, you

could apply to install your own Internet linked repeater as the changes to the channel spacing on 2m and the 7.6MHz split on 70cm have increased the number of available frequencies.

Some software changes will probably have to be made to the repeater logic, because no repeater identification may be sent over the Internet - as it causes problems with the other repeaters that are connected, producing a 'ping-pong' effect (repeaters continuously keying each other on and off). The logic must also be capable of operating CTCSS.

As Internet linking is worldwide, amateurs in many different time zones help to police the links 24 hours a day, with any problems being reported to the stations providing the links.

Contacts

Using an Internet link, DX stations can be worked from home, while out walking, or bicycling using a handheld transceiver. A typical example is to have a round-table QSO with amateurs on repeaters in the USA, Canada, South Africa, The Caribbean and Australia, all in the same QSO. Some American repeaters transmit simultaneously on multiple frequencies (eg 2m, 6m, 10m, 220MHz and 70cm), so you can be transmitting on many different frequencies all at the same time.

The most remote place on IRLP is the American McMurdo Base in Antarctica. The base has a 'live cam' (<http://live7.truelook.com/nasa/mcmurdo/index.jsp>) which you can control. The picture quality is very good. For six months of the year the base is in 24-hour daylight, so, with

a little organisation, it would be possible to see the person you were talking to if they stood in front of the camera.

Some overseas repeater linked systems are very sophisticated, with many repeaters linked together by radio. In New Zealand for instance they have the 70cm National System that has 19 repeaters linked together, providing nearly full coverage of both the North and South Islands. In 2001, when Tony Whitaker, G3RKL, was walking the length of the country (1,300 miles from top to bottom) G3ZHI was able to keep in touch with him daily while he was on his walk and patch him through to his local repeater GB3US in Sheffield to talk to his friends (Tony is actually the keeper).

In the USA and Canada there are a number of linked systems. One example is the Winsystem in California, which links San Diego to San Francisco via 17 mountain top repeaters (some over 8,000ft high) all linked together. Another US repeater with excellent coverage is the Tram repeater in Palm Springs, California, so called because the tram goes to the top of the mountain where the repeater is located. Also on the top of the mountain there is a 'live cam' which is next to the repeater site, which you can view from the Tram web site (www.pstramway.com) and enjoy the beautiful scenery and see the repeater coverage.

In the future maybe all repeaters in the world will be linked to the Internet, enabling amateurs to keep in touch with friends visiting any city in the world that has a repeater. Internet linking is ideal for DX QSOs, making it possible to have in-depth discussions unaffected by QRM or QSB. Contacts can be 'one to one' or in a 'round table' where many repeaters are linked together. Sometimes on IRLP, 30 repeaters can be linked and all the users on each repeater are able to hear each other.

For the elderly, who are no longer able to look after their aeriels and towers, or amateurs that go into retirement homes, this is an excellent way for them to keep in touch with friends.

While at work, university, school or at an Internet cafe, provided the computer you are using has a microphone and soundcard, you can talk or just listen to your amateur friends without having access to a radio. Internet linking will work on a 56k-dialup modem, but a high-speed connection is best.

Repeaters represent a big investment in both time and money and the aim of the Internet radio-linking project is to increase activity on repeaters and simplex channels.

Using IPHONE 4.5, one of the memorable QSOs G3ZHI had was with the Motorola Museum club station in Chicago, USA, K9MOT.

Call	Channel	Location
GB3BN	RU240 (RB0)	Bracknell
GB3CL	RU258 (RB9)	Clacton
GB3DS	RU266 (RB13)	Worksop
GB3DV	RU242 (RB1)	Rotherham
GB3EE	RU264 (RB12)	Chesterfield
GB3GN	RV62 (R7)	Aberdeen
GB3HH	RV56 (R4)	Buxton
GB3LI	RU260 (RB10)	Liverpool
GB3LM	RV58 (R5)	Lincoln
GB3LV	RU244 (RB2)	Enfield
GB3NA	RV54 (R3)	Barnsley
GB3PZ	7.6	Manchester
GB3SY	RU252 (RB6)	Barnsley
GB3TP	RV58 (R5)	Keighley
GB3US	RU240 (RB0)	Sheffield
GB3WJ	RU250 (RB5)	Scunthorpe
GB3XN	7.6	Worksop

UK repeaters for which NoVs have been issued for Internet connection.



Radiocommunications Agency: www.radio.gov.uk/topics/amateur/document/linking.htm

RSGB Datacommunications Committee: www.dcc.rsqb.org/

RSGB Repeater Management Committee: www.coldal.org.uk/rmc.htm

RSGB list of all simplex UK Internet gateways: www.dcc.rsqb.org/ShowGates.asp?call=ALL

While talking to K9MOT over the N9EP-R repeater, a radio amateur passenger in a light aircraft joined the QSO, working aeronautical mobile (which is permitted in the USA). Just at that time the aircraft was flying above the museum and the radio amateur in the plane was sending live video to the club, they then forwarded it via the IPHONE program, so G3ZHI was able to see the video from the plane.

G3ZHI has also worked another radio amateur passenger in a light aircraft, this time while out cycling and using a handheld on GB3DV, the 70cm repeater in Maltby, which was connected to N9EP-R in Chicago via IRLP.

With the consent and co-operation of the repeater keepers, a UK repeater system could be developed providing full coverage of each motorway, eg the M1 could have several repeaters all linked together, providing continuous coverage from London to Leeds.

UK IRLP Nodes

510	G4CUI	Sheffield
512	GB3EE	Sheffield
513	GB3DV	Maltby
514	G0FUO	Mexborough
515	GB3US	Sheffield
517	G6YHW	Middleton, Leeds
520	G4NJI	Rotherham
521	G8UVE	Burnley
522	G4EID	Southport
523	G4EID	Southport
524	GB3LI	Liverpool
528	G6PHF	Lancaster, Lancs
530	M5GUY	Carlisle
535	G7PCT	Melton Mowbray
540	G0XEL	Manchester
550	M1ERS	Sheffield - Experimental
551	MM0GEQ	Edinburgh
560	GB3LV	London

Further information

Check www.dcc.rsgb.org/ShowGates.asp?call=ALL to see if you have a local gateway near you. If you live within 10 miles of a

gateway you should be able to hear it when it is active. They are not all 24 hours a day and you may need to contact the keeper to check when the link is available.

You can listen on-line to the Californian

Winsystem 24 hours a day by following the link on their web site at www.winsystem.org

There are a number of 'egroups' on Yahoo, which have discussions about Internet linking which you can join.

For sites on repeater Internet linking, search using Google (www.google.com).

To use the Internet linking programs on a computer it must have a microphone, soundcard and speakers fitted. It is a good idea to first test that your microphone and soundcard are working correctly, by using the sound recorder program located in Windows Accessories.

Bibliography

RadCom
G3RKL, April 2001.
G4CUI, February 2002.

Ham Radio Today
G3ZHI, February 2000.

Radio Active
G3ZHI, January 2000.

iLINK

Developed by Graham Barnes, M0CSH, in 2001, this is available as a 300k download from www.aacnet.net/ There are two iLINK program downloads, one for a PC user and the other for someone providing a gateway and the iLINK interface board. iLINK users can chat computer to computer, computer to radio, or radio to radio.

Before you can connect to iLINK, you have to apply to the administrator for authorisation. To obtain this you have to provide a callsign and a password of your choice. Once your details are verified, authorisation is granted, but it can be removed at any time if necessary, severing your link to the server.

If you wish to link your computer to your radio you require an iLINK interface board, which costs £25. Around 10,000 amateurs around the world have so far downloaded the iLINK program. There can be between 100 to 300 users on the iLINK list at any one time. After installation, when you run the program you are presented with a box. Click on 'BEGIN' and a list of stations will appear. You can then call any station on the list, or any station could call you. The station you call could be someone sat at his or her computer using a headset, a repeater or a simplex radio link. There

REFRESH 2 MINS. SERVER aac-management.co.uk (1) PACKET=11 (OK)

CALLSIGN	LOCATION	LOCAL TIME	#INDEX
TOTAL: 138			
G0FAB	HANK IN LONDON UK	[ON 11:32]	5940
KD6HNJ	SAN JOSE CA.	[ON 03:29]	16166
DL3GEA	WAITING FOR N3MMW/ZB	[ON 12:36]	17216
UK4AHE	VICTORIA POINT QLD	[ON 20:29]	18733
KH2TJ	PORTOLA/CA	[ON 03:28]	18764
WA1GWE	EDEN PRAIRIE, MN	[ON 10:30]	18658
DS5ZRK	TAEGU, KOREA	[ON 19:32]	16759
N1MD	LITTLETON, NH USA	[ON 06:32]	17493
N5BCA	RICHARDSON TX	[ON 05:30]	15563
G3ZHI	MALTBY WWW.QSL.NET/G3ZHI	[ON 11:30]	1028
UA3TO	TORONTO, CANADA	[ON 06:35]	3054
N20BS	SUMMERVILLE, SC	[ON 06:28]	12956
KA5PZR	VAN BUREN AR.	[ON 05:32]	8138
N3JCS	DOWNINGTOWN PA	[ON 06:31]	19240
INDEX: 16744			
GO			
ABORT			
BAR			
HAM_USA	USA SERVER, WELCOME ALL	[ON]	3300
SEATAC	WESTERN WASHINGTON	[ON]	4914
BLUE_MTN	TRADERS NET FRI 8PM CST	[ON]	8147
AC4XQ	>MIAMI CONF SERVER<	[ON]	6735
N2LEN	EAST COAST NEW YORK CITY	[ON]	6427
N5YBG	<TEXAS E-HAM'S>	[ON]	6596

iLINK screen shot.



iLINK board.

are also several different conference rooms, with all stations in the room able to hear each other. When you have finished your QSO click on 'END', which disconnects.

There is no SWL listen facility, so you must be licensed to download and use the program. Each station is given a unique number and using DTMF on a radio you can call an individual station. However, when you are mobile and not able to see the list of stations connected on a computer screen, you do not know who is on line as stations come and go at random (although some are on-line 24 hours a day). You have to use your experience to gauge which stations are likely

to be on line at any particular time.

You can dial '00' that will connect randomly to any station that is on-line at that time, or '02' connects you to any free conference server. '#' disconnects, while '0' checks the on-air node status. For those using computers there is also a text chat facility, which is very useful if you are having audio problems or don't have a microphone. The audio quality is very good and the servers are very reliable. To transmit you press the space bar once and then press it again to listen. There is an 'info text' file, which you can edit, so when someone connects to you the information is displayed on his or her computer.



IPHONE

IPHONE has been used for amateur radio linking since about 1996 and offers audio and video.

After downloading (5MB), the first chat room you connect to is the default 'General' room which can be deleted. You need to join the 'ham radio' private chat room. To do this, first click on the drop-down menu 'Chat Room' on the 'Global On Line Directory' then click on 'New/Private', type in 'ham radio' (all lower case), then click 'join'. You will then see a list

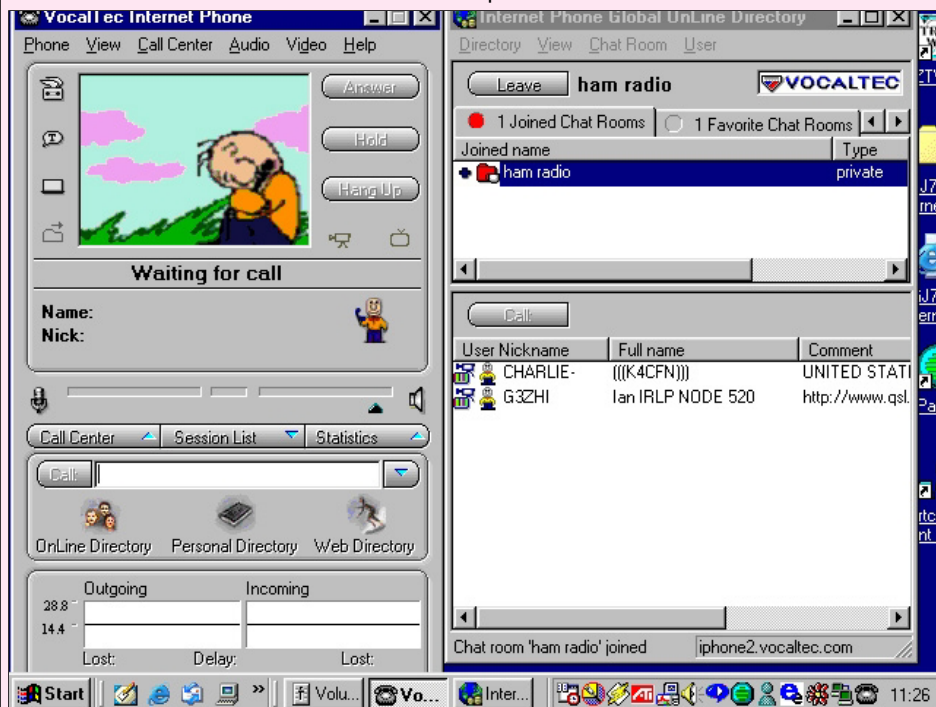
of all the stations in the room. Click on a callsign to call the station, which could either be an individual who is using a computer, a repeater, or a simplex link. Non-licensees can also use the program, enabling SWLs to talk to licensed operators (this is fine, provided there is no radio link involved).

You can link a transceiver to the Internet with the IPHONE program by using a VOX unit to operate the TX/RX function. Ready built VOX units are available from CPC (www.cpc.co.uk) part number HK00035, priced £16.

Vocaltec no longer sell the IPHONE program and they will not allow you to register it. However, it can be uninstalled and reinstalled as many times as you wish (it only takes a couple of minutes) on a 7-day free trial basis. IPHONE also has a 'white board' facility that allows you to exchange text, photos and diagrams with the person you are talking to.

Unfortunately, if you are on a handheld which is connected to the Internet via IPHONE, you have no way of knowing who has joined or left the room. Therefore you are not able to call stations, you must rely on people that join the room who are using their computer and can see the list, calling you. When someone clicks on your callsign and calls on your link, their audio triggers your VOX unit and puts your transceiver into transmit. When they stop transmitting, your transceiver returns to receive and the transceiver's audio is passed straight on to Internet. Consequently, when you transmit they hear your audio. IPHONE provides little security, so links need to be monitored when the program is being used.

IPHONE used to support conference rooms but the facility is no longer available.



iPhone screen shot.



iPhone VOX.

eQSO

This was developed by M0ZPD in 2001. It is available as a 400k download from www.eqso.net/. Installation is straightforward.

When you join a server, everyone in the room you select can all hear each other. You can change servers, change rooms on that server, view the full list of all servers and rooms and who is in them.

eQSO can be installed on any computer, including a laptop, anywhere in the world, to have QSOs with fellow amateurs.

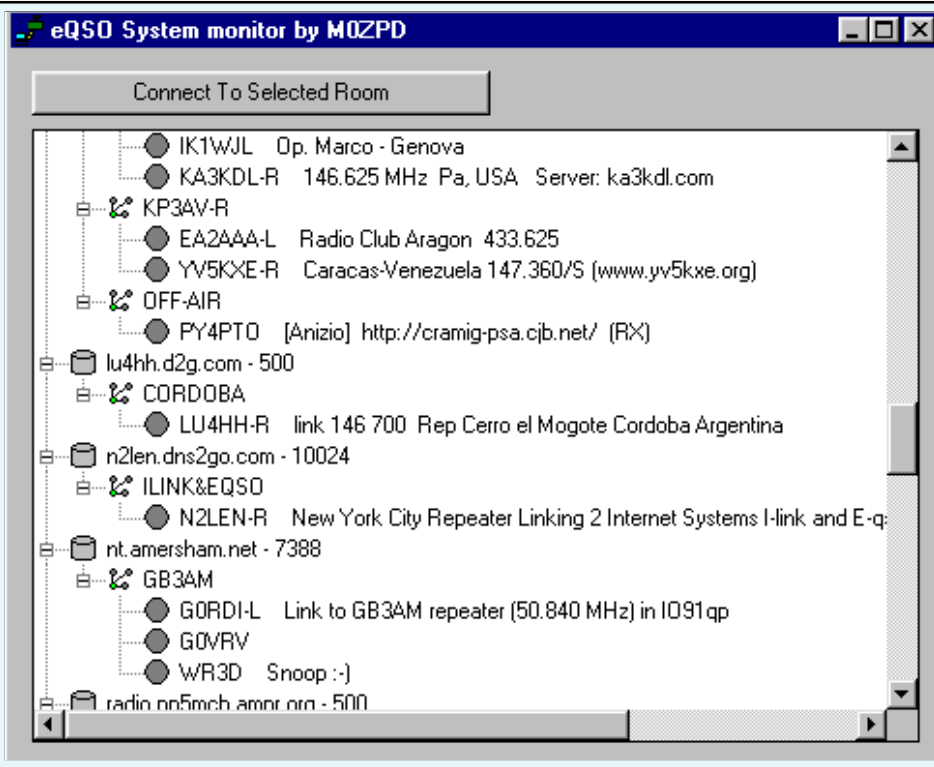
SWL stations are welcome to listen and should identify that they are SWLs. They must not speak unless they are in an SWL-only room, which is off air and has no radio attached.

There are three levels of security in place and people can be 'kicked', 'banned' or 'muted' by controlling stations that are monitoring around the clock.

Amateurs across the world are using eQSO - and some are in very remote areas. Part of the fun is you never know who you will find on the system.

Recently the Chinese have started to use the program, indeed one Chinese amateur has just installed the first RF 70cm Internet gateway in China.

eQSO screen shot.



eQSO: www.eqso.net

eQSO FAQ: www.2e1ehm.freemove.co.uk/

RSGB guidelines on Internet linking: www.rsgb.org/extra/intlinks.htm

IRLP

Developed by Dave Cameron, VE7LTD, in 1977, Internet Radio Linking Project is available from www.irlp.net. It is primarily a worldwide Internet linked repeater network with over 400 repeaters connected together 24 hours a day. The number grows almost daily. It is a totally secure system running under Linux Redhat 6.2 (not later versions). You cannot speak on the IRLP system from a computer which is connected to the Internet, like you can using the Windows programs, because IRLP was designed just to link repeaters around the world (although there are a few links that are on simplex channels).

When using IRLP, you call a repeater by using DTMF tones. There is a directory list of all repeaters giving their individual 3-digit number. You use the number to connect and disconnect from the repeater you wish to call, adding a control digit '0' to turn a link 'on' and a '1' to turn a link 'off'. Example: To call VK2RBM in Sydney, tune your radio to a local Internet linked gateway frequency and key 6000 to turn the link 'on' and 6001 to turn it 'off'. You will hear a voice announcement identifying which repeater you are connected to. When you disconnect you get another voice announcement, saying 'you are now disconnected', again identifying the repeater you have left. You can use a 'touch tone' DTMF microphone costing about £50, or buy a DTMF keypad costing £2.50



DTMF keypad.

including P&P available from UKIRLP.

You can call individual repeaters or connect to a Reflector, which is a 'conference room' which can have as many as 30 repeaters in the room. Anyone speaking on any one the repeaters can be heard by all the other repeaters, so it is vital that no CW indents or courtesy tones pass from a repeater on to the Internet as it would cause problems.

To connect your repeater to the IRLP network requires an IRLP interface board costing US\$60 plus \$15 carriage. To order an IRLP board, visit www.irlp.net/

UKIRLP (United Kingdom Internet Radio Linking Project) will help anyone unfamiliar with Linux

to install the hardware and software. You can view the 'live' status page of all the repeaters on the system by visiting status.irlp.net

Dialup connections can be used for IRLP, and Linux will automatically reconnect if you are disconnected abruptly or if you get disconnected after every two hours. However, if you are using a dialup connection you are not able to connect to reflectors, so a high-speed connection is the best option.

Some repeaters connected to IRLP are connected to multiple linked systems, eg the Winsystem in California and the New Zealand National System. You can listen to the 'live' audio on reflector 2 at www.live365.com/stations/253404 and on the Winsystem at www.winsystem.org

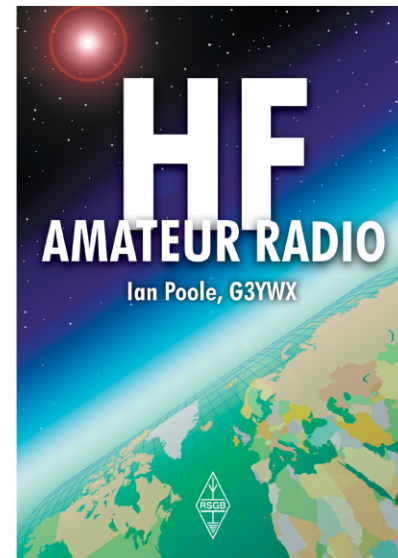


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Amateur Satellites

Amateur satellites have been likened by many to repeaters. Satellites receive a signal on one frequency and return it on (usually) another, but in truth that is where the similarity ends. Terrestrial repeaters are at a fixed point, and do not need steerable arrays to track them across the sky. Most repeaters use FM, most satellites use SSB and CW, although a few FM satellites are operational.

Terrestrial FM repeaters cost a few thousand pounds to build and support, and can be maintained or replaced without much effort. Satellites, on the other hand, cost upwards of a third of a million pounds to design, build and launch into orbit, plus a few thousand a year to command and maintain. Orbiting amateur satellites cannot be serviced with new hardware once launched, and power supplies mostly have to be provided with solar energy to maintain control and operation.

Also, repeaters are 'channellised' and local in range; satellites are designed, in most cases, to use a passband of a hundred or so kilohertz, in internationally allocated Amateur Satellite Service bands, use SSB CW and FM (digital and voice), and provide a global range inside a 'footprint' of several thousand miles approximately every 95-120 minutes during the 24 hours; but the Phase 3 Series of satellites are designed for a much longer period, usually hours.

Most amateur satellites are physically small: 30-60cm squares, oblongs, and spheres are common, weighing between 10 and 50kg. Of course it's what's inside that matters, amateur satellites commonly include power conditioning and command/control hardware as well as batteries and the main communications equipment. Sometimes they carry science packages as well.

There are a few larger amateur satellites too: Oscar 40 is a 68cm high x 2.4m diameter hexagon weighing 632kg. The International Space Station is a bit bigger than this but, after all, it does a few more things than just amateur radio!

Operating through amateur satellites represents the pinnacle of amateur radio achievement because there is a very great deal to think about when compared to every other mode, eg doppler shift, position of the satellite, transponder mode, types of orbit, etc. Many experienced amateurs get a real thrill out of even hearing their first satellite, and many SWLs get great excitement and interest in monitoring the telemetry, which is regularly transmitted by all amateur radio satellites.

Different Orbits

Low Earth Orbit (LEO)

Usually refers to altitudes up to about 800km. Most space flights go into this range unless there is a special reason to go higher. The lower parts of the range get hit harder by atmospheric drag and the upper parts start to get close to belts of radiation which can harm onboard electronics within a few years. Amateur radio satellites usually just take advantage of any ride into space but of course the higher we go the better the

DX. The International Space Station is about 400-450km up.

Higher Circular Orbits

Up to, say, two or three thousand km, are better for DX but the radiation environment is harsh. A few amateur satellites fly at about 2000km and you get an extra thousand km or so of DX range with them.

Elliptical Orbits

Satellites in elliptical orbits spend some time at low altitude (perigee) but then sweep up to a high point (apogee), usually several thousand km up. Radiation damage is reduced because the spacecraft does not spend long times in the danger areas. Examples of this are Oscars 20/29, whose orbits vary between 800 and 1800km, and the Phase-3 satellites such as Oscar 40 which flies between 1170 and 58600km.

Phase-3

This is an orbit style, not a spacecraft type. While a geostationary orbit (as used by TV broadcasting satellites) sees a lot of the planet, it only serves that part of the planet that is below it; the rest of the world is unable to use it. Generally, Amsat aim to serve *all* the world's amateurs rather than just a few. A Phase-3 orbit therefore attempts to please most of the world's amateurs most of the time, by having an orbit that reaches most parts of the world at varying times. A high apogee (tens of thousands of km) results in a wide footprint and, not being geostationary, different parts of the world can see and use the satellite at different times with overlapping windows. VK (but not ZL) can be worked from Britain at certain times.

Different Satellites

There are basically two types of amateur radio satellite; transponder (analogue) ones and digital ones. Sometimes a spacecraft will contain equipment for both types of system.

In an analogue system, signals received in part of one amateur band are retransmitted in part of another amateur band. Early satellites translated a band of frequencies, the *passband*, from the uplink band to the downlink band. An exception to this is those few satellites that just work as a 'bent-pipe' system carrying a single FM channel (OSCARs 14, 27, 41). Since FM satellites attract new satellite operators,



more of these are likely; there is even talk of multiple FM channel capabilities in future satellites.

A digital system generally uses AX25 packet radio techniques, but mostly with a different implementation of the protocol. Some satellites permit digipeating and others just take the form of a flying mailbox. As a rule a different

access technique is required to the flying mailboxes compared with that used for terrestrial BBSs.

Equipment

Amateur satellites are mostly designed for use with average groundstation equipment. A 10W rig is often sufficient, although a bit more power often helps. Because satellites transmit with fairly low power (1-5W is usual) from distances of several thousand miles, the addition of a preamplifier in the receive chain is recommended.

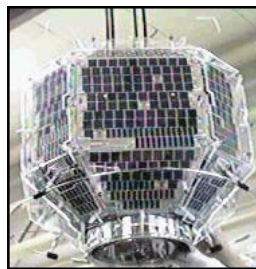
Antennas

The best communication is obtainable from a fully steerable elevation and azimuth rotatable beam, or beams, for each band - if only we could all afford them! Many satellite users enjoy this aspect of the hobby by using part fixed and part rotatable arrays, but hand-held beams perform fairly well and, occasionally, even the small antennas on H/Ts. Note that collinear verticals, while giving good gain towards the horizon, are not recommended for satellites at elevations greater than about 15°.

For instance, to use Mode A satellites (2m up, 10m down), a horizontal dipole for 2m, and another for 10m, running east and west, should enable you to work 80% of each pass. At a later date you can decide what type of gain antenna you wish to use. Advice is always available on this subject from standard textbooks and, of course, from satellite users.

For the low orbiters a very simple set-up as regards antennas can be used. It is, however, preferable to use a higher gain steerable system for best results.

For the Phase-3 satellites it is advisable to have a gain antenna for each band, with steerable elevation as well as azimuth (Oscar 40 uses a 2.4GHz downlink, and many amateurs have found that microwaves aren't as hard as they thought, because they just stand a 1m dish in the back



Oscar 29.



Amsat UK: Jim Heck, G3WGM, "Badgers", Letton Close, Blandford, Dorset DT11 7SS, UK.

Office hours: 0900-1800 daily (answerphone 24hrs). Tel: +44 (0)1258 453959.

Fax: +44 (0)1258 453959. E-mail: g3wgm@amsat.org Web site: www.uk.amsat.org



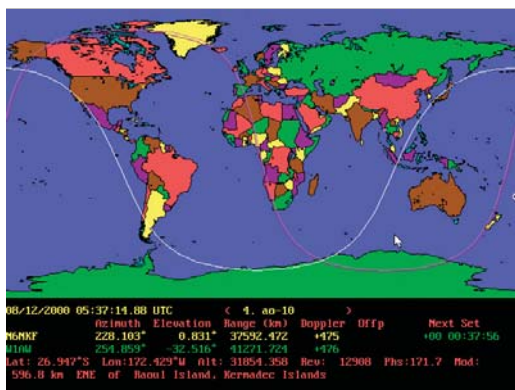
Working the UO-14 satellite.

garden. It is not always necessary to have an elevation rotator, though. Some stations use fixed elevation 70cm and 2m antennas at 15-20° above the horizontal. This combination, on a normal steerable rotatable mast, enables the stations to use their antennas for terrestrial contacts as well as satellites.

Tracking

A major difference between working terrestrial stations and working satellites is that satellites move, so you often can't just point a beam and then forget about it. Accurately tracking satellites demands that directional aerials really must point in right direction at the right time and follow the satellite wherever it is, otherwise you get left behind.

There are methods for tracking satellites without the use of a computer but most amateurs have one and tracking software is cheap. Some is downloadable from the internet too, but the computer won't know where the satellite is without orbital data. This, too, can be obtained from the internet and it can also be found on packet radio (but make sure that the data is fairly new). Orbital data for all satellites are published by various agencies in the form of *Kepler* data that gives a satellite's position, direction, speed, etc related to celestial co-ordinates at a fixed point in space-time; then the computer does the rest.



Screen capture of Instant Track software.

Bandplans

To make the most of onboard power, most satellites are built and are recommended for use with low duty-cycle modes of transmission. This means SSB or CW is the norm with recommended use as follows:

CW:

The lower third of the space-to-earth transmission band (the *downlink*).

Mixed CW/SSB:

The middle third of the band.

SSB:

The higher third of the downlink. There are guard frequencies at each end of most satellite passbands for beacons and command traffic.

FM and Digital satellites use fixed frequencies only.

Code of practice

Ensure that your receiving system is the very best that you can obtain with the resources you have. No other factor will assist more than a really low-noise, high-sensitivity receive system from antenna to audio output.

It really is no good trying to make a satellite contact by running high EIRP with a poor receiver system. Use the best coaxial cable and the shortest possible run you can obtain on both uplink and downlink systems. If you are thinking in terms of 100ft of TV coax purchased at the last rally, forget it!

If you must whistle, send a tone, or hold your Morse key down with your foot for minutes on end, please do it away from someone else's QSO. Better still, don't do it at all! Use a frequency conversion chart. Get near to the frequency, and then slide on to the QSO when invited to do so. This should take you three seconds at most, if you are a good operator. Most satellite users will know you are near the frequency whilst they are in QSO, and will then call you when they have finished. The satellite bands are nothing like 20m during a contest - yet!

Do not use any more power than required to get a clean signal return from the transponder. You should be able, at all times, to monitor the beacons and the aim is never to be above the beacon signal strength. On Oscar 40 the target is to be 10dB *weaker* than the beacon. Signals greater than the recommended levels de-sense the satellite for all the other users.

If you can use full-duplex, please do so. Hearing your own signal whilst transmitting also assists you in getting onto the correct frequency. You can then hear other stations on your frequency and can respond immediately without long CQ calls.

Please make meaningful contacts and act in the spirit of amateur radio, ie in a gentlemanly manner. If in doubt about any aspect of satellite communications, just ask the many users of the satellites to assist. Most users are only too

willing to assist a newcomer. How do you find such a person? Ask on air or call into the Amsat nets. There is a list of 'Elmers' on Amsat UK's web pages.

Amsat-UK

Each spacecraft has to be designed, built, tested, and controlled from telecommand stations. This alone takes a lot of time and money. The era of 'free' launches is coming to a close; a launch currently costs about one hundred million pounds and, even if radio amateurs are only asked to pay a nominal fifty thousand pounds towards this, where will it come from? It seems only fair that those who regularly use satellites should contribute towards the programme. A single national group alone can generally never finance these amounts. Only in the framework of international co-operation can such projects be accomplished.

That is why Amsat-UK and other Amsats were formed. Amsat-UK membership is open to anyone and extra donations are always appreciated (minimum donation is about £15 per year). Amsat-UK has donated thousands of pounds to the various satellite programmes - and that's just cash; other services were also provided.

Oscar News is the publication that keeps UK members in touch concerning achievements, activities and plans. As all work in Amsat-UK is voluntary, be prepared for some delay in correspondence; we too have wives and bosses to support. Membership and other enquiries, with the courtesy of a large envelope and plenty of return postage, should be directed to the Secretary (address below left).

A full range of PC tracking software is available and a full range of books on the subject are also available from RSGB and Amsat-UK.

Information

All communications for AMSAT-UK, including orders for supplies donations etc, should be sent to the address below left. Please include an A5 SASE for AMSAT-UK membership details (but please note that these, and a membership form, are also available on the Amsat-UK web pages).



Amateur radio's latest Knight, Professor Sir Martin Sweeting, KB, G3YJO, Chairman of Amsat-UK.

International Space Station amateur radio pages: ariss.gsfc.nasa.gov
Orbital data: celestrak.com/NORAD/elements/amateur.txt
NASA online tracking: liftoff.msfc.nasa.gov/realtime/Track/Amateur.html
University of Surrey Space Centre: www.ee.surrey.ac.uk/SSC/



Propagation

An explanation of the solar and geophysical information published by the RSGB.

Each week the GB2RS news bulletin includes a brief solar and propagation report and forecast prepared by members of the Society's Propagation Studies Committee. As carried on most GB2RS broadcasts and as posted on the Internet, these reports look back on the week up to the Sunday before transmission, and ahead to the week from the Sunday of transmission. However, where newsreaders have e-mail, they are now able to include a revised version prepared on the Saturday before the broadcast. This incorporates the latest available solar information and an updated forecast. Propagation news is also transmitted via the packet network. Details of this service are given following this explanation of the terms used in the broadcasts.

The usual format for the bulletins is first to review solar activity, geomagnetic activity and ionospheric data during the week. This is followed by the forecast.

The general level of solar activity for a 24-hour period from midnight to midnight is described as:

Very low

Either no solar flares (see below) or only A- or B-class flares.

Low

C-class flares, which have little or no impact on propagation.

Moderate

Between one and four isolated M-class flares.

High

Five or more M-class flares or isolated (1-4) M5 or greater flares, including X-class solar flares.

Very high

Several flares of M5 or greater magnitude, including X-class flares.

A flare is a sudden eruption of energy on the solar disk emitting radiation and particles, which can last anything from a few minutes to some hours. Flares are classified as 'A', 'B', 'C', 'M' or 'X' according to their X-ray energy level. This is measured by satellites in terms of megaelectron volts (MeV) or proton flux. There are four energy thresholds: 2, 10, 50 and 100MeV, and flares are classified by numbers, ie M3, X4 etc. Generally the broadcasts mention only M- or X-class events, as they are the most likely to have an impact on propagation.

However, flares are also classified by their optical importance, which gives a measure of their size and brilliance. Size is indicated by a number between 1 and 4, while brilliance is either 'F' = faint, 'N' = normal, 'B' = bright or 'S' meaning sub (so 'SF' indicates sub-faint). The energy and optical indicators combine to give the complete flare data, eg 'M3/2B'.

Major Flares

Flares above M9/3B and all X-class flares can be very disruptive to the ionosphere. They can lead to severely degraded HF propagation and cause auroral events, usually after a lapse of between 30 and 50 hours, particularly if they are on the Sun's limbs or have just passed the central meridian.

Flare effects may be reported as:

Sudden Ionospheric Disturbance (SID) or Short-Wave Fadeout (SWF)

HF propagation blacked out or degraded for a period which may last from a few minutes to many hours, with the lower bands affected first and most severely, the higher bands affected less and recovering first.

(Sudden) Storm Commencement

Increase or decrease in the northward component of the geomagnetic field, marking the beginning of a geomagnetic storm. The onset may be very sudden (SSC) or more gradual (SC).

Noise Bursts or Noise Storms

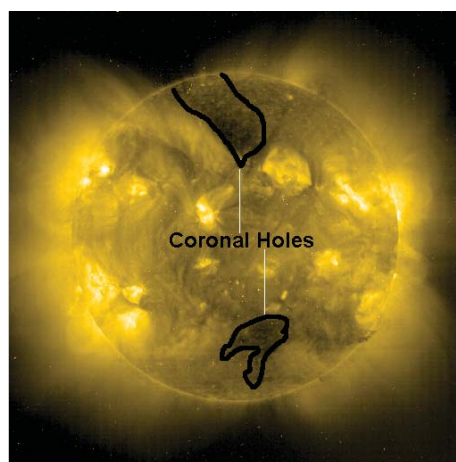
Enhanced emissions from the Sun at radio wavelengths, associated with major flare events or complex solar active regions. They may last only a few minutes or for many hours.

Proton Flares

These may be mentioned if they have an energy level exceeding 10MeV. Proton events cause high absorption in the D region of the ionosphere, particularly affecting transpolar propagation due to polar cap absorption, which can be degraded for days or even weeks following such an event.

Coronal Holes

Coronal holes (see photo below) are holes in the Sun's outer corona through which material is ejected by various means. There are always holes at the Sun's polar regions but tongues sometimes



extend to the equatorial regions, or small holes can form. The passage of these can cause a magnetic disturbance. This is particularly so if the interplanetary magnetic field is southerly, as this couples to the Earth's northward field. What have become known as 'Scottish' type auroras can generally be attributed to the passage of a coronal hole. If known about, coronal holes are always referred to in the text due to their importance. Coronal holes become more geoeffective when at low solar latitudes and are more numerous around the time of solar maximum and during the first few declining years after solar maximum.

Other solar events

Now and again reference is made to solar filaments. They appear as prominences on the solar limbs and as dark snaking strings of material against the limb as viewed in the light of hydrogen alpha. Occasionally the magnetic fields that hold filaments together break apart and fling the filamentary material into space. Filaments can last for several solar rotations before fading or erupting. These events can be sudden and are mostly unpredictable and can cause widespread auroras, ionospheric blackouts, and worldwide disruption to radio communication. Sometimes eruptive prominences are reported, but because prominences are located on the solar limbs they are not so geoeffective and are therefore not so disruptive.

Satellite Data

Increasingly, new forms of data from satellites are supplementing or replacing traditional forms of ground-gathered data in explaining and predicting the 'propagation weather'. Some or all of the following may feature in a bulletin:

X-ray background flux

A more sensitive indicator than solar flux. It is reported on a rising scale of A 1-9, B1-9 and C1-9. GB2RS reports the weekly average and any unusual levels.

>2MeV electron fluence

Referred to as 'high', 'normal' or 'low.' High levels adversely affect the HF bands.

Solar wind speed

The ACE satellite measures the speed of the flux of solar particles and magnetic fields moving outwards from the sun. Normal velocities are around 350-400km/s, though speeds approaching 900km/s have been recorded.

Particle densities

Under 10 per cm³ are 'low'; 10-25 'moderate' and above 25 'high'.

Bz

The orientation of the interplanetary magnetic field



K	0	1	2	3	4	5	6	7	8	9
A	0	3	7	15	27	48	80	140	240	400

Geomagnetic activity look-up table for a typical middle-latitude magnetic observatory.

measured in nanoteslas. A southerly (negative) orientation, coupling with Earth's northern orientation, results in HF disturbances and auroras. A northerly (positive) orientation has little or no effect.

Solar Flux

This is the 2800MHz-radio noise output from the Sun at midday. This frequency is chosen because the radio Sun looks the same size as the visible Sun. The figure given is that obtained at Penticton (BC, Canada), which is the world standard. The level varies from (at the cycle's minimum) about 64 units to a maximum of around 300 units. The higher the level, the more intense is the Sun's ionising radiation and the higher the frequency that can be reflected from the ionosphere. Good HF band conditions require a high solar flux but the magnetic conditions must also be taken into consideration. A 90-day average of flux levels is given, as this has been found to be best for home computer prediction programs.

Geomagnetic Activity

References to geomagnetic activity are made in terms of the worldwide or 'planetary' A index, expressed as 'Ap' units. During magnetic storms, the A-index may reach levels as high as 100. During severe storms, the A-index may exceed 200. Great 'rogue' storms may produce index values in excess of 300, although storms associated with indices this high are very rare indeed. Generally, an Ap index of 0-10 is considered 'quiet', 11-20 is 'unsettled', 21-50 as 'sub-storm', 51-80 'storm', 81 and above 'severe storm' or 'major storm'. High levels of geomagnetic activity - say roughly over 30 - are associated with poor HF conditions, especially on the higher bands. The greater the index over about 50, the greater the likelihood of aurora. The Ap index is linear, unlike the alternative K index, used by WWV among others, which is quasi-logarithmic and open ended. Each observatory uses a look-up table created for that specific location, to convert an amplitude range into an associated K-index value. The table above shows the look-up table for a typical middle-latitude magnetic observatory.

Ionospheric Data

The daily F2 critical frequencies reported in GB2RS are the highest ('daytime highs') and lowest ('darkness hour lows') values of the hourly observations and the average times when these occur.

The critical frequency is the highest frequency reflected back from the ionosphere from a signal sent vertically upwards by an ionosonde. The maximum frequency that can be used for normal communication at equal latitudes is very roughly about three times the critical frequency (so a critical frequency of 7.0MHz indicates that it should be possible to work due east at single hop distance - 3000km - at 21.0MHz). For southerly working the multiplication factor would be higher but over northerly paths it would be lower. However, the actual level attainable also depends on

conditions and the time of day.

During darkness hours, the normally relatively smooth ionospheric layers can break up during magnetically disturbed periods and this is referred to as **Spread F**. The break-up can be vertical or horizontal, or both at once. The resulting holes give rise to deep fading. Northern circuits are more prone to this effect, which is more likely to occur during the early morning. References in the bulletins usually refer to the number of hours when Spread F has been present, or if it was very bad, on any particular day.

Blanketing E means that the E layer is so intensely ionised that the ionosonde cannot see through it. This effect is often associated with summertime sporadic-E or, for northern stations, with auroral conditions.

Absorption

Sometimes, for northern stations, complete absorption of the ionosonde signal occurs. This suggests that the D region is so heavily ionised that it is absorbing all but the strongest radio signals. These events can be associated with proton flares, or high energy 'M' or 'X' flare events, or by electron precipitation from the Earth's radiation belts.

Seasonal Changes

The daily highs tend to be higher in winter and lower in summer. The darkness hour lows vary in the opposite way – high in summer and low in winter. The weekly average variations are balanced against these seasonal changes, and reference is made to any discrepancy when this applies. For the HF bands, the higher the daily 'highs', the better is the chance of DX on the higher HF bands.

The average times of the highest and lowest frequency recorded are given. The high times vary with the season, being around midday during the winter and early evening (about 2000 UTC) in the summer. The low times do not vary much, being usually about 0400 UTC.

Forecasts

Each week the bulletins include a forecast of expected events for the seven days following the Sunday of broadcast. This includes expected levels of solar flux, geomagnetic activity and the passage of any expected coronal holes. Maximum Usable Frequencies (MUFs) during daylight hours at equal latitudes are estimated for southern England. Scotland and Northern England will generally be down on these levels by around 3MHz at equal latitudes due to factors such as geomagnetic activity, which may affect northern areas more. In general, north-south paths will tend to be more readily workable than east west, especially around the equinoxes. Bulletins usually include a forecast for one or more path.

The MUF given in these forecasts indicates the frequency up to which the path should be workable on 50% of days - on good days; therefore, this value should be exceeded. It also indicates a lower and more consistently reliable optimum working frequency. This is the frequency

on which it should be possible to operate on 90% of days. During months when sporadic-E propagation is prevalent - roughly May to August and around Christmas and the New Year - reminders are given of the likelihood of openings on 2, 6 and 10m, and brief reports of major openings may be included.

Solar activity will be mentioned in the form "the quiet side of the Sun" or "the active side of the Sun"; this pertains to solar activity as regards flaring potential. For instance, the forecasts will attempt to predict the best chance of solar activity reaching moderate or high levels, therefore that being the active side of the Sun. This works in reverse for the quiet side.

The table published each month in *RadCom* shows path predictions from the UK to 27 locations around the world (or 28 when a major DXpedition is included). These are short-path F-layer predictions. The numbers indicate the expected reliability of the circuit; with a '1' representing between 1 and 19% of days, '2' between 20 and 29% of days, etc. The colours represent relative signal strength; a dot being no signal, black being a weak signal, blue being a fair signal, and red being a strong signal. The RSGB Propagation Studies Committee provides a more detailed chart on the Internet at: www.g4fkh.demon.co.uk

While every effort is made to ensure the table is as accurate as possible, it should always be remembered that propagation prediction is not an exact science. There will be times, for example during magnetically disturbed periods, when the table may be unduly optimistic. Alternatively, and especially during the peak of the solar cycle, conditions may for a time considerably exceed predicted values.

It should also be noted that these HF predictions take no account of sporadic-E propagation, a mode that often - but somewhat unpredictably - enlivens 28MHz, especially during the summer. Neither do they cater for the 'greyline' long distance openings around dusk or dawn, as these have too short a duration to appear in the two-hourly steps used in the tables.

A fuller explanation of the F-layer propagation predictions and, in particular, how corrections to them can be made for northern stations can be found in the March 1994 *RadCom*.

The Society's Propagation Studies Committee is now running a daily service on the packet system. The message is the joint USAF/NOAA solar and geophysical activity summary compiled by SESC Boulder. It consists of the previous day's solar data and gives details of:

- (a) List of energetic events
- (b) Proton events
- (c) Geomagnetic activity summary
- (d) Stratwarm
- (e) Daily indices
- (f) Comments
- (g) The aa indices

This is put into the packet bulletin boards as soon as possible each morning by GOCAS. To locate this service, list under the 'TO' field under 'SUN' or under the 'SUBJECT' field 'solar indices', or under the 'CALLSIGN' 'GOCAS'. This is repeated to all other BBs.

Fuller explanations of solar and propagation terms, introductions to radio propagation and near-real-time data can be found on the Internet.

Explanations and near real-time data: www.keele.ac.uk/depts/por/psc.htm

Packet solar bulletin enquiries:

Neil Clarke, GOCAS. Packet: GOCAS@GB7DON or e-mail: neil@g0cas.demon.co.uk or QTHR.



Worked All Britain

The Worked All Britain Awards Group promotes a series of awards based upon the geography of the United Kingdom. You may hear people asking for your WAB area on HF or VHF, because many overseas stations as well as UK stations collect WAB areas.

The organisation was founded in 1969 by the late John Morris, G3ABG, in order to increase interest in amateur radio and the geography of Great Britain, Northern Ireland and the Channel Islands. He also hoped to make British stations more sought after on the DX bands. Since its foundation WAB has grown through the voluntary efforts of many individuals.

How do I find my WAB area?

Most WAB awards are based upon WAB Areas, the WAB areas being based upon map references used on Ordnance Survey maps. This map reference system is called the 'National Grid Reference' (NGR) in Great Britain and the Isle of Man, the 'Irish Grid Reference' in Northern Ireland and the 'Universal Transverse Mercator Grid' in the Channel Isles.

This map reference system divides the country into 100km x 100km squares. These are called 'Large Squares'. In Great Britain, the Isle of Man and the Channel Isles these are given a two-letter reference (eg NN, SC, TQ, WV). In Northern Ireland they are given a single letter reference (C, D, G, H, J).

These large squares are then divided into 10km x 10km squares. These are given a two-digit reference. The first digit gives the position on a horizontal scale and is read from the top or bottom of the map. The second digit gives the position on a vertical scale and is read from either side of the map (eg NN72, SC47, TQ00, WV47, J37 etc.). Finally, the name of the county

or unitary authority is added to this reference to give the WAB area (eg NN72 Perth & Kinross UA, SC47 Isle of Man, TQ00 West Sussex, WV47 Sark, J37 Castlereagh UA). There are over 4,000 of these WAB areas. You can easily find out the county or unitary authority by asking your contact who they pay their Council Tax to.

If you are able to work out your six figure grid reference on an Ordnance Survey Landranger 1:50,000 map (dated after the 1996 local government reorganisation) you can easily work out your area. You can find out which large square you are in by checking the large blue letters in the four corners of the map. If they are



Derek Green, G7DKX, operating GB4WAB from a tent at the Elvaston Castle Rally.

all the same, then this is your large square. If they are different, and there is a vertical line marked '00' along the top edge, and a horizontal line marked '00' along the left edge, move to the junction of these two lines, and whichever 'quarter' of the map you are in with reference to this point is your large square. If there is only either a vertical or a horizontal line marked '00', then whichever 'half' you are in with reference to this line is your large square. Put these letters in front of your grid reference, for example SP 870007, which will produce the WAB area by using the first and fourth numbers to produce SP80 and then add the county or unitary authority from inspecting the map to produce 'SP80 Bucks' as the area. Such maps are readily available from bookshops or may often be consulted at your local library.

How do I join?

Life membership is by the purchase of a *WAB Book*. There is no annual subscription. The *WAB Book* provides full details of all the awards and a complete list of all the WAB areas by country, and spaces to write in the callsign of the station worked/heard and the date of the contact. You can obtain the book for £10 by post from the Membership Secretary or for £7.50 if bought from a WAB rally stall. These are the prices in September 2002, so it might be advisable to check before sending money.

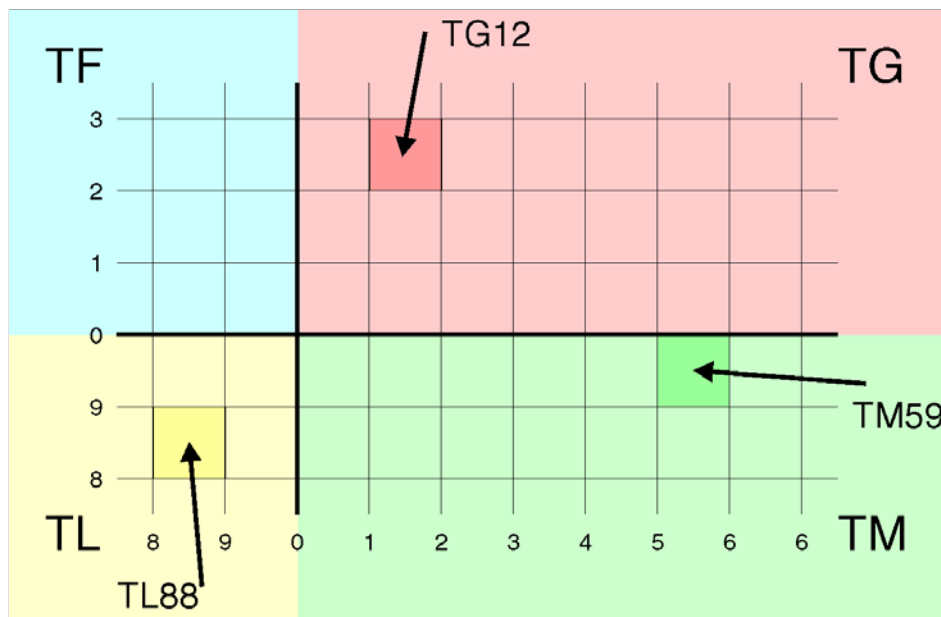
What next?

Now that you know your WAB area you can start collecting on the air. You can look for activity on or around the following frequencies: (all in kHz) 1930-1950, 3760, 7060, 14265, 21320, 28655kHz and on VHF 144.380 and 144.370MHz. Please remember that these frequencies may be occupied by other QSO's and if this is the case be prepared to move up or down the band a little before calling. If no activity is heard, try calling yourself - you may be surprised at the response!

With over 4,700 areas in the country, many of them are unpopulated or have no resident amateur, so WAB is very grateful to the many mobile stations who activate areas for the benefit of collectors. WAB has done much to encourage mobile activity on the HF bands and has increased mobile SSB activity on the VHF bands.

It all sounds very complicated

Not really. For a start you do not need QSL cards for any WAB award. You may collect on any band and mode or combination of bands and modes. The only condition is that no repeater of any sort should be used to make the contact. You can work the award at your own



Examples of 10km x 10km WAB squares. If you look at a map of East Anglia you will find Thetford in TL88, Aylsham in TG12 and Lowestoft in TM59.



Membership Secretary: Kate Wragg, G0FEZ, 11A Fall Road, Heanor, Derby DE75 7PQ.

pace - some people spend lots of time on nets chasing new areas, while others collect from time to time or enjoy activating a few areas while on holiday or at weekends. It is entirely up to you. There is always a challenge with areas that have never been activated or not activated for a long time, or new achievements to set on different bands and modes. WAB is a co-operative activity, so whilst it is possible to do things quickly you will find plenty of people to help you. WAB contests are often said to be the friendliest and even serious competitors have been known to take time out to explain WAB areas to newcomers!

I'll never qualify for an award

Yes you will - to get the basic entry level 'Beyond 2000' Certificate you need to work 500 areas on the HF bands or 250 areas on the VHF bands if you live in the British Isles, and 335 or 165 areas if you live elsewhere in Europe. It is possible to do this quite quickly with the aid of mobile runs, nets and contests. Some members have worked over 4000 areas on HF and over 2000 on VHF.

There are lots more awards for working areas in England, Northern Ireland, Scotland, Wales, the Channel Islands and the Isle of Man. If you are not content with that, there are awards for working Islands, Book-Holders, Overseas Book-Holders and so on, but the heart of the award is the areas award.

If it all seems too difficult there is always the WAB-IT computer program to automate your claims!

The WAB Expedition and Mobile Award (WABEMA) should also be mentioned, and this is intended to encourage expeditions and mobile activity. The award is issued for activating areas, starting with a Basic certificate for 100 areas activated. In recognition of the help given to WAB, there is no charge for WABEMA awards.

The certificates are attractive and printed on demand - they look good on the shack wall.

"To assist others"

This is the WAB motto and we always try to be helpful and encourage a high standard of operating on the air. Where possible, WAB aims to provide help to less fortunate radio amateurs and to other organisations. Our Silver Jubilee was celebrated by an appeal for the RNLI, which raised £12,500 to purchase a D Class inshore lifeboat named after G3ABG. An earlier appeal provided two Guide Dogs, one for a blind ama-



Lifeboat 'The John Morris', bought by WAB members and presented to the RNLI in 1995.

teur and the other for an SWL. Other smaller donations have been given to RAIBC and QT1.

All-in-all you can have a lot of fun with WAB. Join in a net or write for details - we're a friendly bunch! We must be doing something right, as we have issued 15000 WAB books since 1969 and we seem to be a persistent lot. Dave, G3PQF, (Book number 10) is still heard on the nets from time to time, and Brian ('Mr WAB'), G4KSQ, has just retired after being the Membership Secretary since 1980. Perhaps now he will have time to put in for a few awards himself!

How WAB is run

WAB is run by an elected committee of volunteers. It has no allegiance to any social, political or religious organisation and is fully independent of any other amateur radio group although it is an affiliated member of the RSGB. WAB aims to create more activity on the air from British amateurs and in doing so it has created many friendships within the UK and overseas. The awards are available to all amateurs and also to short wave listeners on a heard basis as Heard All Britain (HAB) awards.

Where can I find out more?

Contact the Membership Secretary or look on the web site.



The Regions Award is one of many colourful awards that WAB enthusiasts can work for.



Above: WAB enthusiasts find themselves operating from some hard-to-reach places. Right: Sunset over a WAB operation in Derbyshire.



Islands On The Air

Among programmes that stimulate daily activity on the HF bands two stand out head and shoulders above the others – DXCC for working countries, or ‘entities’ to use current terminology, and IOTA for contacting island groups. The programmes are similar in character – both are international in coverage, both have a strong rule structure and neither is open-ended. Moreover, in practical terms they complement and strengthen each other because activity to promote one often provides valid contacts for the other.

IOTA, or the Islands On The Air Programme to give it its full title, was created in 1964 by the late Geoff Watts, a leading British short wave listener and the only SWL in the DX Hall of Fame. When the programme was taken over, at Geoff’s request, by the RSGB in 1985 it was already a favourite for many DXers. Its popularity has since grown each year, not only among ever-increasing numbers of island chasers but also among a rapidly expanding band of amateurs attracted by the possibilities for operating portable from islands. For both it is a fun pastime adding much enjoyment to on the air activity.

The basic building block for IOTA is the IOTA Group. The oceans’ islands have been corralled into some 1200 IOTA Groups with, for reasons of geography, varying numbers of ‘counters’, i.e. qualifying islands, in each. Only in very few cases do the rules of IOTA allow single islands to count separately, DXCC island entities such as Barbados being one. The number of groups is now capped and further changes are expected to be minimal.

Each group activated has been issued with an IOTA reference number, for example EU-005 for Great Britain. Part of the fun of IOTA is that it is an evolving programme with new groups being activated for the first time. Currently some 1020 of the 1200 groups have numbers.

The objective, for the island chaser, is to make radio contact with at least one counter in as many of these groups as possible and, for the DXpeditioner, to provide such island contacts. A wide range of separate certificates, graded in difficulty, is currently available for island chasers as well as two prestigious awards for high achievement (see the table opposite). Applicants may be any licensed radio amateur (or SWL on a ‘heard’ basis) who has had confirmed contacts with the required number of IOTA Groups listed.

IOTA Directory

The *IOTA Directory – 11th Edition* gives a full listing of IOTA Groups together with the names of 15,000 qualifying islands. If you wish to apply for an award, you will need, under IOTA rules, to be in possession of your own numbered copy of the *IOTA Directory*. Even if you have no intention of applying but have a serious interest in following the Programme, you would be well advised to get a copy since the full island listing, as revised in year 2000, is not available elsewhere. You can order the *IOTA Directory – 11th Edition* on-line



on the Society web-site at www.rsgb.org/shop or, alternatively, you can phone the sales desk on 0870 904 7373. In North America copies can be obtained from the Island Radio Expedition Foundation, Inc. (check its web-site at www.sat.net/~iref), or from ARRL.

Applying for an Award

Award applicants may submit their applications electronically – for this, the preferred method, you need to obtain an IOTA Members Application Disk (IOTAMEM) from your checkpoint – or on paper. Full details of the application process and a list of checkpoints can be found in the directory or on the IOTA web-site at www.rsgbiota.org. When you have prepared your application, you should send it with your cards and the appropriate checking fee to your checkpoint.

Island-chasing

1000 or more IOTA Groups may seem an enormous target. If you are a long time DXer who has worked it all and are looking for something new, you will already have amassed a very respectable IOTA score from among your DXCC contacts. If, however, you are new to the bands or one of the many amateurs who adopt a more relaxed approach to their operating, you can take full advantage of a very high level of IOTA activity, comprising easy and semi-rare groups, to launch you on your way. Well over 700 IOTA groups are usually activated over a three year period with, during a typical summer weekend, some 20/25 IOTA Groups being heard around the IOTA meeting frequencies. An enthusiast should be able to gain the IOTA Plaque of Excellence for working 750 Groups in about five years, operating mainly at weekends. This must be a reasonable target to go for – after all, how long does it take to get to the top of the DXCC Honour Roll?

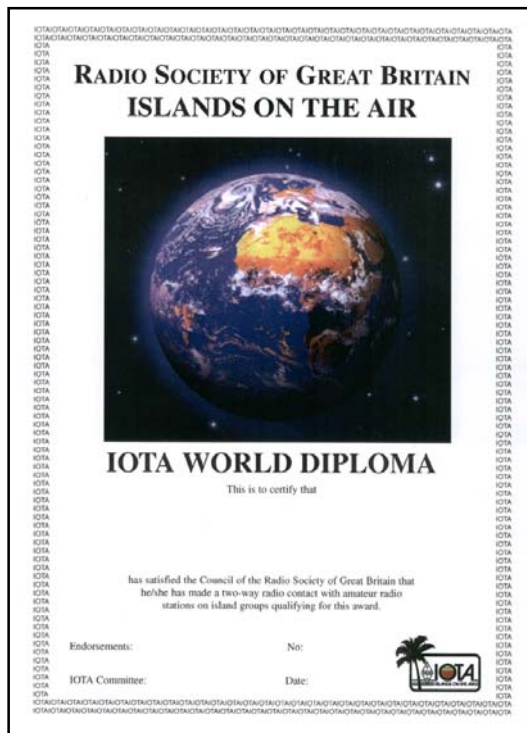
IOTA is one of the few award programmes that has an annual Honour Roll and other performance listings. These create a great deal of interest when they are published each summer. Many IOTA enthusiasts are more interested in participating in these listings than in collecting the certificates. All you need to enable you to participate is the basic IOTA 100 certificate.

Operating from an island

Many amateurs are fortunate enough to live on an island and to be able to give out an IOTA every time they make a contact. Others are not so lucky. For both there is the lure of operating portable from a rare or rarer Group – the fun of being at the other end of a pile-up for a few days. Many islands lie within a few hours’ reach and, subject to the availability of suitable equipment, could be put on the air relatively easily. Those amateurs lucky enough to be able to activate a rare or semi-rare IOTA Group can expect to generate huge pile-ups with thousands of contacts during even a short 2/3 day period. Rare groups are not all remote and difficult to access. Even in Europe and North America there are many that are needed by the chasers. For those interested, a list of most wanted IOTA Groups in each continent, ranked by rarity, can be reviewed on the IOTA web site.

Categories of application

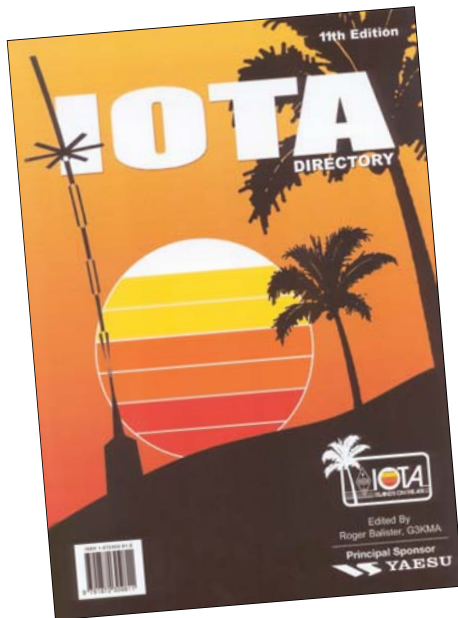
IOTA began as an award for single operators working on the HF bands (1.8 to 30MHz). However, in response to demand, the IOTA Committee recently introduced two new categories specifically for club stations and for working on VHF/UHF (50MHz and above).



One of the many IOTA certificates.



**Address: RSGB IOTA Programme, PO Box 9, Potters Bar, Herts EN6 3RH.
E-mail: IOTA.HQ@rsgb.org.uk**



The latest edition of the IOTA Directory, available from the RSGB.

IOTA Awards

Award	All Band Version	VHF (Above 30MHz) Version
IOTA 100 Islands of the World Cert.	100 Confirmed IOTA Groups including 1 from all 7 continents	100 Confirmed IOTA Groups including 5 continents
IOTA 200 Islands of the World Cert.	200 Confirmed IOTA Groups including 1 from all 7 continents	200 Confirmed IOTA Groups including 5 continents
IOTA 300 Islands of the World Cert.	300 Confirmed IOTA Groups including 1 from all 7 continents	
IOTA 400 Islands of the World Cert.	400 Confirmed IOTA Groups including 1 from all 7 continents	
IOTA 500 Islands of the World Cert.	500 Confirmed IOTA Groups including 1 from all 7 continents	
IOTA 600 Islands of the World Cert.	600 Confirmed IOTA Groups including 1 from all 7 continents	
IOTA 700 Islands of the World Cert.	700 Confirmed IOTA Groups including 1 from all 7 continents	
IOTA Plaque of Excellence (with shields for each additional 25 IOTA Groups)	750 Confirmed IOTA Groups including 1 from all 7 continents	300 Confirmed IOTA Groups including 5 continents
IOTA 1000 Islands Trophy (with shields for each additional 25 IOTA Groups)	1000 Confirmed IOTA Groups including 1 from all 7 continents	
IOTA Africa Cert.	75% of African IOTA Groups or 75 African IOTA Groups, whichever is the lesser number at the time of application	50% of African IOTA Groups or 50 African IOTA Groups, whichever is the lesser number at the time of application
IOTA Antarctica Cert.	75% of Antarctic IOTA Groups	50% of Antarctic IOTA Groups
IOTA Asia Cert.	75 Asian IOTA Groups	50 Asian IOTA Groups
IOTA Europe Cert.	75 European IOTA Groups	50 European IOTA Groups
IOTA North America Cert.	75 North American IOTA Groups	50 North American IOTA Groups
IOTA Oceania Cert.	75 Oceanian IOTA Groups	50 Oceanian IOTA Groups
IOTA South America Cert.	75% of South American IOTA Groups or 75 South American Groups, whichever is the lesser number at the time of application	50% of South American IOTA Groups or 50 South American Groups, whichever is the lesser number at the time of application
IOTA World Diploma	50% of the IOTA Groups in all 7 continents or 50 IOTA Groups for the continents where there are more than 100 IOTA Groups	
IOTA Arctic Islands Cert.	75% of the Arctic Island Groups	50% of the Arctic Island Groups
IOTA British Isles Cert.	75% of the British Isles Groups	50% of the British Isles Groups
IOTA West Indies Cert.	75% of the West Indies Groups	50% of the West Indies Groups

IOTA meeting frequencies

Nobody and no group in amateur radio is entitled to reserved frequencies, but the IOTA community has adopted a number of 'meeting frequencies' which island stations are encouraged to use when they are free – and to operate close to, without causing interference, if they are occupied. The frequencies are 3755, 7055, 14260, 18128, 21260, 24950, 28460 and 28560kHz on SSB and 3530, 10115, 14040, 18098, 21040, 24920 and 28040kHz on CW. No specific frequency has been nominated for 7MHz CW, but it is recommended that operations should include a frequency above 7025kHz when the band is open to North America.

IOTA contest

The IOTA Contest, first held in July 1993, has become enormously popular and now regularly attracts more than 1000 entries. It provides an opportunity annually, at the end of July, to work large numbers of rare and semi-rare IOTA Groups. Contest rules and results are available from the RSGB HF Contest Committee web site.

Sponsorship by Yaesu

Since October 1994 Yaesu has been the principal sponsor of the IOTA Programme. Under the agreement signed with the RSGB IOTA Committee, Yaesu injects funds into the IOTA Programme which the committee uses to finance running costs and to help provide additional support to island expeditions. Yaesu has also made available a transceiver for island expedition use. This innovative agreement provides a strong financial base for the IOTA Programme.

As the programme grows, the availability of finance is important because of the need, for example, to build highly reliable computer systems to process the ever-increasing number of award applications and to develop associated software for HQ and users.

Loan of Portable Equipment

The IOTA Committee has a number of portable stations that comprise a small Yaesu transceiver, lightweight switched mode power supply, microphone, keyer, and wire antenna – all boxed in a small splash-proof case. These stations can, subject to availability, be loaned to anyone wishing to activate an island. There are a few very

straightforward conditions on their use, such as returning the rig promptly in good condition, providing insurance cover and replying to bureau cards. Both the IOTA Committee and Yaesu are keen to introduce younger amateurs to DXpeditioning, so younger teams, particularly those from radio clubs, will get priority. Anyone wishing to borrow a portable station should contact Neville Cheadle, G3NUG.



Manchester Scouts RAYNET



Manchester Scouts RAYNET is rather an unusual RAYNET Group, but its existence is an example of the flexibility of the RAYNET organisation. The group was formed originally to help ensure the safety of overnight Scout hikes for the East Manchester Scout County, hence the name Manchester Scouts RAYNET. Members were recruited in various ways. Some Scouts and Scout Leaders with mountaineering skills joined the group and went on to develop their amateur radio skills. Conversely, established radio amateurs joined and used the group as a way to use their radio skills and develop their outdoor experience. The specialist skills of the group were quickly recognised and the group's main activities for the past 10 years or so have been in the Lake District mountains, particularly around the Langdales.

Membership

The group currently has 23 members, with about half being located outside Greater Manchester. The group is part of the Greater Manchester RAYNET County and assists with events in the Manchester area when required. Some of the group members are based in Cheshire and these members also assist the Cheshire RAYNET Groups on their events. Both counties are aware of the skills available within the group.

In the early days of the group the routes of hikes, mainly in the West Pennine area, were planned to take into account the radio paths. This ensured that all checkpoints could communicate with a control station and that there was adequate safety cover across the area. When a difficult radio path was encountered a station was deployed on the top of a local hill to manually relay the messages. This was the job that nobody wanted to do, which is not surprising when you realise it often meant sitting on top of a wet and rainy hilltop, with only sheep for company. Today's scenario is quite different, with event organisers expecting full communication to opposite sides of hills and into deep valleys.

RAYNET have responded to this requirement by using various techniques, including VHF & UHF talkthrough (repeater) stations. In some events the terrain is so demanding that up to three linked talkthrough stations are required to enable the control station to communicate with all the checkpoints and safety teams. Sometimes these complex networks require the radio paths to be checked in the weeks before the actual event, to ensure that everything works efficiently

on the day.

HF communications using NVIS (Near-Vertical Incidence Skywave) can also be used. In one recent event the main control was located in the Langdale valley in the Lake District, which is the ultimate radio 'black hole', with an outstation located in the next valley with 300 metres of rock in between. HF NVIS techniques were used to maintain communication and ensure a safe event.

Typical event

A typical event consists of a main control station and six checkpoints, with perhaps six of these checkpoints being located in the mountains at over 500 metres above sea level.

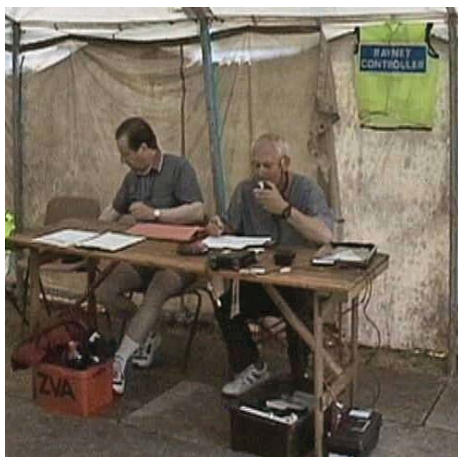
Nearly all of the group have some level of walking, climbing and survival skills, and are able to operate in all weathers in inhospitable country. Some of the members are able to staff the search and rescue teams for the events, which include assisting with six fell races in 2002. In addition to the talkthrough and NVIS techniques mentioned previously, the group has experimented with mobile data networks using AX25 protocols and custom software written by group members. GPS trackers in backpacks have been used to monitor the progress of

search/sweep teams on a computer screen at the main control station. The training provided by operating during fell races is outstanding. Most of the group are able to operate portable battery powered stations that can survive all weather conditions.

The group has a generator, a pneumatic mast and radio equipment, all of which can be deployed very quickly in a real emergency. Although highly useful, specialist outdoor skills are not a requirement to join the group and people with lower levels of fitness are very welcome and are useful on all events.

There have been additional spin-offs from the team members who are used to working together to achieve communications. Team members have supported the establishment and operating of a major Jamboree-on-the-Air (JOTA) and Jamboree-on-the-Internet (JOTI) event for a number of years. In October 2002 the group will be major players in organising a Technology Camp, which will attract a large number of Scouts from Manchester and Cheshire. The group has supported running of a Novice (now Intermediate) Licence course and will be supporting a Foundation Licence course in the near future. These courses have resulted in a number of new radio amateurs, some of whom have also become active RAYNET members.

Perhaps radio amateurs who enjoy the outdoor life and feel they would like to provide a useful public service whilst doing so might like to get in touch with their local RAYNET Group - we'd be happy to offer them advice. Alternatively, if you live in our area you may like to join in our activities. In either case please contact our group controller or visit the Manchester Scouts RAYNET web site.



Left:
RAYNET control
during the Fell
Race.

Below:
Talkthrough site
on the summit of
Helvellyn.



Group controller: Keith Hampson, G3WFW, QTHR. E-mail: keith.hampson@btinternet.com
Web site: www.msraynet.org.uk

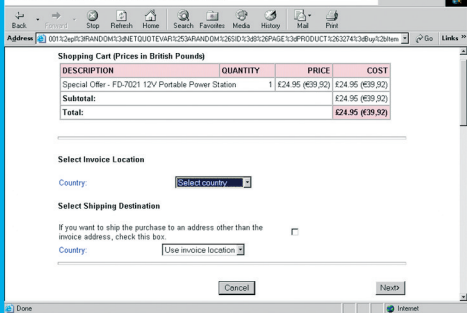
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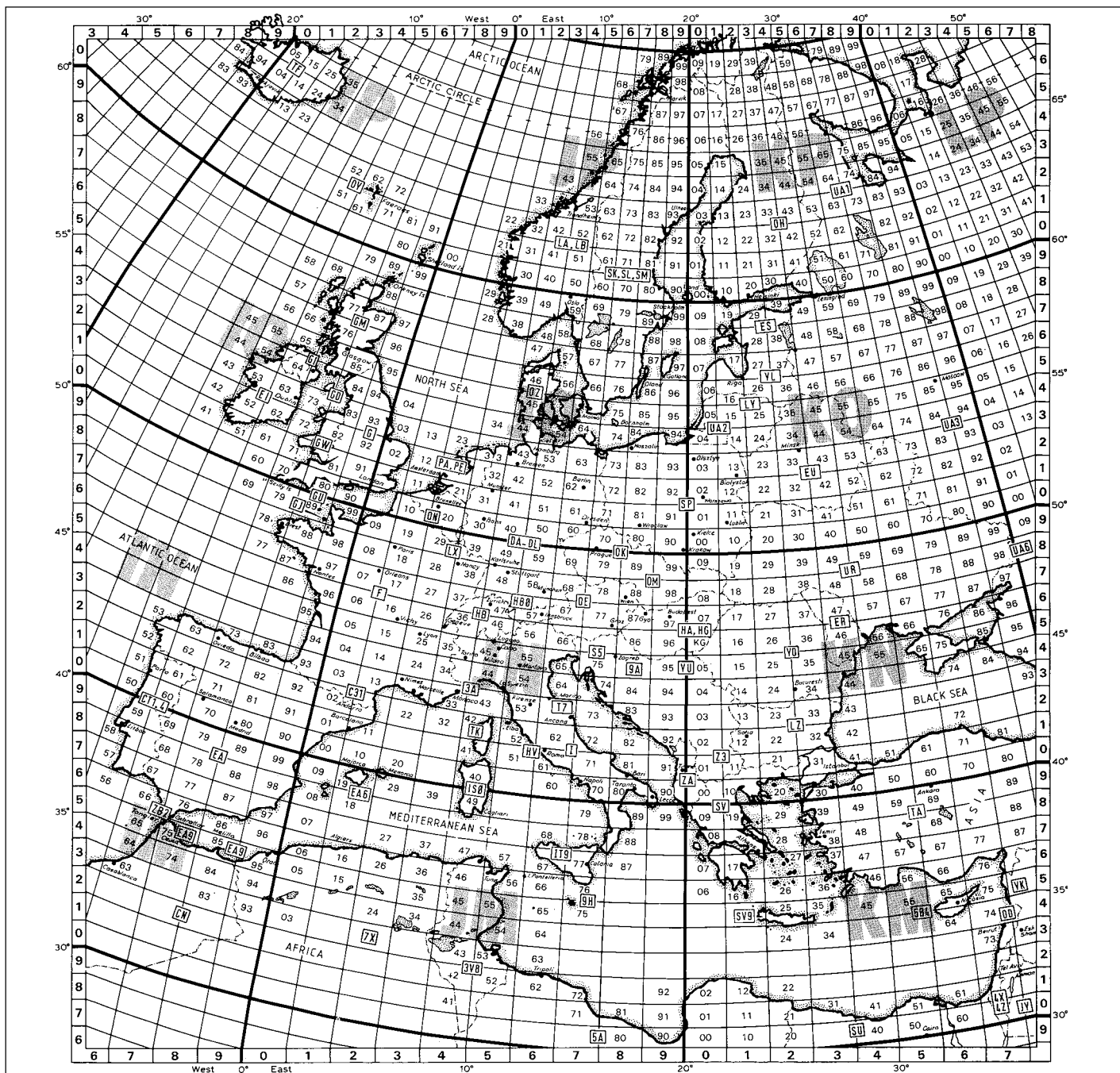
MAIN: 22 MAIN RD, HOCKLEY, ESSEX, SS5 4QS. TEL: 01702 206835
MIDLANDS: BENTLEY BRIDGE, CHESTERFIELD RD, MATLOCK, DERBYSHIRE, DE4 5LE. 01629 582380
SCOTLAND: 20 WOODSIDE WAY, GLENROTHES, FIFE, KY7 5DF. 01592 756962

Locators

The IARU Locator System, usually just called 'Locator', provides a means of pinpointing stations throughout the world. It is most often used by operators above 30MHz, as a means of calculating the distance between two stations. It is also used on the 136kHz band for the same reason. For use by operators on the upper microwave bands, it can have eight digits, though only the first six are dealt with here. The system is based upon latitude and longitude.

As the map and diagrams show, there are three sizes of 'rectangle'. The largest, known as a 'field', is 20° of longitude (east-west) by 10° latitude (north-south), and is designated by two letters. Most of Britain is in IO field. The next rectangle, known as a 'square' (though it is actually neither truly square nor rectangular!) is 2° of longitude by 1° of latitude. One hundred squares make up one field and, as the map shows, these are given numbers 00 in the south-west corner to 99 in the north-east. Dublin is in IO63. Finally, each square is divided into 100 'sub-squares', 5 minutes of longitude by 2.5 minutes of latitude, and given letters from AA to XX.

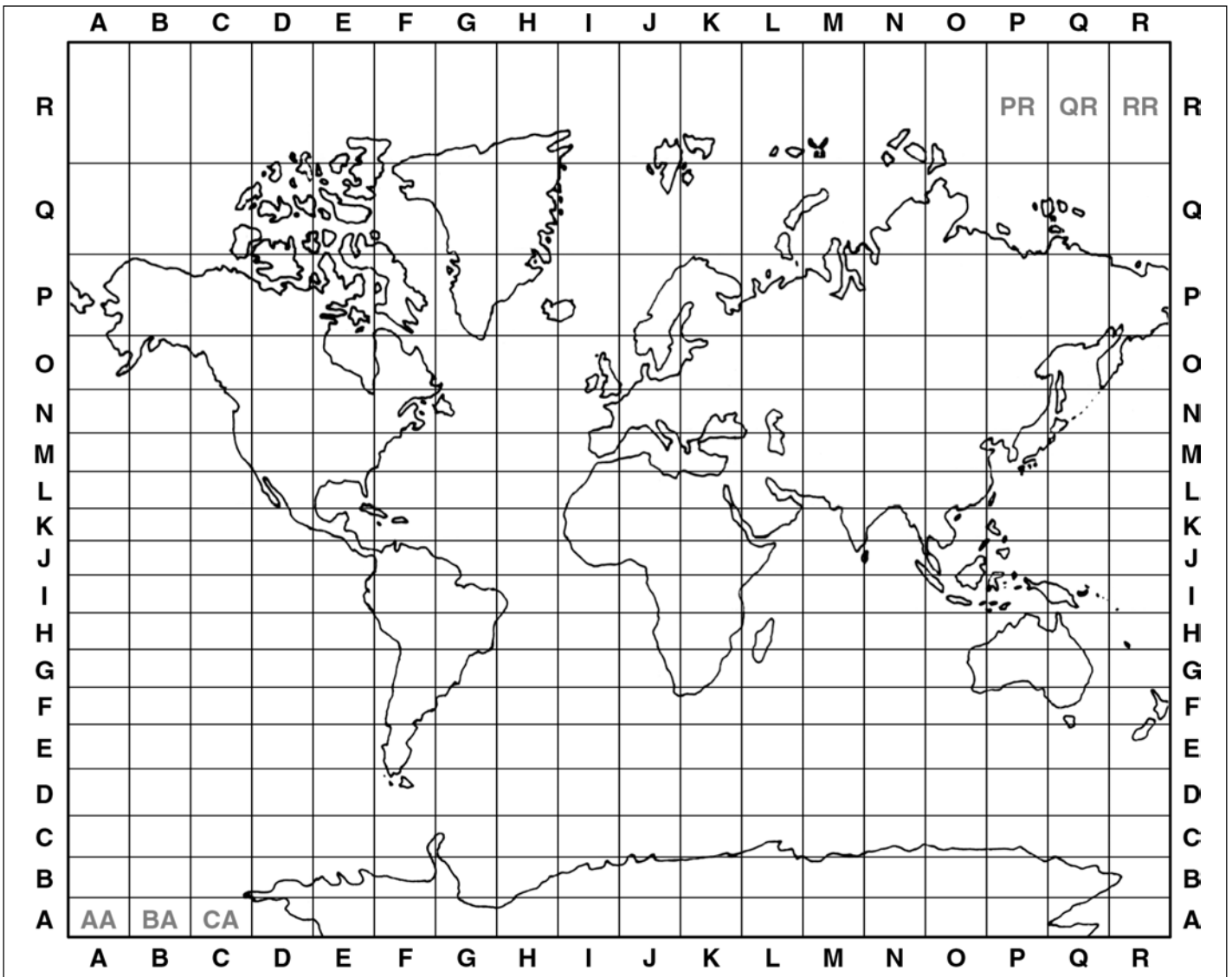
To find out your locator, first use a map of your area to determine your latitude and longitude, then use the locator map on this page and the squares diagram opposite to pinpoint your locator. Computer programs are available as freeware to do this more easily for those who operate from many different locations.



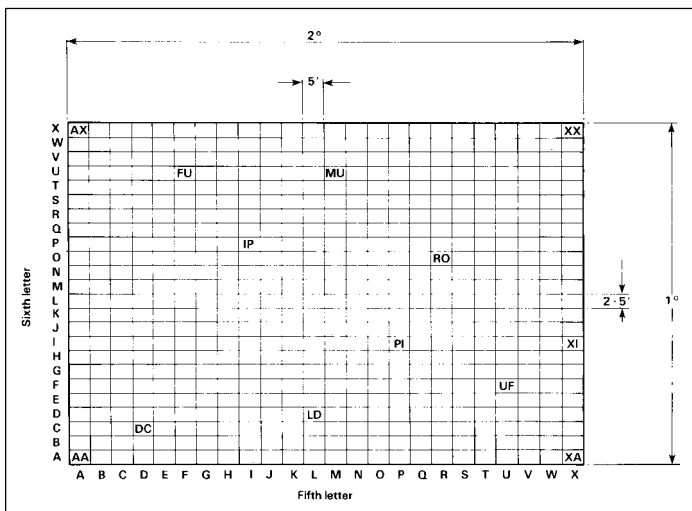
On-line Lat+Long to/from Locator calculators: www.vwlowen.demon.co.uk/java/combo.htm

and www.amsat.org/cgi-bin/gridconv

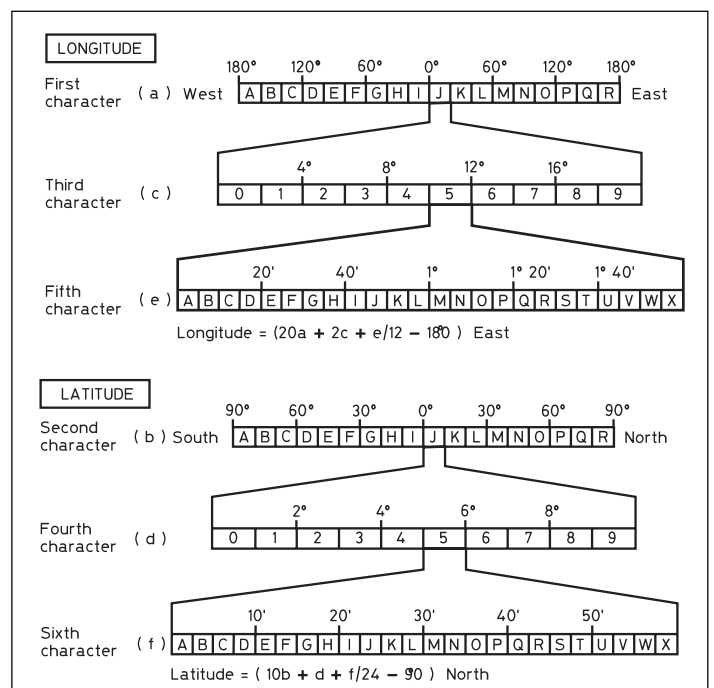
On-line NGR to Locator calculator: www.ntay.com/contest/NGR2Loc.html



The IARU Locator system may be used throughout the world without repeats. The map above shows the fields that make up the first two letters of the Locator. Examples are shown at two of the corners. The map left shows numbering of squares within the fields.



A square (the numbered part of the Locator) is divided into 576 sub-squares, designated AA to XX.



The final two sub squares may be calculated thus.

VHF Awards

General Rules

1. Awards are available to licensed amateurs and listeners (on a heard basis). All claims must be fully supported by QSL cards. For the various squares awards, these cards must also bear the IARU (Maidenhead) locator details. A card without an IARU locator originally printed on it is acceptable provided that it bears some adequate form of positional information (for example old QTH locator or latitude and longitude), in which case the IARU locator square designation should be clearly added to the card by the award claimant.
2. For all awards with a fixed station category, the applicant must state that all the contacts were made from the same location. In the case of an amateur moving home location he/she may apply for the award using QSL cards gained from more than one location, but the award will be endorsed as 'gained from more than one location'.
3. Endorsements such as all CW, all SSB, all aural contacts, or all contacts made during the first year of being licensed may be made on application. The appropriate information must be contained on the QSL cards and a declaration signed when applying for endorsements.
4. The charges for awards are: RSGB members £3, US\$6 or 12 IRCs. UK residents who are not RSGB members £6, US\$12 or 24 IRCs. Overseas applicants who are members of their national society £6, US\$12 or 24 IRCs. Other overseas applicants £9, US\$18 or 36 IRCs. Where applicable proof of membership of their national (IARU approved) society is required, eg recent *RadCom* label or photocopy of membership card. There is no charge for stickers to update levels of achievement, however, if a new certificate is requested, the charges above will apply.
5. All claims must be submitted to the RSGB VHF/UHF Awards Manager, Tony Jarvis, G6TTL, Dovecote Farm, Patman's Lane, Friskney, Boston, Lincs PE22 7EJ. Application forms may be obtained from this address by sending an SASE (A4 or A5 size preferred).
6. For the safe return of the QSL cards, adequate postage and a self addressed envelope must be sent with the application. If Recorded Delivery is required within the UK, then adequate postage must be included and a completed Recorded Delivery sticker enclosed for attachment.

RSGB 50MHz Countries Award

The initial qualification for this certificate is proof of completed two-way QSOs on 50MHz with 10 countries. Stickers will be provided for increments of every ten countries worked. Only contacts with countries permitting 50MHz operation can be considered.

Rules

1. All contacts must have been on or after 1 June 1987.
2. QSL cards submitted must be arranged in alphabetical order of the countries claimed, and a checklist enclosed.
3. Stations are eligible for awards in the following categories:
 - (a) Fixed stations

- (b) Temporary location or portable (/P). Categories cannot be mixed.

RSGB 50MHz DX Certificate

This certificate takes into account the considerable potential for cross-band working when transmitting in the 50 MHz band. There is therefore no stipulation on the band used for the incoming signal. The initial qualification is confirmation from 25 different countries of a successful QSO with transmission from the applicant's country taking place within the 50MHz band. Stickers will be provided for increments of 25 countries confirmed.

Rules

1. All contacts must have been on or after 1 June 1987.
2. QSL cards submitted must be arranged in alphabetical order of the countries claimed, and a checklist enclosed.
3. Stations are eligible for awards in the following categories:
 - (a) Fixed stations.
 - (b) Temporary location or portable (/P). Categories cannot be mixed.

RSGB 50MHz Squares Award

The 50MHz Squares Award is intended to mark successful VHF achievement. The initial qualification needed for this certificate is proof that 25 different locator squares have been worked with complete two-way QSOs within the 50MHz band. Squares in any country will qualify provided that operation from that country is formally authorised. Additional stickers will be provided when proof is submitted for increments of 25 squares.

Rules

1. All contacts must have been on or after 1 June 1987.
2. QSL cards submitted must be arranged in alphabetical order of the QTH squares claimed, and a checklist enclosed.
3. Stations are eligible for awards in the following categories:
 - (a) Fixed stations
 - (b) Temporary location or portable (/P). Categories cannot be mixed.

4-2-70 Squares Award

Awards intended to mark successful VHF/UHF achievement. Initially, a certificate and one sticker will be issued. Further stickers will be issued as additional locator squares are claimed. The title of each award gives the number of locator squares and countries needed to qualify for the award. For example, to obtain the 144MHz 40/10 award you must have QSL cards confirming contact with 40 locator squares including 10 countries on 144MHz. The following awards are available:

4m band

70MHz 20/4	70MHz 25/6
70MHz 30/8	70MHz 35/8
70MHz 40/8	70MHz 45/8
70MHz 50/8	

2m band

144MHz 40/10
144MHz 60/15
144MHz 80/18
144MHz 100/20
144MHz 125/20
144MHz 150/20
144MHz 175/20
144MHz 200/30
144MHz 225/30
144MHz 250/35
144MHz 275/35
144MHz 300/40
144MHz 325/40
144MHz 350/45
144MHz 375/45
144MHz 400/50
144MHz 425/50
144MHz 450/50

70cm band

432MHz 30/6
432MHz 40/10
432MHz 50/13
432MHz 60/15
432MHz 70/15
432MHz 80/15
432MHz 90/15
432MHz 100/15
432MHz 110/15
432MHz 120/18
432MHz 130/18
432MHz 140/20
432MHz 150/20
432MHz 160/20
432MHz 170/23
432MHz 180/25

Rules

1. All contacts must have been after 31 December 1978.
2. Eligible countries are those shown in the countries list printed elsewhere in this Yearbook.
3. Stations are eligible for awards in the following categories:
 - (a) Fixed stations
 - (b) Portable stations, any location
 - (c) Mobile stations, any location.
 Categories cannot be mixed.
4. QSL cards submitted must be arranged in alphabetical order of the QTH squares claimed, and a checklist enclosed.

VHF Countries and Postal Districts Awards

Awards intended to mark successful VHF/UHF achievements.

Requirement

Title of award	Countries/ Districts
50 MHz Standard Transmitting	12/60
50 MHz Senior Transmitting	25/90
70 MHz Standard Transmitting	3/45
70 MHz Senior Transmitting	6/80
144 MHz Standard Transmitting	9/65
144 MHz Senior Transmitting	15/100
432 MHz Standard Transmitting	3/40
432 MHz Senior Transmitting	9/70
1296 MHz Standard Transmitting	3/30
1296 MHz Senior Transmitting	6/60

Listener Awards to be on an 'as heard' basis.

Supreme Award (for fixed stations only). For holding: 3 Senior awards or 2 Senior + one 1296MHz Awards.

Rules:

1. Starting date for this award is 1st January 2000.
2. All contacts made after 1 January 1990 are eligible.
3. Eligible districts are listed in the *RSGB Yearbook*.
4. Eligible countries are listed in the Prefix section of the *RSGB Yearbook*.



Awards Manager e-mail: vhf.awards@rsqb.org.uk

Award rules, news and other info: www.argonet.co.uk/users/tonyg6ttl/awards/awards.htm

5. For QSL cards not showing a 'district code', the claimant may add the appropriate code providing suitable other location information is on the card.
6. Stations are eligible for awards in the following categories:

- (a) Fixed stations
- (b) Portable stations (/P any location)
- (c) Mobile stations (/M any location).

Categories cannot be mixed.

7. Each different confirmed contact with a station in a Scottish district may count up to a maximum of three per district. Belfast (BT) may count up to six contacts.

8. The 'county and country' based awards will continue to be available until 31 December 2002, the rules for which were published in the 1999 *RSGB Yearbook*. These will continue to be valid towards the Supreme Award.

9. VHF/C reserves the right to modify these criteria as necessary.

Microwave Award

The following awards are intended to mark achievement on the microwave bands. Successful applicants will initially receive a certificate and one sticker; further stickers will be issued as later claims are received.

Locators:

Award	Two-way contact with locator squares
1.3GHz / 5	5
1.3GHz / 10	10
1.3GHz / 15	15
1.3GHz / 20	20
1.3GHz / 25 etc. (up to 80)	80
2.3GHz / 5	5
2.3GHz / 10, 15, 20, 25 etc as 1.3GHz	
3.4GHz / 5	5
3.4GHz / 10, 15, 20, 25 etc as 1.3GHz	
5.7GHz / 5	5
5.7GHz / 10, 15, 20, 25 etc as 1.3GHz	
10GHz / 5	5
10GHz / 10, 15, 20, 25 etc as 1.3GHz	
24GHz / 5	5
24GHz / 10, 15, 20, 25 etc as 1.3GHz	

Countries + Counties:

Two-way contact with three countries and 20 UK counties on 1.3GHz, 2.3GHz, 3.4GHz, 5.7GHz, 10GHz and 24GHz. For the purposes of the award a county is defined as that current at the time of introduction of the award.

Rules

1. All claims must be fully supported by QSL cards carrying the relevant IARU Locator information or country and county information.
2. All contacts must be made after 31 December 1978.
3. Stations are eligible for awards in the following categories:
 - (a) Fixed stations
 - (b) Portable and mobile stations. (The applicant must state that the operation was from one site, defined as being anywhere within a 5km radius of the point.)

Categories cannot be mixed.

4. QSL cards submitted should be listed and arranged in IARU QTH Locator alphabetical numeric order.

Microwave Distance Award

Distance awards, intended to mark achievement on the microwave bands.

1.3GHz	for the first contact made beyond a distance of 600km
2.3GHz	for the first contact made beyond a distance of 500km
3.4GHz	for the first contact made beyond a distance of 400km
5.6GHz	for the first contact made beyond a distance of 300km
10GHz	for the first contact made beyond a distance of 150km (Basic Class)
10GHz	for the first contact made beyond a distance of 300km (Intermediate Class)
10GHz	for the first contact made beyond a distance of 600km (Advanced Class)

On the following bands a certificate and sticker will be issued for the qualifying distance. Subsequently claims will be rewarded with appropriate stickers for the incremental distance as shown below.

24GHz	for the first contact beyond 100km, then increments of 50km.
47GHz	for the first contact beyond 50km, then increments of 25km.
76GHz	for the first contact beyond 40km, then increments of 20km.

Rules

1. Stations are eligible for awards in the following categories:
 - (a) Fixed stations
 - (b) Portable stations (/P any location)
 - (c) Mobile stations (/M any location).

RSGB Novice Award

Rules:

This award is for holders of 'Novice' callsigns only and is designed to encourage activity in the CW, SSB and FM simplex sections of the bands.

There will be three levels to the award and claimants may take advantage of a 'multiplier system', if they wish, to acquire the points required, especially for the higher levels.

1. This award is available only to holders of UK Novice callsigns.
2. Starting date is 1 January 2000.
3. Modes: CW, SSB, AM and FM. No repeater contacts permitted.
4. Bands: 50, 144, 432 and 1296MHz.
5. Award Levels:
 - Basic [Bronze]: 1000 points.
 - Intermediate [Silver]: 10000 points.
 - Advanced [Gold]: 25000 points.
6. Scoring.
 - 50MHz - 1 pt / QSO
 - 144MHz - 1pt / QSO
 - 432MHz - 2pt / QSO
 - 1296MHz - 4pt / QSO

Multipliers:

May be claimed as follows: Locator Squares (eg JO01), Postal Districts and Countries - 1 point.

Distance Bonuses:

- 50MHz for contacts in excess of 2000km - 1pt.
 - 144MHz for contacts in excess of 1000km - 1pt.
 - 432MHz for contacts in excess of 500km - 3pt.
 - 1296MHz for contacts in excess of 500km - 5pt.
7. All claims must include a log extract certified either by a Novice Instructor, an RSGB affiliated club official, or two licensed amateurs. A summary sheet of the points claimed per contact listed by callsign and if multipliers are claimed then a summary sheet of these as well. Multiple contacts with the same amateur on a single band when fixed, /P and /M only count for a single point although the same amateur may be worked on each of the bands for qualifying points.
8. The charges for each level of this award are: RSGB members £3.00. UK residents who are not RSGB members £6.00. Where applicable proof of membership the RSGB is required, eg a recent *RadCom* label.
9. All claims for the award must be submitted to the RSGB VHF/UHF Awards Manager, Tony Jarvis, G6TTL.
10. State clearly on the application your name, (as you wish it to appear on the certificate) and sign a declaration that you have abided by the award rules and by the conditions of your amateur radio licence.

RSGB Foundation Award

Award for holders of 'Foundation' callsigns only. The contacts to claim this award must be made during the first year of being licensed. Band and/or mode endorsements will be available.

Rules

1. This award is available only to holders of UK Foundation class callsigns. The contacts claimed must be made during the first year of being licensed.
2. Starting date is 1 January 2002.
3. Modes: CW, SSB, AM and FM. No repeater contacts permitted.
4. Bands: 50, 70, 144, 432 and 1296MHz.
5. Qualification for this award will be:
 - Bronze Award: 50 points.
 - Silver Award: 75 points
 - Gold Award: 100 points.
 Please see section 6 for details.
6. Points scoring.
 - Bands: 50 & 144MHz bands - 1pt / QSO
 - 70 & 432MHz - 2pt / QSO
 - 1296MHz - 4pt / QSO.
7. All claims must include a log extract certified by a Novice Instructor, an RSGB affiliated club official, or two licensed amateurs. Multiple contacts with the same amateur on a single band when fixed, /P and /M only count for a single point although the same amateur may be worked on each of the bands for qualifying points. For endorsements the log must show the appropriate details.
8. The charge for this award are: RSGB members £3.00. UK residents who are not RSGB members £6.00. Where applicable proof of RSGB membership is required, eg a recent *RadCom* label.
9. All claims for the award must be submitted to the RSGB VHF/UHF Awards Manager:
10. State clearly on the application your name, (as you wish it to appear on the certificate) and sign a declaration that you have abided by the award rules and by the conditions of your amateur radio licence.



HF Awards

General Rules

The following general rules and conditions apply to HF certificates and awards issued by the Radio Society of Great Britain and should be read in conjunction with the conditions which govern the particular award programme:

Applicant eligibility

1. Claimants from the UK, Channel Is, and Isle of Man must be members of the RSGB and, as proof of membership, should provide a recent address label from *RadCom*. Applicants from elsewhere need not be members of the RSGB.
2. Claimants may be either licensed radio amateurs or short wave listeners. All certificates, but not special plaques, are available on a 'heard' basis to listeners.

Claim eligibility

3. Each claim must be submitted in a form acceptable to the HF Awards Manager. Where application forms are provided for particular award programmes, these should be used although a computer generated form including the same headings will generally be accepted. Each claim must include the following signed declaration: "I declare that all the contacts were made by me personally from the same DXCC country and in accordance with the terms of my radio transmitting licence, and that none of the QSLs have been amended in any way since receipt. I accept that a breach of these rules may result in disqualification from the awards programme. I further accept that the decision of the HF Committee shall be final in all cases of dispute."
4. All claims from within the UK, Channel Is and Isle of Man must be accompanied by QSL cards. Claims from elsewhere must also be accompanied by QSL cards but only in the case of those categories of award attracting a plaque. In all other cases a statement from the applicant's national society that the necessary cards have been checked will be accepted except that the HF Awards Manager reserves the right to ask to see some or all of the cards. For IOTA claims special rules apply (see the *IOTA Directory*).
5. Each claim must be accompanied by a fee of £3.00, US\$6.00, 5 Euros or 9 IRCs per certificate or class of certificate. Applicants submitting cards for checking must include sufficient payment to cover their return. Cards will only be returned by air, recorded delivery (UK only), or registered mail (overseas) if adequate postage is enclosed (for registered mail add US\$ 4.50 or 7 IRCs).

Contact eligibility

6. All contacts must be made by the holder of the callsign.
7. Contacts may be made from any location in the same DXCC country.
8. Except where otherwise indicated, credit will

be given for contacts made on or after 15 November 1945 on any of the amateur bands below 30MHz.

9. Contacts with land mobile stations will be accepted, provided the location at the time of contact is clearly stated on the QSL card.
10. Credit will be given for two-way contacts on the same mode and band, ie not cross-mode or cross-band. Certificate endorsements for single mode transmission and/or single band may be made on the submission of cards clearly confirming the mode or frequency of transmission, but the request must be made at the time of application. Special rules apply for IOTA.

Disqualification

11. The submission for credit of any altered or forged confirmations or, equally, bad behaviour on or off the air which is judged by the HF Committee to bring a particular programme into disrepute may result in disqualification of the applicant from all RSGB's award programmes. The decision of the HF Committee on this and other matters of dispute will be final.

Applications For Awards

All claims, except IOTA, should be sent to the HF Awards Manager (details below).

Prepare your application in accordance with the requirements of the award being claimed. Send QSL cards when required, and do not forget to enclose details of your name, callsign and full address as well as the certificate fee, adequate postage for the return of QSL cards, and for UK applicants, proof of RSGB membership. Payment may be made by cheque drawn on a UK bank in Pounds Sterling and payable to 'Radio Society of Great Britain'.

Further Information

The HF Awards Manager may be contacted by e-mail, and information about all awards may be found on the Internet (details below).

DX Listeners' Century Award (DXLCA)

This award may be claimed by any short wave listener eligible under the general rules who can produce evidence of having heard amateur radio stations located in at least 100 DXCC countries. Stickers are available for every 25 additional countries confirmed. Submit a list in radio prefix order with the callsign and country name.

Endorsements are available for hearing 100 countries on 5, 6, 7, 8 and 9 bands (they need not be the same countries on each band).

Commonwealth Century Club (CCC)

This award may be claimed by any licensed radio amateur eligible under the general rules who can produce evidence of having contacted,

since 15 November 1945, amateur radio stations in at least 100 Commonwealth call areas on the list current at the time of application.

The certificate holder may claim, on payment of a contributory charge, a handsome plaque with a plate detailing name, callsign, date and number of the award. Additionally, an amateur providing evidence of having contacted all the Commonwealth call areas on the list current at the time of application may claim the Supreme Plaque in recognition of the magnitude of the achievement, again on payment of a contributory charge.

Notes

- (a) Credit for South Georgia and the South Sandwich Is will only be given for contacts with stations using a VP8 callsign. Credit for Antarctica and the South Orkney and South Shetland Is will only be given for contacts with stations using a callsign issued by a Commonwealth government.
- (b) Where, very occasionally, a contact is made with a station using a callsign legitimately outside the geographical area to which the prefix normally applies, it will count for the actual area from which the operation took place. The evidence submitted will need to be clear.

5 Band Commonwealth Century Club (5BCCC)

This award, available in five classes, may be claimed by any licensed radio amateur under the general rules who can produce evidence of having effected two-way communication, since 15 November 1945, with the requisite number of amateur radio stations located in the call areas listed, using all five bands, 3.5, 7, 14, 21, and 28 MHz. Each station should be located in a different call area per band. The five classes are for contacts as follows:

5BCCC Supreme	500 stations
5BCCC Class 1	450 stations
5BCCC Class 2	400 stations, with a minimum of 50 on each band
5BCCC Class 3	300 stations, with a minimum of 40 on each band
5BCCC Class 4	200 stations, with a minimum of 30 on each band

Certificates will be issued to winners of all classes. Additionally, as in the case of the CCC, winners of the Class 1 award will be eligible to claim a handsome plaque suitably inscribed on payment of a contributory charge, while winners of the Supreme Award will be able to claim an engraved plaque on payment of a contributory charge.

WARC Bands Endorsement

A holder of the basic award who can provide evidence of contact with the required number of call areas on the 10, 18 and 24MHz bands may claim a WARC band 'sticker' endorsement. This is available in five classes as follows:



RSGB HF Awards Manager:

F C Handcombe, G4BWP, 'Sandholm', Bridge End Road, Red Lodge, Bury St. Edmunds, Suffolk IP28 8LQ.

E-mail: hf.awards@rsqb.org.uk Web site: www.g3wkl.freereserve.co.uk/awards/hf_awards_index.html

List of Deleted Commonwealth Call Areas

Contacts with the following may count for a 'missing' credit if made before the date specified. A contact after that date may still count for one of the Commonwealth call areas (see brackets).

AC3	Sikkim	1 May 1975	(India)
P2, VK9	Papua Territory	16 September 1975	(PNG)
P2, VK9	Territory of New Guinea	16 September 1975	(PNG)
VO	Newfoundland, Labrador	1 April 1949	(Newfoundland, Canada)
VQ1	Zanzibar	25 April 1964	(Tanzania)
VQ6	British Somaliland	1 July 1960	
VQ9	Aldabra Is	29 June 1976	(Seychelles)
VQ9	Desroches Island	29 June 1976	(Seychelles)
VQ9	Farquhar Group	29 June 1976	(Seychelles)
VR2, VS6	Hong Kong	30 June 1997	
VS2, 9M2	Malaya	16 September 1963	(W Malaysia)
VS4	Sarawak	16 September 1963	(E Malaysia)
VS9	Aden	1 December 1967	
VS9	Kamaran Island	1 December 1967	
VS9	Kuria Muria Is	1 December 1967	
ZC5	British North Borneo	16 September 1963	(E Malaysia)
ZD4	Gold Coast, Togoland	6 March 1957	(Ghana)

- 5BCCC (WARC) Supreme 300 call areas
- 5BCCC (WARC) Class 1 275 call areas
- 5BCCC (WARC) Class 2 250 call areas, with a minimum of 50 on each band
- 5BCCC (WARC) Class 3 200 call areas, with a minimum of 40 on each band
- 5BCCC (WARC) Class 4 150 call areas, with a minimum of 30 on each band

Note: On 10MHz credit will only be given for contacts on CW and datamodes.

Top band endorsement

A holder of the basic award who can produce evidence of contact with the required number of call areas on the 1.8MHz band may claim a Top Band 'sticker' endorsement. This is available in five classes for 30, 40, 50, 60 and 70 call areas.

Credit for deleted call areas

Credit will be given for contacts with stations in Commonwealth countries at the time of contact, and additionally, with stations using a Commonwealth callsign in Antarctic and the S Orkney and S Shetland Is. Since 1945 some countries have left the Commonwealth, others have joined. The list of call areas on this page specifies the relevant dates. For 5BCCC (including endorsements) contacts with 'deleted' call areas made at a time when the countries concerned were in the Commonwealth may count in place of 'missing' credits on any band up to the maximum possible for that band (at July 1996 this was 132). Deleted call areas do not count for CCC.

Applications for CCC and 5BCCC

Applications for 5BCCC should use the special application form available from the HF Awards Manager. The form allows space for callsigns to be recorded for contacts on each band. A check list of current Commonwealth call areas is also available and can be used for applications for the CCC Award. Please send an A5 size SASE for the check list and application forms.

IARU Region 1 Award

This award, available in three classes, may be claimed by any licensed radio amateur eligible under the general rules who can produce evidence of having contacted amateur radio stations located in the required number of countries whose national societies are members of the Region 1 Division of the International Amateur Radio Union (IARU).

The three classes are for contacts as follows:

- Class 1 All member countries on the current list
- Class 2 60 member countries
- Class 3 40 member countries

Worked ITU Zones (WITUZ)

This award may be claimed by any licensed radio amateur eligible under the general rules who can produce evidence of having contacted, since 15 November 1945, land-based amateur radio stations in at least 70 of the 75 broadcasting zones as defined by the International Telecommunications Union (ITU).

The certificate holder may claim, on payment of a contributory charge, a handsome plaque with a plate detailing name, callsign, date and number of the award. Additionally, an amateur providing evidence of having contacted all 75 ITU zones may claim the Supreme Plaque in recognition of the magnitude of the achievement, again on payment of a contributory charge.

Applications for WITUZ and 5BWITUZ

Applications for WITUZ and 5BWITUZ should use the special application form available from the HF Awards Manager. A check list of ITU Zones and a map are included with the application form. Please send an A5 size SASE for the check list and application form.

5 Band Worked ITU Zones (5BWITUZ)

This card, available in five classes, may be claimed by any licensed radio amateur eligible under the general rules who can produce evidence of having contacted, since 15 November 1945, the required number of land-based ama-

teur radio stations located in the 75 ITU broadcasting zones, using all 5 bands, 3.5, 7, 14, 21, and 28MHz. Each station should be located in a different ITU zone per band. The five classes are for contacts as follows:

- 5BWITUZ Supreme 350 zones
- 5BWITUZ Class 1 325 zones
- 5BWITUZ Class 2 300 zones, with a minimum of 50 on each band
- 5BWITUZ Class 3 250 zones, with a minimum of 40 on each band
- 5BWITUZ Class 4 200 zones, with a minimum of 30 on each band

Certificates will be issued to winners of all classes. Also, as in the case of the WITUZ, winners of the Class 1 award may claim a handsome plaque suitably inscribed, while winners of the Supreme Award will be eligible for the Supreme Plaque, both on payment of a contributory charge.

WARC band endorsement

A holder of the basic award who can produce evidence of contact with the required number of ITU zones on the 10, 18 and 24MHz bands may claim a WARC band 'sticker' endorsement. This is available in five classes as follows:

- 5BWITUZ (WARC) Supreme 210 zones
- 5BWITUZ (WARC) Class 1 195 zones
- 5BWITUZ (WARC) Class 2 180 zones, with a minimum of 50 on each band
- 5BWITUZ (WARC) Class 3 150 zones, with a minimum of 40 on each band
- 5BWITUZ (WARC) Class 4 120 zones, with a minimum of 30 on each band

Note: On 10MHz credit will only be given for contacts on CW and datamodes.

Top band endorsement

A holder of the basic award who can produce evidence of contact with the required number of call areas on the 1.8MHz band may claim a Top Band 'sticker' endorsement. This is available in five classes for 20, 30, 40, 50 and 60 zones.

Notes

- (a) The number of ITU broadcasting (ie land) zones recognised by the ITU is 75 zones (Zones 1 to 75) and this therefore is the maximum score which can be claimed per band. However, the islands of Minami Torishima (JD1) and Salas-y-Gomez (CE0) lie outside the 75 zones in sea zones 90 and 85 respectively. For 5BWITUZ (including endorsements) contacts with these islands may count in place of one 'missing' credit on any band up to the maximum 75 for that band. Contacts with Minami Torishima and Salas-y-Gomez do not count for WITUZ.
- (b) In the case of the WITUZ and 5BWITUZ confirmations need not bear the appropriate ITU zone number but in order to count for credit they should give the location of the station in sufficient detail to place it clearly within one particular zone. Doubtful

cases indicating possible overlap across two zones will not be given credit.

- (c) The HF Awards Manager will use as his reference a list which is based on the *Radio Amateurs' Prefix Map of the World* published by Radio Amateur Call Book Inc, PO Box 2013, Lakewood, New Jersey 08701, USA. In the case of countries which encompass two or more ITU zones, eg USA, Russia and Brazil, zonal boundaries will generally follow the longitude/latitude grid lines as shown in the map. In the few instances of discrepancy between the map and the accompanying prefix/country list the decision of the HF Awards Manager will be final.

Applications for WITUZ and 5BWITUZ

Applications for WITUZ and 5BWITUZ should use the special application form available from the HF Awards Manager. A check list of ITU Zones and a map are included with the application form. Please send an A5 size SASE for the check list and application form.

Worked All Continents (WAC)

This award, issued by IARU headquarters, may be obtained by any licensed radio amateur in the UK, Channel Is or Isle of Man who is a member of the RSGB and can produce evidence of having effected two-way communication with amateur radio stations located in each of the six continents - North America, South America, Europe, Africa, Asia and Oceania.

Applicants should send QSL cards to the RSGB HF Awards Manager who will certify the claim to the IARU headquarters society (ARRL) for issuance of the award. They should also enclose an SASE for return of the cards, and proof of RSGB membership.

All contacts must be made from the same country or separate territory within the same continent. Various endorsements including 'all 1.8MHz' are available. In addition both a 5 and 6 Band WAC may be claimed.

73kHz Award

This award is to recognise achievements in both transmission and reception on the 73kHz band, for both one and two-way QSOs.

The award is available in three categories, with endorsements for various distances:

Basic: For a confirmed one-way transmission on 73kHz from the UK, any mode, with talk-back on another amateur band, by phone or confirmed by a listeners' report (UK or otherwise), over a distance in excess of 8km. This award can be endorsed for distances in excess of 32 and 128km.

Full: For a confirmed two-way QSO on 73kHz within the UK by holders of the 73kHz NoV, any mode, over a distance in excess of 8km. This award can be endorsed for distances in excess of 32 and 128km.

Listener: For a confirmed report of any UK amateur 73kHz transmission, in any mode, over a distance in excess of 8km. This award can

be endorsed for distances in excess of 32 and 128km.

In order to confirm the distances for the above awards, the locations of both stations must be given as either a six digit Maidenhead QTH locator or a six digit OS reference (eg TL123456).

136kHz Award

This award is to recognise achievements in both transmission and reception on the 136kHz band, and to stimulate experimentation and station improvement.

The award is available in three categories, with endorsements for additional countries heard/worked.

The basic award is for confirmed two-way QSOs on 136kHz with five countries from the ARRL DXCC/WAE country list.

The SWL award is for confirmation of SWL reports from five countries. The SWL award may also be claimed by amateurs working crossband to stations transmitting in the 136kHz band.

The third category is for cross-band contacts where the station claiming the award has worked five countries by transmitting on the 136kHz band and receiving stations on other amateur bands.

Cross-mode contacts will be allowed for this award. The categories of the award may not be mixed but awards from some or all of the categories may be claimed and endorsed concurrently.

Once the basic award has been claimed, it may be endorsed in steps of each additional five countries worked or heard.

DXCC field checking

QSL cards for the ARRL DXCC Award may be checked in the UK. There are limited restrictions of the age of cards that may be checked. Full details of this, whom to send your cards to for checking, and application forms can be found

at www.g3wkl.freemove.co.uk/awards/DXCC_checking.htm or by sending a large SASE to the HF Awards Manager. Questions may be sent by e-mail.

CQ awards checkpoints

The UK checkpoints for CQ awards (WAZ, WPX, CQ DX) are G4BWP and GM3YTS (e-mail: gm3yts@btinternet.com). Both are QTHR.

Islands On The Air

IOTA is an award programme designed to encourage contacts with island stations worldwide. The general principle is that IOTA 'counters' are groups of islands rather than individual islands – though there are many exceptions where a group is just a single island. There are 18 separate awards currently available, graded in difficulty. They may be claimed by any licensed radio amateur eligible under the general rules, who can produce evidence of having made two-way communication, since 15 November 1945, with the required number of amateur radio stations located on the islands both worldwide and regional. Many of the islands are DXCC countries in their own right; others are not, but by meeting particular eligibility criteria also count for credit. Part of the fun of IOTA is that it is an evolving programme with new islands being activated for the first time (currently some 970 of the 1194 groups listed have reference numbers).

The rules require that, in order for credit to be given, QSL cards need to be submitted to nominated IOTA checkpoints for checking. Although IOTA is primarily an HF award programme, a VHF category was introduced during 2000 at popular request. An annual Honour Roll is produced, to encourage the continual updating of scores.

For more information on the IOTA Programme, see the separate feature in this edition of the RSGB Yearbook.

Members of IARU Region 1 (as of July 2002)

Albania	Gabon	Luxembourg	Sierra Leone
Algeria	Gambia	Macedonia	Slovakia
Andorra	Germany	Mali	Slovenia
Austria	Ghana	Malta	South Africa
Bahrain	Gibraltar	Mauritius	Spain
Belarus	Greece	Moldova	Swaziland
Belgium	Hungary	Monaco	Sweden
Bosnia	Iceland	Mongolia	Switzerland
Botswana	Iraq	Morocco	Syria
Bulgaria	Ireland	Mozambique	Tadzikstan
Burkina Faso	Israel	Namibia	Tanzania
Croatia	Italy	Netherlands	Tunisia
Cyprus	Ivory Coast	Nigeria	Turkey
Czech Republic	Jordan	Norway	Turkmenistan
Denmark	Kenya	Oman	Uganda
Djibouti	Kuwait	Poland	Ukraine
Egypt	Latvia	Portugal	United Kingdom
Estonia	Lebanon	Qatar	Yugoslavia
Ethiopia	Lesotho	Romania	Zambia
Faroe Islands	Liberia	Russian Federation	Zimbabwe
Finland	Liechtenstein	San Marino	
France	Lithuania	Senegal	



Prefix List

Callsigns for the world's nations are determined by the International Telecommunications Union (ITU). This is the United Nations agency that co-ordinates radio activity for all spectrum users. The prefixes used by a country for both commercial and amateur radio purposes are determined from one or more ITU allocation blocks issued to that country. The amateur radio callsigns in use for a particular country might use one or a number of combinations derived from the authorised ITU allocation(s) for that country. The following list shows callsign prefixes currently in use. Most are derived from the callsign blocks allocated to administrations by the ITU for use within the countries, territories and dependencies for which a country is responsible. Also shown are some unauthorised prefixes which may be heard and which may or may not be recognised as a DXCC entity, eg 1S (Spratly Archipelago) and 1A0 (SMOM). Both of these are DXCC countries although the prefixes used are unofficial. 1B (the Turkish area of North Cyprus) and 1Z (Karea State - Myanmar) are unofficial and are not recognised for DXCC purposes. Full information on prefixes is contained in the *RSGB Prefix Guide*.

Prefix	Entity	Cont.	ITU	CQ	1.8	3.5	7.0	10.1	14	18	21	24	28	50	144	oth.
1A0	Sov. Mil. Order of Malta	EU	28	15												
1S	Spratly Is.	AS	50	26												
3A	Monaco	EU	27	14												
3B6, 7	Agalega & St. Brandon	AF	53	39												
3B8	Mauritius	AF	53	39												
3B9	Rodrigues Is.	AF	53	39												
3C	Equatorial Guinea	AF	47	36												
3C0	Annobon Is.	AF	52	36												
3D2	Fiji	OC	56	32												
3D2	Conway Reef	OC	56	32												
3D2	Rotuma Is.	OC	56	32												
3DA	Swaziland	AF	57	38												
3V	Tunisia	AF	37	33												
3W, XV	Vietnam	AS	49	26												
3X	Guinea	AF	46	35												
3Y	Bouvet	AF	67	38												
3Y	Peter I Is.	AN	72	12												
4J, 4K	Azerbaijan	AS	29	21												
4L	Georgia	AS	29	21												
4P-4S	Sri Lanka	AS	41	22												
4U_ITU	ITU HQ	EU	28	14												
4U_UN	United Nations HQ	NA	08	05												
4W	UNTAET (E. Timor)	OC	54	28												
4X, 4Z	Israel	AS	39	20												
5A	Libya	AF	38	34												
5B	Cyprus	AS	39	20												
5H-5I	Tanzania	AF	53	37												
5N-5O	Nigeria	AF	46	35												
5R-5S	Madagascar	AF	53	39												
5T	Mauritania	AF	46	35												
5U	Niger	AF	46	35												
5V	Togo	AF	46	35												
5W	Samoa	OC	62	32												
5X	Uganda	AF	48	37												
5Y-5Z	Kenya	AF	48	37												
6V-6W	Senegal	AF	46	35												
6Y	Jamaica	NA	11	08												
7O	Yemen	AS	39	21												
7P	Lesotho	AF	57	38												
7Q	Malawi	AF	53	37												
7T-7Y	Algeria	AF	37	33												
8P	Barbados	NA	11	08												
8Q	Maldives	AS/AF	41	22												
8R	Guyana	SA	12	09												
9A	Croatia	EU	28	15												
9G	Ghana	AF	46	35												
9H	Malta	EU	28	15												
9I-9J	Zambia	AF	53	36												
9K	Kuwait	AS	39	21												
9L	Sierra Leone	AF	46	35												
9M2, 4	West Malaysia	AS	54	28												
9M6, 8	East Malaysia	OC	54	28												
9N	Nepal	AS	42	22												
9Q-9T	Dem. Rep. of Congo	AF	52	36												



Prefix	Entity	Cont.	ITU	CQ	1.8	3.5	7.0	10.1	14	18	21	24	28	50	144	oth.
9U	Burundi	AF	52	36												
9V	Singapore	AS	54	28												
9X	Rwanda	AF	52	36												
9Y-9Z	Trinidad & Tobago	SA	11	09												
A2	Botswana	AF	57	38												
A3	Tonga	OC	62	32												
A4	Oman	AS	39	21												
A5	Bhutan	AS	41	22												
A6	United Arab Emirates	AS	39	21												
A7	Qatar	AS	39	21												
A9	Bahrain	AS	39	21												
AP-AS	Pakistan	AS	41	21												
BS7	Scarborough Reef	AS	50	27												
BV	Taiwan	AS	44	24												
BV9P	Pratas Is.	AS	44	24												
BY,BT	China	AS	S	23,24												
C2	Nauru	OC	65	31												
C3	Andorra	EU	27	14												
C5	The Gambia	AF	46	35												
C6	Bahamas	NA	11	08												
C8-9	Mozambique	AF	53	37												
CA-CE	Chile	SA	14,16	12												
CE0	Easter Is.	SA	63	12												
CE0	Juan Fernandez Is.	SA	14	12												
CE0	San Felix & San Ambrosio	SA	14	12												
CE9/KC4	Antarctica	AN	S	S												
CM, CO	Cuba	NA	11	08												
CN	Morocco	AF	37	33												
CP	Bolivia	SA	12,14	10												
CT	Portugal	EU	37	14												
CT3	Madeira	AF	36	33												
CU	Azores	EU	36	14												
CV-CX	Uruguay	SA	14	13												
CY0	Sable Is.	NA	09	05												
CY9	St. Paul Is.	NA	09	05												
D2-3	Angola	AF	52	36												
D4	Cape Verde	AF	46	35												
D6	Comoros	AF	53	39												
DA-DL	Fed. Rep. of Germany	EU	28	14												
DU-DZ	Philippines	OC	50	27												
E3	Eritrea	AF	48	37												
E4	Palestine	AS	39	20												
EA-EH	Spain	EU	37	14												
EA6-EH6	Balearic Is.	EU	37	14												
EA8-EH8	Canary Is.	AF	36	33												
EA9-EH9	Ceuta & Melilla	AF	37	33												
EI-EJ	Ireland	EU	27	14												
EK	Armenia	AS	29	21												
EL	Liberia	AF	46	35												
EP-EQ	Iran	AS	40	21												
ER	Moldovia	EU	29	16												
ES	Estonia	EU	29	15												
ET	Ethiopia	AF	48	37												
EU, EV, EW	Belarus	EU	29	16												
EX	Kyrgyzstan	AS	30,31	17												
EY	Tajikistan	AS	30	17												
EZ	Turkmenistan	AS	30	17												
F	France	EU	27	14												
FG	Guadeloupe	NA	11	08												
FJ, FS	Saint Martin	NA	11	08												
FH	Mayotte	AF	53	39												
FK	New Caledonia	OC	56	32												
FK/C	Chesterfield Is.	OC	56	30												
FM	Martinique	NA	11	08												
FO	Austral I.	OC	63	32												
FO	Clipperton I.	NA	10	07												
FO	French Polynesia	OC	63	32												
FO	Marquesas Is.	OC	63	31												
FP	St. Pierre & Miquelon	NA	09	05												
FR/G	Glorioso Is.	AF	53	39												
FR/J, E	Juan de Nova, Europa	AF	53	39												
FR	Reunion Is.	AF	53	39												



The letter 'S' against an ITU or CQ Zone indicates that the entity is split across several.

Prefix	Entity	Cont.	ITU	CQ	1.8	3.5	7.0	10.1	14	18	21	24	28	50	144	oth.
FR/T	Tromelin Is.	AF	53	39												
FT5W	Crozet Is.	AF	68	39												
FT5X	Kerguelen Is.	AF	68	39												
FT5Z	Amsterdam & St. Paul Is.	AF	68	39												
FW	Wallis & Futuna Is.	OC	62	32												
FY	French Guiana	SA	12	09												
G,GX, 2E	England	EU	27	14												
GD,GT,2D	Isle of Man	EU	27	14												
GI,GN,2I	Northern Ireland	EU	27	14												
GJ,GH,2J	Jersey	EU	27	14												
GM,GS,2M	Scotland	EU	27	14												
GU,GP,2U	Guernsey	EU	27	14												
GW,GC,2W	Wales	EU	27	14												
H4	Solomon Is.	OC	51	28												
H40	Temotu Province	OC	51	32												
HA, HG	Hungary	EU	28	15												
HB	Switzerland	EU	28	14												
HB0	Liechtenstein	EU	28	14												
HC-HD	Ecuador	SA	12	10												
HC8-HD8	Galapagos Is.	SA	12	10												
HH	Haiti	NA	11	08												
HI	Dominican Republic	NA	11	08												
HJ-HK	Colombia	SA	12	09												
HK0	Malpelo Is.	SA	12	09												
HK0	San Andres & Providencia	NA	11	07												
HL	Republic of Korea	AS	44	25												
HO-HP	Panama	NA	11	07												
HQ-HR	Honduras	NA	11	07												
HS, E2	Thailand	AS	49	26												
HV	Vatican	EU	28	15												
HZ	Saudi Arabia	AS	39	21												
I	Italy	EU	28	15,33												
IS0, IM0	Sardinia	EU	28	15												
J2	Djibouti	AF	48	37												
J3	Grenada	NA	11	08												
J5	Guinea-Bissau	AF	46	35												
J6	St. Lucia	NA	11	08												
J7	Dominica	NA	11	08												
J8	St. Vincent	NA	11	08												
JA-JS	Japan	AS	45	25												
JD1	Minami Torishima	OC	90	27												
JD1	Ogasawara	AS	45	27												
JT-JV	Mongolia	AS	32,33	23												
JW	Svalbard	EU	18	40												
JX	Jan Mayen	EU	18	40												
JY	Jordan	AS	39	20												
K,W,N,AA-AK	United States of America	NA	6,7,8	3,4,5												
KG4	Guantanamo Bay	NA	11	08												
KH0	Mariana Is.	OC	64	27												
KH1	Baker & Howland Is.	OC	61	31												
KH2	Guam	OC	64	27												
KH3	Johnston Is.	OC	61	31												
KH4	Midway Is.	OC	61	31												
KH5	Palmyra & Jarvis Is.	OC	61,62	31												
KH5K	Kingman Reef	OC	61	31												
KH6,7	Hawaii	OC	61	31												
KH7K	Kure Is.	OC	61	31												
KH8	American Samoa	OC	62	32												
KH9	Wake Is.	OC	65	31												
KL7	Alaska	NA	1,2	1												
KP1	Navassa Is.	NA	11	08												
KP2	Virgin Is.	NA	11	08												
KP3,4	Puerto Rico	NA	11	08												
KP5	Desecheo Is.	NA	11	08												
LA-LN	Norway	EU	18	14												
LO-LW	Argentina	SA	14,16	13												
LX	Luxembourg	EU	27	14												
LY	Lithuania	EU	29	15												
LZ	Bulgaria	EU	28	20												
OA-OC	Peru	SA	12	10												
OD	Lebanon	AS	39	20												
OE	Austria	EU	28	15												

There are numerous instances of entities that do not count for DXCC before (or after) a certain date. Check the ARRL web site for details.



Prefix	Entity	Cont.	ITU	CQ	1.8	3.5	7.0	10.1	14	18	21	24	28	50	144	oth.
OF-OI	Finland	EU	18	15												
OH0	Aland Is.	EU	18	15												
OJ0, OH0M	Market Reef	EU	18	15												
OK-OL	Czech Republic	EU	28	15												
OM	Slovak Republic	EU	28	15												
ON-OT	Belgium	EU	27	14												
OX	Greenland	NA	5,75	40												
OY	Faroe Is.	EU	18	14												
OZ	Denmark	EU	18	14												
P2	Papua New Guinea	OC	51	28												
P4	Aruba	SA	11	09												
P5	DPR of Korea	AS	44	25												
PA-PI	Netherlands	EU	27	14												
PJ2, 4, 9	Bonaire, Curacao (Neth. Antilles)	SA	11	09												
PJ5-8	St. Maarten, Saba, St. Eustatius	NA	11	08												
PP-PY	Brazil	SA	S	11												
PP0-PY0F	Fernando de Noronha	SA	13	11												
PP0-PY0S	St. Peter & St. Paul Rocks	SA	13	11												
PP0-PY0T	Trindade & Martim Vaz Is.	SA	15	11												
PZ	Suriname	SA	12	09												
R1FJ	Franz Josef Land	EU	75	40												
R1MV	Mal'j Vysotskij Is.	EU	29	16												
S0	Western Sahara	AF	46	33												
S2	Bangladesh	AS	41	22												
S5	Slovenia	EU	28	15												
S7	Seychelles	AF	53	39												
S9	Sao Tome & Principe	AF	47	36												
SA-SM	Sweden	EU	18	14												
SN-SR	Poland	EU	28	15												
ST	Sudan	AF	48	34												
SU	Egypt	AF	38	34												
SV-SZ	Greece	EU	28	20												
SV/A	Mount Athos	EU	28	20												
SV5	Dodecanese	EU	28	20												
SV9	Crete	EU	28	20												
T2	Tuvalu	OC	65	31												
T30	W Kiribati (Gilbert Is.)	OC	65	31												
T31	C Kiribati (Brit. Phoenix Is.)	OC	62	31												
T32	E Kiribati (Line Is.)	OC	61,63	31												
T33	Banaba Is. (Ocean Is.)	OC	65	31												
T5	Somalia	AF	48	37												
T7	San Marino	EU	28	15												
T8, KC6	Palau	OC	64	27												
T9	Bosnia-Herzegovina	EU	28	15												
TA-TC	Turkey	EU/AS	39	20												
TF	Iceland	EU	17	40												
TG, TD	Guatemala	NA	11	07												
TI, TE	Costa Rica	NA	11	07												
TI9	Cocos Is.	NA	11	07												
TJ	Cameroon	AF	47	36												
TK	Corsica	EU	28	15												
TL	Central Africa	AF	47	36												
TN	Congo (Republic of the)	AF	52	36												
TR	Gabon	AF	52	36												
TT	Chad	AF	47	36												
TU	Cote d'Ivoire	AF	46	35												
TY	Benin	AF	46	35												
TZ	Mali	AF	46	35												
UA-UI1,3,4,6, RA-RZ	European Russia	EU	S	16												
UA2	Kaliningrad	EU	29	15												
UA-UI8,9,0, RA-RZ	Asiatic Russia	AS	S	S												
UJ-UM	Uzbekistan	AS	30	17												
UN-UQ	Kazakhstan	AS	29-31	17												
UR-UZ, EM-EO	Ukraine	EU	29	16												
V2	Antigua & Barbuda	NA	11	08												
V3	Belize	NA	11	07												
V4	St. Kitts & Nevis	NA	11	08												
V5	Namibia	AF	57	38												
V6	Micronesia	OC	65	27												
V7	Marshall Is.	OC	65	31												
V8	Brunei	OC	54	28												
VE, VO, VY	Canada	NA	S	1-5												

Prefix	Entity	Cont.	ITU	CQ	1.8	3.5	7.0	10.1	14	18	21	24	28	50	144	oth.
VK	Australia	OC	S	29,30												
VK0	Heard Is.	AF	68	39												
VK0	Macquarie Is.	OC	60	30												
VK9C	Cocos-Keeling Is.	OC	54	29												
VK9L	Lord Howe Is.	OC	60	30												
VK9M	Mellish Reef	OC	56	30												
VK9N	Norfolk Is.	OC	60	32												
VK9W	Willis Is.	OC	55	30												
VK9X	Christmas Is.	OC	54	29												
VP2E	Anguilla	NA	11	08												
VP2M	Montserrat	NA	11	08												
VP2V	British Virgin Is.	NA	11	08												
VP5	Turks & Caicos Is.	NA	11	08												
VP6	Pitcairn Is.	OC	63	32												
VP6	Ducie Is.	OC	63	32												
VP8	Falkland Is.	SA	16	13												
VP8,LU	South Georgia Is.	SA	73	13												
VP8,LU	South Orkney Is.	SA	73	13												
VP8,LU	South Sandwich Is.	SA	73	13												
VP8,LU,CE9,HF0,4K1	S Shetland Is.	SA	73	13												
VP9	Bermuda	NA	11	05												
VQ9	Chagos Is.	AF	41	39												
VR	Hong Kong	AS	44	24												
VU	India	AS	41	22												
VU	Andaman & Nicobar Is.	AS	49	26												
VU	Lakshadweep Is.	AS	41	22												
XA-XI	Mexico	NA	10	06												
XA4-XI4	Revilla Ggedo	NA	10	06												
XT	Burkina Faso	AF	46	35												
XU	Cambodia	AS	49	26												
XW	Laos	AS	49	26												
XX9	Macao	AS	44	24												
XY-XZ	Myanmar	AS	49	26												
YA	Afghanistan	AS	40	21												
YB-YH	Indonesia	OC	51,54	28												
YI	Iraq	AS	39	21												
YJ	Vanuatu	OC	56	32												
YK	Syria	AS	39	20												
YL	Latvia	EU	29	15												
YN	Nicaragua	NA	11	07												
YO-YR	Romania	EU	28	20												
YS	El Salvador	NA	11	07												
YT-YU, YZ	Yugoslavia	EU	28	15												
YV-YY	Venezuela	SA	12	09												
YV0	Aves Is.	NA	11	08												
Z2	Zimbabwe	AF	53	38												
Z3	Macedonia	EU	28	15												
ZA	Albania	EU	28	15												
ZB2	Gibraltar	EU	37	14												
ZC4	UK Sov. Bases on Cyprus	AS	39	20												
ZD7	St. Helena	AF	66	36												
ZD8	Ascension Is.	AF	66	36												
ZD9	Tristan da Cunha & Gough Is.	AF	66	38												
ZF	Cayman Is.	NA	11	08												
ZK1	N. Cook Is.	OC	62	32												
ZK1	S. Cook Is.	OC	62	32												
ZK2	Niue	OC	62	32												
ZK3	Tokelau Is.	OC	62	31												
ZL-ZM	New Zealand	OC	60	32												
ZL7	Chatham Is.	OC	60	32												
ZL8	Kermadec Is.	OC	60	32												
ZL9	Auckland & Campbell Is.	OC	60	32												
ZP	Paraguay	SA	14	11												
ZR-ZU	South Africa	AF	57	38												
ZS8	Prince Edward & Marion Is.	AF	57	38												



EMC

Some hints on Electromagnetic Compatibility by Robin Page-Jones, CEng, MIEE, G3JWI, Honorary EMC Consultant.

The most common problem in amateur radio is interference caused by the fundamental transmission getting into all types of electronic equipment. The term 'breakthrough' is normally used to describe this phenomenon; emphasising the fact that it is really a shortcoming on the part of the equipment being interfered with, and not a transmitter fault.

Good radio housekeeping

The main object of good radio housekeeping is to minimise breakthrough, by making sure that as little as possible of the precious RF energy finds its way into neighbouring TVs, videos, telephones, and the multitude of electronic gadgets which are part and parcel of the modern home.

In many cases it can be rightly argued that the immunity of the domestic equipment is inadequate, but this does not absolve the amateur from the responsibility of keeping his RF under reasonable control. Many of the features which contribute to minimising breakthrough also help in reducing received interference, so that the virtue of good neighbourliness has the bonus of better all round station performance.

Antennas

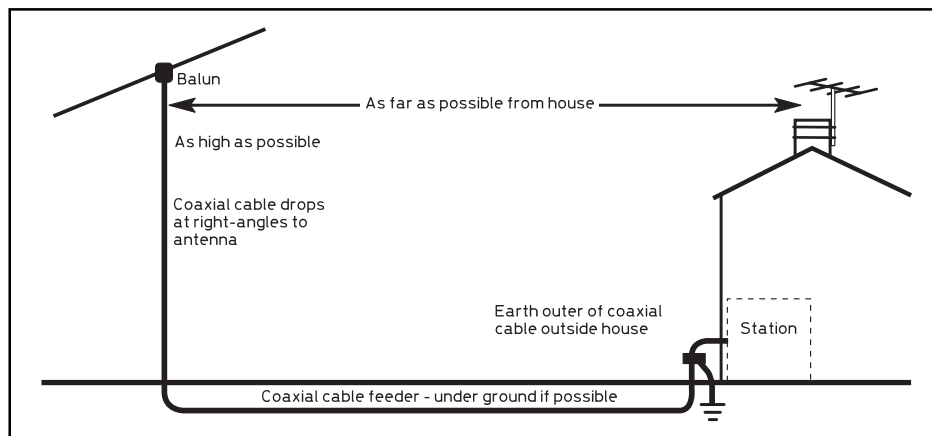
By far the most important factor in preventing both breakthrough and received interference problems is the antenna and its siting. The aim is to site the antenna as high as you can, and as far as possible from your own house, and from neighbouring houses. If there is any choice to be made in this regard give your neighbours the benefit of the increased distance – it is usually much easier to deal with any problems in your own home. It is a sad fact that many amateurs are persuaded by social pressures into using low, poorly sited, antennas only to find that breakthrough problems sour the local relations far more than fears of obtrusive antennas would have done.

HF antennas

The question of which antenna to use is a perennial topic and the last thing that anyone would want to do is to discourage experimentation, but there is no doubt that certain types of antenna are more likely to cause breakthrough than others. It is simply a question of horses for courses; what you can get away with in a large garden or on HF field day may well be unsuitable for a confined city location. Where EMC is of prime importance, the antenna system should be:

(a) *Horizontally polarised*. TV downloads and other household wiring tend to look like an earthed vertical antenna so far as HF is concerned, and are more susceptible to vertically polarised radiation.

(b) *Balanced*. This avoids out-of-balance currents in feeders giving rise to radiation which has a large vertically polarised component. Generally, end fed antennas are unsatisfactory from the EMC point of view and are best kept for portable and low power operation. Where a balanced an-



Good radio housekeeping – site your antenna and feeder system well away from the house.

tenna is fed with coaxial feeder, then a balun must be used.

(c) *Compact*. So that neither end comes close to the house and consequently to TV downloads and mains wiring.

On frequencies of 14MHz upwards it is not too difficult to arrange an antenna fulfilling these requirements, even in quite a small garden. A half wave dipole or small beam up as high as possible, and 15m or more from the house is the sort of thing to aim for. At lower frequencies compromise becomes inevitable, and at 80m most of us have no choice but to have one end of the antenna near the house, or to go for a loaded vertical antenna which can be mounted further away. A small loop antenna is another possibility, but in general any antenna which is very small compared to a wavelength will have a narrow bandwidth, and a relatively low efficiency. Many stations use a G5RV or W3DZZ trap dipole for the lower frequencies, but have separate dipoles (or a beam) for the higher frequencies, sited as far down the garden as possible.

VHF antennas

The main problem with VHF is that large beams can cause very high field strengths. For instance 100W fed to an isotropic transmitting antenna in free space would give a field strength of about 3.6V/m at a distance of 15m. The same transmitter into a beam with a gain of 20dB would give a field strength, in the direction of the beam, of 36V/m the same distance away. Again, it comes down to the fact that if you want to run high power to a high-gain beam, the antenna must be kept as far from neighbouring houses as possible, and of course, as high as practical.

Operation in adverse situations

First of all, and most importantly, don't get discouraged – many amateurs operate very well from amazingly unpromising locations. It is really a question of cutting your coat according to your cloth. If there is no choice but to have antennas very close to the house, or even in the loft, then it will almost certainly be necessary to restrict

the transmitted power. It is worth remembering that it is good radio operating practice not to use more power than is required for satisfactory communication. In many cases relations with neighbours could be significantly improved by observance of this simple rule.

Not all modes are equally 'EMC friendly', and it is worth looking at some of the more frequently used modes from this point of view.

SSB is one of the least EMC-friendly modes, particularly where audio breakthrough is concerned.

FM is a very EMC-friendly mode, mainly because in most cases the susceptible equipment sees only a constant carrier turned on and off every minute or so.

CW is the old faithful for those with EMC problems, because it has two very big advantages. First, providing the keying waveform is well shaped with rise and fall times of about 10ms or so, the rectified carrier is not such a problem to audio equipment as SSB. The second is that it is possible to use lower power for a given contact. Of course, low-power CW is not everybody's favourite mode but it does provide a way of staying on the air, even in the most difficult circumstances.

Data modes are more EMC-friendly than SSB. Amateurs who live in locations where running high power is impractical might consider PSK31. This is a relatively new mode which can drive the transceiver directly from a PC and sound card. It is easy to use, and rivals CW in its ability to get through with minimum power.

Earths

From the EMC point of view, the purpose of an earth is to provide a low-impedance path for RF currents which would otherwise find their way into household wiring, and hence into susceptible electronic equipment in the vicinity. In effect the RF earth is in parallel with the mains earth path. Good EMC practice dictates that any earth currents should be reduced to a minimum by making sure that antennas are balanced as well as possible. An inductively coupled ATU can be used to improve the isolation between the antenna/RF earth



system and the mains earth. The impedance of the mains earth path can be increased by winding the mains lead supplying the transceiver and its ancillaries onto a stack of ferrite cores as described below for breakthrough reduction.

End-fed wires tuned against earth should be avoided, since these inevitably involve large RF currents flowing in the earth system.

The minimum requirement for an RF earth are several copper pipes 1.5m long or more, driven into the ground at least 1m apart and connected together by thick cable. The connection to the station should be as short as possible using thick cable or flat copper strip/braid.

Where the shack is in an upstairs room, the provision of a satisfactory RF earth is a problem, and sometimes it may be found that connecting an RF earth makes interference problems worse.

In such cases it is probably best to avoid the need for an RF earth, by using a well balanced antenna system, but don't forget lightning protection.

PME

An increasing number of houses are being wired on the Protective Multiple Earthing (PME) system, which has a common neutral/earth conductor from the sub-station to the consumer's premises. For safety reasons special regulations apply to earthing in a PME installation. If in doubt consult a qualified electrician or contact your electricity company for advice. Leaflet EMC07 gives further information on PME.

Harmonics

Harmonics and other spurious emissions in gen-

eral are much less of a problem than formerly, partly due to the closing down of VHF TV in the UK and partly to the much greater awareness by home-brewers and commercial manufacturers alike of the importance of good design and construction. Notwithstanding this, if there is any doubt about the harmonic performance of a transceiver, then a low pass filter should be used. Particular care should be taken where harmonics can fall into broadcast radio or TV bands, in particular:

1. The harmonics of some HF bands fall into the VHF broadcast band, 88 to 108MHz, as does the second harmonic of 50MHz.
2. The fourth harmonic from the 144MHz band could cause problems on TV channels 34 and 35 and the fifth on channels 52 and 53.
3. The second harmonic of 18MHz falls into the IF band of TV receivers.

Tackling EMC Problems

A look at the information and filters available, by David Lauder, CEng, MIEE, G0SNO, RSGB EMC Committee.

RA Information

RA179, 'Advice on Television and Radio Reception'

Form RA179 is used by a householder to request the RA to investigate a reception problem with domestic television or radio reception. There was a major revision of the form and the conditions of the service in April 2001 and Revision 16 of the form was introduced in December 2001. The requirement for a dealer to check the affected installation before calling the RA has been dropped. The fee was £50 (in 2002) but this is not charged until completion of an investigation. If the interference is caused by an outside source such as an illegal radio transmission or faulty electrical apparatus, there is no charge. If the problem is caused by deficiencies in the complainant's installation or if the RA supplies a filter which solves the problem, the fee has to be paid.

The service covers television receivers and video recorders when used for terrestrial TV reception (analogue or digital) or satellite TV reception (digital only). FM broadcast reception and Digital Audio Broadcast (DAB) reception are also covered. Long and Medium Wave AM reception are

only covered to the extent that the RA can check whether interference is being caused by 'broad band' services such as ADSL or PLT.

Various types of equipment are specifically excluded from the service including masthead pre-amplifiers and other aerial amplifiers, analogue satellite TV and cable television. Equipment that is not intended to pick up radio signals is also excluded, eg telephones, fax machines, answering machines, alarm systems, audio equipment, computers and monitors. Communal aerial systems are not covered by the domestic service but may be investigated by the RA on a commercial basis.

RA323, 'Guidelines for Improving Television and Radio Reception'

This 16-page booklet was first published in 1997 and is primarily intended for radio and television dealers, service engineers and aerial installers. It contains some topics of particular interest to radio amateurs including TV aerial amplifiers, CE marking and effects due to lack of immunity. It was produced by the Radiocommunications Agency in consultation with the RSGB EMC Committee, the BBC, ITC, CAI (Confederation of Aerial Industries) and BREMA (British Radio and Electronic Equipment Manufacturers Association). In 2002

this booklet was revised to include digital TV.

Copies of RA179, RA323 and many other RA publications are available by post or online, but not from post offices.

RSGB information

The RSGB EMC Committee has produced a series of information sheets, listed below. Copies are available on the EMC Committee web site.

- EMC 01 Radio Transmitters and Domestic Electronic Equipment
- EMC 02 Radio Transmitters and Home Security Systems
- EMC 03 Dealing with Alarm EMC Problems – Advice to RSGB Members
- EMC 04 Interference to Amateur Radio Reception
- EMC 05 Radio Transmitters and Telephones – Information for Telephone Users
- EMC 06 Automotive EMC for Radio Amateurs
- EMC 07 Protective Multiple Earthing

Use of filters and ferrite rings

TV and video

With a TV set alone, a suitable filter in the coaxial

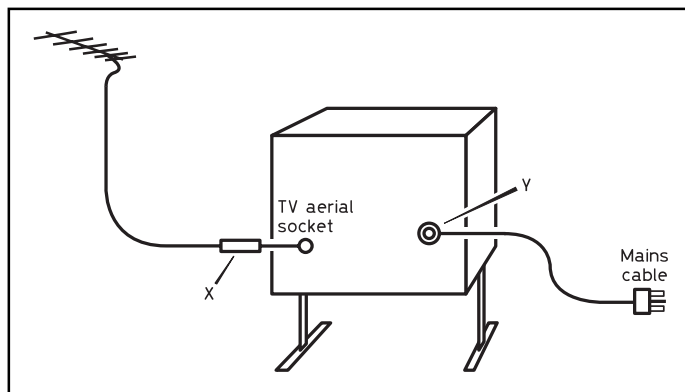


Fig 1: Fitting filters to TV set alone.

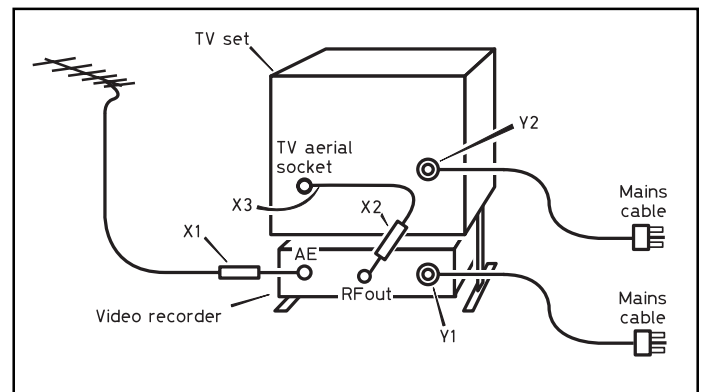


Fig 2: Fitting filters to a TV set with a video recorder.



aerial cable at 'X' in Fig 1 may be all that is required to cure breakthrough. If this does not cure the problem, then a ferrite ring (see below) may also be required on the mains cable at 'Y'.

Fig 2 shows a video recorder with its RF output connected to the aerial socket of a TV. A filter and/or 'braid breaker' (see below) should be fitted in the coaxial cable at 'X1' but if this is not sufficient, another should be fitted at either 'X2' or at 'X3'. In some cases, ferrite rings are required on the mains cables at 'Y1' and/or at 'Y2'. The use of SCART cables instead of RF links can offer improved immunity [1].

Audio systems

RF breakthrough in an audio system can often be cured by fitting ferrite rings to the loudspeaker cables as shown by 'Y1' and 'Y2' in Fig 3. In some cases, additional ferrite rings may be required such as at 'Y3' on the mains cable. Rings may also be required on audio cables or mains cables of other units such as a cassette deck or CD player.

Characteristics of filters available from RSGB

All the filters listed below allow UHF TV signals to pass through but as with any filter, there is a small loss in the pass band. The HPF2 allows both VHF/FM broadcast radio (Band 2, 88 - 108MHz) and UHF TV to pass through.

In many cases, particularly on the HF bands, amateur signals are picked up by the TV aerial downlead rather than by the TV aerial itself. If this causes breakthrough, a so-called 'braid breaker' is required. This could be part of a filter or could be a separate unit. There are several types of 'braid breaker' although some of these do not actually break the braid at DC:

Ferrite ring choke. Winding a length of coaxial cable onto one or more ferrite rings has the advantage that it introduces very little loss or impedance mismatch for the wanted UHF signal and also maintains the integrity of the coaxial cable screening.

1:1 transformer braid breaker. Included in the HPFS filter. It gives excellent rejection of common mode signals on the HF and lower VHF bands and can be more effective than ferrite rings on the HF bands below 10MHz, but generally introduces greater loss of the wanted UHF TV signal.

Capacitive braid breaker. This type is easy to construct [2] and has 4.7pF capacitors in series with both the inner and the braid. Although this filter has a low pass-band loss, the use of another type of braid breaker is generally preferable.

HPF 2 High pass filter (RSGB order code Filter 2)

Pass band: FM radio broadcast (88 - 108MHz), up to UHF TV.

Stop band: All HF bands plus limited effect at 50MHz.

'Braid breaking': None.

HPF 6 High pass filter (RSGB order code Filter 8)

Pass band: UHF TV

Stop band: All bands 1.8 - 440MHz

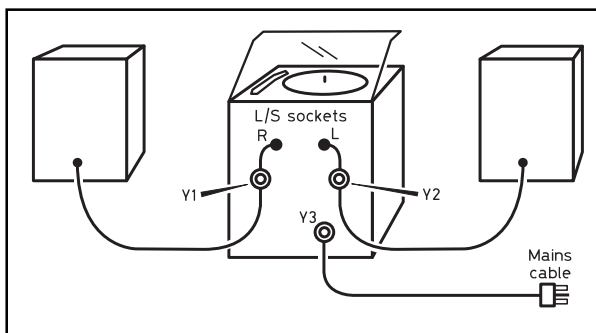


Fig 3: Fitting common mode chokes to an audio system.

'Braid breaking': None.

Remarks: This is a high performance six section filter with a very sharp cut-off below 470MHz. It provides excellent rejection of all amateur bands 1.8 - 440MHz, and is particularly suitable for 70cm band operation.

HPFS High pass filter (special) (RSGB order code Filter 3)

Pass band: UHF TV.

Stop band: All bands up to and including 144MHz.

'Braid breaking': Includes 1:1 transformer type braid breaker.

Remarks: The HPFS is a combined high pass filter and braid breaker. It is a good all-round filter for all HF and VHF amateur bands but is not effective on 430 - 440MHz. Due to the relatively high pass-band loss (up to 4dB), it is not suitable for areas where the TV signal strength is low and may not be suitable for digital terrestrial TV. Its electrical characteristics are the same as the Global HP-4A which is sold by other suppliers.

Ferrite rings (RSGB Order code: FERR)

A pack of two rings made in the USA by Fair-Rite Corporation in type 43 material, part number 2643802702. The inside diameter is 22.85mm (0.9in) and the width is 12.7mm (0.5in). They can accommodate 12 turns of 5mm diameter cable and are equivalent to FT140-43. Details of their characteristics are given below.

Use of ferrite chokes

RF breakthrough into electronic equipment can be caused by signals being picked up on external

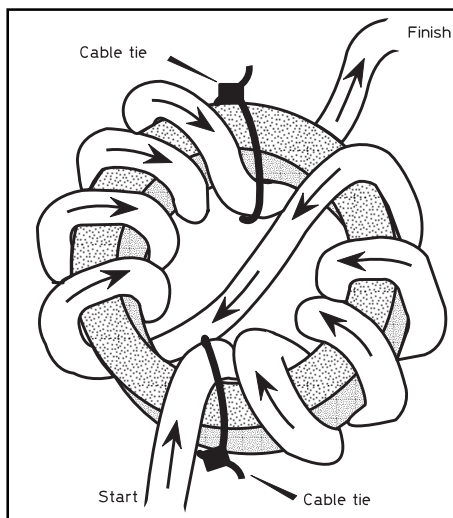


Fig 4: Recommended winding method for ring cores.

cables such as loudspeaker cables, mains cables, etc. This effect can often be reduced or eliminated by winding the affected cable onto a suitable ferrite core which presents a high impedance to unwanted RF signals without affecting the wanted signals. For the best chance of success, it is important to use a suitable grade of ferrite with enough turns in order to obtain the highest possible impedance at the frequencies of interest (3 - 5kHz or more is possible).

Winding a choke

Above about 10MHz, it becomes increasingly important to minimise the stray capacitance between the ends of the winding. Stray capacitance can be reduced by using the winding method shown in Fig 4. It is vital that the end of the cable is always threaded through the core in the same direction as shown by the arrows. Finally, the ends should be secured with self-locking cable ties as shown.

If the cable is very thick, if it has connectors which cannot easily be removed or if it is not long enough, the best solution is usually to make up a short plug-in extension lead using the thinnest suitable cable. This is wound through a ferrite core and then fitted with suitable connectors. Normal TV coax should not be wound tightly through a ferrite ring or onto a ferrite rod otherwise it may collapse internally and short-circuit. Instead, a one metre length of miniature 75Ω coaxial cable such as Maplin Electronics XR88V should be used and fitted with coaxial connectors.

Ferrite ring core characteristics

There is no single grade of ferrite which is ideal for EMC use on all HF and VHF amateur bands. Fair-Rite type 43 material gives good results from 7MHz upwards, but for the 1.8MHz and 3.5MHz bands better results are obtained with a higher permeability ferrite such as Fair-Rite type 73 material or a pair of Neosid 28-041-28 type rings, if available.

At VHF, minimising stray capacitance becomes particularly important so for 144MHz, the recommended number of turns should be halved to 6 or 7 on a ring core or 3 for a clip-on core. Further details of various cores and their characteristics are given below.

Fig 5 shows the approximate impedance of various chokes wound on ferrite ring cores. The loss in dB is also shown but this is measured in a 50Ω test circuit (see [2] for test method).

Curve 'A' shows the characteristics of a 12 turn winding on a single Fair-Rite 2643802702 ring core which gives good results from 7 - 28MHz. For cables thicker than 5mm, similar results can be achieved using 8 - 9 turns on 2 rings stacked together or 6 turns on 4 rings stacked together. (Note: Half the number of turns gives one quarter of the inductance.)

Curve 'B' shows the characteristics of a 12 turn winding on two Fair-Rite 2643802702 ring cores wound together. This gives excellent performance from 3.5 - 14MHz.

Curve 'C' shows the characteristics of 12 turn windings on two Fair-Rite 2643802702 ring cores wound separately which reduces the overall stray capacitance but requires more cable. This gives

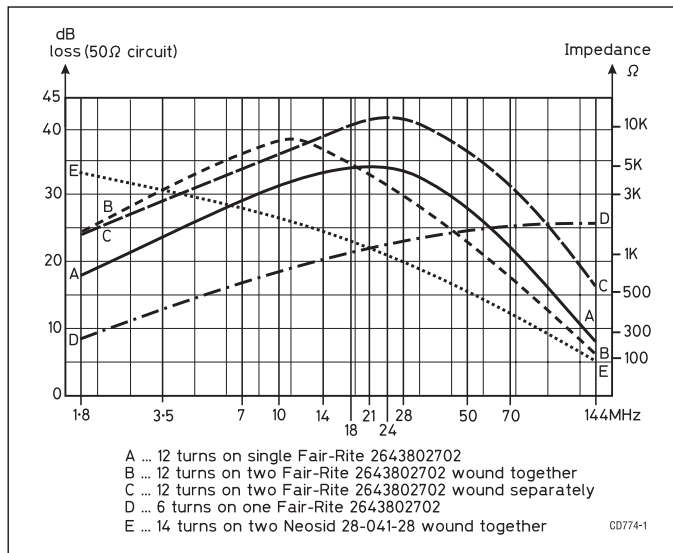


Fig 5: Impedance of various ferrite rings at different frequencies.

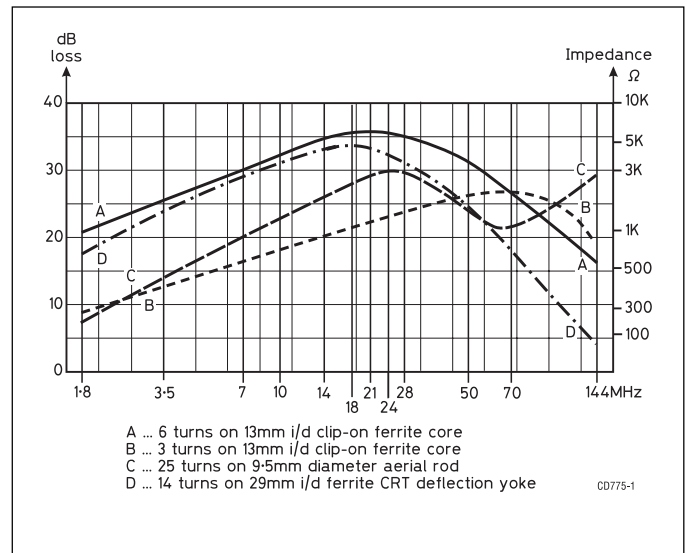


Fig 6: Impedance of some other types of ferrite cores at various frequencies.

excellent performance from 3.5 - 70MHz.

Curve 'D' shows the characteristics of a 6 turn winding on a single Fair-Rite 2643802702 ring core. This gives good results on 144MHz.

Curve 'E' shows the characteristics of a 14 turn winding on a pair of Neosid 28-041-28 rings wound together. These give good results on 1.8MHz and 3.5MHz but their performance falls off on the higher bands.

Another type of ferrite ring is sold by Maplin Electronics as a 'ferrite filter' ring AM35Q. Winding 14 turns on two of these rings stacked together gives a result which is in between curves 'A' and 'B' in Fig 5.

Other types of ferrite core

Fig 6 shows the characteristics of a clip-on core, a ferrite rod and a TV deflection yoke, all of which can be fitted to a cable without access to the ends. Clip-on ferrite cores are available from trade suppliers such as Farnell Components and RS Components. Such cores require fewer turns than a ferrite ring but are normally available with a maximum inside diameter of only 13mm.

Curve 'A' shows the characteristics of a 6 turn winding on a typical clip-on ferrite core with 13mm inside diameter. This gives good results from 7 - 28MHz, although a 6 turn winding is only possible with fairly thin cables. For 3.5MHz, 9 turns on one core or 6 turns on two separate cores are recommended. The core halves must be able to close together properly without the slightest air gap.

Curve 'B' shows 3 turns on a clip-on core which gives better results at 144MHz.

Curve 'C' shows a single layer 25 turn winding on a 9.5 mm diameter ferrite aerial rod at least 150 mm long. This is effective at 21MHz and above.

Curve 'D' shows the typical characteristics of a 14 turn winding on a ferrite yoke ring core which can be salvaged with care from the deflection coils of a scrap TV or monitor tube. Such cores have an inside diameter of 29 - 48 mm and consist of two halves clipped together. Although not intended for EMC use, many types use a grade of ferrite that is effective from 7 to 28MHz. For the HF bands, 18 - 20 turns should be used if possible. Other types of surplus cores, such as ferrite transformer cores, are generally NOT suitable for amateur radio EMC use.

Contacting the EMC Committee

RSGB members with an EMC problem should first contact their local co-ordinator (or if he/she is not available any other co-ordinator) by telephone or e-mail. Members who need to contact the committee directly should e-mail the EMC Membership Services Administrator (EMC.Committee@rsgb.org.uk) or write to him c/o RSGB HQ. Members may also telephone HQ to obtain the current contact telephone number.

N England

Arthur Armstrong, G0FBW, Co Durham. Tel: 0191 586 4500. E-mail: art@g0fbw.demon.co.uk
 Sidney Dimmock, GD8COH, Isle of Man. Tel: 01624 862802. E-mail: phoenix13@manx.net
 Stan Ellis, GD3LSF, Isle of Man. Tel: 01624 673303. E-mail: cary@mcb.net
 Raymond Gilchrist, G0TUE, Cumbria. Tel: 01229 772197. E-mail: g0tue@trace.demon.co.uk
 Ron Smith, G3SVW, Cheshire. Tel: 0161 969 3999. E-mail: ronsmith@infoweb.abs.net

Midlands

Bob Harrison, G4UJS, Shropshire. Tel: 01948 880392. E-mail: g4ujs@qsl.net
 Gerry Valleley, G4YRS, Bedfordshire. Tel: 01767 601008.

SE England

Peter Daly, G0GTE, Stevenage. Tel: 01438 230877. E-mail: peted@gn.apc.org
 George Halse, G3GRV, Hemel Hempstead. E-mail: g_halse@excite.co.uk
 Ken Hendry, G0BBN, S Benfleet. Tel: 01268 755350. E-mail: 113125.2441@compuserve.com
 Andrew Maish, G4ADM, Surrey. Tel: 020 8335 3434. Email: andrew.maish@btinternet.com

SW England

Peter Bertram, GJ8PVL, Jersey. Tel: 01534 811133.
 Phil Goodfellow, G4KUQ, Bristol. Tel: 0117 971 6093. E-mail: g4kuq@77hz.com
 Dave McQue, G4NJU, Milton Keynes. Tel: 01908 378277. E-mail: g4nju@compuserve.com
 Les Parry, G8AMK, Berks. Tel: 01344 423704. E-mail: leslie.parry@btinternet.com
 Hugh Pearson, G7KET, Bristol. Tel: 01275 462934. E-mail: hugh.pearson@virgin.net
 Ken Watkins, G3AIK, Somerset. Tel: 01935 825266. EMail: k.j.watkins@btinternet.com

Wales

Ray Ricketts, GW7AGG, Aberystwyth. Tel: 01970 611853. E-mail: mwmg01@aber.ac.uk
 Dave Burrows, MW1DSB, Denbighshire. Tel: 01745 583010. E-mail: dave@st-asaph.uk.co
 Dave Evans, GW4GTE, Flintshire. Tel: 01244 544 794. E-mail: dave@daveevans.org.uk
 John Clifford, GW4BVE, Powys. Tel: 01938 590336. E-mail: john@jclifford.co.uk
 Dr Chris Barnes, GW4BZD, Gwynedd. Tel: 01248 360376. E-mail: gmbarnes@btinternet.com

Scotland

Ron Adam, GM4ILS, Morayshire. Tel: 01343 545842. E-mail: gm4ils@hotmail.com
 Rev Stanley Bennie, GM4PTQ, Isle of Lewis. Tel: 01851 703609. E-mail: gm4ptq@zetnet.co.uk
 Graham Brooks, GM4NHX, Caithness. Tel: 01847 831570.
 Dave Morris, GM3YEW, Perth. Tel: 01738 850533. E-mail: gwen.morris@ic24.net
 Tommy Menzies, GM1GEQ, Edinburgh. Tel: 0131 445 3928. E-mail: gm1geq@rsgb.org.uk
 David Cossar GM3WIL, Prestwick. Tel: 01292 479217. E-mail: davecossar@ntlworld.com

References:

- [1]RadCom EMC Column, April 1997 and June 1997, item on TVI, Parts 1 and 2.
- [2]The RSGB Guide to EMC, Appendix 3, Robin Page-Jones, G3JWI, RSGB, 1998.



CQ...CQ

CHRISTIAN RADIO AMATEURS

and LISTENERS...

DE WACRAL

The World Association of Christian Radio Amateurs and Listeners is a Christian organisation dedicated to the worldwide promotion of Friendship and Fellowship through the medium of amateur radio.

WACRAL was founded in 1957 by a Methodist minister, the late Rev. Arthur Shepherd, G3NGF, and was originally known as the World Association of Methodist Radio Amateurs and Clubs.

Membership is open to committed Christians of all denominations. The truly international nature of the Association is attracting an increasing number of 'DX' members, some of whom have formed local chapters. The annual subscription is maintained at a modest level.

Whilst the majority of WACRAL people are licensed radio amateurs who transmit regularly on the amateur bands, there are also many who are short wave broadcast listeners or who have specialised interests relating to the hobby.



Rev. Arthur Shepherd, G3NGF.- founder of WACRAL

ANNUAL CONFERENCE

Held in October of each year, the popular Conference features a weekend of Christian fellowship, services of worship, amateur radio activities and construction, a 'junk sale' and naturally, the all important Executive Committee and Annual General Meetings.

Join the WACRAL 'GOOD NEWS' CHRISTIAN NETS!

Tune in to the regular UK Sunday morning "GOOD NEWS" SSB net at 8am local time on 3747 kHz and on 7047kHz at 2pm. The two metre enthusiasts also meet regionally at 3pm on 144.205 MHz. Full details of WACRAL midweek and international frequencies, times and call signs are available from the Membership Secretary.



John Corbett, G3TWS, works the 'GOOD NEWS' net.

501

Most people have heard of Radio Amateurs and are also aware that they frequently use what is termed "jargon". The greater part of this dates from the early days of the Telegraph, when all messages, even between post offices in this country, were sent by means of Morse Code. In order to save time, well-known phrases which were in frequent use, were given numbers or a three letter abbreviation which became known as the Q-code.

In amateur radio, 73 is a general greeting normally used when ending a conversation (a "QSO"). If we are greeting a member of the opposite sex, we say "88", which means "love and kisses". When we want to wish anyone "good health", we say "99", and if we want to wish them "God Bless", we say "100".

A now departed "ham", known to us as a "Silent Key", told of a Scottish lad who was dying. With his last breath, he whispered to his friend "141". The next time the friend was in church, he began to thumb his way through the pages of the hymn book. On reaching the number 141, he realised the message his friend was trying to convey to him. The hymn was "God be with you 'til we meet again". Later, a WACRAL member added all these numbers together - they totalled 501. Since that time it has been used as both a greeting and a blessing in Christian Amateur Radio Nets.



THE WORLD ASSOCIATION OF CHRISTIAN RADIO AMATEURS AND LISTENERS

Further information and our brochure are available from:

The Membership Secretary, WACRAL, 51 Alma Road, Brixham, South Devon, TQ5 8QR

Telephone: 01803 854504 Internet: [HTTP://www.wacral.org](http://www.wacral.org)