

Guide to HF

PART 2 ON THE BANDS

In order to make the best use of the amateur bands and to minimise interference between users, different areas of the band and different frequencies are reserved for various types of emission or for particular uses. Typically the bottom section of the band is reserved for CW, and the upper sections for SSB. However, other frequencies are reserved for transmissions such as QRP, slow scan television, and the like. In the UK the band plans are a 'gentleman's agreement', but in some countries they are a part of the licence conditions. Here, it is considered very discourteous not to abide by them. Copies of the band plans can be found in the *RSGB Yearbook*. In any case it is always best to listen first to make sure that you are in the correct area of the band and that no interference is being caused to other users.

FIRST STEPS

Getting the station set up and knowing what to expect on the bands are the first two steps in becoming active on the bands. The next is making the first few forays on to the bands themselves. This is a particularly exciting time, and one that will be remembered for many years to come. I can still remember my very first contact. Then some months later after I had bought a CW transmitter that covered 20 metres, I still remember the feeling of tremendous excitement and yet almost disbelief when stations in California and Montana responded to my calls early one morning.

MAKING CONTACTS

First, take some time to listen on the bands to find out how contacts are made. In fact the best apprenticeship for anyone wanting to use the HF bands is to spend some time as a short wave listener. In this way all the procedures and the way contacts are made can be learned. The time will come to make the first contact. Make sure that everything is prepared, the log book is to hand and there is some scrap paper for notes. Contacts on the HF bands tend to be rather short and they tend to follow a straightforward pattern. Combined with all the abbreviations that are used this makes it very much easier for people who don't speak English as their first language.

Typically contacts consist of a station making a CQ call and then

another station responding. The first station will then proceed to give a report, name and location and then at this stage they will pass the transmission back. By keeping the transmissions fairly short at this stage it means that if reception is poor it helps to reduce the possibility of losing contact altogether. Once reports, names and locations have been exchanged the next transmission typically provides information about the

equipment, and possibly the weather.

Under many circumstances the third transmission is the final one and consists of passing QSL information and good wishes to the other station. Naturally the contact

can be extended and many people do talk for much longer but, typically, short contacts are by far the most common. In fact for rare stations contacts are even shorter, just consisting of a confirmation of the callsign and a report. When calling a station that is in great demand be careful to ensure that the contact is quick, otherwise others will become impatient.

LISTEN, LISTEN, LISTEN

Whilst there is always a great temptation to get straight on the air, the advice from any experienced operator is to listen, listen a bit more, and then spend some more time listening. This is the best way to find out how the band is performing, and select the stations that are most likely to give a chance of having a contact. Just putting out CQ calls may make you feel good, but in my experience and that of most others, it brings far fewer results, unless you are a very rare DX station.

Listening is one of the important skills any DXer needs to learn. The most experienced operators on the bands spend far more time listening than actually transmitting. Often they are able to pick out stations in the noise that less experienced operators may not hear. They are also quickly able to pick out the 'interesting' stations on the band amidst a host of less interesting signals. Whilst stations running less power may not be able to contact other stations that are low in strength, having the ability to pick out the interesting stations

that are likely to result in contacts is just as important for the large station as for the smaller one.

A little experience on the bands will develop a sense of what to listen for: a different accent may indicate someone from a different area of the world from all the other signals that can be heard, a 'fluttery' signal may indicate that it is coming from across the north pole, or a station talking about his QSL manager may indicate that

he is in a rare location. These and many other tell-tale signs

become almost second nature indicators to the experienced DXer. However,

one of the biggest give-aways is a pile-up. At certain times an enormous cacophony of noise

may be heard on the band. Underneath or to one side of this there may be a rare or interesting station. A pile-up is a certain indication that a station of interest is around. However, competition may be stiff, but against this, the contacts are usually swift, allowing more people to have a chance. Also by developing the skills it is possible to become very successful in making contact under these conditions.

QSL CARDS

As the number of interesting contacts under your belt begins to grow, it is often nice to have some form of token by which to confirm or remember these contacts. In the early 1920s radio amateurs exchanged letters to confirm the contact details, but soon the idea of a postcard-sized card arrived and soon amateurs had special cards printed. Since then the idea of QSL cards has grown dramatically and many millions are exchanged each year.

There are several companies that print these cards. Prices naturally vary from one supplier to the next, so shop around when you decide to order some for there are several addresses in the advertisements in *RadCom*. If cost is a real issue or you want to make your own design it is even possible to print them from a computer.

Whatever route is taken to buy them, they should have certain information on them. Naturally the callsign, address, name of the operator and any other relevant information



The RSGB's
Islands on the
Air World
award.



Operating

should be included. Space should be provided to accommodate the contact information. This may be filled in by hand, although many people print out sticky labels from information held on a computer log and only have to attach them to the card. If they are to be filled in manually the wording on the card should allow for the contact information to be added. This should include the callsign of the station to whom the card is addressed and with whom the contact was made, the date, time, and frequency or band on which the contact was made along with the mode of transmission, Morse, SSB etc. The signal report should be given and it is also very useful to have space for the equipment that was used, including the antenna. A space to ask for a return card, or to thank the station for a card already sent is normally added, and space for a signature as well. Whilst there are many standard items that are printed on QSL cards, there is plenty of variety and many of them are very colourful, making them very attractive to collect.

Exchanging cards can be expensive if they are sent out individually by post. To overcome this a QSL bureau operates in most countries. Amateurs send their cards in bulk to their bureau. These are sorted and sent in bulk to other countries where they are distributed in bulk to the members. This naturally takes longer than sending them direct and it can sometimes take a few years for replies to be received but it is very much cheaper than the alternative. For RSGB members the service is free. Only the postage for the cards sent to the bureau at RSGB headquarters and postage for stamped envelopes sent to and kept with QSL bureau sub-managers for the return cards are required. In some countries the societies charge their members for the cards sent through the bureau.

For some of the more interesting or rewarding contacts it can be an idea to send cards directly. It is only polite to include the return postage. This is particularly important for rare or interesting stations who are likely to receive many hundreds of cards. International Reply Coupons (IRCs) are normally used for this as they can be redeemed for the surface rate postage. They can be bought at main Post Offices, but if bought via this route they can be expensive. Often DX stations who receive large quantities sell them off second-hand and this represents a good deal for both parties.

Stations located in remote areas of

the earth often arrange for someone else to act as their QSL manager. These managers are sent the logs by the DX station and then they handle all applications for cards. As the managers are located in areas of the world where postal services are faster and more reliable they are far better placed to respond to QSL card requests.

When collecting cards do not expect everyone to reply to cards that are sent out. Most people only expect to receive replies to a maximum of 30 or 40% of the cards they send out. It is better for cards that are sent out with return postage but even then it is not 100% so be warned not to expect everyone to reply. However, when cards are returned, many are very attractive and colourful and can be displayed in the shack.

AWARDS

Many people enjoy the challenge of working towards awards. Not only are the awards attractive to display in the shack but they are great fun to work towards. There are plenty of awards that can be gained for achieving a great variety of challenges. However, there are several well-established and very popular ones. One of these is DXCC. Awarded by the American Radio Relay League (ARRL), the US equivalent of the RSGB, it can be gained by showing proof (QSL cards) of making contact with stations 100 or more countries. A list of countries for this award is published by the ARRL. Endorsements can be gained for making contact with further countries. In fact many top DXers have over 300 countries to their credit.

The RSGB has a number of awards. One of these is the IOTA or Islands On The Air award. This is gained by making contacts with the requisite number of islands. There are 18 different certificates that are awarded for achieving different requirements. Full details are available on the IOTA website (see WWW. below), and many others can be found on the RSGB website.

OTHER ACTIVITIES

There is plenty that can be achieved on the HF bands. Once established

on the bands you can decide what blend of the hobby you enjoy. For many the challenge and excitement of chasing DX is their main interest. Others enjoy chatting to old friends. Many people enjoy low power (QRP) operation, or building and experimenting with new equipment. One aspect of the HF bands that many people enjoy is experimenting with antennas. In fact whatever one's interest in the HF bands there is sure to be plenty to maintain a healthy interest for many years. To demonstrate this there are several 90-year olds on the bands! ♦

A BEGINNER'S HF VOCABULARY, PART 2

long wire	Strictly speaking a long wire antenna should be 'long' in terms of wavelength, so a long wire on 80m would be at least 80m long; but usually taken to mean any random-length end-fed wire.
propagation	Means by which radio signals are transmitted through space.
QRP	Low power (usually taken as meaning 5 watts or less).
QSL (card)	Verification card sent to confirm a contact.
radials	Series of wires, sometimes but not necessarily a quarter-wavelength long, radiating like the spokes of a wheel from the base of a vertical antenna and connected to earth.
reflector	Element of beam antenna placed behind the dipole; typically a few per cent longer than the dipole.
RF	Radio Frequency; the frequency of the transmission, as opposed to the audio frequency of the speech on the transmission.
SSTV	Slow Scan Television (SSTV), a means of sending still pictures by amateur radio.
SSB	Single Sideband, a type of speech transmission.
sunspot cycle	Solar activity rises and falls over an approximately 11-year cycle. High solar activity, associated with a high number of sunspots, generally provides better propagation conditions on the higher HF bands.
topband	The 160 metre amateur band, in the UK 1810 - 2000kHz.
transceiver	Transmitter and receiver combined into one unit.
trap dipole	Dipole antenna containing circuits that stop certain frequencies but pass others. This allows what would otherwise be a single-band antenna to work on two or more frequency bands.
'WARC bands'	12, 17 and 30 metre (24, 18 and 10MHz) bands, which were allocated to the Amateur Service at the World Administrative Radio Conference (WARC) in 1979.
Yagi	Type of directional beam antenna with two or more elements dipole Antenna consisting of two lengths of wire or metal rod of the same length and fed in the centre, usually with coax cable.

(SEE ALSO PAGE 57, RADCOM MARCH 2003)

FURTHER READING

Amateur Radio Explained, Ian Poole, G3YWX.

Your Guide to Propagation, Ian Poole, G3YWX.

Backyard Antennas, Peter Dodd, G3LDO.

HF Amateur Radio, Ian Poole, G3YWX.

RSGB Yearbook 2003, edited by Steve White, G3ZVW.

RSGB IOTA Directory, edited by Roger Balister, G3KMA.

ALL OF THESE RSGB PUBLICATIONS ARE AVAILABLE FROM THE RSGB SHOP – SEE WWW.RSGB.ORG/SHOP OR TEL: 0870 904 7373.

WE B S E A R C H

Ian Poole:	www.radio-electronics.com
RSGB:	www.rsgb.org
RSGB Shop:	www.rsgb.org/shop
IOTA:	www.rsgbiota.org