

to tune in accurately, which takes a little time. HF CQ calls need to be longer, to allow for the accurate tuning, and repeated a few times to allow for those just tuning round to find you.

A HF call might be "CQ CQ CQ CQ CQ CQ This is M3ABC, M3ABC calling CQ CQ CQ M3ABC calling CQ".

It is quite possible that this will not be heard the first time so only a second or two need be allowed before repeating the call. It may well require many such calls before a reply is heard.

If the replying station is slightly off-tune, do not adjust your main transmit/receive frequency. The task of tuning in properly or 'netting' as it is called is down to them. It is no use both of you trying to follow each other up and down the band!

If, after your second transmission, he/she still sounds a bit off-tune, then the receiver incremental tuning or RIT control may be used to make fine adjustments to your receive frequency without altering your transmit frequency, which the distant station will, by now, have tuned in to. This does take a bit of practice to get used to the pitch of the voice and the retuning required. It seldom sounds as good as an FM contact, but good results can be achieved.

On a VHF or UHF calling channel, you should agree a working frequency or channel and then leave the calling channel clear for others. It is bad manners to hold a conversation on the calling channel. One of you, normally the caller, will check neighbouring channels for a clear one, asking if it is use, and then advise his contact of the chosen one and agree to make contact there. Bear in mind that it is possible that he will find the frequency occupied even if you didn't. Also since you will then be on a new frequency, do not forget to give your callsign again. The minimum requirement is every 15 minutes but you should aim to give your callsign on most 'overs'.

Signal reports

IT IS NORMAL for amateurs to say how well they are receiving the other station, that is a 'signal report'. The report is based on the "RST code of Readability, Signal strength and (Morse only) Tone. Readability is on a 5 point scale from R1 - unreadable to R5 - perfectly readable and signal strength on a 9 point scale from S1 - Faint signals, barely perceptible to S9 - Extremely strong signals. It is common to use the signal strength meter which is usually calibrated

S1 to S9 and occasionally with numbers such as +10 and +20. These are even stronger signals as shown on the meter. The calibration is very approximate but useable. On FM the meter will give a steady reading but on SSB it will vary in time with the speech. You will need to give an average reading during a longer period of speech. A handy RST chart is included on the inside back cover of this book to make remembering it easier.

Many operators give a 59 signal report even when it is obviously not. It is more useful to give an honest report but bear in mind the quality of the antenna will have a considerable influence on the signal received.

An HF SSB contact

ON HF IT IS quite likely that the station replying will not be from the UK and their command of the English language rather limited. The contact becomes rather more formalised, so each party has a reasonable idea what to expect. The sequence of events might be:

CQ CQ CQ CQ CQ CQ this is M3ABC calling CQ

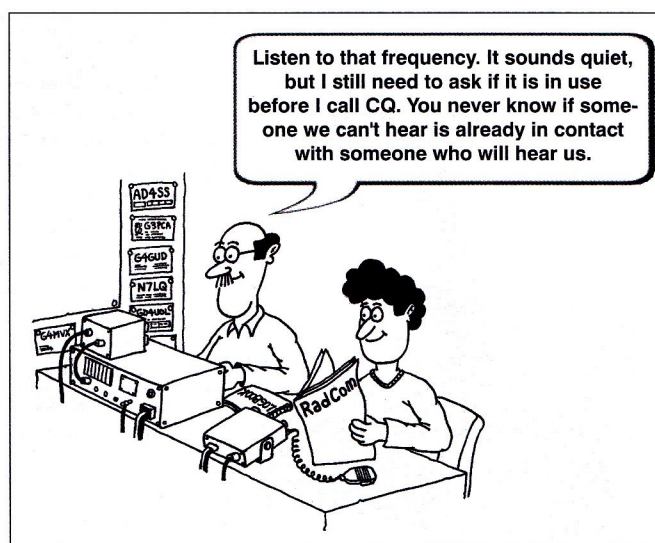
M3ABC this is PA1XYZ PA1XYZ

PA1XYZ Good evening, name here is Peter, location South-ampton, over.

M3ABC Good evening Peter, name Jan in Hilversum, Hilversum. Your report is 59, 59, over.

Ok Jan, your report is 5 and 7, 5 and 7, good signal.

Name, location and signal report are standard items in a contact. If communication or understanding is poor, that might be practically all that is said, especially if it is a first contact. After that it is common to exchange details of the transmitter and antenna. You may also be asked to 'QSL'. A QSL card is a postcard with the details of the contact, date time, frequency, mode and other items you may like to include. This is only likely to happen for longer distant HF SSB contacts. QSL cards are not normally sent for local VHF FM contacts.



Repeaters

A REPEATER IS a connected transmitter and receiver, intended to re-transmit the signal picked up by the receiver.

Clearly it cannot re-transmit the signal on the same frequency, because that would prevent the receiver from hearing anything.

Take a look at the 144 MHz band plan on page 21. The sub-band 144-990 MHz to 145-1935 MHz is shown as FM Repeater inputs, RV48 to RV63. The RV numbers are the channel numbers. They are centred on 145-000 MHz (RV48), 145-0125 MHz (RV49) and so on in 12.5kHz steps. The band starts at 144-990 MHz to allow for the bandwidth of the transmission. There are 16 channels in all. The sub-band 145-5935 MHz to 145-7935 MHz is shown as FM Repeater outputs with the same channel numbers.

The purpose or function of a repeater is to allow hand-held and mobile transceivers to obtain greater range, which may otherwise be quite limited. The repeater will be mounted on a prominent site.

So that the repeater does not re-transmit unintended noise and unwanted signals, it is fitted with one or two tone operated facilities. Historically, to 'wake up' a repeater it is necessary for the user to transmit a 1750Hz 'tone-burst' lasting about half a second. This would activate the repeater, which would then re-transmit any received signals. After about 2 minutes of non-use it would shut down and need another tone-burst. So long as it was used with only small gaps, it would stay live.

A more recent development, not yet fitted to all repeaters, is Continuous Tone Coded Signalling System (CTCSS). This relies on a low frequency sub-audio tone between 70 and 250Hz, which the user transmits all the time that he is transmitting. Different tones are used in different geographical areas, but often all the repeaters on different radio