The UK has a network of around 300 amateur radio repeaters. These are commonly on 2 metres and 70cm, although there are repeaters for other bands and modes. There is a comprehensive list of all of the UK's repeaters at **www.ukrepeater.net** – Here, you'll find some advice on setting up and using a repeater, plus some common terms.

Accessing a Repeater

Before you can use a repeater, you will need to programme your radio with the settings for that repeater. How this is done varies with each radio, and you will need to refer to the manual, or chat to someone familiar with that radio to work out how to enter and store the settings correctly. Many find it easier to get a cable and connect the radio to a computer to use that for programming, as it's often easier than the fiddly on-screen menu on the radio. To access a repeater, go www.ukrepeater.net and get the following settings, and program them into your radio:

- **Output Frequency:** The frequency that the repeater transmits on, and you listen on
- **The Offset:** The difference between the Output and the Input frequencies (either a positive or a negative frequency). For 2m repeaters, the offset is normally 600kHz below the Output frequency. See 'Glossary'
- **The CTCSS Tone:** This is required to allow your signal to be forwarded by the repeater

You need to program your radio to switch from the Output to the Input frequency when you push the Transmit button, and to send the correct identifying tone. Only then will the repeater let you pass a message. Once you have the settings correct, save them to a memory on the radio for easy use next time.

Using a repeater

Before getting started with repeaters, it's a good idea to have a listen to your local repeaters to see which ones are active, and what the etiquette is for using that repeater. Some things you should know:

- Calling "CQ" on a repeater is generally not done. Instead, if you're looking for a contact, say something like: "M6ABC listening for any calls"
- Repeaters are primarily for mobile-to-mobile use. Many people do use repeaters at home, but you should always give priority to mobile users who need to put a call out, and leave pauses so that others can get in.
- 'Break' – Those looking to join in an existing conversation on a repeater, or to get a priority message out will normally wait for a pause between 'overs' and call "break". The next person to speak should bring in the station to let them send their message, or join the chat. You will often hear "break acknowledged"
- Timeout – Most repeaters have a timeout to guard against people keeping the repeater open for too long. Some repeaters have a timeout of only 90 seconds, to encourage users to keep their 'overs' short.
- "K" – When someone stops talking and releases the transmit button, the repeater sends out a "K" (Morse code: 'dah-di-dah'). This is to confirm that the repeater as reset the timeout. Try not to talk over the "K"

Glossary of repeater terms

- **Offset:** A repeater uses different transmit and receive frequencies, which are 'offset' by a fixed value. 2m repeaters commonly have an offset of -600kHz. For example, a repeater that transmits on 145.725MHz, will 'listen' for incoming signals on 145.125MHz – This is known as the Input frequency
- **CTCSS:** Continuous Tone Coded Squelch System. This is a tone that you can't hear that is transmitted with voice. Repeaters listen for CTCSS tones and will only 'open' the repeater if the correct CTCSS tone is sent
- **D-Star:** This is a form of digital radio using the VHF and UHF amateur bands. The system is used by Icom digital radios, and there is a network of D-Star compatible repeaters in the UK. Radios are generally not cheap, and setup can be tricky, which may explain why the system is not widely used.

For more Getting Started Guides, go to essexham.co.uk/getstarted