# Getting Started: Data Modes

Amateur radio data modes are lots of fun – they work with low power, avoid the language barrier, are quieter than using voice or CW, and signals can get through where voice can't. Here is a short guide to the basics

**The Different Modes:**

There are lots of different data modes. Here is a quick summary of the most common modes:

- **PSK31 –** A good mode to start out with, this allows a two-way chat using a keyboard. You'll find it helps to make use of macros to save on typing, e.g: **"<him> de <you>. My name is Pete and my location is <loc>"**
- **WSPR –** This is a Weak Signal Propagation Reporter – You can't use it for a chat, but you can turn your machine and radio into a beacon and use a web browser to see how far out your signal is getting
- **SSTV -** Slow Scan TV, used to send and receive pictures. Images take around one minute to transmit and can be decoded on a computer, or just by holding a smartphone in front of your radio's speaker
- **JT65** – Great for getting through where no other mode can, you can work the world on just a few watts. Each message takes 50 seconds to send and only contains a few characters, so it's not a mode for nattering!
- **RTTY** - Radio Teletype. This is still quite popular, and like PSK31 is used for a real-time keyboard-to-keyboard chat – there are lots of different speeds and modes for RTTY, but it can be a little fiddly to set up

On each band, there are normally one or more frequencies for each mode, and that frequency can contain multiple QSOs – Check the Band Plan or online to find a frequency and have a listen.


Normally your computer software shows a "waterfall" with different colours to show each QSO. Click on a QSO and watch the computer decode the text.

**What you'll need to get started**

Receiving and sending data signals requires you to connect your computer to your HF radio, then setting up the software. This can be quite tricky, and it's not possible to cover the set-up in detail in this one-page guide – this just offers the basics. We offer more information on the Essex Ham website, where you can also ask for help and advice. In summary, you'll need the following:

- **Computer** – with a USB port and a soundcard
- **Radio** – Typically an HF rig with a data socket
- **Interface** – To connect between computer and rig, and handle data and audio
- **Software** – To decode the data

The Interface is used to connect the radio and the computer – A common Interface is the **Digimaster ProPlus**, which handles data, audio and CAT (Computer Aided Tuning), and can be supplied with the correct leads.

You'll also need some software. Many people opt for **Ham Radio Deluxe** which can handle PSK31 and RTTY. Note that from version 6, Ham Radio Deluxe isn't free, so look on our site for the link to the free version, v5.2. For PSK31, you can also try **EssexPSK**, the simple receive-only PSK31 application that was created especially for Essex Ham by Charlie M0PZT at **www.essexham.co.uk/essexpsk**

You can also download apps for PSK31 & SSTV, and decode signals by holding your phone by a radio's speaker.

**For more and weblinks, see our Getting Started with Data guide at essexham.co.uk/data**