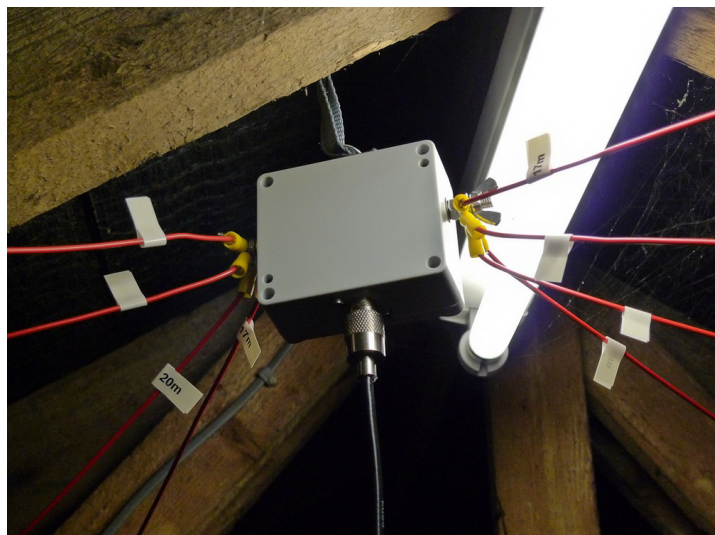


## WHAT IS QRP?

ANDY G7UHN

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QRP IS THE TERM REFERRING TO LOW-POWER AMATEUR RADIO OPERATIONS, typically using a transmission power of 5W or less. QRP comes from the Q-codes used in Morse code communication, meaning 'reduced power'.

The reasons for operating a low-or-reduced-power transmitter may be born out of space constraints at home or perhaps a need to lighten the load carried for portable operation in the great outdoors. Low-power operation presents many challenges to amateur radio operators, but the rewards are great. Imagine the thrill of making intercontinental contacts with less power than an energy-saving light bulb!

As well as the challenges of operating at low power, there are a number of more earthly benefits to QRP operations.

### ELEGANT SIMPLICITY OF QRP

Amateur radio doesn't have to be an expensive hobby. Low-power equipment tends to be small and can present a low-cost entry point into the hobby, although it's wise to understand the 'challenge' aspect of operating at low power.

There is also a wide range of electronics kits available for amateurs to build their own equipment, and, for the more adventurous or experienced, homebrewing is also an option.

### SIMPLE ANTENNAS

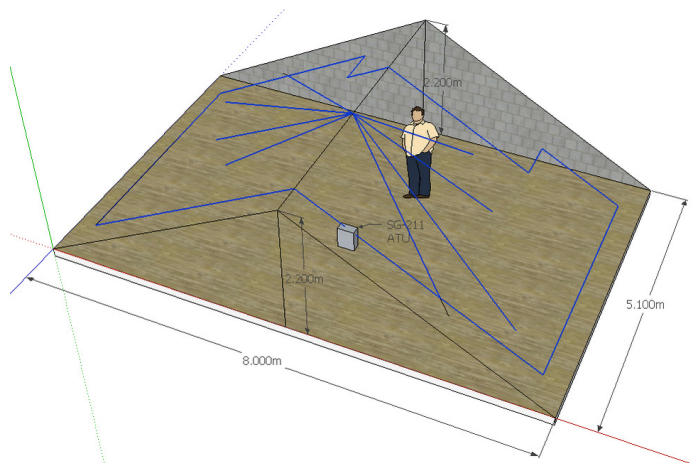
QRP is an approach often used by radio amateurs with space constraints at home or perhaps those who don't wish to advertise to their neighbours, so-called 'stealth amateur radio'. Low-power transmitters are much less likely to cause interference to other electrical devices, and this allows placement of antennas in attic spaces.

It also eases the requirements on antenna construction, allowing the use of thinner wire and unobtrusive installations around the modern home. Keeping transmit power low allows use of unobtrusive, easily constructed antennas.

### LIGHTWEIGHT PORTABLE EQUIPMENT

The ease of taking low-power equipment into the great outdoors is another advantage.

Having lighter, more portable equipment allows the radio amateur to reach the best locations, further away from the car. What can outdoor locations offer? Away from the electrical noise of modern civilisation, receivers will offer better performance, and the performance of our low-power transmitters can be enhanced by factors like height, proximity to water and reflections off surrounding terrain.



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### STATION OPTIMISATION

One of the challenges of low-power operation is learning efficient ways to use the transmitter to make every watt count. QRP operators typically employ narrow bandwidth transmission modes like CW (using Morse code) and modern data modes such as PSK31 that concentrate the transmitter's power and improve the distance over which contacts can be made.

There are, of course, many ways to make performance improvements in a radio station, and QRP operations encourage radio amateurs to learn more about every aspect of the hobby.

QRP operation allows lightweight equipment that can be easily set up outdoors.

### INVESTING TIME & PATIENCE

Low-power amateur radio operation involves an investment of time and patience. Good results will depend on both care in the selection of equipment and some luck with propagation conditions. Worldwide contacts can be achieved with QRP and represent a real achievement for the radio amateur who chooses to explore this avenue of the hobby.

The map image [Fig.4] shows an example of QRP results: contacts made using 5W transmit power and simple wire antennas located in an attic.

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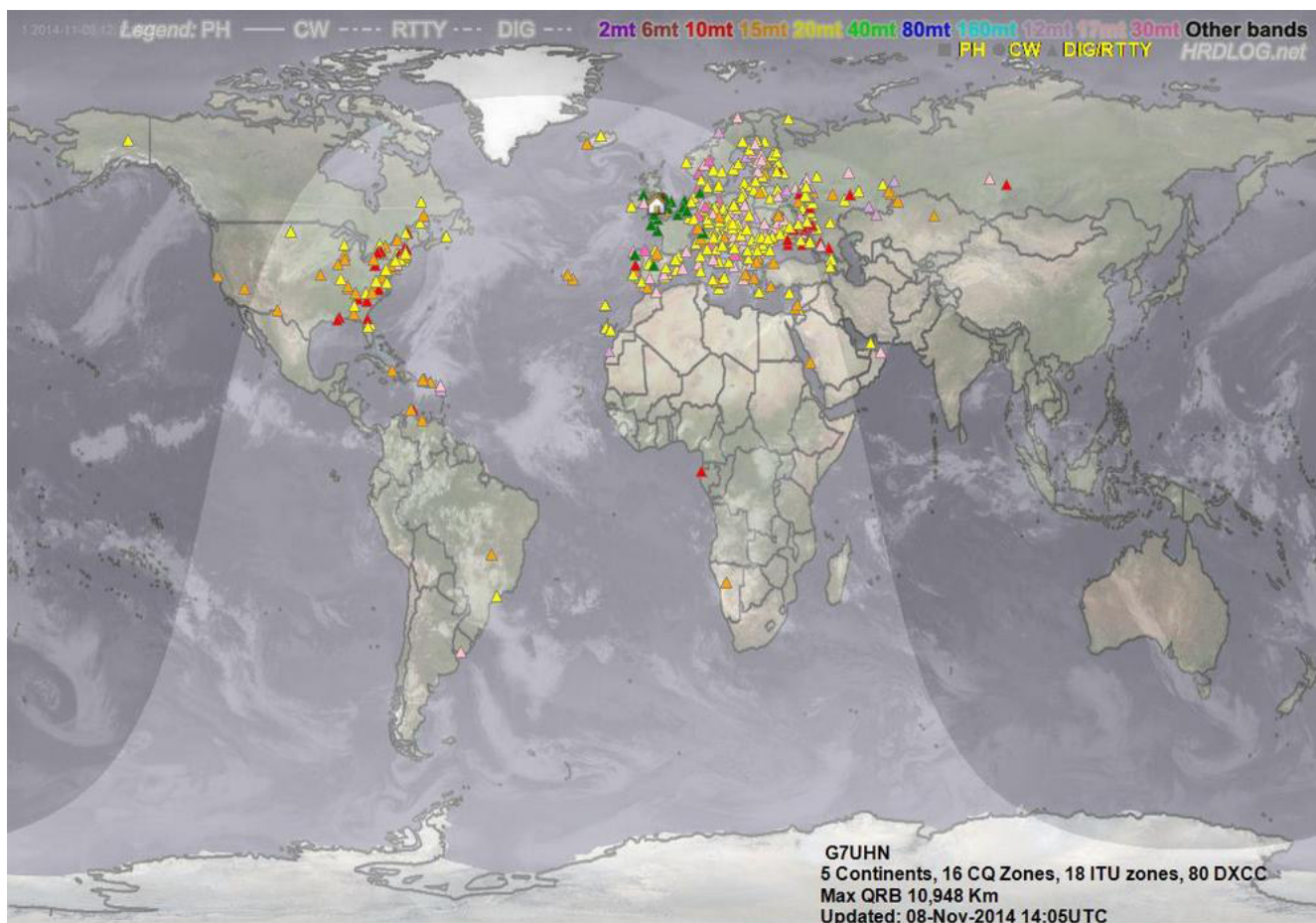


Fig.4