

## Choosing a Radio for Skiing

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This user guide is to help snowsporters choose a suitable radio for use on-piste. To keep it short and simple full technical explanations can be found on Wikipedia.

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It is assumed the radios you need will be hand-held radios (walkie talkies) working back-to-back (meaning direct to one another). Radios that you can take from one resort to another. If you are a professional user tied to one site or resort then you might look at the section titled Licensed Radios.

### **Licence Free or Licensed**

All radio equipment must conform with the laws of the country in which they are used. There is no international licensing authority so licensing has to be applied for from the country which the radios will be used.

The exception to this are radios conforming to the PMR446 specification. These radios can be used freely in most European countries without a licence. There is a similar specification called Family Radio Service (FRS) in the USA (North America). FRS radios and PMR446 radios will not talk to each other. [www.wildtalk.com](http://www.wildtalk.com) do not sell FRS radios.

### **About Licence Free PMR446 radios.**

All PMR446 (wiki) radios have only 8 channels. This is obviously not enough for a busy location so to prevent you hearing other users on your channel a system called CTCSS (wiki) is used. CTCSS is some times also sold as DCS, 'Sub Channel', 'Quiet Talk' and many other names. There are at least 38 CTCSS 'sub channels'. So combined with 8 real channels you have in theory at least 300 channel combinations to choose from. This means you should never hear other users on your channel. Caution. Some cheaper radios do not have CTCSS. Wildtalk only sells radios with CTCSS.

As PMR446 is licence free across Europe and so this is the system wildtalk recommends for most snowsport users. We have many reports of PMR446 radios being used in the North America without problem but technically you will be contravening US laws so we recommend you source FRS radios in the USA for the USA.

### **About Licensed Radios.**

Licensed radios are more powerful than PMR446 and with all other variables being equal a licensed radio might give up to twice the range of PMR446 radios in back-to-back mode. However used as a direct alternative to PMR446 radios in the hills the main restriction to range will be your location rather than the power of the radios. Often even moving a few metres to higher ground can make much more than the difference in range between licensed and licence-free radios.

The main advantage to using licensed radios is that they can be used with a Repeater(wiki). This is generally located in a position that overlooks the whole ski area and all your radio traffic passes through it giving massive range improvements. Repeaters require licensing, a power supply, a fairly large aerial and secure location so they are not generally portable (although we can supply portable and Solar powered repeaters).

A licence for back-to-back radio systems in the UK is very cheap however and licence applications are a formality. Licensing for repeaters is more expensive

### **About VHF and UHF**

Without elaborating on the technical details VHF radios tend to give slightly better range than UHF in open, non-urban locations. However the differences are not particularly great. UHF works much better in Urban areas as it penetrates buildings better.

### **About Range**

The claims made by manufacturers on the boxes of cheaper radios for 'x' kilometres are fairly meaningless. All hand-held radio are line-of-site. This means they cannot be used where a mountain or high ground is in the way. Wet foliage, forestry, vehicles and buildings also reduce the range significantly Best range will be achieved in open ground with the minimum obstacles in

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the way. The cheapest radios will achieve 10's of kilometres under the right circumstances and under the worst conditions the most expensive and best radios will only achieve a few hundred meters. The better audio quality on the more expensive radios will help understandability at maximum rages.

### Choosing a Licensed radio.

These tend to give similar performance and have similar features but the big name brands such as Kenwood, Icom, Motorola, Kirisun, Vertex have better long term service support and are repairable.. At the very least you will need new batteries in a few years time so check that they will be available in the future.

### Choosing a Licence-free radio.

These vary massively in quality and performance. The cost difference between the cheapest and most expensive is at least 10 to 1. Generally the more you pay the better the charging system you get, better batteries and better audio quality. The best licence free radios are identical to their Licensed equivalents and only differ in their technical specifications

The low cost 'twin pack' radios and all Motorola licence-free radios have only a 12month warranty and spare parts (other than batteries) are not normally available. Kenwood, Icom, Kirisun, Vertex and a few other makes are made to last years, they are fully serviceable and even the smallest part is available as a spare.

Chargers on the twin pack radios (with exceptions) are trickle chargers. This means you have to decide when to stop charging the battery and to avoid overcharging. The more expensive radios have drop in 'smart' chargers where they charge the battery just the right amount and no more, much like a mobile phone.

The one key advantage to the lower cost twin pack radios is they can normally be used with AAA or AA disposable batteries so you can keep a set to hand if the rechargeables unexpectedly go flat.

### Choosing Headsets and Earpieces

Hearing a radio while moving at 50mph on the snow is virtually impossible without an earpiece. Stopping to remove gloves to press the transmit button is also very inconvenient. A good loud earpiece which will work under hat or helmet is essential. If it has a large transmit button that you can press with mittens that helps

especially if it is securely attached to your clothing. Finally a boom Mic means you do not have to turn your head to the Mic when speaking so you can keep on moving and chat.

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