

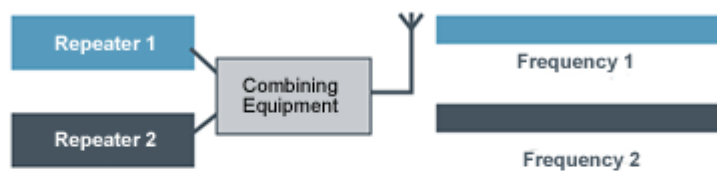
# What is DMR?

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A DMR Repeater is basically like an analogue repeater but is digital and has two time slots, so basically it is like having two digital repeaters in one – on the same frequency.

TDMA saves licensing and equipment costs by enabling the equivalent of two 6.25kHz channels within a single licenced 12.5kHz channel.

### Two-channel Analogue or Digital FDMA System



One call per repeater and channel



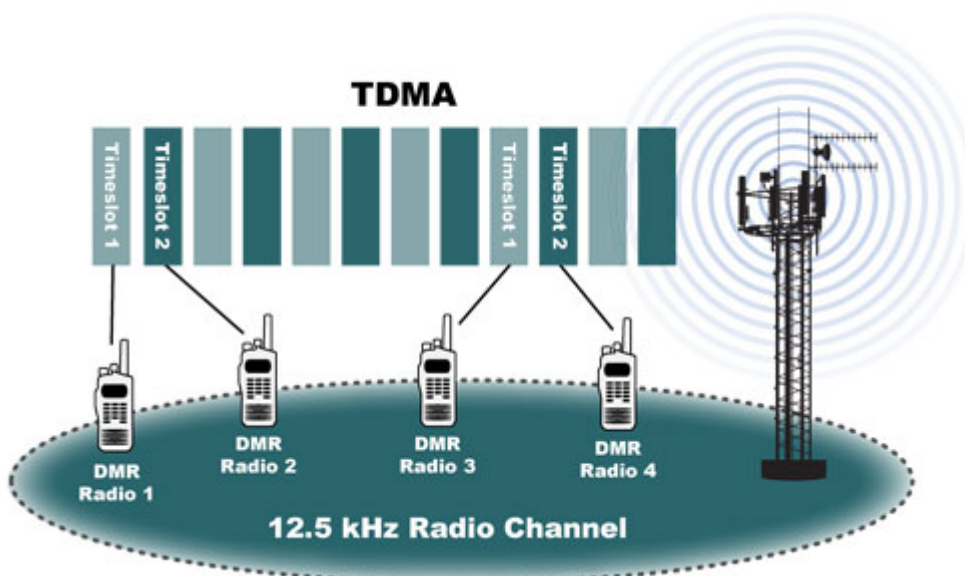
### Two-channel Digital TDMA System



Two calls per repeater and channel

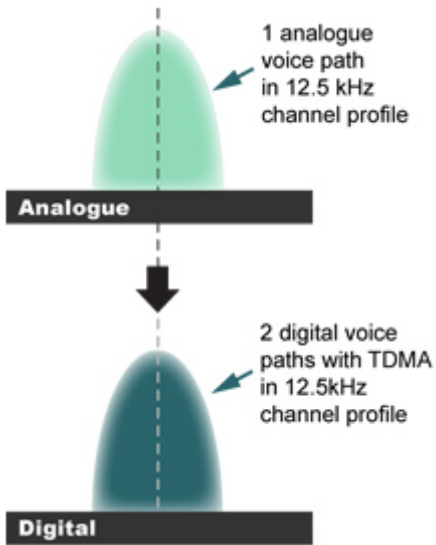


DMR uses two-slot 12.5 kHz Time-Division Multiple Access (12.5 kHz TDMA). This is not compatible with the FDMA mode. 12.5 kHz TDMA is a globally recognized, approved standard for the professional two-way radio market which is used in the amateur environment also.



DMR TDMA

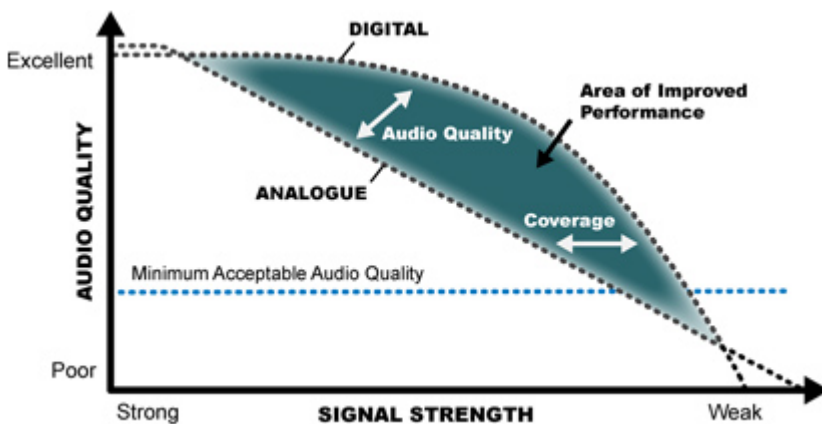
is configured to provide 6.25 kHz equivalent efficiency in an existing 12.5 kHz channel.



12.5 kHz TDMA methods for achieving 6.25 kHz efficiency in the 12.5 kHz channels offer:

- Twice the transmission capabilities, with decreased spectral congestion. In contrast, a 6.25 kHz FDMA approach doubles the number of RF carriers and in the process increases the likelihood of interference with existing systems.
- Increased performance, reliability and functionality – while improving battery life by up to 40 percent compared to analog radio.
- Two virtual channels that can be adapted on the fly to meet a wide range of needs, including increased capacity for voice calls and wireless data access, or for advanced control signaling during a call.
- Standards-based platform, as 12.5 kHz TDMA is the recognized standard for professional and commercial two-way radio market in both Europe and the United States.

DMR provides enhanced voice communication. When signal strength drops off with distance from the transmitter, analog signals become distorted, producing audible static as signal strength degrades.



By contrast, digital receivers use digital error correction technology to correct anything interpreted as an error in a signal. If the error cannot be corrected, then the signal is simply rejected. With digital error correction technology, audio quality is more consistent across a given coverage area,

resulting in clearer voice communications throughout the coverage area, as compared to analog. This helps ensure the message gets through clearly.

DMR also features background noise suppression to help ensure communication comes through loud and clear. The static and noise rejection helps your workforce to hear better in noisy environments.



A good choice of DMR capable handsets in the marketplace!

There is a very good selection of hand portable radios widely available both online and usually via your local repeater keeper for purchasing.

For handsets the Tytera MD380, TYT MD380, and Revetis MD380 are good low-cost chinese handsets usually selling for approx £100. Alternatively the Hytera MD785 or the Motorola DP4600 approx £300-£350 are other good bets.