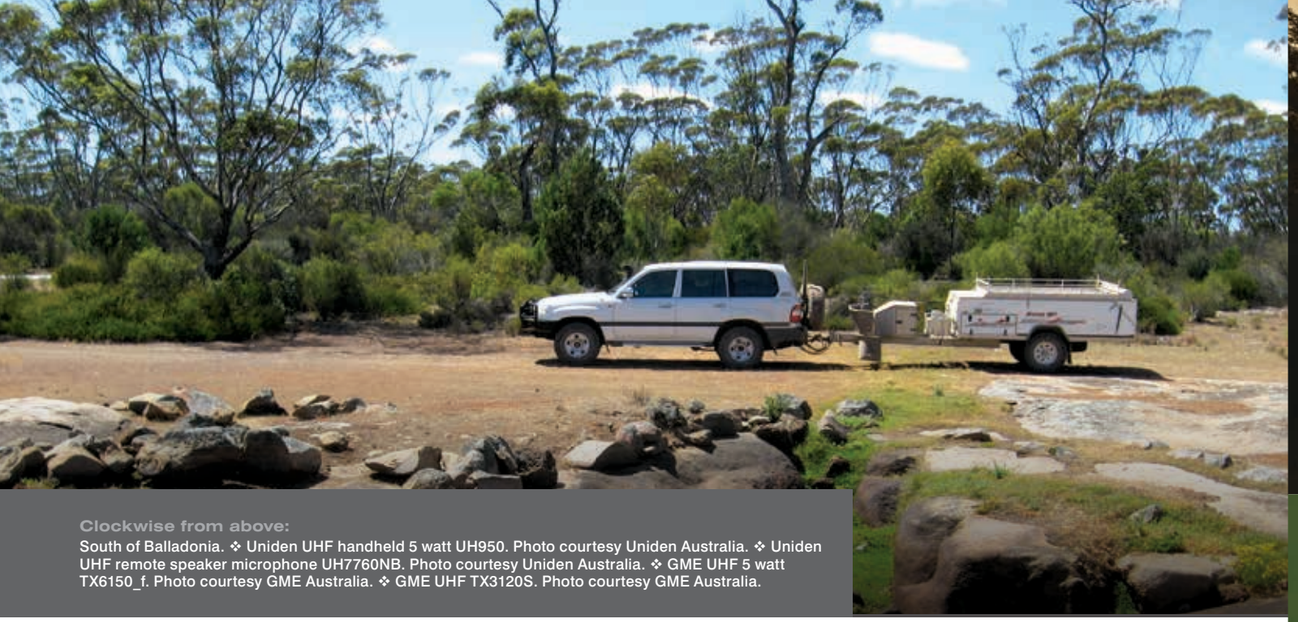


Clockwise from above:
South of Balladonia. ❖ Uniden UHF handheld 5 watt UH950. Photo courtesy Uniden Australia. ❖ Uniden UHF remote speaker microphone UH7760NB. Photo courtesy Uniden Australia. ❖ GME UHF 5 watt TX6150_f. Photo courtesy GME Australia. ❖ GME UHF TX3120S. Photo courtesy GME Australia.

Get Off Road with Phil

UHF Radios
which one to buy?

Words: Phil Bianchi Images: Phil Bianchi (unless stated otherwise)

Anyone four-wheel-driving in convoy, in the outback, or on the beach, should have a vehicle-mounted UHF radio fitted.

The UHF radio enables you to keep in contact with people in your travel party and warn them of upcoming hazards if needed. On the open road the 'truckies channel' enables you to chat with a truck driver about potential hazards ahead and to make them aware that you want to pass.

On the Canning Stock Route, travellers are required to use channel 40 to check the track for oncoming traffic; it's channel 10 on the Simpson. Imagine not being aware a vehicle is charging up the same dune as you are, but from the other direction, and you meet head on at the top! This can be avoided with a UHF radio on scan and frequently putting out a message announcing your direction of travel.

For a few years now 80-channel UHF radios have been on sale in Australia. Beware there are still 40-channel models being sold, but I highly recommend you go with the 80-channel model. Although 40-channel models are not illegal, you won't be getting maximum value for money.

UHF radio signals work on line-of-sight. In flat open country, transmission distances of 10 to 20 kilometres have been achieved, but in hilly or forested country the transmission distance drops way significantly. It's therefore highly recommended that you don't rely on a UHF radio for emergency communication should help be required when travelling the outback. A satellite telephone or HF radio are the only options here.

You can't call up on all of the 80 UHF channels because some are reserved for specific purposes.

UHF Channel allocation in Australia

Channel No.	Use
1-8	Repeater channels
5	Emergency repeater input
9	Conversations
10	4WDrivers, convoys and clubs
11	Calling channel
12-17	Conversations
18	Holidaymaker/convoy channel
19-21	Conversations
22-23	Data transmission
24-30	Conversations
29	Pacific and Bruce Hwy channel
31-38	Used by repeater channels 1-8
38	Emergencies only
39	Conversations
40	Channel for highway drivers
41-48	Repeater channels
49-60	Conversations
61-63	Reserved for system expansion
64-70	Conversations
71-78	Used by repeater channels 41-48
79-80	Conversations

What UHF should I buy for my vehicle I hear you say? Firstly, don't buy handhelds for in vehicle convoy use because not only will the 'boys in blue' be displeased, but they have limited range in vehicles compared to vehicle-mounted models because there is no external antenna.

There are numerous units on the market, some expensive and some very cheap. Given you may need the UHF way out in the back blocks, I would opt for one of the more expensive brands such GME, Uniden or ICOM; they have a proven track record for reliability and robustness. Remember the motto: 'buy cheap buy twice'.

When buying you'll also need to consider where the unit will be mounted as some units have a small remote head or all-user function on the microphone/handpiece, enabling the main unit to be out of sight. This is a very useful feature in vehicles with little cabin space or that have a myriad of air bags.

The type of antenna is a very important consideration. Antenna output is measured in dBs (decibels). There are many exterior UHF antennas; I will use 3dB, 6dB and 9dB gain antennas as examples. Gain is measured in dBs and the higher the gain the more power can be transmitted. I won't go into the mathematical formulas for antenna construction and output I'll just stay with the basics.

- The 3dB antenna provides an almost circular or ball-like transmission pattern that is very good for convoy work and in hilly country.
- The 6dB antenna has an elliptical transmission pattern to the side and overhead and transmits approximately double the distance of a 3dB model.
- The 9dB antenna has a narrow pencil-like transmission pattern to the side and over head and transmits approximately triple the distance of a 3dB model. It will cover a long distance in flat terrain, but poor performance in hilly country.

Most people opt for an antenna of around 4.5dB with a spring base, because it provides the best all-round performance in hilly and flat country. Fitting a spring base reduces the risk of snapping the antenna off on low branches.

Where you fit your antenna is also a very important consideration and can significantly affect performance if done incorrectly. The best position is considered to be in the middle of the roof, however for most four-wheel-drive owners this is not practical because we usually have a roof rack. Some fit the antenna to the roof rack, but do remember that mounting up high increases the risk of it being snapped off. The most popular fitting place is out front on the bull bar.

Anyone with some wiring experience can fit a UHF radio; I have always done my own. However, if you have doubts, have the experts do it for you because if you get it wrong, you won't get maximum performance. When fitting your UHF radio do not use Scotchlocks. They may be a cheap and quick way to obtain power for the radio, but they can come loose and corrode causing problems down the track. It's better to use crimped connectors and even better to have all joints soldered.

Handheld UHF radios are a boon to off-road drivers because they:

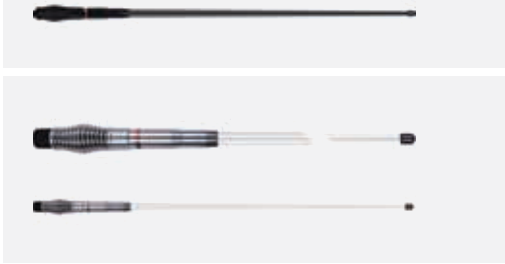
- enable users to venture from the vehicle and remain in radio contact with whoever stays behind
- are great for search and rescue
- are fantastic when recovering bogged vehicles
- assist people to reverse camper trailers and caravans.

(I wonder how many arguments handheld UHFs have prevented and marriages saved?)

When buying a handheld UHF please choose a quality brand because they have a proven track record for reliability, robustness and back up service. Preferably choose one that has Li-on rechargeable batteries and can be charged using both 240 and 12-volt adaptors. Also consider a model rated at the maximum five watts because it will provide the best range possible.

I hope this article has been of some help. There are numerous internet sites out there to provide additional information and one I recommend is **www.exploroz.com/Vehicle/Accessories/UHFRadio.aspx**

See you in the bush. ❖



Top to bottom:
A window view. ❖ GME UHF antenna AE4018K1. Photo courtesy GME Australia. ❖ GME UHF antenna AE4705B. Photo courtesy GME Australia ❖ GME UHF antenna AE4705. Photo courtesy GME Australia. ❖ A very unhappy local. ❖ On the track to Calvert Range.